



NET Sounds

Report on Good Practices
and Methodologies
for Music Education through ICT



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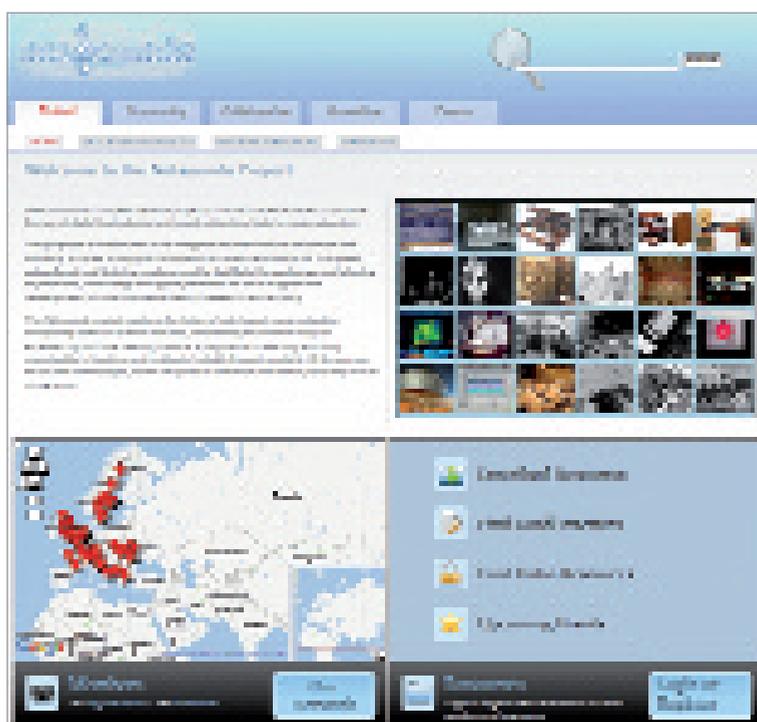
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Presentation

N.E.T. SOUNDS. Acting and learning on the Web 2.0

Salvatrice Enrica Scuderi

Headmaster, ITCG A. Deffenu



As a Responsible of the ITCG Deffenu of Olbia, that played, in the last ten years, a prominent role in the realization of many European Projects in the field of VET and ICT, I'm particularly proud in presenting here the results of this last project, N.E.T. Sounds. A three years project, dating back to 2009.

Starting from his name and acronym, N.E.T. Sounds stresses the desire of innovation that inspires its program. Innovation that can be found at different levels.

- a) Research on innovation in the current, formal and informal practices, to be able to intercept and study it, to understand its innovative potential, and eventually to formalize it for pedagogical purpose.
- b) Production of innovation, to improve the formal and informal practices in the European school systems, producing innovative practices of the music teaching and learning through the digital and information technologies and also finally driving the school music world into the modernity.
- c) Diffusion of innovation, to rise awareness that the future is already here, ready to be usable, practicable, transferable to every level of pedagogical experience, from primary schools to Conservatories, from VET to high schools.

These three areas of action represent the core of the N.E.T. Sounds project. The first two came directly from previous projects (MUSINET and MODEM) and find their natural conclusion and realization in N.E.T. Sounds in terms of their technological development and pedagogical goals but, above all, their diffusion according to the Web 2.0 methodologies and practices, namely interactive and collaborative Social Network, composed by Internet plus a whole range of contemporary software tools and typical behaviors.

Therefore communicating, acting and learning on the Web 2.0 means to be present in the most advanced sector of today's knowledge, within a universe of actors that equally creates projects, spreads practices, broadens the horizons, increases knowledge, experiments knowledge and thoughts.

Music is the most exciting area of this new world of computer and human communication. Internet is a Social Network and the most famous technological tools of the actual evolution of internet (MySpace, Facebook, YouTube, Flickr, Twitter and others) would not be there today if an irrepressible need to navigate on line and create music had not been present, in the last generations and in the last decade. The most rigid technologies have had to bend to this need, the communication protocols opened to the peer to peer exchanges and to forums, web based services and online communities that have made the rest. The open source software (within the Windows environment but first of all in Linux, the open source operating system for excellence) has filled the need of creative necessary tools to whom was not able or did not want to purchase expensive technologies, giving therefore the means to each consumer and to each institution to create, to learn and to teach.

Music, core of N.E.T. Sounds, has been the driving force of innovation.

The school as primary agent of the education knows well that Web 2.0 is the ground where to modernize and innovate. And our project wanted to be, somehow,

a sort of probe launched into the future, to start to understand it, to explore it and, perhaps, to discover and propose some possible strategies.

In this volume you will find the results of the project, all the relevant Good Practices and their analysis made by our experts. Here I wish to thank all the partners, the stakeholders and the participants to the European networks that made possible this project, guided in this effort in doing so by the scientific coordinator, prof.ssa Gemma Fiocchetta of the Italian Ministry of Education (MIUR).

Thanks everybody involved in N.E.T. Sounds. I sincerely hope that my enthusiasm for the achieved results will be shared by you all.

Introduction

Why NetSounds

Gemma Fiocchetta

MIUR – Ministry of Education, University and Research

Sound objects with partial existence. Sound samples that expect, like molecules of a whole, to be integrated into structures of meaning. Environments of music writing on the net. Archives of pure sounds, dust of a cosmos sound still abstract, inarticulate but in becoming. Archives of songs accessible in their internal structures, living music papers in which each single part is editable, resounding, dynamic, almost like a projection of the composer's mind.

The digitalized music, or composed by computer, or written on the computer, or recorded with a computer, allows similar magic. It allows thousands of musicians, graduates at the conservatory or not, professional or amateur, to experiment and play music like never before, recovering also the hidden meaning to “play the music” stored in French and English terms *jouer* and *play*. On the web, on your computer, and now on your mobile phone, there are a thousand creative ways possible, accessible to every human being who has a minimum level of musical sensibility.

The composition of the fracture writer-performer, at the origin of musical expertise in the West and led to the birth of classical music (from the Renaissance until the mid-twentieth century), is exactly the decline of classical music, when two different but complementary phenomena (emergence of global networks and globalization of humanity, of its commerce, its cultures) restructured the planet at the end of the twentieth century, re-territorializing man and his culture to a virtual environment, digital networks and its infinite binary spaces.

This enormous change, we can detect two primary effects:

1. the presence of technology in the process of creating and playing music;
2. the return of the musician-composer with a primary, direct relationship with the sound material.

Technology is a philosophically cursed word ever since thirties when the issue of technology was raised and the change of perspective that technology introduced into the world and his relationship to man. A second nature, a new living environment, a cage, a prison, the technique positively meant by Brecht and negatively understood by Adorno, courted by Heidegger and accepted, inevitably,

by philosophers of science, is in fact the new horizon of musicians who want to be named as contemporaries. Like Pythagoras, also the electronic and digital composer must once again confront with the physical matter of sound, and its four constitutive parameters: height, intensity, timbre, duration. The pathway of the scientist and the musician is again parallel, at least for a certain period, the analysis of sounds, the generation of timbres, their synthesis and combination. Then of course at different levels the physicist and musician continue their interaction with the world of sounds.

But the musician-composer has again access to the original character of the music, to its physical in becoming, to its materiality, without the mediation of the partially generation due to a natural element – wood, metal, rope, leather, etc. – as happens with traditional instruments. The primary synthesis of a sine wave takes the musician in contact with the birth of sound, with its vibrations in time and space, and this synthesis (generated in the laboratory, in the computers oscillators, or in virtual environments of computer programs) is about as close to spontaneous acoustic phenomena of nature that the technique can now produce. All the endless changes of sound, in all its possible combinations, are now accessible without any limit. The technique, rather than being a cage which imprisons the art, in this case has a liberating role, bringing the musician to nature. All sounds, including those beyond the threshold of human audibility, can be generated in the contemporary sound laboratory.

Random innovations and changes on the horizon

In experiments in electronic music and digital arts as well as the many random innovations, based on tools and environments that the parallel technical development of computers and networks have produced in an increasingly frenetic way, we can read a series of phenomena with meaning and full of sense, indicators of an ongoing present, phenomena are likely to read political and cultural rights that are not of minor interest and that will generate additional phenomena in the coming years.

- The advent of music machine has stopped the separation between the creator, performer and listener.
- Digital technological civilization becomes newly primitive in ethnic music sense (which implies a redefinition of educational paradigms).
- The sound machine computer-network brings the music to the level that it had in the primitive oral culture (invention-running-listening are contemporary and indistinct phenomenon).
- The sound machine adds durability (recording) and the infinite replication of a phenomenon (the sound) that once was unique and isolated, exception rather than rule.

- Digital environments allow other parties to enter into the music paper to re-arrange and modify it, leaving intact the original: a specialization that once belonged only to an elite group of genes is reproduced on a mass level (Variazioni Goldberg by Bach, Variazioni Diabelli by Beethoven, etc.).
- The networks allow the access to single musical parts of a recording and many artists invite the public to create remixes of their songs / compositions: the barrier falls between the sacredness of the original version and its many possible alternative versions, and so does the barrier between the artist and the public according to the notion of the community, we call it the fall of the stage-altar, the end of the ritual celebration, the return (again) to the Community dimension of the "circle of the same" typical of the oral culture.
- The telemetric communities are self-generated around simple ideas and complex behaviors: the music exchange is simple, the organization of technical forums to manage advanced music environments and act upon them is both culturally and technically complex and involves the simultaneous resolution of several problems.
- The different traditional ideas are put into question.
 1. The sacred respect for the original text (Glenn Gould had already blown this category reporting the rigidity of the read-performance of a classic music paper to the festive and joyous freedom of the Renaissance Execution, taking back the concept of real-time processing typical of jazz and then rock).
 2. The fidelity to the text by strict interpretations (this category is based on the economic successes of performers and record companies bound by production agreements that aim to defend the status quo that through an impossible strictness normalization try to act as barriers in a time that everything changes).
 3. The respect for intellectual and/or artistic property (today on this battle, the big European and American democracies are measuring with, more and more influenced by the dictates of the culture industry that tries to resist to the full wave of a global cultural change that these network technologies has generated).

Today, in a society positively of mass as the one of the cultural globalization, we must decide on the status of the communication and of the art. In fact the communication of art is a intrinsic phenomenon of the art itself. The art is public for its nature. The paint would not be such as representational art, if it had not looked at, if not communicated itself through its public exhibition, through its appearance. The music would not be music, and so art, if he had not played, communicated, and then listened.

The contemporary phenomena of global communication through networks amplify a phenomenon that was already known by both McLuhan and Moles: each media

is defined by its content and each art is communication. The technology fact, would say Boldrin and also Lev Manovich would agree, it becomes transparent, invisible: the network does not count, only communication that crosses it exists. The cultural fact of this reflection is of enormous importance. It means to finally abandon all thoughts and indecision of the past twenty years on the "nature of the Internet" and to focus back again on contents and methodologies, on the learning and teaching of knowledge. On how to transmit knowledge by using only or mostly new digital technologies, for example in the music industry.

Since the music of the twentieth century has become incomprehensible to the human race, because of its necessary abstraction to the silence, as ideological opposition to the bourgeois triumphalism that represented itself in the living rooms and theaters while his armies were colonizing the world, for the first time there is an anti-elitist movement that passes over networks, and music and culture returns to each of us.

Studying these phenomena in order to inhabit and live them is the task of cultural institutions. Experimenting with new technologies, producing other technologies, generating more and more understandable environments to guide the students' minds to their creative use, is the responsibility of producers and industries. Managing change in a positive way for society and for the individual instances is the task of big national and supranational policies.

Cultural dimension and educational potential related to the use of the combination of music and technology in education

"The art of the twenty-first century will consist in imaging, building and providing mobile and interactive architecture of cyberspace¹ and a considerable role in this gamble will be covered above all by education".

Interactivity, immersed dynamics and connective grammar which characterised new media shall be at the centre of the process of literacy of the 21st century so that they can involve, in a coherent and converged framework of learning, educational contents, informal knowledge, media languages, cultural productions, new form of production and reproduction of social capital. As Lévy underlined "members of thinking community look for, write, link, consult, explore" the *cosmopedia* put in common for collective intelligences the amount of existing and relevant knowledge at a specific moment, but it is also a place for discussion, for negotiation and collective elaboration. Questions, interrogatives without answers put in tension the space of *cosmopedia*, and point out the zones that request invention, innovation"².

¹ Pierre Lévy, *Choreography of Angelic Bodies, Cyber philosophy*.

² Pierre Lévy, *Collective intelligence: mankind's emerging world in cyberspace*.

Digital competence and creative expression through the music constitute, first of all, an effective occasion of active and constructive transit in the space of "cosmopedia" and in all the other zones that allow/ask for creating, for innovating, for transforming in this vital space.

It is not only and simply an occasion for producing new music languages, sonorities never experimented, that born from the brand-new world of sounds of synthesis, but it is something more namely about the possibility to be able to think, visualizing the shape, the essence of the sound, an essence made of numbers, of nature, of the sounds of the origin and of the one linked to each new born.

It is the possibility of finding tools of constructive relation with the digital world and with the one with the nets that interaction, progressively changing, with our cognitive equipment.

It is the possibility of learning and practicing a renovated emotional life, in which the digital world can be an occasion and instrument for a continually change between inside and outside, emotion, thought, imagine, meaning. It is, in a word, a progressive approaching process to the possibility, all along followed by the human, to be more closely in contact with the world thanks to more completed and evolved shapes of thoughts and emotions.

Reflecting and intervening today in the relationship among education and learning means, therefore and inevitably, lingering on technologies and practices linked that, at the moment and more than other factors qualifying the learning proposal, allows a radical rethinking/transformation. This means to acquire an appropriate awareness on conceptual and procedural limits set by the linear world representation to the cultural and human growth of the young generation, and enable to accompany and facilitate the transfer from thinking and learning linear shapes to reticular and connective shapes. This transit implies a deep transformation of the approach and instruments of access and sharing of knowledge put in action in the school, an "approaching" to apply following possibly a creative approach and in a frame coherent and congruent framework of reconnection and integration of disciplinary contents.

In this an undoubtedly laborious transfer – due to the objective lack of suitable didactics tools and due to the lack of a specific training of the educators in order to better integrate with languages, grammars, practices of the digital universe – a really relevant role could be played by the use of music digital technologies ad by more advanced net settings. Both in music, education, and scientific, technological, and more in general, to the service of transversal learning in different disciplinary fields.

This aspect of digital music, its being a frontier and a synthesis between manual skill and spirituality, between knowledge and emotions, technology and contents, its being field and limes of Pythagoras vertigo, of informatics and music one, make it an model and instrument of educational, didactics and methodological innovation that cannot be renounced.

The recovery at an advanced level of maths and physic thought in the complex

systems of music production invites to new forms of reflection on the relationship among technique and creativity, *techne* and *poiesis*, and invites to build new educational and sounds architectures.

In this sounds architectures, the invisible element is the Number, the mathematics. The saint-musician Pythagoras, vegetarian and pacifist, knew already and his doctrine taught it.

The music and technology constitute, so that, a privileged place for the tale, the reflection, the immersion, the connection in the various ways of leaving our time, for the meeting with a pragmatic of learning and of leaving repeatable in the teaching and applicable, for infinitive time, through the creativity.

The contribution of NetSounds

The NetSounds project has been caused by those instances and reflections

NET Sounds intercepted this flood wave and acted in the only possible direction: to understand the phenomena that are taking place to generate positive institutional practices, that may affect patterns of access to knowledge and expertise in music education and training systems in public-private sector, in the direction of their adaptation to the real.

Therefore, the idea of NetSounds has been just to stimulate a deep renewal of the processes of teaching and learning in European schools, through: understanding the changes taking place, shared reflection on the cognitive scope of this universe, support to the development of practices and educational processes related to use digital technologies and network, in collaborative and creative way. NetSounds aimed at provide operational tools and knowledge on the potential of the music and technology binomial in education to the European educational system connected to music and to the various public and private actors involved in research, training and music production. A virtual space and models of intervention for the approach and the access to the digital world, its instruments, its practices, its languages and its conscious use in education and training practice with the aims of:

- a) innovate the teaching of music and the forms of access to musical knowledge;
- b) enhance students' motivation to engage in learning;
- c) promote access and use of creative and emotional resources;
- d) encourage the development of key competences for lifelong learning;
- e) promote links between education and training and employment;
- f) promote and enhance the link between formal and informal.

The tools in a nutshell

Essential tools of the process promoted and applied by NetSounds in the three years of project development are the following:

- *the construction of national and European Networks of interest of relevant meaning*, extended to a wider presence of policy makers, educational institutions, business and communication and information world, educational networks, Web 2.0 communities, etc., that work in the field and with of clear scientific and cultural relevance in different national and European contexts (there are about 200 institutions and organizations actively involved in the European Network).
- *the construction of the project portal* designed and developed as a place to meet and interact with all networks connected to the project. Right in the portal, in fact, thanks to the operational support CMS (Drupal) and to a facility capable of supporting processes/horizontal and vertical levels of interactivity, all institutions of the national interest and European networks, cooperating in the implementation process and sharing of best practices and other contents, products and processes for the duration of the project www.netsoundsproject.eu .
- *the realization of a constant action of dissemination and exploitation activities* carried out in many forms and contexts, and in particular through the numerous seminars and workshops organized at national and European level, with the intent to increase the interest of the network of interest and principal stakeholders on issues at the heart of the project and its main results.

More specifically in the NetSounds portal the growth and collaboration among the various Networks of interest made by the project partners in France, Great Britain, Sweden, Belgium, Italy, Romania and across Europe, was supported and addressed to environments for work and common researches and designed and implemented just for these purposes such as:

- the area devoted to direct access to the national and European Networks of Interest made by project partners and their description: interactive Google maps, access to contact data of the project from each institution of the networks, which have specific password allowed to each network to collaborative implement every area of the portal. They have been the main instruments of the construction/activation of the European network of Net Sounds <http://www.netsoundsproject.eu/community/national-networks> ;
- a data base of Best Practices in the sector related to possible and potential application of the binomial of music and technology in education, production and music creation. Practices implemented by European and international most prestigious educational, training and research, institutions and organizations, by companies, by Web 2.0 communities based in this area. <http://www.netsoundsproject.eu/know-how/good-practices> ;

- a “Video Resources” Web 2.0 repository built into the Net Sounds You Tube channel dedicated to set up a “database of video resources” in addition to the database of good practices. The primary objective of the channel is to provide the European education and training systems: a) direct access to video material devoted to the most innovative products in the field developed by universities, research centers, companies, world of open source, etc., b) a system of access guaranteed by indirect validation performed by the institutions/organizations that produced them as well, and by the interest and number of accessed achieved on the net by users in the field;
<http://www.netsoundsproject.eu/know-how/video-resources> ;
- three, Repositories area: Educational Tools, Scientific Papers, Survey and Reports, which have been collected and shared by the stakeholders of the project. They are: materials, scientific contributions, research and surveys results, made at the international level by researchers, teachers, students, businesses industry, etc., applied in various contexts and at different levels carried out active research in teaching practice on the possible use of DT in the field of music education
<http://www.netsoundproject.eu/collaborative/repository> ;
- pages devoted to the project in social networks like Facebook, MySpace, YouTube and School of Everything for a stable and active interaction with Web 2.0 environments. In particular English School of Everything in the specific music field collects more than a thousand teachers in the UK that use the DT and the tools of web 2.0 in the teaching of music
<http://www.netsoundsproject.eu/community/web-2-0-network> ;
- access to the Make Music area, a production area of sharing and exchange of products/creative music projects created by students and teachers within transnational virtual teams <http://www.netsoundsproject.eu/modem> ;
- an 'area Tools where it is possible to access and share learning paths and master classes for music creation
<http://www.netsoundsproject.eu/know-how/tools> ;
- an area dedicated to the spread/development of actions related to events (seminars and workshops) organized by the project partners in different countries. By following the logic of upcoming and past events invitations, speeches, various materials, videos, photos, etc. were presented for each event, <http://www.netsoundsproject.eu/events/upcoming> .

All the action produced by the project has benefited from the operational support and the cultural dimension of the main actors involved in this key sectors in European countries partners of project: schools, universities, research centers, conservatories, companies, the vocational training system, artists, record labels, magazines, etc.

We hope that products and processes developed and implemented by the project succeed to return the attention, passion and commitment applied by many and,

above all, the importance and innovativeness of the proposed NetSounds to renewal of education and forms of musical creation in the European educational systems.

The rapport at the core of this publication has been made in this direction. Dedicated to the description of "Good Practices" identified, selected and collected gradually over the past two years in the field and organized in the Data Base of NetSounds, all of them form, without reservation, a window, a direct access key to 'connected world to music digital technology and the many forms of network and their possible use.

The immersion in this report will hopefully be able to return the urgency and relevance of content and the cultural gamble core of the NetSounds.

Prelude

Interconnected knowledge. Digital music and computer networks into the Web 2.0

Federico Ballanti

Our experience of the net has definitely changed in comparison to the first "navigations" with Netscape Navigator in the 90's. At that time the net was limited to scientific university sites, to projects of local information or tourism, and was mainly used for exchanging emails or to visit self-promoting sites. But the communities of practices have changed everything and the net as we know it today is mainly populated of platforms for the exchange of informations and competences, activities that in thousand of forums and bbs have solved technical problems, pushed to new software production or improved the existing ones, and have also pushed the users to dream and imagine different worlds, in every sector of the human experience, music included.

Internet today is defined as web 2.0 because it is technically and culturally centered on users that are at the same time creators and manipulators. To make it possible, users need flexible and expandable net's instruments (as content management systems as Joomla, Wordpress, PHP Nuke or the one used in N.E.T. Sounds, Drupal) or great industrial sites that makes business on the communities and that in exchange offer free services to millions of users (such as: Google, YouTube, Windows Live, MySpace, Twitter, Facebook, Flickr, etc.).

Reshaping the actual knowledge

In this collective virtual reproduction of the real world and society across the Internet, where, as in the real world, there are exchanges of knowledge and where it is possible to have learning experiences almost without interruption, it is interesting to stress the real core of this phenomenon, e.g. the mutual interaction between technology and society. We are talking about the interaction and the mutual influence that the two subjects (the computerized net structure and the society that interacts over it) practice the one towards the other. In effects it is really this the point of interest: to observe the dynamics of a relationship of mutual construction from the interested subjects. In the selected Good Practices we will see that this dynamics plays an important role.

The web 1.0 was based on the html pages, the web 2.0 is based on the interconnection of platforms full of dynamic contents. The html sites of the phase 1.0 had about ten pages, the current sites are managed by server on which reside some gigantic database that can produce million of pages in real time. We can also define this changes with the expression *Knowledge Networking* or interrelation (connection) of knowledge.

Tim O'Reilly has defined Web 2.0 as follow in 2005:

«Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences»

<http://radar.oreilly.com/archives/2005/10/web-20-compact-definition.html>

Architecture of share to allow nearly real experiences. The definition helps us to understand why today teaching and learning on the net not only becomes possible but necessary. The walk has been technically and culturally long in the last fifteen years. Also the challenges undertaken from the Fifties of the XX century, to come to be able to manage by distance, with the same technology, virtual and real studies of recording, as well as centre of command and control of an airport or an aircraft carrier, producing these technologies have been expensive and they become economically profitable only today. However the change, in terms of flexibility, wealth and culture will arrive in these last years, when the web is opened to everybody's participation. It's the human factor.

Web 2.0 is a reality that we can experiment every day on YouTube and Facebook or MySpace, but also in small or great communities of software developers or cultural projects. From the Linux world to the one of Windows, from Sourceforge to DeviantArt, from Flickr to the online applications of Google, single consumers and/or team groups, companies and institutions, all are at work on the web 2.0, "*elaborating data furnished by multiple sources, furnishing their own data and services*", as O'Reilly says, and the more users make it and more the service improves.

When MySpace had crossed the threshold of the one hundred million of recorded members, the record company MySpace Records was established: a record company that brings the best musicians, the more popular (voted) by the community, in the real world of the music, in a true record company, that organizes tour and concerts where known and unknown artists are exposed, reproducing in the reality the virtual one. This is convergence and remediation.

Knowledge convergence and remediation

The most evident phenomenon that we can note during the analysis process of the Good Practices of our database, is the importance of the convergence of different competences and knowledge within a project of Good Practice. In our search we have truly met the first remarkable sign of the current technological revolution. Thirty years ago the computer began to meltdown all the technologies inside him. The studies of Manovich, Bolter, Grusin, De Kerkhove, has shown that re-mediation and convergence in one interface was the true objective of this transformation. The electronic calculator pushes to the remix of every technology even before to solicit the remix of the single components of the different technologies.

It can do this because it elaborates the binary code contained in the program, or rather in the software. The whole mighty contemporary development is due to the lines of code elaborated in real time by computers and circulating on the nets. The change that we have recognised from the Nineties is due to computer calculation capabilities and to the networks, or rather to the software that transform our reality in a permanent simulation. Also in the computer science and in the sociology of communication, Manovich says, we needs to start to study the “genetic code” of the actual world, its Dna, namely the software:

«I think of software as a layer that permeates all areas of contemporary societies. Therefore, if we want to understand contemporary techniques of control, communication, representation, simulation, analysis, decision-making, memory, vision, writing, and interaction, our analysis can't be complete until we consider this software layer. Which means that all disciplines which deal with contemporary society and culture – architecture, design, art criticism, sociology, political science, humanities, science and technology studies, and so on – need to account for the role of software and its effects in whatever subjects they investigate.»

(Lev Manovich, Software take command, pag.7, 2008)

The scientific and technological innovation is based on the ability to program *environments of development* in which to plan new software, and therefore new innovations, and so on. Not only. The net, by now integral part of the computer experience, has statistically multiplied the actors of the innovation bringing to an explosion of contacts among the innovators and therefore to multiply the possibility for everybody to enter this process.

«In the case of social media, the unprecedented growth of numbers of people who upload and view each other media led to lots of innovation. While the typical diary video or anime on YouTube may not be that special, enough are. In fact, in all media where the

technologies of productions were democratized – music, animation, graphic design, (and also software development itself) – I have come across many projects available online which not only rival those produced by most well-known commercial companies and most well-known artists but also often explore the new areas not yet touched by those with lots of symbolic capital.»

(Lev Manovich, Software take command, pag.243, 2008)

The ones who explore out of a commercial logic still have the freedom to create following a different instinct, and this conducts them to excellent results and often to unexpected discoveries. But the quality of these innovations originates from every direction. The academic centres and the social forums (often frequented by students of those academic centres) come into contact on the net, and the effect is creatively explosive.

«Who is creating these projects? In my observations, while some of them do come from prototypical “amateurs,” “prosumers” and “pro-ams,” most are done by young professionals, or professionals in training. The emergence of the Web as the new standard communication medium in the 1990s means that today in most cultural fields, every professional or a company, regardless of its size and geo location, has a web presence and posts new works online. Perhaps most importantly, young design students can now put their works before a global audience, see what others are doing, and develop together new tools and projects (for instance, see processing.org community). But perhaps the most amount of conceptual innovation is to be found today in software development for the web medium itself. I am thinking about all the new creative software tools - web mashups, Firefox plug-ins, Processing libraries, etc. – coming out from large software companies, small design firms, individual developers, and students.

Therefore, the true challenge posed to art by social media may be not all the excellent cultural works produced by students and non-professionals which are now easily available online – although I do think this is also important. The real challenge may lie in the dynamics of web culture – its constant innovation, its energy, and its unpredictability.»

(Lev Manovich, Software take command, pp.244-245, 2008)

Innovation, energy, unpredictability, these are the “dynamics” characteristics of the net culture following the vision of one of his best researchers and theorists. It must be stressed out that this work, from which we quote, is a “book in progress” that Lev Manovich, teacher at the University of California San Diego (UCSD) and

at the California Institute for Telecommunications and Information Technology, writes directly online and he updates when he has some things to add. A real web 2.0 book traceable to this address: www.softwarestudies.com/softbook .

But for our search, centred on the effects of this culture and these technologies over music teaching and the learning, the mentioned reflections have the ability to solicit other problems. With the web 2.0 and its dizzying figures (150 million on MySpace, 700 million on Facebook, etc.) is there still sense speaking of art, of music, of culture? Or not rather directly of mass production, of mass aggregation, etc.?

We can answer yes, but with a precise statement. The whole art, the culture, the music are nowadays mass cultures. But to be able to produce cultural objects that can bypass the simple exposure on the web 2.0 showcases and that are spendable on the market, a strong specialization and/or a big personal productive dynamic is needed. Forgetting the artistic-cultural elites means to make a great footstep ahead in to understand what it happens in the culture and therefore on the net today. But the elites continue to exist. Their members can be selected among the ones that showcase in the great space of the Net but they mainly originate from VET or schools or Universities, where they have built a structured know-how that doesn't linger them on in the long phases of learning (*trial and error learning*) that the not professionals are expected to cross.

The great flow of works (video, music, projects of design, projects of architecture, fashion, books, etc.) that every day arrives online has made, apparently, the professionals less visible but not eliminated altogether. And when for the opening of great exhibitions of Shanghai, Berlin or Los Angeles, the professionals are invited as guests and not "the amateur of the net."

This contradiction is due to the strong commercial impact that the artistic projects have in all the fields and also to the fact that still today art, is as always, the image of the power. Shanghai has more contemporary art museums than New York, and even greater. Small cities as Riga or Sydney compete with the great cultural capitals of the world, holding festival of contemporary art, of electronic music or inviting the great architects to project buildings in their cities.

In the remix of all the values and of all the dynamics we can recognize the sense of the change and also the reason why a project as N.E.T. Sounds was undertaken; in other words: to recognize the shaping of the actual knowledge, a project that is placed in the border or fracture of today's present, between practices and formal and informal knowledge.

European Good Practices for music education through ICT

Part One

Cultural dimension, methodological approach and tools

1. N.E.T. Sounds the cultural framework

1.1 The cultural dimension

The migration of the World towards the Internet is the most relevant reality of our present time. To investigate on the nature of the Net means to reflect on the quality of this time and of our involvement with it. It also means to investigate the forms of our way of communicate, the way we know and learn. In the framework of music pedagogy the Internet can be not only relevant but decisive. Also in this specific field the migration of musicians and institutions is a largely known phenomenon quite accomplished in the last few years. Nonetheless to map what is happening, to realize a survey of the online presence of the European Institutions in the music becomes essential nowadays. First, because of when we think that the music has been since the beginning the true factor of innovation of the Net, largely before the great informative and commercial portals; music has made possible, at the end of the nineties, with his wider and wider networks of music impassioned and of software users, the birth of the web 2.0 based on the social networking or rather the creation of peer environments dedicated to collaboration and exchange of musical practices, experiences and knowledge at an informal level, among equal. Napster, we might say, anticipated Facebook, inventing a model of sharing knowledge over a network. And Microsoft itself, with the release of Windows XP in 2001, introduced as a standard the peer-to-peer protocol on a global scale, as a sort of reconnaissance of a state of the art technology.

1.2 The educational dimension



The N.E.T. Sounds (Network of Educational Technologies Sounds) Project, presented in 2008 and started in 2009, was/is a tentative answer to the well known lack of integration among the most relevant actors of the music field, school, research bodies and companies, and, also, it originated from the need to create a reference body to fill this gap. Specifically, a database of European Institutions in the music education as a informal resource for students, teachers and other stakeholders, making possible to aggregate and search the existing resources. The project therefore will integrate sites for teachers, sites of public and private didactic institutions, forum of musical producers, music hardware and software enterprise, publications of specific interest, all this for the community of N.E.T. Sounds, structured as an online social network devoted to the practice of music learning and teaching with the support of digital technologies and computer science.

For that reason, the N.E.T. Sounds project in his strategic plan aimed to:

- foster the collaboration among both private and public stakeholders in the field;
- promote mutual understanding and collaborative synergies among the actors involved;
- promote music education through new technologies and social networking based tools;
- share best practices in music education through new technologies and the internet;

- allow educational institutions, centres of research, association of teachers and students and to industry to be kept informed of new developments in music education through new technologies;
- raise awareness of politicians in the EU about developments in music education through new technologies.

To reach the above listed aims, the following activities were planned:

- to build a web environment conceived as a “meeting point” for the actors in the field, and a pool of resources of music in education through ICT;
- to organise a yearly conference devoted to music education through ICT and the internet;
- to organise national workshops directly addressed to teachers and policy makers in order to directly involve representatives of the target groups in the networking action;
- to organise devoted workshops in the frame of the already existing events;
- to support the transnational cooperation and promote consensus building through networking and animation on music education through ICT and online education and training.

The action is expected to impact directly on the target groups addressed during the project lifespan; the long term impact is expected to involve the systems of Education and Training, thus on the subjects thereby concerned (students, teachers, professionals, learners).

1.3 The European Dimension

N.E.T. Sounds was planned as an answer to the EU Parliament and European Commission indications, as expressed in official papers.

The reference framework for Key Competences for Lifelong Learning, adopted on November 2005 by the Parliament and the Council, identifies the Digital Competence as a key competence for the implementation of “Education and Training 2010” program, and includes music in the Cultural Expression competence (‘Cultural expression’ comprises of an appreciation of the importance of the creative expression of ideas, experiences and emotions in a range of media, including music, corporal expression, literature and plastic arts). Actually the Education programs encompass, in a very large variability of implementation across Europe, curricula of study both for Music and for Digital literacy as transversal competences for lifelong learning.

However, Music and Digital competences are rarely integrated within the educational context (see i.e. EFMET final report, Eurydice database), and this integration is often related to the single teacher initiative more than based on an articulated strategy. On the other hand, students use and enjoy music in their day-

to-day lives, as well as the internet, which is a powerful medium especially for music download, sharing, creation. Moreover, as recently highlighted by several publications on future trends, students are also "tremendously interested in social networking sites because of the community, the content, and the activities they can do there (Horizon report 2007), while on the contrary collaborative work continues to be a critical component of scholarly/learning activities. The phenomenon of social networking could be a direct response to this challenge, as the educational community is finding ways to connect and contribute using social networking tools.

N.E.T. Sounds wanted and wish to give to the pedagogical community a tool to connect and collaborate using the web 2.0 tools and strategies to implement social networking behaviors in the music field.

2. Methodological plan. Tools and criteria to identify good practices

This document describes the methodological background of the selection and mapping of good practices in the N.E.T. Sounds Good practices data gathering and analysis. One of the main objectives developing this methodological plan was to ensure a straightforward and coordinated way of collection selection and adequate coordination of the good practices collection and analysis process. In order to achieve this, the methodological plan explores the possible criteria for ICT good practice in Higher Education and music creative production, the methods of collection and the methods of analysis.

As a results we will find in this Plan:

- the most relevant sectors where to identify good practices;
- criteria of Good Practices identification;
- the most relevant indicators;
- the most relevant tools to select GP;
- tools and criteria to select and store data;
- final report with intermediate and final analysis of the gathered data.

2.1 Overall Approach

The overall approach to this activity can be derived from the project outline objectives and also from the whole methodological plan of data gathering. Such approach was also enriched from the knowledge and from the awareness of the historical, cultural, scientific and technological context connected to the strong relationship developed during last century among music, digital technologies and net. Such plus was produced by the activity of search, selection and evaluation of Good Practices developed by the Territorial Networks of interest created by every

partners in their own Country. In this way were integrated Territories and Activities. The whole activity of identification and gathering of the good practices in this sector was structured using the following criteria:

- **Criteria to identify good practices.** This phase constitutes the theoretical base of the job. In this phase the search and the analysis must be addressed to the description of options and possible methods to find the best solutions. In this first approach it is, besides, necessary a systematic description of all the necessary steps to reach a set of congruent and comparable information following the searches conducted by the single partners, with reference to general criteria.
- **Most relevant sectors/territories where collect good practices.** These are established from the areas sensitive point of central reference in the management of our investigation. Such areas are been identified in two macros categories. The Category defined Formal that includes universities, search bodies and conservatories, schools, the world of the companies of music sector and the public and private professional training. The second Category is defined Informal and it is represented from the world of the online Communities (social networks) and also from the endless numbers practices and activities that daily create a multiform experiences in that world that lies between Net and Reality.
- **The most relevant indicator relate to the individuated sectors.** In order to compile the database of the good practices for each of the individualized sectors specific indicators of reference have been identified whose detailed description will be found in the following pages – they are also the ground element of the Good Practices Survey Grid attached as Annexe A.
- **Good practices collection.** Using the tools set (informative material, survey grid, interactive database, etc) the data collection will be conducted by the whole partnership. The support of the Territorial Networks of Interest will be essential in the survey and in the selection of good practices. This data collection will be supported by worked out guidelines to be able to map different territories of good practice and to be able to pre-select by common criteria possible activities of good practice. The identified institutions and their good practices will be than worked out in more detail with different techniques, like interviews, focus group sessions, peer reviews and seminars as well. All techniques have to be done within a common framework (template) in order to gather comparable data.

2.2 Choosing the tools and the methods of data collection

- **Tools.** Most relevant conceived shared and used tools are the survey grid and the interactive database present on the N.E.T. Sounds site that will allow to introduce and to interactively visualize the selected good practices.

- **Identification techniques.** These techniques are the most proficient and adapt to get the goal of our mapping action.

2.3 Analysis structure and data presentation

- **Common elements (data coding) analysis:** when sufficient data is gathered from the European higher educational environment, thorough analysis of information has to be done. In case of successful collection period, data must be in a form which is compliant for comparison. Common elements will be analyzed in the framework of pre-set success criteria on: scale of operation, available evaluation of results, international/national reputation, transferability, quality assurance in place, Degree of innovation. More specific criteria can be added to measure in details the specific experience in the music field as great innovation and little dimension, or great innovation but lack of communication, etc.
- **Data synthesis:** Analyzed data will produce a set of success criteria of ICT good practices in VET in music field, which will be synthesized and presented in a logical and practical way for end users.
- **Validation.** Before publishing the search a final validation from all partners will be necessary. This phase will allow together a look of on its procedure and will allow to verify the consistence of the initial data to the light of the data founded in itinere.
- **Outputs.** The Final Good Practices Report will be presented as a manual book on line. This Report will be the final result of the Search Action.

3. Principals sectors of reference for the selection of the good practices

In the structure of our investigation on the good European and international practices in this very innovative sector of search and intervention, we have identified two macro categories of investigation, Formal and Informal, and the respective circles/sectors of reference.

The Formal macro area includes:

- University Courses;
- Master Courses;
- Conservatory;
- Research Centres;
- School;
- Public Vocational training;
- Private Vocational training.

The Informal macro area is entirely based on one sector of interest, Social Network, structured as follow:

- Musician's Communities (without distinctions of Pro and Amateur, but frequently categorized per Music Genre and/or activities, like concerts, festival, folk representations, etc.);
- Communities of Practices in the Music Field (composition, audio editing, publishing, etc.);
- Communities of Experts on Music Software (programmers, expert users, etc.);
- Communities of Experts and/or Passionate in specific Music Software (Cubase, Reason, Logic, Audacity etc.);
- Communities of Academic Searchers, Experts and Musicians;
- Communities of Teachers and Trainers (debate of pedagogical problems);
- Communities of Amateur and Fan of specific Music Genre (normally subdivide in Tribus, Bands, League etc.);
- Music Lab, Ensemble of Theatre and Music, Social Centers, with social and politic conscience, frequently auto financed or partially financed by local or regional program;
- New Magazine, Fanzine, communities based on exchange of information, based on genres, musicians, attitudes toward music;
- Blogs (pro or amateurish) where discuss of creation, technologies or other music related topics;
- Net Label, independent records companies that lives on the Internet, experimenting new ways to record, produce and diffuse music.

The principals sectors where the research is produced – the experimentation and the connected pedagogical reflection, the technical innovation produced and then used as a service of the education and, also, the musical creation through the digital technologies and the net – are the following: Research Institutions and laboratories, Universities, Schools, Conservatories, Companies and Training Centres.

We refer to the area we called Informal as the one of the social networks in which are woven many experiences coming from different directions, as it is evident from the typology of communities censed in our list. Besides, the passages from Formal areas to the Informal one is often the first germ of innovation in a circle that more and more tightly involves the two sectors today.

4. Most relevant criteria linked to the identified areas

We have regrouped the identified sectors into 4 sub areas. Every area has its specific criteria to allow a better definition and analysis.

FORMAL Criteria for: <ul style="list-style-type: none"> ▪ University Courses ▪ Master Courses ▪ Conservatory ▪ Research Centres 	<ul style="list-style-type: none"> – New cognitive scenarios resulting from ICT's application in Music Education – New pedagogical scenarios resulting from ICT's application in Music Education – Support to the development of science culture (mathematics and physics) – New hardware and software application research
FORMAL Criteria for: <ul style="list-style-type: none"> ▪ School 	<ul style="list-style-type: none"> – Alternative and interdisciplinary training courses (e.g. sound landscapes – sounds of memory – self constructed instruments) – New alternative experiences in music production and new forms of expressing musical creativity – Teachers' training for musical Education through ITC and internet – Students' courses for musical creativity and expression through ITC and internet
FORMAL Criteria for: <ul style="list-style-type: none"> ▪ Public Vocational Training ▪ Private Vocational Training 	<ul style="list-style-type: none"> – Retraining and employability – Professional advancement – New amateur passions and talents
INFORMAL Criteria for: <ul style="list-style-type: none"> ▪ Social Network 	<ul style="list-style-type: none"> – High level of sharing reciprocity, participation and interaction – Diverse range of creative activities expressed by the members – High level of competences among the members – Quality of tools and resources provided – New Quality of tools resources collaboratively developed

This grid of criteria was the main tool we used to explore the wide area of possible intervention's grounds in the field of our project, as well as the quality of this criteria would allow us to cross data in scientific analysis.

In the case of the university, for instance, the reference of search was related to the innovation connected according with the new cognitive and pedagogical sceneries (practices, products, processes), rather than, to the search applied to the software and the hardware or still to the development of a more recognizable connection, in this area, among training and mathematical sciences and physics. Reference criteria, for the school, were for instance new alternative experiences in music production and new forms of expressing musical creativity or students' courses for musical creativity and expression through ITC and internet.

Discovering new talents, opening new professional horizons, creating innovative technologies, etc, were the main criteria for the Companies and Professional Training, while in the Informal World (Social Networks) quality and quantity of Sharing, Collaborating and Communicate experiences, creations and learning in the Communities, and, also, the quality of the communication and exchanging

tools on the website (upload and download of software and music) and the instructional materials (guides, manuals, tutorials, etc.), all these criteria were useful in our analysis.

4.1. Specific indicators related to the identified sectors of activity

As already underlined, N.E.T. Sounds had to pick up and analyze some good practices in the sectors of education, professional training, research and industries, sectors oriented towards the teaching, creation, production and commercialisation of music using ICT and Web 2.0.

In this large and innovative context it was necessary to define a list of flexible and innovative rules in order to apply them to a world that is permeated and defined, as we have seen, from the categories of the Formal (in the process to migrate online) and of the Informal (born online and possibly on the way to be transfer, as practice, in the Reality) one. N.E.T. Sounds produces therefore a specific list of reference indicators (framework) to use as *Criteria of Success*.

Success can be measured in many ways, but the following behaviours: robustness, sustainability and controllability are signalling the possibility of success. Therefore N.E.T. Sounds, to define and select a Good Practice, has generated a specific framework of indicators:

1. GP dimension (scale);
2. notoriety;
3. results of evaluation;
4. spendable and transferable (model);
5. productivity;
6. methodology;
7. openness/innovation.

Those indicators are not giving scientific evidence to practices in order to be good, but are somehow quantifiable indicators useful for a systematic selection. The criteria listed above are not easy to measure. N.E.T. Sounds therefore has proceeded using a flexible system of compliance.

The system contains a two level compliance scheme. The first level is the suggested good practice status, the second level is the good practice status.

- **First Level.** The suggested status can be gotten through an elaborate shared (peer assessment) judgment inside the Nets of Interest and the Partnership. In this way every territory will manifest the most meaningful experiences locally. The shared judgment can be effected from the partnership of N.E.T. Sounds and from the wide community of all the Networkss of Interest on the ground of an analysis of the present elements in the database of the community of N.E.T. Sounds and from the evaluations

effected on the internet sites of the Good Practices and in the reality of the Institutions.

- **Second Level.** The second level of compatibility is “Good Practice.” As this level possesses a strong compatibility, it needs great objectivity. The system to get this is to collect assessments and evaluations from independent experts, external evaluators, for instance, or coming from the web activities (contacts, participants, tags, etc.). Or, during events, seminar or workshops organized at national or European level, to collect advices, notes, evaluations coming from the universe of politicians, teachers, managers, stakeholders relevant to the events.

In detail, we decided that that if a practice got more than two aspects of the followings indicators will directly be categorized as “Good Practice”.

Most important and specific indicators of a Good Practice were:

- **Dimension** (scale of the practical application). A criterion to define the good practice is the dimension. The regional, national or European dimension can have been verified from regional or national experts and it is essentially tied up to its use in the sector of reference. N.E.T. Sounds has selected such practices if they have reached at least a regional level and/or a dimension of exclusive leadership in the field.
- **Notoriety (in possession of national or international reputation).** The selected practices would not be able to introduce a generalized notoriety but however they could introduce a solid national or international reputation thanks to their impact and innovation in determined circles and contexts of the vast and extremely variegated sector of reference (GP’s in the area of the search, industry, but also in education or VET or in informal environments, etc). N.E.T. Sounds has identified therefore activity of solid reputation recognized as remarkable in formal circles e/o of social networking and directly referable to one or more Networks of Interest.
- **Reliability (available certified quality or evaluation of the results).** The ICT GP should be tested and employed by a large number of users, they should be proposed in technological and learning environments with evident quality standards. For ‘quality of the reflection on the experience’ we intend the degree of awareness on what is done and does, necessary to give a reasoned report for the realized experience. The quality of the reflection on the experience is the most important guarantee of a real transferability of its qualifying aspects. Therefore for a good practice it appeared as remarkable indicator the presence of the in progress elaborate evaluation and/or an evaluation submitted to external experts, and primarily centred on:
 - generated competences and abilities, with specific attention to minima standard on critical points of the learning;
 - motivation, satisfaction, comfort expressed by students involved in relationship to the developed job;

- motivation, satisfaction, comfort expressed by the teachers and collaborators in relationship to the developed job;
- effects on the current didactic practice.
- **Transferability (model).** Another essential element for the selection of a good practice was its transferability in other territorial contexts or in different educational and cultural contexts. N.E.T. Sounds identified an activity as transferable if there are available data/information that points out a practice as a transferable model (such as the presence of information, on the GP's website, regarding the effectiveness of its practice in other context and/or the amount of success face at a wide range of users with a varies personal profiles, etc.).
- **Productivity.** This indicator measure whether or not the experience not only produces a narration of itself, but also:
 - a description of what is changed in the current didactic practice of the participants teachers and of other teachers of the school following the same experience;
 - 'didactic objects' (*learning objects*) particularly interesting with the quality of being transferable in the current didactic practice of other teachers and other schools.
- **Method.** A crucial indicator to define a good practice was the kind of results it produced in terms of referable competences to the used methodology, or the ability of the used method of work to support:
 - the development of the metacognition;
 - the development of strategies of autonomous learning;
 - the development of strategies of cooperative learning;
 - the exploitation of multiple intelligence;
 - the individualized teaching with specialized answers to pupils with specific needs.
- **Opening/Innovation (level of introduced *changement*).** A practice in the education can be too much new to be identified as remarkable, reliable or transferable as a model, nevertheless it can be really innovative. And such is the case of a lot of behaviours born online in the last decades and not only within musical community. N.E.T. Sounds has therefore identified as innovative a practice that has introduced authentic changes and that has introduced new dimensions on music creation and in music education, both in specific formal circles and in social networking practices. Changes valued as such from experienced users and directly referable to one or more Networks of Interest. More specifically is was important to verify if:
 - such experience introduces new items and original contents whose value for the development of knowledge and specific and transversal competences is high and valuable;
 - such experience has the ability to polarize in special way reflection, research and elaboration of advanced didactic tools on some key points

- where is important a close examination and/or an innovative approach;
- such experience offers qualifying elements to give the pupils the ability to understand the reality in which they behave helping them to build and reinforce their active citizen's personality;
 - such experience uses experimental methodologies of research, survey, measurement.

5. Good Practices gathering

We mapped territories and institutions following two coherent dimensions in data collection and clustering. First is the areas of good practice of ICT in the institution. Different areas could be categorised as fields, and more than one can be applied in some of the envisaged practices.

Top management HE strategy towards specific ICT territory:

human,
institution,
resources,
rights.

Course management

HW and SW technology

ICT skills of Academic staff

standards,
training.

ICT skills of Learners

training,
support.

Content provision and development

curriculum,
course.

Communication

The second dimension is the attitude of the Teachers and Trainers and the quality of structures and technologies for the Students:

- the extent to which the use of ICT enlivens the teaching process, encourages positive attitudes to learning, and increases the pace and depth of learning;
- whether it provides learners with appropriate opportunities to take responsibility for their own learning, both in small groups and individually;
- whether teachers have identified aspects of coursework in which learners' individual needs can be met more effectively through the appropriate use of ICT;
- how well ICT resources are used to provide diagnostic support, support for learning and consolidation and extension tasks within curricular areas;

- whether all staff have a clear, shared understanding of how ICT can be used to improve learners' attainment within curricular areas;
- the extent to which the school needs to carry out a further audit of the steps taken across the curriculum to ensure the development of learners' skills in ICT, in particular;
- to ensure that any discrete courses in ICT skills complement pupils' ICT-based coursework in a wide range of subjects; and
- the appropriateness and accessibility of ICT facilities.

6. Tools and data gathering techniques

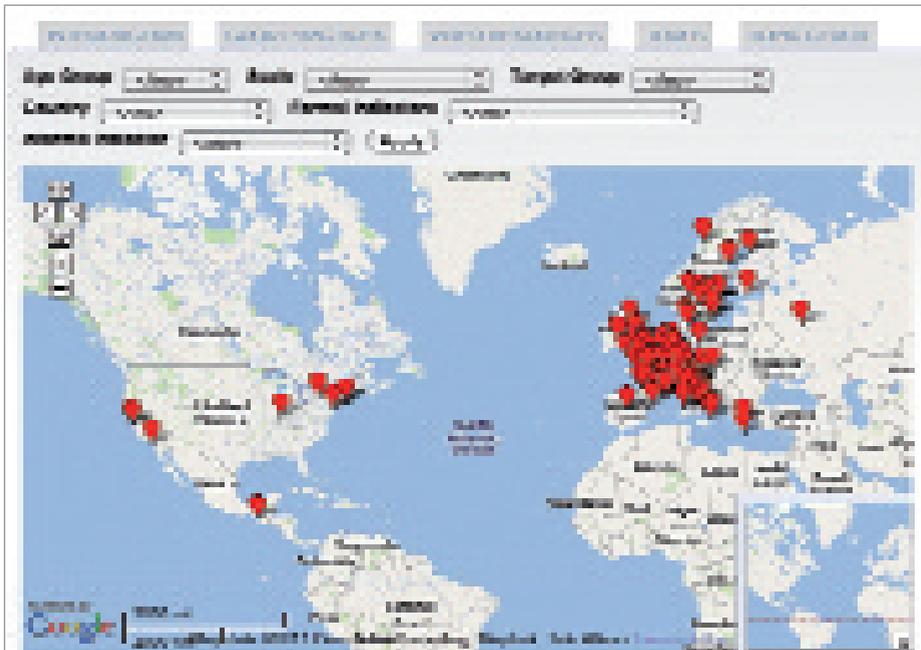
6.1. Tools

We used the following tools:

- **Survey Grid** <http://www.N.E.T.Soundsproject.eu/node/add/good-practice> (Annex) structured in a detailed grid based on the relevant indicators to collect Good Practices in the Music Field (learning, teaching, training both in Formal and Informal area. These indicators, as specified in their description (see above 1.4.1.) are specifically structured to collect practices and experiences very specific, not comparable to others. The Survey Form has relived for each GP: age groups, target groups, dimension and scale, objectives, methods, tools, resources, activities and added value. Every Practice is specific to the sector in which is used (Academic world, conservatories, professional training, online communities, etc) but the goal is paradoxically one, common to all, learning to create music using digital tools and informatics' networks.
- **Interactive Database.** <http://www.N.E.T.Soundsproject.eu/know-how/good-practices/search>. In the database of the N.E.T. Sounds project (incidentally, a brilliant products of informatics produced by the team project) the partners and the interested actors of the Territorial Networks of interest have loaded only the meaningful Good Practices that, as explained, correspond to the criterions of survey set in the Methodological Plan for the identification and selections of GP's. This database is completely interactive, written in SQL and hosted by the CMS Drupal that we modified for our specific needs. It's fully automated and can be questioned through a mask of crossed values, as follows:
 - a) **Age Groups:** under 5, 5-12, 22-18, 18+ Any).
 - b) **Scale:** Community base, Local, Regional, National, European International, other.
 - c) **Target Group:** students teachers, professionals.
 - d) **Country:** all European countries.
 - e) **Formal indicators:** University courses, Master courses, School,

Conservatory, Research centres, Public vocational training, Private vocational training.

f) **Informal Indicator:** social network, Any.



Validating and Knowledge Sharing Workshops. The Good Practices inside the partnership will be object of further presentation as case study in the Seminars and in the workshops organized by the partners to national level. Therefore seminars and workshops were used in any possible and useful events as further moments of study, evaluation and validation, in the presence of the Real Actors (the authors of the Good Practice, academic institutions, laboratories, artists, social bodies, associations, companies, etc.), and of the stakeholders of the National Networks of interest that have contributed to their selection.

6.2. Working methods

To be able to gather useful and relevant information about different good ICT practices in VET in music field provision, different working methods were used, according to the availability of former research and the nature of the activity. The following methods represent a list of well-known techniques in an increasing resource intensive order:

- desk research,

- interviews,
- focus group sessions,
- peer review sessions,
- seminars.

However different working methods for data gathering were strictly organized around the following common elements:

- N.E.T. Sounds project was presented before each activity.
- Feedback and outcomes were offered to respondents.
- All respondents were invited to join N.E.T. Sounds community, highlighting the benefits of participating in the network, and the explaining the potential of an active web 2.0 type contribution.

They were also invited to sign to the project Newsletter and to contribute and share resources with the effective and potential users of the site. In particular, we asked

- aiding the N.E.T. Sounds network to expand in Europe,
- publishing in the project database scientific and didactical papers,
- loading and promoting Good Practices on the project site,
- loading and publishing Video and Audio materials,
- sharing every material reputed adequate to the project.

6.3. NET search

Online Search is a consolidated method for a first mapping of the practices and of the Institutions over the Internet. Through this first collection of existing data we started to delineate the horizon of candidate Good Practices. Naturally, this was only the first step. Every GP must correspond to the criterions enunciated in our Methodological Plan.

6.4. Interview

An interview is worth using when there is no desk research data available, and/or the complexity of the topic allows one person to have objective in-depth knowledge and overview on the activity. Interviews were made using the following methods:

- face-to-face (audiovideo);
- written.

In the NetSounds Projects the interviews were mainly realized with Experts in seminars and workshops.

6.5. Focus group

Focus Group are normally used to define strategy, to identify weakness, to structure processes or projects, in every sector. We used this method mainly on local base, letting the Group be managed by the Partners. This was the main reason: we wanted to identify local trends (a specific Region or Nation, or in a determined Sectors – school, company, conservatories, universities – or in relation with defined practices, such as use of the Internet for distant learning, time defined teaching or learning, final outputs of these activities, etc.

The main types of Focus group method are:

- discussion group (where a facilitator or expert facilitates debate on a structured theme).
- Nominal group (where a question is asked and answered individually and anonymously by each member of the group and then the answers are collected and explored collectively).
- DELPHI technique, where experts individually provide written answers to selected open-ended questions; the answers are individually analysed and then fed back to experts for review and feedback.

6.6. Peer review

Peer review had to respect the following purposes:

- To carry out a review, based on collaboration between participants and 'experts' (Territorial Networks) of the delivery and support services in the N.E.T. Sounds participating Bodies.
- To provide formative feedback on the current 'state of the art' in the participating Stakeholders.
- To identify 'gaps' in provision, and suggest ways of addressing these gaps
- To provide support to enable the participating Universities and other Institutions to improve and further develop their 'virtual capacity' and to improve their practices.
- To apply the results of the Review to developing a model of support services for the virtualisation of traditional universities.

The N.E.T. Sounds peer reviews was focused on quality aspects of the following key ICT dimensions:

- learner services,
- learning delivery,
- learning development,
- teaching capability,
- evaluation and assessment capacity,

- accessibility,
- technical capability,
- institutional capability;

and VET in music field territories:

- Campus education.
- Corporate training.
- Continuing professional development.
- Adult education.
- Local and regional development.
- Schools teachers' training.
- Distance education.
- International (virtual) mobility.
- Prior Learning Assessment (PLA) for guidance and employment.

6.7. Analysis and presentation of data

Comparative research consists of qualitative and quantitative parts. Qualitative comparison is based upon keyword search and quantitative part is a unique ranking form that has to be used at each Institution of good practice.

Every Good individualized Practice and valued was therefore the result of a convergent process that departs from the Territories and from the Practices toward the heart of the N.E.T. Sounds project, the database of Good Practices in which the European Institutions of Musical Education, the Communities that are developed on the territories and on the Net will furnish a rich catalogue, variegated and validated with Good Practices, with the purpose to furnish an informal and exhausting tool, rich in resources and practices, to students and educators.

Part Two

The analysis

1. Good Practices Analysis

In this recognition of GPs in our database, we searched for dynamics, inclusions, borders. In the logics of what we have described from the beginning, inclusions and convergences are mostly productive and innovative, and these phenomena will give us the dimension of what happens on the web 2.0 in terms of dynamism and energy.

We have collected around 300 Good Practices in our database, and over 160 organizations and 80 individuals are members of the European and transnational Networks of interests. These important results, very useful in terms of relevance for the times to come, a sort of clear projection of what we imagine of tomorrow's education, comes from the combined efforts of the partners, a European consortium which comprehend bodies from Italy, United Kingdom, France, Sweden, Romania and Belgium.

1.1 Analysis by identification criteria. Formal: universities, conservatories and research centres

In this sector we have GPs produced by:

- University Courses;
- Master Courses;
- Conservatory;
- Research Centres.

Identification criteria	Related GP
New cognitive scenarios resulting from ICT's application in Music Education	59
New pedagogical scenarios resulting from ICT's application in Music Education	44
New hardware and software application research	18
Support to the development of science culture (mathematics and physics)	38

The figures point out a very clear view. We are in the high education, therefore a key-sector in every Country. If we add the figures of the second column we get over 160 referable tags (criteria) to Good Practices. This clearly shows that the great institutions can approach a large numbers of knowledge projects to experiment new applications software or hardware, can explore unusual pedagogical behaviours in reason of their special statute. Some university departments or certain desks of conservatory are a sort of centres of research, and certain centres of research (we think about the IRCAM, for instance) are a sort of university departments.

In this sector, giving also an eye toward the budget figures that are needed, the strong presence of GPs coming from this Formal institution is not surprising: they are perfectly aligned to their mission.

1.2 Analysis by identification criteria. Formal: school

Schools, in the Formal sector, produce many practices but the practices collected in N.E.T. Sounds are the ones corresponding to the following criteria:

Identification criteria	Related GP
Alternative and interdisciplinary training courses (e.g. sound landscapes – sounds of memory – self constructed instruments)	30
New alternative experiences in music production and new forms of expressing musical creativity	25
Teachers' training for musical Education through ITC and internet	15
Students' courses for musical creativity and expression through ITC and internet	14

Despite the perennial financial and organizational difficulties reported in Europe by the school sector, it is notable to ascertain that some interesting Good Practices originate from the school, aimed to fill the fracture among traditional teaching and new technologies, a fracture due to both to the missed endowment of suitable infrastructures and also to the not efficient training of the teachers in this field (learning and teaching with the computer technologies and over the net). In effects if we look the figures, only 3 good practices are referred to the musical training of the teachers using internet, while 12 are reported to the learning of the music from the students using the net.

The experiences both in the formation and in the musical production using new computer endowments are richer, but we are here almost in the obvious one: to make music today without computer is almost anachronistic, and also the school world follow this change.

Other relief to be done: the first two criteria point out that the tendency to look for alternatives to the traditional pedagogical path becomes stronger and definite,

a signal that the school sends to the political world to consider a reform of the model of the contemporary school.

1.3 Analysis by identification criteria. Formal: public and private VET

In this sector the accent is on the strong connections between Training and Professional Employability:

Identification criteria	Related GP
Retraining and employability	20
Professional Advancement	23
New amateur passions and talents	11

The sector of the professional education (VET, Vocational Educational Training) produces good practices to a constant rhythm. This must not surprise, being tied up not to cultural projects or of search that can be at times extemporaneous or occasional (shows, concerts, institutional advertising countries) but to the world of the job, to the search and offer of employments in the productive realities of the real economy. Then the rhythms of change are more stable and prudent but they will be in strong growth, giving the expansion of application of specialization in this sector. And we also see a small signal from our chart: the last criterion, that was put as first in the last report (passion and non professional talent) leaves place to practices that reach concrete objectives, as the professional advancement and the professional retraining. Also this is a sign of the times.

1.4 Analysis by identification criteria. Informal: social networks

The GPs coming from the Informal sector are the ones in strongest relation with the web 2.0 behaviours that we can have, and we have collected them following the criteria here specified:

Identification criteria	Related GP
High level of sharing reciprocity, participation and interaction	25
Diverse range of creative activities expressed by the members	18
High level of competences among the members	12
Quality of tools and resources provided	21
New Quality of tools resources collaboratively developed	19

This is the crucial sector of our search. If it is true that the change comes from the web 2.0 practices but they are managed by the traditional economic-political poles

(institutions of every Country and supranational institutions, great enterprises, etc.) it is also true that here, in the good practices coming from the social networks – or in GPs mimetically produced following that practices – we should find some trend indications on the next future. The answer, analyzing the figures of the five criteria, can be articulated this way:

- 1) the primary characteristic of web 2.0 practices is really present: a high-level of exchange, interaction and reciprocity confirm that the peer to peer fluidity of the networks remains important also in industrial or academic projects on the web 2.0 practices;
- 2) the differentiation of creative activities and skills expressed from the members is the other dynamics related to the spontaneous networks, and we find a strong rate of this dimension also in this Good Practices;
- 3) the high rate of skills of the community members is the core point of a specific community, when it's there, as well as it is the weak point, when it absents. In our case a lot of the good practices devoted to the music are direct toward the specialization, the teaching or the professional retraining, therefore it was normal to expect a smaller presence of high rates of skills among members that are there for learning purpose;
- 4) this indicator shows that the law of Moore (speed and complexity of the nets and of the computer's processors double in established times) is also valid for the communities, that are hungry in terms of computer resources and cannot live without a high-level of disposable tools;
- 5) and this hunger of quality resources pushes the communities to elaborate new tools if a lack is perceived: the inventors of Facebook have created a first simple database of personal profiles just to tie some communities of students friends or for the same reason the inventor of Twitter has programmed the software to send Sms (short text messages) over the internet pages of the site, visible only to whom wanted to see them. The high indicator in the above chart confirms that innovation remains essential in the web 2.0 Good Practices.

1.5 Synthesis

To a first reading of this Matrix we notice that all the 16 criteria produced in the project Search Grid have been satisfied. In other words we have:

- a) a strong congruence among the criteria specified during the preliminary phase and the reality of the presence of good practices in the different
 1. contexts (formal, informal);
 2. scale (regional, national, transnational);
 3. target groups (students teachers professionals, others);
 selected for our search:
- b) we can therefore directly and simply refer to these criteria the collected GPs.

Starting our reading of data, if in the first steps of the Search, the three criteria belonging to the sector Formal for Public and Private Vocational Training (Formation) were the richest of good practices (the densest of statistic presence), we have verified that a more vast survey has given the priority to the first 4 criteria, those of the world of the high education. This must not surprise: it is true that there is a strong demand of professionals in digital technologies, in the music industry, in different strong expansion sectors in Internet or Mobile Phones, besides the great traditional basins as Cinema, TV, Commercials and Music. But it is also true that it is not anymore possible today to improvise in any sector and the demand of competences are qualitatively higher also in the industry of the communication, that uses strong components of sonorous materials. If each great European city is equipping itself with a Cultural Pole able to produce communication materials for Exhibitions, Museums, Cinema, Televisions, this means that the next cultural industry will be more and more a creative industry.

Images and music, right now, require such a level of technical competence and they produce such a variety of specializations that only in the advanced professional education it is possible to fill this discrepancy. This does not mean that only the public sector is invested, it means that the public sector is on the same market of the great private companies and institutions. Both the public and the private are obliged to search talents and experts and are obliged to create centres of Research and development in which prepare their futures talents.

We can proceed to some final consideration:

1. At a short distance (six months) from the precedent 3rd Analysis Report, we can say that the basin of the Good Practices brought in by database has numerically become not only bigger (around 300 against 50) but qualitatively diversified.
2. The Social Network (informal) model becomes pervasive: this is an expected result but certainly important. The web 2.0 practices are more and more integrated in the Formal world in a vivacious and visible way, at all levels. There are entirely projects of High Education and the School based on practices of Social Network.
3. This result surely is due to the popularity that Facebook and Twitter have given to the instant communication and the concept of Net of Friends, with which to be always in contact. But it also shows that the analyses and the forecasts, not only done by researchers (we have seen the thoughts of Lev Manovich) but by experts of the European education system in the last ten years (to bring the school and the teaching/learning world to use and adopt ICT in a transparent way), were exact and are becoming real.

Web 2.0 world and school have in common, in the great basins of the social networks (the great international and national communities) the same age group: 15-30, an age of long youth typical of our time. This age group crosses all the social classes and all the nations and, naturally, it crosses the school, the

university and the university after degree masters, including music and the associated technologies. In the Good Practices collected by N.E.T. Sounds this is visible and evident in the symmetry among advanced good practices (the most distant from the traditional criteria and the nearest to the criteria of the Net and its immersion in digital technologies and practices) and their effectiveness in terms of structuring, transferability and innovation. In other terms, more it is dared – in terms of aims and goals – better is the innovation and the capability to succeed in planning and managing the project.

The only false note is the lack of specific practices devoted to the children, even if they are increasing, and we must expect that this very crucial area will grow in the future. We must underline that is a very specific area and, obviously, only a structured program, lead by Public and Private institutions and bodies, within a national and European framework, can do the job. Otherwise, without a coherent formative path, we'll notice a large numbers of not ITC prepared students in the high school. The NET generation (the ITC natives, e.g. children born and grown in the middle of the digital revolution) are expecting to find at school the same tech environment they were used to use at home, technologies that are fully naturals for them.

Also, we must note the importance, in this Report, that has the large numbers of GP produced by High Bodies and Institutions. A point of balance with the good practices born and grown online becomes difficult, and perhaps there will not be entirely got, for a series of structural and almost obvious reasons. The web 2.0 communities that do not become business have no interest in becoming visible, with ad hoc projects, beyond the limit of their necessity, risking in this case the change of horizon and the end of the same community. The point of equilibrium of the developers of Linux is to furnish every six months an updated version: there will be even micro community of musicians that will adopt Linux to eventually develop some specific projects, but the dimensions will be never the same of the engineers teams that Steinberg, Magix, Sony or Propellerhead can regroup, and the visibility will suffer as a matter of consequence.

The Territorial Networks developed by N.E.T. Sounds in Europe cover the whole surface of the continent. The European net of N.E.T. Sounds with its 180 organizations and 80 individuals has the worth to intercept every level of competence, of experience and knowledge that can exist today in the world of the computer technologies and ITC devoted to the music, and also to its learning and teaching, to its production, recording and diffusion.

This is a very important result, because we can combine it with the Good Practices we have collected: the two networks are strongly interrelated and in the future they can be One big Network with enormous potentialities.



2 Analysis by Success Criteria

Questioning the online database we can choose some groupings for classes of age, for target group or for dimension. In reality it deals with a retrieval method of information but it is not useful for our analysis. For this, rather than to drive our attentions toward the quantitative classification, we will try to find some points of connection among the identification criteria and success criteria of the Good Practices, that in our case were the following:

1. dimension of action (scale);
2. visibility (fame);
3. evaluation's results;
4. transferability (model);
5. productivity (results);
6. methodology;
7. openness/innovation.

This list is a simple reading/definition grid of a Good Practice that we used in this project to select the most significant experiences developed in the crucial sectors, in Europe and internationally.

An experience, to be defined as Good Practice, should have had the seven signs in the list, a relevant dimension, a sufficient visibility, innovation, good results, enough data to evaluate the results, a transferable and productive model, a methodology. Strictly necessary was the degree of innovation under the didactical

and methodological aspect, to have the guarantee to cross traditional borders and to meet new cognitive and operational standards.

And above all, the strength to sustain the access and the production of new processes inside the educational and formative systems, in the perspective to innovate its practices and didactic and to facilitate the students in the exploitation of vocations and potentiality and in the acquisition of competences key.

The Good Practices that can be found in the database of N.E.T. Sounds (almost 300 experiences selected on two continents, Europe and North America) constitute therefore an alive and pulsating tool of access to didactical and methodological innovation of the musical teaching-learning, keys of access and propeller of the information and knowledge society in the XXI cen.



Each of the selected Good Practices must be able to constitute the occasion to complete a natural path of access to new experiences and to spendable knowledge on the educational plan. Naturally, not all the Good Practice introduces the same level of coherence in every specific aspect. The significance of the coherence is inherent both to the type of sector where the action insists both to the type of action that is developed.

In the Formal school sector an experience (Good Practice) must answer many different specifications tools, normally not coherent from those in demand to a practice of the sector Informal Social Network as deeply and necessarily different are the objectives of the action. In the first case, elements connected to the curricula, to the contents and the institutional objectives will absolutely be prevailing, while in the second case the calls to the vocational and individual aspect of the experience will be stressed.

2.1 The three steps of the experience

The level of experiences/outputs/processes that we have selected was essentially qualitative but subdivided into three steps:

1. quality of the realized experience;
2. quality of the evaluation on the good practice;
3. quality of the choice of the contents and aspects that define the experience as good practice.

The three moments are tightly correlated and functional the one to the other and they determine the appropriateness of the choice, the possibility to represent in his fullness and coherence the potential, the possibility to valorise its different aspects in its use in the educational action.

The first point at first introduces him as auto explanatory but we need to stop in this first analysis to fully understand it.

What does it mean quality of the realized experience?

It means that the indicators of the Good Practice are found in the developed action. The points from to) to g) of our list of criterions open, in this first phase, a list of very important elements of evaluation that can be so defined and synthesized:

- **organizational and communicative bases**
it is verifiable in the practice a contextual action, a vision, a dimension of communicative transmission;
- **theoretical-methodological bases**
are recognizable in the Good Practice a didactics, a methodology, an applicability to specific contexts. An ability that is to innovate the access and the transmission of knowing and acting creatively in musical field and however within the creative expression;
- **bases of practical methodology**
in the action we notice routines that facilitates the resolution of problems (they for instance support the development of the personality of the student, its ability of learning, the social integration, the ability to create relations, etc.) besides maintaining the necessary high level of transmission of the knowledge in every educational action.

The presence of these referable qualities to the indicators conducts, in the point 2, or to the “positive qualitative Evaluation” of the Good Practice, as seen in our indicators from d) to g):

- **bases of social and cultural originality**
in the action we have noticed elements of cultural integration, any racial, linguistics, religious barrier, the respect of the identities, facilitation of the cooperation between the users, creation of spirit of group, respect of the other, etc.;

- **bases of productivity**

in the Good Practice it is accessible the reading of the reached results and of the attended ones, perspectives of development, new products that can be started beginning from the experience in progress, effective routines of transfer of new products / processes, be them methodological or physical outputs, as for instance virtual environments, software, etc.;

- **bases of scientific and methodological innovation**

the practice give the school and VET system new pedagogic tools, new learning environments, new methods to resolve problems of integration, resolution of conflicts, new routines and methods of search and support to the formative success, coherently with the finalities and the general objectives of the educational systems and with the demand to improve the effectiveness of the process of teaching and learning, etc.;

- **bases of opening and technological innovation**

the Good practice give the system the possibility to know and to profitably use new software, new tools of communication. new structures and practices of net, new communities, new formalities of remote collaboration and creative expression in internationally job virtual team, etc.

2.2 Interconnected readings

To integrate these reading we need a solid qualitative reflection onto the whole. We need to consider all these experiences as a whole. As we know, even if the collected Good Practices are the results of a Grid of Selection, and therefore they possess all the necessary qualities, they haven't the same capacity of auto presentation. They cannot express their potential in terms of communication. N.E.T. Sounds role, and his mission of search and analysis, become clear, to give the right stress to the GP, in terms of system, or, in other words, to underline their values if used in a large, systematic and homogeneous didactical and professional contest.

This can be done, as operational and theoretical choice at the same time, replacing in a system of integrated reading both the formal Good Practices (school, university, conservatories, private academies, centres of search) and the informal ones, coming from internet and social behaviours.

But this picture would be incomplete if besides the theoretical and institutional framework we didn't also analyze the products coming from it. We assume that the Good Practices, validate from the organizations or practised by the nets, has as output Courses, Lessons, Software, Methods, environments of Learning. All this become occasion of reflection and construction of a new music didactics, founded on the aware and competent use of the digital technologies, all educational objects and occasions of cultural transformation that we can collect both near the organizations that online.

The goal of the analysis that end this Report is to search, structuring the data in matrix centred on the use of digital technologies both on didactics and training, is exactly to show the coincidence between theory and praxis, between project, method and results. The same will be for the analysis of the N.E.T. Sounds YouTube Video Channel, a sort of video declination of the same project.

N.E.T. Sounds started as verification and mapping of experiences that, a their turn, are verification and mapping of specific projects in specific contest. The database and the thematic video channels, as final outputs of N.E.T. Sounds, are the place to verify the success of this challenge we started three years ago.

3. Reading the Good Practices. Web 2.0 epistemology

We've chosen to regroup a certain number of Good Practices in a guided tour. This selection has a double goal:

- let you know, from the inside, some of the most relevant GP in our database;
- experimenting on the ground the truth of our hypothesis, e.g. that is possible to find some connection between identification criteria and success criteria.

In reality, when we were working at the project we've had the certainty that the best method to evaluate a Good Practice – in a European dimension – was to cross data among the qualitative and quantitative fields. Only this way we could check pro and cons (strength and weakness) of a given GP and, also, make a comparison in an abstract ideal framework, to obtain other useful information.

The Structured Matrix of Data that we present here are a short Web 2.0 Epistemology essays: they are introduced by a Problematic Framework (the Quality Framework) and are fulfilled by a short selection of Good Practices that are able to explain it (the Experience Framework).

This way we can verify convergences, innovations, unexpected solutions, all useful elements to the documentary goal of our project in his European dimension (transferring of this project in other contexts, and knowledge/transfer of the best and/or relevant Good Practices selected).

3.1 Web 2.0 interaction matrix

The heart of the Internet are the social networks, as in life the heart of the societies is eminently the net of social affective cultural relationships that ties the people. There would not be music today without the nets. The possibility to be able to chat in real time with the whole world not only solicits theoretical and cultural reflections but also politics, social and technological answers. When a President like Barack Obama builds his success using Facebook and Twitter or when world famous rocks groups emerge from the inner spaces of YouTube, we

need to wonder what to do, in formative and pedagogic key, with these new tools.

The whole project N.E.T. Sounds has responded to this necessity. To open a dialogue with the nets of interest centred on music, to retrieve the best experiences validate from reliable organizations or recognizable social network, to classify its specificities, to point out its possible relapses.

In the case of this Matrix of the interaction, the protagonist could not be that the same Net, in his 2.0 incarnation. And who if not YouTube could imagine a collaboration online in the classical music? With the aid of artists of world fame and the London Symphony Orchestrates in 2008 the greatest site of sharing audio-video to the world it surprises all with a genial idea, worthy of the most advanced web 2.0. After three years the bet is still standing.

But web 2.0 participation is much more complex, as show other examples of Good Practices, from the community of theorists of MayDay to that of musical apprentices of Charanga. In effects the heart of the web 2.0 is not the show but the need of creating and sharing knowledge. Wikipedia is the perfect example, but also the thematic channels that can be built on YouTube, as it shows the project N.E.T. Sounds: these channels have the value of an encyclopaedia of shared knowledge in the music sector and the applied technologies.

1.You Tube Symphony Orchestra



Since 2009, You Tube Symphony Orchestra has used the following types of Good Practice: Social Networks (*informal*)

Educational Indicators: High level of competences among the members, High level of sharing reciprocity, participation and interaction, New cognitive scenarios resulting from ICT's application in Music Education, New Quality of tools resources collaboratively developed, New pedagogical scenarios resulting from ICT's application in Music Education

The YouTube Symphony Orchestra is an amateur orchestra assembled by open auditions hosted by YouTube, the London Symphony Orchestra and several other worldwide partners. Launched on December 1, 2008, it is the first-ever online collaborative orchestra.

http://en.wikipedia.org/wiki/YouTube_Symphony_Orchestra

Added value

The YouTube Symphony Orchestra is a global endeavour devoted to sharing the love of music and celebrating humanity's vast creative diversity. Musicians selected to perform in the orchestra will be invited to Sydney, Australia in March, 2011 where they will work with world-renowned conductor Michael Tilson Thomas and receive coaching by leading musicians from the world's top orchestras.

On October 5, 2010, a video posted on the YouTube Symphony channel announced that they would be doing a second symphony, this time performing at the Sydney Opera House on March 20, 2011. Thomas has again directed, and has asked Bates to write a piece, entitled "Mothership", in which performers were invited to improvise with the orchestra, both live and via an uplink.

A video of the LSO performing Mothership was posted on Youtube on October 11, 2010.

The performance of Sydney is also on the site.

Contact Details of responsible person: You Tube

Promoting institution: You Tube

<http://www.youtube.com/user/symphony>

You Tube Symphony Orchestra Partners and Collaborators	
Orchestra Sinfonica Nazionale della RAI	Lang Lang
Orchestra Filarmonica Italiana	Liceu Barcelona
Amsterdam Music School	London Symphony Orchestra
Arnhem Music School	Moscow Conservatory
AVRO	National Music Conservatory
Bamberger Symphoniker	New World Symphony
Bangalore Music Association	New York Philharmonic
Berlin Philharmonic Orchestra	Orchestra de Galicia
Carnegie Hall	Orchestra Filarmonica
Concertgebouw Orchestra of Amsterdam	Orchestre de Paris
Conservatorio Real	Orquesta Nacional
Credia	Petersburg Conservatory
Valery Gergiev	Prague Philharmonica
The Hague Music School	Radio France
Hong Kong Chinese Orchestra	Rotterdam Philharmonic
Hong Kong Philharmonic Orchestra	
Imma Shara	

2. SoundJunction – elearning music & create online



What is SoundJunction and what can I do?

The SoundJunction website's all about music. You can take music apart and find out how it works, create music yourself, find out how other people make music and how they perform it, you can find out about musical instruments, and look at the backgrounds to different musical styles.

You may need to install Shockwave and Quicktime plug-ins to use the tools and video on the site.

Listen to music

SoundJunction's full of different styles of music. The site commissioned three new pieces – an African song, a jazz/big band song and an orchestral piece. Then we asked musicians to make remixes of these pieces – rock, drum 'n' bass, broken jazz, fusion and experimental. There are also over 300 other pieces of music from around the world, across the site. Find out about some of them in Music in context.

Take music apart and find out how it works

Using interactive online tools, you can take this music apart and find out how it

works by experimenting and listening. You don't need to know about music to understand SoundJunction. If you do, there's a lot more to discover. Start in the Explore Music section, or jump to the interactive Explorer tool for African, jazz or orchestral music.

Create your own music

You can make your own music online, drawing from thousands of samples, using the SoundJunction Composer tool. Jump to How to create music in SoundJunction or go to Create music yourself for some composing guides. Or check out the Composer forum for music other people have made on the site.

How do people make music?

If you want to find out how composers, writers, producers and remix artists make music, you can watch them explaining the process on video. Jump to Composing and remixing.

<http://www.soundjunction.org>

3. MayDay Group



Since 1993, MayDay Group has used the following types of Good Practice: Social Networks (*informal*)

Educational Indicators: High level of competences among the members,
High level of sharing reciprocity, participation and interaction

Summary

The MayDay Group was founded by Thomas A Regelski and J Terry Gates in the winter of 1993. They invited twenty music education theorists and methods experts in the north-eastern USA, south-eastern Canada and England to meet in Buffalo, New York on May 1-2, 1993 with the intention of critically re-examining the status of practice in music education. Since then, The MayDay Group has met yearly in the US, Canada, Finland, and Norway. As of April 2006, the MayDay Group members include musicians, music educators, social and cultural theorists from over twenty countries.

Objectives

The MayDay Group functions as an international think tank, connected through

email, the Internet and by regular mail. They are concerned to identify, critique, and change taken-for-granted patterns of professional activity, polemical approaches to method, and social, musical and educational philosophies, educational politics and public pressures that have threatened effective practice and stifled critical and open communication among music educators. The ongoing debate about these matters resulted in a more formal two-fold purpose:

- a) to apply critical theory and critical thinking to the purposes and practices of music education, and
- b) to affirm the central importance of musical participation in human life and, thus, the value of music in the general education of all people.

Activities

Action, Criticism, and Theory for Music Education (ACT) is a peer-reviewed journal (following the “blind review” protocol) seriously committed to principles of open access. ACT's editorial standards are rigorous, with a 2008-09 acceptance rate (for instance) of approximately 35%.

Founded in 2001, the journal publishes critical, analytical, theoretical, and policy development articles of international interest that illuminate, extend, or challenge the “Action Ideals” of the MayDay Group.

Critically-informed scholarship from a broad range of disciplinary perspectives is welcomed: music, education, philosophy, sociology, history, psychology, curriculum theory, and others.

ACT is dedicated to serving an extensive international readership with diverse needs, interests, and concerns. Where articles deal with national or regional specifics, authors are encouraged to frame their research in terms that are relevant and interesting to readers in other countries or situations. In a typical year the journal is read in more than 160 countries throughout the world.

Added value

For almost two decades The MayDay Group has been an independent community of highly qualified free discussion, sharing and theorization about the actual situation and possible future of music education.

Contact Details of responsible person: Tom Regelski

tom.regelski@helsinki.fi

Promoting institution: State University of New York at Fredonia

<http://www.maydaygroup.org/>

4. Charanga Music - The digital learning community for music



Since 2011, Charanga Music - The digital learning community for music has used the following types of Good Practice: Private Vocational training (*formal*)

Educational Indicators: New amateur passions and talents, Professional advancement

Summary

Charanga Music is the UK's leading digital learning system for music. It is used by over 60 Local Authority Music Services in England and by over 10,000 professional music teachers. The system uses many specially developed ICT music applications that help teachers deliver stimulating lessons and support students in self-study.

With a library of over 6000 fully licensed music learning resources, Charanga Music is used to create lessons and courses for students and schools which can be used online or embedded as SCORM packages in Learning Platforms and VLEs. Partners can opt for an own-branded Charanga Music system which they can customise and administer to support the specific needs of their local communities.

Added value

Charanga Music provides a comprehensive library of tools for both music teachers and pupils to broaden to create a larger and more effective palette of music teaching and learning instruments.

Contact Details of responsible person: Mark Burke

Digital Learning Partnerships Director: markburke@charanga.com

Promoting institution: Charanga Music

<http://www.charangamusic.co.uk/site>

9-12 Middle Street

Brighton BN1 1AL

United Kingdom

5. The “Polifonia” project



Since 2004, The “Polifonia” project has used the following types of Good Practice: Conservatory (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT’s application in Music Education, New hardware and software application research

Summary

“Polifonia” was the largest project on higher music education to date. It started in 2004 and studied various subjects related to professional music training in Europe. To build on the successful first cycle of “Polifonia”(see below), **a second 3-year project cycle** for the period from 2007-2010 was approved by the European Commission in September 2007. This cycle was coordinated jointly by the Royal College of Music in Stockholm and the European Association of Conservatoires (AEC). The partnership in “Polifonia” involved more than 60 organisations in professional music training and the music profession in 30 European countries.

The following three project strands were part of the new cycle:

The “Bologna” strand continued the work on various issues related to the “Bologna Declaration”, such as curriculum development and design, internal and external quality assurance and accreditation.

The “Lisbon” strand was concerned with continuing professional development for conservatoire management and the further investigation of instrumental/vocal teacher training. In addition, the dialogue between higher music education and the music profession was addressed.

The “Research” Strand aimed at studying the role of research in conservatoires, as well as setting up continuing professional development activities for conservatoire teachers.

With the aim to study these issues the following experts working groups were established:

- A “Bologna” working group.

- An Accreditation working group.

- A working group for continuing professional development for conservatoire management.

- An instrumental/vocal music teacher training working group.

- A Research working group.

In addition, an External Stakeholders group composed of representatives of professional music organisations was set up to accompany the project with its

expertise and reflect on the relevance of 'Polifonia' activities and outcomes for the music profession.

To learn more about the work of these groups, please click on the working group of your choice.

Objectives

The **first 3-year cycle** of the ERASMUS Network for Music "Polifonia" was conducted from 2004-2007 and jointly coordinated by the Malmö Academy of Music - Lund University and the European Association of Conservatoires (AEC). It had the following objectives:

To study issues connected to the Bologna Declaration Process, such as the development of learning outcomes for 1st (Bachelor), 2nd (Master) and 3rd cycle studies through the "Tuning" methodology, the use of credit point systems, curriculum development, mobility of students and teachers, and internal quality assurance in the field of music in higher education.

To collect information on levels in music education other than the 1st and the 2nd study cycles, in particular pre-college training and 3rd cycle (Doctorate/PhD) studies in the field of music.

To explore international trends and changes in the music profession and their implications for professional music training.

Five international expert groups were active to meet these objectives:

- A working group for pre-college training in music.

- A working group for 3rd cycle studies in music.

- A working group for the music profession.

- A "Tuning" working group to address the various "Bologna" issues.

- A working group for international relations coordinators.

To learn more about the work of these groups, please click on the working group of your choice.

Added value

The first cycle of "Polifonia" was designated as a ERASMUS success story by the European Commission in May 2007.

The project outcomes were presented at congresses and seminars, in newsletters and (online) publications. Feedback was gathered throughout the project from an external stakeholders group, music institutions, music students and music professionals through questionnaires, interviews and site visits.

"Polifonia" participated in the European Archipelago of Humanistic Thematic Networks. This broad Network of Networks aims to establish links and collaboration between the separate "humanistic" disciplines. More information can be found on the Archipelago website. "Polifonia" received support by the European Union in the framework of the ERASMUS Programme, the chapter for higher education of the EU Lifelong Learning Programme.

Contact Details of responsible person: AEC – polifonia@aecinfo.org
Promoting institution: Association Européenne des Conservatoires
Utrecht Netherlands

6. Do Re Mi Fa Socrates



Since 2005, DO RE MI FA SOCRATES has used the following types of Good Practice: Conservatory (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, New Quality of tools resources collaboratively developed, Quality of tools and resources provided, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

DoReMiFaSocrates aims at collecting and presenting information about activities in the field of music of the European Union programmes.

Objectives

In particular, the DoReMiFaSocrates website would like to promote and support the participation of higher music education institutions in the Lifelong Learning Programme by offering customised information and on-line tools to music students, teachers and ERASMUS coordinators.

Methods

For the DoReMiFaSocrates website, information has been collected on realised projects and mobility activities in the field of music in the framework of the EU programmes for education.

In this section you can find:

1. A brief historic overview of European collaboration in the professional music training.
2. An on-line database of more than 100 music projects categorised per programme and per category.

Information was collected from the compendia of the various actions and through direct contacts with the project coordinators. Based on this information, the content and the outcomes of the projects were analysed and described in a common framework. Information listed per project can be found in this section, including project description, project outcomes, contact person, and links. The

projects descriptions are in html format with downloadable project products where available (final publications, websites, sound recordings, videos, etc).

Added value

The benefits of international exchanges are numerous. Exchanges enrich the internal culture of your institution, as well as improving its external image by attracting more students. Furthermore, an exchange abroad is a unique opportunity for a teacher to gain inspiration and impulses for his/her professional development. These benefits (and more) are the main added value to this project.

Contact Details of responsible person: AEC

aecinfo@aecinfo.org

Promoting institution: AEC

<http://www.doremifasocrates.org/>

NL – 3500 AV Utrecht – Netherlands

Tel:+ 31 30 2361242

3.2 Research Matrix

In this category we can read the moment of convergence between High Formation and society: in the Research Centres the present is analyzed and the future is questioned. Software and hardware tools are planned, reality becomes experimental, a look is being thrown towards tomorrow. The research is the strategic sector of every society and the school, integrating the research, try to guarantee to herself an indeclinable quality in the next future.

To come to constitute an orchestra made of cell phones or to create increased and interactive partitions can seem an ephemeral exercise of style. But really looking for convergences or integrations that are not reasonably sustainable the research proceeds in his walk of discovery, creating the future.

To appraise research projects is always difficult. At times impossible. The searches often resolve partial and/or lateral problems, without immediate purposes if not the solution of the same problem. Yet, to the light of the accomplished results gained by the computer sciences in the years Sixty and Seventy, when all the daily applications we use today were relegated to the space of the cinema imaginary, the reflections in to appraise complex projects and often incomprehensible to the more, must attentively be calibrate.

Public and private institutions are necessary to be able to guarantee to the researchers the correct calm, sheltered from the necessity to win on the market or to show an immediate pedagogic effectiveness. The search proceeds for attempts and often the only impulse is the dream. The game, at times, as in the case of the Helsinki Orchestra constituted of portable telephones. Yet, behind similar projects, we can find not only technological and industrial affairs but also cultural aspects stressed to the change. Nobody imagined that every house would have been one day connected to internet by a computer. Tomorrow the telephones can be plurals means of expression as we don't even succeed in imagining today. The continuous search and the didactic and methodological experimentation on the knowledge convergence, on the collective knowledge, on the emotional and scientific intelligence, will make us able one day to smile about these Good Practices that today, nevertheless, are examples of how we can imagine the future.

1. INScore - Interactive Augmented Music Score



Since 2010, INScore - Interactive Augmented Music Score has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, New hardware and software application research

Summary

INScore is an open environment for the design of Interactive Augmented Music Scores.

An Augmented Music Score is a graphic space that provides representation, composition and manipulation of heterogeneous music objects (music scores but also images, text, signals...), both in the graphic and time domains.

For all objects of the score, it formally defines the properties required to address and to synchronize them in the graphic space, according to their temporal relationship. In addition, it supports the representation of the music performance, considered as a specific sound or gesture instance of the score.

These two approaches of the augmented score contribute to dynamically relate a symbolic music object to its performance.

INScore is:

- a standalone score viewer
- a C++ shared library
- Multi-platform
- an Open Sound Control API

INScore supports:

- Music scores [GMN (Guido Music Notation), MusicXML]
- Textual elements
- Bitmaps [jpg, gif, tiff, png,...]
- Vectorial graphics (rectangles, ellipses,...)
- Scalable Vector Graphics [SVG]
- Video files
- Sound and gesture graphic representations

Added value

The INScore software is not only important as an innovative medium of music

education and practice as it enables the use of different musical dimensions at once (score, sound, graphics) but it also stands as a virtuous example of the positive cooperation of research centres such as Ircam and private companies.

Contact Details of accountable person: Frédéric Bevilacqua
Coordinator of the Interlude Project at IRCAM:
Frederic.Bevilacqua@ircam.mail
Promoting institution: IRCAM – <http://inscore.sourceforge.net/>
Place Igor Stravinsky 1 – Paris 75004 – France

2. Helsinki Mobile Phone Orchestra - Helsinki MoPhO



Magic music with the mobile phones

Since 2008, Helsinki Mobile Phone Orchestra has used the following types of Good Practice: Research Centres (*formal*)
Educational Indicators: New hardware and software application research

Summary

Helsinki MoPhO is an ensemble performing music with mobile devices. The phones – the instruments – create sounds which are controlled with hand gestures and keypads. The mobility of the instruments takes the ensemble far beyond ring tones by creating interesting 3D soundscapes.

Objectives

To use mobile phones as musical instruments. Helsinki Mobile Phone Orchestra wants to break patterns in music creation and listening.

Tools

The sounds are created on the computer inside the phone and controlled by the player. In essence, the keys, the position, the movement and the touch screen are used to control synthetic sounds. So, we utilize anything but traditional ringing tones. The phone is used like a synthesizer and controlled by any means the phone gives us and we come up with. The movement, for example, is tracked by a built-in accelerometer just like a Nintendo Wii-controller. The position can then be used to control the pitch or timbre of the sound.

The sounds are created with synthesizers that we have programmed on to the phones. We use classic methods like the FM-synthesis, some modern physical modelling techniques for the guitar, and some samples. Anything that will sound interesting is good for us. Jari Kleimola (Aalto University) has been an avid developer and programmer in the project.

Added value

The Helsinki Mobile Phone Orchestra may be addressed as a virtuous example of the synergy between R&D and the music performance aimed to deliver the possibility of creating music on mainstream media such as mobile phones.

Contact Details of accountable person: Henri Penttinen

Researcher: Henri.Penttinen@hut.fi

Promoting institution: Helsinki University of Technology

<http://www.acoustics.hut.fi/projects/helsinkimopho/>

Otakaari 5A, Espoo – 02150 Finland

3. Chez Fabrica Project



Since 2009, Chez Fabrica Project has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New hardware and software application research

Summary

Chez Fabrica is the music compilation realised for the 2009 Milan International Furniture Show. In the language of musical notes, the album narrates the ordinary and bizarre experiences of the young resident artists in Fabrica.

Fabrica, Benetton's communication research centre, was set up in 1994. The fruit of the Group's cultural legacy, is based in Treviso, Italy in a complex restored and enlarged by Tadao Ando.

Fabrica is not a school, advertising agency or university. It is an applied creativity laboratory, a talent incubator, a studio of sorts in which young, modern artists come from all over the world to develop innovative projects and explore new directions in myriad avenues of communication, from design, music and film to photography, publishing and the Internet. These artist-experimenters are accompanied along their research path by leading figures in art and

communication, blurring the boundaries of culture and language and transgressing the traditional borders between a diverse range of communication mediums. Communication research at Fabrica services a wide variety of social causes and disciplines such as economics, social or environmental sciences. Fabrica's aim is to grasp the future by giving innovative exposure to cultural or scientific projects which open a window onto tomorrow's world.

Objectives

Fabrica is located in Italy, near Venice, in Villa Pastega Manera, an ancient villa built in the seventeenth century, which Tadao Ando restored and enlarged. This project included the creation of study areas, laboratories, offices, facilities such as a library and an auditorium, a cinema, meeting and refreshment areas. The use of natural elements, such as light and air, as part of the architecture reaches its climax in the huge elliptical piazza.

As Tadao Ando says, in Fabrica "there is architecture of the past and the present; the two put their trust in, and draw inspiration from, each other. The role of the new architecture is to bring out the charm and strength of the ancient villa and to give birth to a reciprocal, cathartic relationship between old and new in an atmosphere of complete harmony, transcending the limits of a specific period. Therefore, even the transit areas, which normally play a secondary or insignificant role, have been given due attention. They act as places for communion and communication between people, between people and history or nature; places which encourage dialogue between people from different backgrounds".

Resources

Continuing on the path of musical experimentation started with previous CDs, the young sound maker signing the project, Francesco Novara, has created a compilation inspired by the daily goings on of young Fabricanti from the world over. For one year these creative talents dip into a unique environment made of different nationalities, languages, traditions and cultures, juxtaposed to the reality of the historic town where they live, Treviso (located near Venice, Italy).

Morning breakfasts with flatmates, commitments to be respected, floating boundaries between spare time and work, evenings spent together, enthusiasm for the intense Fabrica experience mixed with a bit of homesickness: all this is reflected in the Chez Fabrica's five tracks. The album combines the modernity of electronic sounds with the suggestions of retro and ethnic inspirations, like the ones evocated by the timeless fascination of traditional instruments like the ukulele.

Added value

An international project music related that well represents one of the most interesting arts and communications research centre in Europe.

Contact Details of responsible person: Francesco Novara

fabrica@fabrica.it

Promoting institution: Fabrica

<http://www.fabrica.it/>

Villa Pastega, via Ferrarezza – Catena di Villorba 31020 – Italy

Tel: +39 0422 516111

4. Interlude



Since 2009, Interlude has used the following types of Good Practice:

Research Centres (*formal*)

Educational Indicators: New hardware and software application research,

New pedagogical scenarios resulting from ICT's application in Music

Education

Summary

Interlude is a research program from Ircam dedicated in development of digital paradigms for experimentation of interaction between gestural expressivity and musical creations.

Objectives

Interlude is working in research for collaborative gestural interfaces allowing real-time expressivity in audio files as well as on music score. On other side, the development of multimodal modelling of gestural actions can be the interface for creating new musical projects.

Resources

Interlude program is supported by ANR – Agence Nationale de la Recherche (National Agency for Research)

Added value

The use of Interlude software can be applied to all sorts of objects control or gesture. Development is hold with professional partners in digital control of gesture and music on computer software. It won first prize of the Margaret Guthman Musical Instrument Competition delivered by Georgia Tech's Center for Music Technology in March 2011.

Contact Details of accountable person:

Bevillacqua Frédéric – *Project Director*

Promoting institution: IRCAM – <http://www.ircam.fr/>

1, place Igor-Stravinsky – Paris 75004

Tel: +33 (0)1 44 78 48 43

5. Noteput



Since 2009, Noteput has used the following types of Good Practice:

Research Centres (*formal*)

Educational Indicators: New pedagogical scenarios resulting from ICT's application in Music Education

An interactive music table with tangible notes, that helps students to learn the notation of music.

“Noteput” is an interactive music table with tangible notes, that combines all three senses of hearing, sight and touch to make learning the classical notation of music for children and pupils more easy and interesting.

All basic clefs, note values and accidentals exist as single wood elements. Whole, half, quarter and eighth notes differ not only in their form, but also in their weight: Long note values are heavier than short ones.

The table has two modes: A standard mode, where you can place notes on the table in a playful and experimental way and explore the related music outcome. And an exercise mode, where exercises and tutorials sort by topic and difficulty have to be mastered.

Added value

The “Noteput” Project is a first class example of the application of IT knowledge to develop a music education support based on a sensorial experience which can be easy, entertaining and efficient.

Contact Details of accountable person: Jonas Heuer

mail@jonasheuer.de

Promoting institution: Schwäbisch Gmünd University of Applied Sciences

<http://www.jonasheuer.de/index.php/noteput/>

Marie-CurieStr. 19 – Schwäbisch Gmünd D-73529 – Germany

6. Centre for Digital Music - London



Since 2011, Centre for Digital Music has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education

Summary

The Centre for Digital Music is a world-leading multidisciplinary research group in the field of Music & Audio Technology. Since its founding members joined Queen Mary in 2001, the Centre has grown to become arguably the UK's leading Digital Music research group. With its broad range of skills and a strong focus on making innovation usable, the Centre for Digital Music is ideally placed to work with industry leaders in forging new business models for the music industry.

Objectives

They develop intelligent recording techniques, for use by audio editors, mixers and sound engineers, which speed up the recording process, minimise preparation for live performance, and enable easy preparation and transmission of high resolution audio.

They develop intelligent recording techniques, for use by audio editors, mixers and sound engineers, which speed up the recording process, minimise preparation for live performance, and enable easy preparation and transmission of high resolution audio.

In the Machine Listening area They concentrate on the automatic analysis and understanding of musical and other sounds from the world around us.

With online music stores offering millions of songs to choose from, users need assistance. Using machine learning, ontology and the semantic web, Their research seeks to assist people in finding the music they want, whether it is by playing an example of something similar, humming, or musicological query.

Methods

The centre is divided into four areas:

- Audio Engineering
- Interactional Sound & Music
- Machine Listening
- Music Informatics

Added value

Their research covers the field of Music & Audio Technology from record/replay equipment in the home or studio, to the simulation and synthesis of instruments and voices, acoustic spaces, music understanding, delivery and retrieval. They have developed systems for automatic playlisting from personal collections for looking inside the audio for automatically synchronising to a drummer, for hardening/softening transients, and many others. They also regularly release some of Their algorithms under Open Source licences, while maintaining a healthy portfolio of patents. They also produce interactive art installations.

Contact Details of accountable person:

Melissa Yeo - Research study towards a PhD

melissa.yeo/www@eecs.qmul.ac.uk

Promoting institution: Queen Mary University London

<http://www.elec.qmul.ac.uk/digitalmusic/>

London

Tel: +44 (0)20 7882 5357

3.3 Matrix of Changing

Learning is a crucial run in which we meet a whole series of personal and social factors. The school, the university but also the job environment can create status quo, they lift barriers, they reveal limits. Objective of the practices that we introduce in this section is to anticipate the future demolishing walls that today we see as normal or that, often, we can't even see.

To stir from a border to the other of the world using the computer technologies, to resolve problems of musical integration building new tools, to lower the costs with the open software, to recycle computer putting in the factory chain new less hungry chains of processors, all the solutions that are able to reassess pupils and teachers, researchers and organizations.

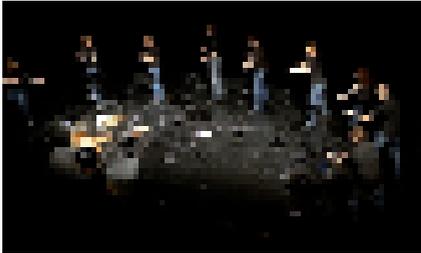
In this matrix the representation of the future prevails, conjugated at the tools of the present. To imagine an orchestra composed of laptops that turns on the open source system Linux to manage all the problems that are typical of a real orchestra replacing her with virtual tools, this means to imagine the future without abdicating the search, the exploration and the teaching, and easily guaranteeing a transferable model in every school and to every corner, even the poorest, of the planet. A light, flexible and transportable structure as of the laptop computers but that once unfolded creates a sonorous environment, a class of students, a place of learning, a place of experimentation and creation of the music. The sense of N.E.T. Sounds could entirely be represented by the project Linux Laptop Orchestra.

But there are many other projects, as we show in this small selection, from the gymnastics to the game, up to the sketch for children. The didactic technologies applied to the music allow in effects to transfer the model and the implicit and explicit knowledge, in every directions.

As it is inferred by the selected projects the complexity is conjugated to the game and the experiment, the vision of an university centre or a private training centre can make reference to the natural naivety and the happy-go-lucky lightness of the teen-agers of an American or Irish school.

Without forgetting the inclusion, where the music can be an excellent factor to also demolish every social or cultural barrier among children.

1. Project IRZU (Slovenia) + Virginia Linux Laptop Orchestra



L2Ork at Zagreb's Museum of Contemporary Arts

IRZU. The main idea behind the project «Theory and Techniques of Contemporary Music» is creating a platform for discussing different aspects of contemporary sound based practices, as well as complementing the current education standard of the Slovenian national education system, representing the field of Contemporary music. The purpose of the “Techniques” part of the project an introduction into the basic languages and programming environments for the production of electronic music. The focus will be on examining the standardized software tools and computational methods deployed at international academic research institutes, while the “Theory” part of the project will deal with the presentation of contemporary artistic trends in musical composition. The goal of combining the workshops and lecture-presentations is thus, to provide a complete framework introducing the techniques of electronic music production along with some selected artistic concepts and aesthetics from the field of contemporary musical composition.

Linux Laptop Orchestra. L²Ork (pronounced as lohrc) stands for Linux Laptop Orchestra, World’s first orchestra of its kind built on Linux.

<http://l2ork.music.vt.edu/> Building upon the foundation established by **PLOrk** and **SLOrk**, L²Ork was founded by Dr. Ivica Ico Bukvic in May 2009, as part of **Virginia Tech Music Department’s Digital Interactive Sound & Intermedia Studio (DISIS)**.



Citadel with Boys & Girls Club Laptop Orchestra, DISIS Spring 2011 Event (photo by Alec Tebbenhoff)

At **L²Ork** we seek to explore new and exciting opportunities that arise from combining the quintessential form of collaboration with centuries of tradition found in the Western orchestra, with affordable and versatile contemporary technology, in this case laptops. Since laptops, unlike traditional instruments can take on many different roles, we believe that there is no single ultimate way to implement a laptop orchestra and we see this as its greatest potential.

In its current form **L²Ork** relies mainly upon **Pure-Data** real-time graphical programming environment for audio, video, and graphics processing. We use Nintendo Wiimotes and Nunchuk as well as various built-in laptop input devices (e.g. keyboard, trackpad, webcam) as hyperinstruments, and external soundcard (UA-1G) in conjunction with custom-built hemispherical speakers and subs for audio output. The ensemble infrastructure currently supports up to 15 fully networked performers.

2. Simply Music. Performance for the School



Since 2007, Simply Music has used the following types of Good Practice: School (*formal*)

Educational Indicators: New alternative experiences in music production and new forms of expressing musical creativity

Summary

Simply Music delivers music workshops, which combine interactive technology and live music performance with percussion, through a fun-filled and engaging process.

A professional musician works alongside the workshop participants to bring the experience of live music-making and performance to schools.

Simply Music is Supported by The Arts Council of Ireland and has been piloted by the “Learn and Explore” Programme of the National Concert Hall. In addition Simply Music, supported by the NCH, has also designed and delivered In-Service Teacher Training Workshops in The National Concert Hall for primary teachers. This programme forms part of the Department of Education & Science's In-Service Programme for Teachers.

Objectives

The workshop content is based on the three strands (listening, performing and

composing) of the Primary Curriculum for Music and enhances learning through interaction and engagement and culminates in a live performance for the wider school community.

Methods

Simply Music organize Workshops for schools, for Arts Organisations and other, and also developed teacher training Initiatives.

Activities

Workshops for schools

Simply Music has designed a series of 15 x 2 day workshops within each school, which incorporates a professional musician working within the school context alongside the workshop groups.

Simply Music delivers 2 workshop sessions each day with two different class groups (currently for 3rd, 4th and 5th class pupils). Each of these workshops brings together elements of curriculum music alongside musical performance. The entire initiative culminates in a live performance by the students on the final afternoon. Workshops for Arts Organisations and other Workshops can be tailored to suit your organisations requirements whether in the Ireland or in the UK. We will work with you to plan a series of workshops or a single work as required Teacher training Initiatives.

Simply Music also delivers in-service, professional development training for the Department of Education and Science. These workshops are held annually at the National Concert Hall. Check out the National Concert Hall website and our calendar of events for upcoming sessions.» www.nch.ie

Added value

Simply Music believes that this innovative workshop incorporating technology with performance and designed to support the primary music curriculum provides an excellent opportunity to enhance music education for the children of Ireland. Our programme is both socially and geographically inclusive and does not rely on a previous level of musical knowledge in order to achieve the fullest engagement within the workshop process. We operate in a fun-filled and enticing manner which involves the entire school community. We bring the music to you so that you can continue to enhance the audiences and performers of the future.

Contact Details of accountable person: Paul Maher

Promoting institution: The Arts Council of Ireland

<http://www.simplymusic.ie/index.html>

31 Granville Road – Dublin – Ireland

Tel: +353 1 2856162

3. Stockholms Estetiska Gymnasium



Since 2005, Stockholms Estetiska Gymnasium has used the following types of Good Practice: School (*formal*)

Stockholms Estetiska Gymnasium is an independent school. It's owned by pupils and staff and specialises in music, dance and theatre.

Objectives

Students enjoy private education in their main instrument. This gives every student an opportunity for a personal development. Many of our teachers are skilled instrumentalists and work in the music business on a professional level.

Methods

Stockholms Estetiska Gymnasium has well developed music production facilities, where all documentation is web based and can be accessed by the school computers in the school studio. We use Mac computers with Logic software.

Added value

Stockholms Estetiska Gymnasium came third when students were asked about "Most satisfactory education" amongst second year students in the entire Stockholm area.

Contact Details of responsible person: Mats Kjellmer – *Headmaster*
mats.kjellmer@estetiska.se

Promoting institution: Stockholms Estetiska Gymnasium
<http://www.estetiska.se/musik.htm>

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Tel: +46 8-709 22 70

4. E_LAB & LIVE_8 - TEMPO REALE



Since 1987, E_LAB & LIVE_8 - Tempo Reale has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, New hardware and software application research, New pedagogical scenarios resulting from ICT's application in Music Education, Support to the development of science culture (mathematics and physics)

Summary

E_LAB is the environment for changing sounds, consisting of nine modules of digital processing in real time.

LIVE-8 is a composition environment for mounting and mixing live music, consisting of eight sound players.

These two environments are geared towards users of 9-13 years old and are designed to provide a unified environment for creating sound structures. In fact, the sounds produced in E-LAB are automatically loaded onto readable forms in LIVE_8, ready to be edited and assembled.

Founded by Luciano Berio in 1987, Tempo Reale is now one of the main European reference points for research, production and educational activities in the field of new musical technologies. Since its foundation the centre has been committed to the production of Berio's works, working on the most prestigious stages in the world. The development of quality and creativity criteria derived from these experiences reverberated itself in the work that is continuously carried on with other great composers and artists as well as young and emerging musicians.

Objectives

The main subjects of research reflect the polyhedral attitude of Tempo Reale towards music: the conception of great musical events, the study of real time sound processing and interaction between sound and space, the synergy between creativity, scientific competence, performative and educational rigour. Events, meetings and projects developed at a local level regularly come alongside the research activities in this areas. On such occasions the centre cooperates with the main institutions of Tuscany, both in the field of music, theatre and dance, and in the promotion of a tight net of educational experiences.

Methods

Tempo Reale carries out researches in various areas of computer music. With regards the spreading of acoustics and the employment of digital technologies for music, the centre plays a significant role in the Tuscan territory. In this context, new methods are always searched and developed for the popularisation of such subjects through theoretic teaching as well as through laboratories and workshops. Scholars from Italy and abroad are regularly invited to participate in public events. The research activity at Tempo Reale is mainly focused on digital technologies applied to music and it deals with topics of current international interest.

Resources

For several years education has been one of the major activities of the centre. It is conducted in different forms to fit a wide variety of users and aims, from the audience to operators, from children education to the training of professionals in the field of audio and musical technologies.

The centre has dedicated a growing share of its resources and energy to education and training since 1996, when the first course for composers on new technologies applied to music was organized for the Regione Toscana.

Added value

The Tempo Reale most important added value is for sure based on his founder, Luciano Berio (1925-2003) that has been one of the main figures of music history, both as composer and as intellectual. Besides RAI in Milan, Berio was involved in the establishment of prestigious institutions such as IRCAM in Paris and Tempo Reale in Florence. The latter was established in order to create a stable centre for research in the possibilities of interaction between acoustical instruments and digital systems.

Contact Details of accountable person: Francesco Giomi – *Director*

Promoting institution: TEMPO REALE

<http://www.temporeale.it/>

Via Pisana 77 - Firenze 50124 - Italy

Tel: +39.055717270

5. UMSIC - Usability of Music for the Social Inclusion of Children



Since 2009, UMSIC - Usability of Music for the Social Inclusion of Children has used the following types of Good Practice:

University Courses (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, Students' courses for musical creativity and expression through ITC and internet, New hardware and software application research, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

The UMSIC project aims at developing a mobile time- and place-independent system that provides an interactive environment for children whilst also enabling them to communicate musically and informally with their peers. It seeks to combine the use of modern technology and effective educational principles to foster social inclusion and prevent marginalisation of children at risks even in more challenging contexts. In particular, UMSIC's objectives concern targeted groups of end-users, preschool (aged 3-6) and school-aged (6-12) children with an emphasis on those with moderate learning difficulties and those who are immigrant and studying in unsupported integrated school classes. Both of these groups increase in numbers in schools due to EU and local policies with regard to migration and inclusion.

The UMSIC project consists of three related components, namely (1) a technical solution, (2) its application and (3) target users. The technical component specifies the different operation modes of the technical environment, i.e. stand-alone, networked, ad hoc and public. The application component specifies the range of possible built-in features, i.e. improvisation, composition, karaoke and virtual instruments. The third component, target users, specifies the special characters of children and focuses on the needs of those immigrant and those with moderate learning difficulties.

The product developed in the UMSIC project supports various devices and middleware, and a set of targeted functionalities for the different target users. It is implemented on top of an existing communications platform and consists of scalable i) co-operative software elements (middleware modules) and ii) interfaces. The product is open to all extensions, including third party software modules or add-on functionalities. The software prototypes developed in the

UMSIC are open for third party innovations and innovators. Unlike other approaches, the UMSIC provides an open and easy-to-access solution in adding new contextual situations and educational contexts. Thus, the UMSIC is proposing an efficient, lightweight and scalable solution that uses music technology to promote the possibilities of social inclusion. In addition, a set of prototypes are developed for contributing among others the impact analysis and the concept validation of the project.

The UMSIC project aims at exploring the product's potential in supporting children's development of language and music competences, especially of children who have to operate in the multicultural environments. In childhood, learning should be playful, socially integrative, and related to the child's interests and motivation. Since the UMSIC allows new ways to play with the voice, with singing and communication, the collectively shared song repertoire may also be used to enhance social coherence and by that supporting identification.

The UMSIC project does not consider the product to be a tool supporting socio-cultural integration per se nor to be a tool for unifying communities to a single culture's language and music. Rather the emphasis lies on the possibility of encouraging and sharing the creative music making of individuals, whilst providing instruction in the design of shared songs and music pieces.

The ubiquitous product (i.e. application), is expected to provide sound synthesis, sampling, sequencing and touch-screen virtual musical instruments in an educative form for children in different age groups and learners with specific needs. It aims at providing children with a new means of pursuing musical creativity, social cohesion and emotional self-regulation, which may significantly enhance social inclusion. The product is also a novel research tool with which data of children's cognitive, emotional and social aspects of general and musical development can be obtained. It can be characterized as being an innovation for it includes all the following features as a combination: musical creativity, learning and development, social sharing and identity, and research.

Added value

The UMSIC projects provides a virtuous example of trans-national cooperation between academic institutions and private-owned companies for developing an ITC-based solution for pedagogical needs such as the social inclusion of children.

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Promoting institution: University of Oulu

<http://www.umsic.org/>

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6. The Open Mind Project



Since 2008, The Open Mind Project has used the following types of Good Practice: School (*formal*)

Educational Indicators: Students' courses for musical creativity and expression through ITC and internet

The Open Mind Project is the dream of turning a computer into a musical instrument that can be used by children. The idea that a child makes music with a computer may seem strange, but the educational value of this experience has proved to be significant in several respects, especially with regard to the acquisition of new skills:

- Musical
- Informatics
- metacognitive.

To realize this dream the school had to solve many problems, especially technical ones. They have chosen to seek solutions through open source software. The choice of Open Source is central in the experience. The title comes from just a play on words that relates some metacognitive skills, defined as Open Mind (open mind, in Italian) through the use of OSS (open source or free, in Italian). The project started in 2008 in the plexus of Altissimo, a school in the mountains, near Vicenza, with very few pupils.

The project is based also on a MIDI sequencer (Rosegarden) and a synthesizer (ZynAddSubFX).

Objectives

The project was created in cooperation with the University of Padua as the teacher is responsible for attending the third year of the online course at the Faculty of Primary Education. Closer collaboration has taken place with Professor Michael Biasutti, owner of the course of music education in this faculty. The Open Mind project will in fact be the subject of the final thesis (at the conclusion of the three-year course) of the teacher Stephen Slaviero. Professor Michael Biasutti will be the speaker. The constant contact with the academic world has been an important stimulus in all phases of the project, starting from conception, planning, implementation to verification.

Methods

Methods and project has enabled learners to acquire new skills music (harmony,

rhythm, melody, timbre, intensity, style, music notation...) which is supported by a new awareness of the fact that the computer is running our instructions according to a certain sequence and logic (which can be a musical score). This awareness is much less evident using a word processor. The computer in this case has the great advantage of making easy to perceive certain aspects of musical language. Suffice it to say that you play with the notation: a coding mode is certainly not immediate in primary school, but who has a great value on learning. Without tedious exercises in music theory are beginning to use the notes on the staff, who immediately turns the computer into sounds.

Added value

Using an open source system like Linux to teach music can be an important added value for students. The experience can be transferred to other schools, even with less powerful computers. Kids can use the same programs at home through the use of live deployments.

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Promoting institution: Ist.Comp. Ungaretti
<http://linuxopenmind.wordpress.com/>
 Via Bauci 27 – Altissimo 36070 – Italy
 Tel: 0444687695

7. SOUND: knowledge of the physical phenomenon



Since 2001, **SOUND: knowledge of the physical phenomenon** has used the following types of Good Practice: School (*formal*)

Educational Indicators: Alternative and interdisciplinary training courses (e.g. sound landscapes – sounds of memory – self constructed instruments), Students' courses for musical creativity and expression through ITC and internet

Using new teaching methods in all disciplines using "sound" as an argument motivating. The experiments were carried out on the sound in the classroom, where was set up a corner equipped with different types of materials: plastic cups, sticks, string, cardboard tubes musical instruments (guitar and tuning fork) and

they were conducted with small groups of students trying to give a connotation laboratory experiments. The activity was proposed to the assumption that the experiences students are able to directly promote the development of knowledge, skills and expertise far more effective than what can be stimulated by a lecture.

Objectives

The aim was to teach students:

- to observe phenomena that occur under their eyes;
- to develop hypotheses from the data by using experiential imagination;
- to make connections, similarities and differences.

Added value

The most interesting aspects:

1. the metacognition through the construction of hypertext, the small group work and self-assessment by pupils;
2. the involvement of experts;
3. the collaboration working with students of the conservatory;
4. computer literacy.

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8. Theory and techniques of Contemporary Music



Since 2010, “Theory and techniques of Contemporary Music” has used the following types of Good Practice: Private Vocational training (*formal*)
Educational Indicators: New amateur passions and talents, Professional advancement

Summary

The main idea behind the project “Theory and Techniques of Contemporary Music” is creating a platform for discussing different aspects of contemporary sound based practices, as well as complementing the current education standard

of the Slovenian national education system, representing the field of Contemporary music. The purpose of the „Techniques” part of the project is an introduction into the basic languages and programming environments for the production of electronic music.

This project is running by the Institute for Sonic Arts Research (IRZU) that is a non-governmental organization. It is based on an interdisciplinary concept and is conducting artistic productions in the field of electro-acoustic music/inter-media performances and installations, as well as audio technology research and educational activities.

Objectives

The focus will be on examining the standardized software tools and computational methods deployed at international academic research institutes, while the “Theory” part of the project will deal with the presentation of contemporary artistic trends in musical composition.

Methods

The invited lecturers – established composers from Austria and Germany – will play some of their recent pieces, discuss their viewpoints on the development of compositional approaches throughout the 20th and 21st century, and position their own work into a broader context of sonic arts.

Added value

The goal of combining the workshops and lecture-presentations is thus, to provide a complete framework introducing the techniques of electronic music production along with some selected artistic concepts and aesthetics from the field of contemporary musical composition.

Contact Details of accountable person:

IRZU – Institute for Sonic Arts Research

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Promoting institution: IRZU – Institute for Sonic Arts Research

<http://www.irzu.org/index.html>

Ljudmila Rimska 8 – Ljubljana1000 – Slovenia

3.4 Matrix of the profession and the job

In this Report music is, in every domain of pertinence, the absolute protagonist. Therefore it should be impossible not to analyze the problematic due to the productivity of the Good Practices models, their impact in the professional and economic reality.

The professional sector, together with the creative one, is at the heart of music based on a strong interaction with the computer technology. Complex ideas have often produced complex technical problems to which technology has responded. The birth of MIDI protocol or programming with sound objects or all the recording and production music environments – both on UNIX and in Windows – they are all good example of answers to creative problems.

But there is more. The music world is show business and marketing, therefore representation of music on every communication channel. Every phase of this transformation of music in communication has his specific technical problems and one professional answer. The whole world of music professional training responds therefore to practical demands in perennial mutation. Yesterday the music was CD and videocassettes, then satellite TV and DVD, today it is Internet, mobile phones, cable TV, besides DVD, radio, MP3. Each of such supports has its technical problems resolved by specific projects.

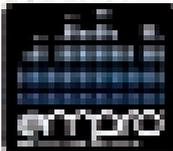
Moreover, there is the human factor. To find a job is the problem that is set to every young man or woman after having studied. Learning paths too much complexes by the theoretical point of view and scarce from a practical one are often an obstacle. To study for finding job is one of the classical alternatives that today many young people choose for to shorten up the times of getting a job, to enter in action, and this for many reason, normally because they must work not having the means to survive long and expensive years of study.

The models that we propose are different but interconnected. In Italy a real confederation of companies has created an interesting academy. EMPRO is a private project of master, a private school promoted by the strongest actors of the music professional market. Here we see the interest of the industry into the preparation of future professional of quality, lacking suitable public structures. All the contrary in France, where the master Musique et son pour the Multimedia is managed as University Master. And also we have professional courses of production of electronic music in Belgium and in Sweden or the well known American centre of Berklee Music with his proven method of online courses, and besides an Erasmus project centred on the music.

In these Good Practices we find the whole universe and all the problems that concern high-level preparation for jobs in the music industry: as to succeed in transferring all the technical and practical knowledge (as them derives from job routines and everyday experiences in industry) into a well-structured formal learning path. As to include into a defined, formal, scientific and technological framework different and unique experiences that are often emotional, compulsive,

aesthetics, or where some aesthetical choices are even necessary for positively achieving a project (music production, for instance). This is the challenge, here.

1. Nut Academy - Master Electronic Music Producer



Since 2010, EMPro has used the following types of Good Practice:

Private Vocational training (*formal*)

Educational Indicators: Professional advancement, Retraining and employability

Summary

E.M.Pro. Electronic Music Producer is the first workshop in Italy for electronic music producer and live performer intended for musicians, djs or people keen on music. It is promoted by independent labels and management offices.

Objectives

Issuing a Qualified Certificate of “Music producer and Live Performer” released by NuT Academy.

Methods

The course lasts 10 months, 320 hours for a maximum of 20 participants. This includes: theory classes, practical training, and an internship in music studios intended for live performances in festivals and clubs in Italy.

Added value

Some years ago music production industry needed great amounts of money, expensive recording studios and professional entourage, until the advent of new technologies.

Nowadays good quality music productions can be realised at home studios, thanks to sophisticated software and hardware innovation. On the other side, if investments seem to be out of date, competition and innovating software are the basic instruments to create music for standard productions.

This process gave the opportunity to everybody to follow their ideals of music but caused the increasing of music products and complicated the relations between musicians and business market.

The course is born to answer to these difficulties: learn both theoretical (such as

acoustic and psychoacoustic, mixing, editing, mastering, software as Cubase and Ableton Live) and practical techniques (including even lessons on communication, promotion and web marketing) and give anyone the chance to produce in autonomy and in a professional way his own music. Final step is to reach the music market through a promotional cd release to submit to the music labels and to management offices that supported the project, giving a great opportunity for both artists and music industry to open a window on new generations. A road from the notions to the final product.

Contact Details of accountable person: Vinci Acunto – *Director*

info@nutacademy.it

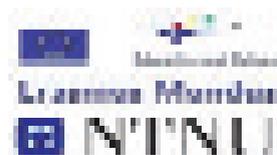
Promoting institution: NuT Academy

<http://www.nutacademy.it/>

Corso Umberto I, 74 – Naples – 80138 Italy

Tel: +39 081 0609334

2. The 'Mundus Musicalis' Project



Since 2005, THE 'MUNDUS MUSICALIS' PROJECT has used the following types of Good Practice: *Conservatory (formal)*

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

The Norwegian University of Science and Technology – department of music (NTNU) and the European Association of Conservatoires (AEC) have been successful in obtaining a grant for a project in the framework of the ERASMUS MUNDUS Programme. The project entitled 'Mundus Musicalis' (the first project in the field of music supported by ERASMUS MUNDUS) will study international comparability of systems and qualifications in the field of music training. The project builds on the successful outcomes of the EU/USA project 'Music Study, Mobility and Accountability' and confirms the intention of the European professional music training sector to maintain and further develop contacts with professional music training institutions all over the world.

Objectives

'Mundus Musicalis' has the following overall aims:

- Create a greater understanding of issues regarding professional music training in and outside Europe, leading to the removal of obstacles in relation to the recognition of music studies and qualifications, thus facilitating an increased mobility and employability of students, teachers and professionals.
- Improve the quality of professional music training in Europe through the structured exchange of information regarding professional music training and the music profession at international level.
- Strengthen the unique capacity of music, as the ultimate form of non-verbal communication, to contribute to an effective intercultural dialogue.
- Enhance attractiveness of the European professional music training sector through:
 - a) the development of a dedicated information website portal about studying music in Europe and
 - b) the collection of information related to the participation of non-European students in European music programmes.

Methods

The Erasmus Mundus programme is a co-operation and mobility programme in the field of higher education funded by the European Union. It aims to enhance quality in European higher education and to promote intercultural understanding through co-operation with countries outside the EU. The programme is intended to strengthen European co-operation and international links in higher education by supporting high-quality European Masters Courses, by enabling students and visiting scholars from around the world to engage in postgraduate study at European universities, as well as by encouraging the outgoing mobility of European students and scholars towards countries outside the EU.

http://ec.europa.eu/education/programmes/mundus/index_en.html

Added value

'Mundus Musicalis' intends to produce the following outcomes:

1. Various documents, both in printed and online versions, providing information and analysis on:
 - Systems and study programmes for professional music training at higher education level in the EU, the US, Canada, Australia, the Far East (primarily Korea and Japan) and Latin America (primarily Brazil and Argentina).This information will be presented in the form of national descriptions, which will be developed according to a set format in order to achieve maximum comparability and include information on structures, qualifications, number of institutions per country, funding mechanisms, structure of study programmes, credit systems, quality assurance/accreditation procedures and academic calendars.

- Policies and mechanisms concerning the recognition of studies through the transfer of credit, both in the framework of exchange programmes and the acceptance of students into advanced programs after completion of their first professional program.
- Policies and mechanisms concerning the recognition of qualifications at international level, including lists of regulated music professions and information on the relevant procedures related to these issues in the field of music.
- Policies and mechanisms concerning the recognition of standards and quality assurance/accreditation procedures in music at international level.
- Issues related to non-European students currently studying music in Europe in and outside the framework of exchange programmes.
These documents will be produced in the form of national descriptions, practical handbooks (e.g. the documents in relation to recognition issues) and analytical articles. They will be made available in downloadable format on the Internet in various languages.

2. An information website (www.studymusicineurope.org) providing information to non-European students on studying music in Europe.

Contact Details of responsible person:

Christine Masure – *Project administrator*
aecinfo@aecinfo.org

Promoting institution: Association Européenne des Conservatoires
 Utrecht Netherlands

3. Musique et Son pour le Multimédia



Since 2009, Musique et Son pour le Multimédia has used the following types of Good Practice: University Courses (*formal*)

Educational Indicators: New pedagogical scenarios resulting from ICT's application in Music Education

Summary

The cursus Musique et son pour le Multimédia in Université de Franche-Comté is

a Master diploma dedicated to students interested in composing and sound illustrating for all products in multimedia. With a perfect knowledge of aims of sound illustration for computer games, internet websites, students experiment different tools and technologies.

Added value

The cursus is realized in partnership with Conservatoire de Musique, de Danse et d'Art Dramatique du Pays de Montbéliard and PSM company for multimedia aspects.

Contact Details of accountable person: ROXIN Ioan – *Coordinator*

ioan.roxin@univ-fcomte.fr

Promoting institution: Université de Franche – Comte
Pôle Universitaire de Montbéliard – Montebeliard Cedex
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4. Audio Engineering Courses



Since 1976, Audio Engineering Courses has used the following types of Good Practice: University Courses (*formal*), Master Courses (*formal*), Private Vocational training (*formal*)

Educational Indicators: Professional advancement, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

Audio Engineering Courses are divided into three levels of studies.

- Audio Engineering Diploma
- Audio Engineering Degree
- SAE-Tonmeister (Masters Level)

Diploma of Audio Engineering give students the technical skills, insider knowledge and industry contacts to forge a successful career in music business.

The Bachelor is government accredited and highly regarded by employers. It is built on a foundation of advanced theory and practical application and includes a Professional Placement internship program, preparing students for the day-to-day

realities and challenges of audio engineering. The SAE Tonmeister programme is aimed at those who are concerned with acoustic design, theory and practice of sound recording, and wish to develop student musical knowledge and skills to a post graduate level. The programme will produce graduates who are well versed in the entertainment business, sound engineering, music production, music arrangement, management skills and acoustics design. The degree program and the Masters are not available at all locations.

Objectives

The specific objectives of practice

- SAE's audio engineer courses provides specialist vocational and higher education worldwide to inspire and develop their graduates.
- The course emphasizes practical experience and the needs of students and industry.
- The course would like to student access the latest knowledge and outstanding facilities to enhance their skills.

Tools

Cutting edge equipment and software - Sae institutes are a global organization and students benefit from their vast equipment purchasing power, always providing students with access to the latest audio equipment.

Resources

The institute is globally and strongly networked as a professional community in creative media, they have a web site and FB page for each centre.

Activities

Main activities realized over time.

Audio

Music Buisness

Film making

Web Desing + Multimedia

Games Design

3D Animation

Short Courses

Journalis

Added value

The institute give to the students different Career Options:

- Audio Engineering;
- Audio Engineering Degree;
- Audio Engineering Tonmeister.

Contact Details of accountable person: SAE Institute secretary
admin@saebrussels.be
Promoting institution: AE Institute
http://www.sae.edu/en-us/course/1840/Audio_Engineering
Rue Gachard 10 – Brussels 1050 – Belgium
Tel: +32 (0)2 647 92 20

5. Electronic Music Production



Since 2008, Electronic Music Production has used the following types of Good Practice: School (*formal*)

Educational Indicators: Alternative and interdisciplinary training courses (e.g. sound landscapes - sounds of memory – self constructed instruments)

Electronic Music Production is a six months long course about technique, arrangement, and sound behind modern music creation.

Objectives

This programme combines the basics and fundamental issues in digital music production with quality on a personal level. Electronic Music Production is suited for anyone wanting to develop their music creativity. The course is also a solid foundation to further education in the fields of audio engineering and music production.

Methods

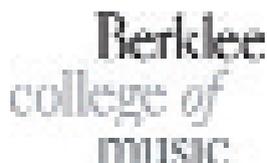
Electronic Music Production will teach the fine art of creating music and the technologies involved. The software used includes Logic and ProTools. The students will also use software synthesizers, effect plug-ins, Ableton Live, Reason etc plus samplers and hardware synthesizers, both analogue and digital. The course involves remixing and everything there is to learn about recording of acoustic and electronic sounds and instruments.

Added value

Outside of class hours, students are encouraged to book time in project studios. Teachers are available during these self-studies.

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Promoting institution: SAE Stockholm
http://stockholm.sae.edu/sv/course/2500/Electronic_Music_Production
Råsundavägen 45 – Solna 169 03 – Sweden
Tel: +46 8-730 51 00

6. Berkleemusic



Since 2001, Berkleemusic has used the following types of Good Practice: University Courses (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education

Summary

Berkleemusic is the online Extension School of Berklee College of Music, the world's premier institution for the study of contemporary music. With Berkleemusic, you can study what you want, when you want, and where you want, with recognized experts in contemporary music education.

Methods

You can participate in several ways: the college-credit certificate programs offer over 50 different study options available in subjects including song writing, music production, arranging, theory, harmony, ear training, electronic music production, guitar, bass, keyboard, music theory, contemporary writing, home recording, and the music business. Choose a program that best fits your time frame and needs, from 6 and 12 month intensive programs, to longer 2-plus year programs that will help you develop complete mastery in your area of interest.

With nearly 80 different Instructor-led Credit and Non-Credit Courses, you can get a great education in music, master new skills, stay current in your profession, and explore personal areas of interest with Berklee's unique curriculum. You'll get one-on-one guidance from Berklee's renowned Instructors, and learn with a community of like-minded musicians.

Added value

Berklee College of Music, located in Boston, Massachusetts, is the largest independent college of contemporary music in the world. Known primarily as a

school for jazz and popular music, it also offers college-level courses in a wide range of contemporary and historic styles, including hip hop, reggae, salsa, rock, heavy metal, and bluegrass, in addition to its traditional jazz courses. It offers degrees in composition, contemporary writing and production, film scoring, jazz composition, music business/management, music education, music production and engineering, electronic production and design, music therapy, performance, professional music, and song writing. Berklee attracts the most creative young musicians in the world who know that no other music college or institution offers such a rich diversity of people, music, and programs. They come here to discover their true music calling; pushing themselves past their own expectations and into the forefront of every aspect of the global music community.

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Promoting institution: Berklee College of Music

<http://www.berkleemusic.com/>

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3.5 *New cognitive scenarios matrix*

What does knowledge mean today? And is music knowledge or is it art? Or is music, indeed, industrial productions of sounds? What does it mean “to know” in the creative fields? No doubt these are no simple questions, but they have the role to underline the complexity of the challenge that N.E.T. Sounds project has assumed. These questions also underline the difficulty to understand the present. But we have collected some Good Practices that can help us to answer.

Music resume in her own language and in her own physics structure many different worlds, the physics, the mathematics, the psychology, the emotionalism, connecting not only the two cerebral hemispheres but the multiple intelligences that each of us possesses. The studies of Gardner are by now recognized as classics and can be integrated from the observations of psychologists and educators of every part of the world.

The BPs of this section stir in an high-level interdisciplinary scenery, and can be retained as examples of reference of how, in the today’s didactic practice, the new technologies and the new didactic theories can find a fertile point of meeting.

To imagine the spaces of tomorrow’s life also means to plan them from an acoustic point of view. Industrial spaces, urban spaces, real transit spaces (hospitals, airports, commercial centres) or virtual ones (web sites, cinema, forum of discussion) they all need a soundtrack. We need, in other words, architects of music and musicians for the architecture.

Not only. Technology changes very quickly. Modern music needs supports to be handed down. In this phase of cultural digitalization (all our knowledge was backed up into digital archives in the last ten years) the music nailed to its obsolete supports risks to disappear. Projects as *Integra* resolve the problem of the technology obsolescence translating the old supports into modern technologies. The music stays the same one, the code of the support (audio, video, mass storage, database management, video interfaces) being updated and translated. Methods, technology, culture, music, transmissibility and memory, everything is involved in case-study such this one.

But also in the professionalism of the educators and the teachers new technologies has an in depth role. To pass from paper partitions to the computer screen, from the lessons in presence to those online, to furnish students of audio-video courses for iPad or portable telephone means to enter into a dramatically different emotional dimension, into new didactics that deserve a meditation and a sharing. Specific projects for teachers (EFMET) selected as Good Practices serve therefore to make some subjective experiences objective, to share analysis, answers, solutions. And even to point out possible paths for modelling these experiences (InfoMus), as in the case of the use of music in processes of clinical rehabilitation or to improve the relationship piece of art-spectator in the galleries, in the museums or in theatres. But naturally electronic technology is also study applied of the electronic music and of its productive techniques and the German

master of Wuppertal is a good example, as the MSMA project coming from Holland.

The Good Practices introduced in this section are therefore a practical illustration of the new visions that we can imagine in methodological key to open today for tomorrow, integrating music teaching and learning processes to the vast social horizons.

1. IRCAM Master Design sonore



Since 2011, Master Design sonore has used the following types of Good Practice: University Courses (*formal*), Public Vocational Training (*formal*), Private Vocational training (*formal*)

Educational Indicators: Professional advancement, New pedagogical scenarios resulting from ICT's application in Music Education

Beside strong activity in research domain, IRCAM in Paris is involved in formation (short sessions to two years professional programs) dedicated to music and sound use in different field on musical aspects, including education.

Objectives

The Master Design Sonore aims are to teach composers the knowledge in composing with computer technologies for production of artistic projects.

Methods

Candidatures are selected by a composers committee. Full time theory and applications courses are provided in the curriculum until the final artistic realisation. For foreign students, TCF (Test de Connaissances en Français) is required.

Resources

Students can benefit of resources of research laboratories and collaboration with researchers working on innovative technologies.

Added value

The MASTER IN SOUND DESIGN (Master Design Sonore) is launched in partnership with "Beaux-Arts Schools" from Tours, Angers and Le Mans (West

France) and “Ecole Nationale Supérieure de Création Industrielle” (ENSCI). It offers an unique combination of artistic knowledge in accurate correspondence with actual creators desires.

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2. INTEGRA - Fusing Music And Technology

Birmingham Conservatoire

Integra is running a Europe-wide programme of live electronic music activities. We have commissioned composers, organised more than 30 performances and transferred classic pieces from their original technology to more modern platforms. In doing this we aim to inspire people to become involved in live electronic music and demonstrate the vitality of the art form.

Integra Migrations

As technology changes and new standards are introduced, pieces that rely on specific hardware or software can be left behind, condemned to a struggle for survival. Many important and exciting works from the past forty years are currently not performed because they use obsolete technology. We have been trying to help remedy this problem by transferring pieces that use outmoded equipment to more modern platforms. In doing so, we hope to ensure the future for these works and bring them back into the mainstream concert repertoire.



Peter Plessas rehearses with Pierre Dutrieu « Dialogue de l'ombre double » of Pierre Boulez
(As it appears from the imagine above, contemporary music is a dialogue between past and present, between orchestra and computer, between art and technology. But where the technology ends up and when art and technology become one?)

During the period 2005-2008, sixteen pieces were migrated to sustainable platforms. Please click on the tabs above to learn more. If you would like to programme one of the pieces, please contact tom.cahill-jones@bcu.ac.uk for information on how to obtain the performing materials.

During the period 2008-2011 we will be migrating at least ten significant works from the European repertoire to our Integra Live software. As pieces are completed they will be listed above, with supporting documentation.

For additional information, please check the bookcase in our community section, where we will be adding a collection of papers on the preservation and transfer of music that uses live electronics.

(<http://www.integralive.org/community/>)

3. EFMET Project



Since 2003, EFMET Project has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: High level of competences among the members, High level of sharing reciprocity, participation and interaction, New cognitive scenarios resulting from ICT's application in Music Education

Summary

A new European initiative in the field of music education, entitled the 'European Forum for Music Education and Training – EFMET' was launched in 2003. This project, coordinated by the European Music Council, brings together European organisations active in formal types of music education and non-formal types of music education. The European Commission has supported the development of this forum through the financial support to preparatory actions in the framework of the EU cultural programme Culture 2000.

Objectives

The objectives of EFMET are:

- To improve European cooperation and communication between organisations

active in formal and non-formal types of music education through a number of collaborative workshops and discussion rounds.

- To collect information on music teacher training programmes for classroom music teachers and instrumental/vocal teachers in Europe.
- To formulate recommendations for the European Commission on the place and role of (music) education and training in the new EU programme for culture after 2006. These recommendations are urgently required: obtaining funding for European activities in education and culture programme often create confusion by referring to each other in relation to this type of activities.

Resources

The rationale for the research component of EFMET was based on the fact that several previous studies and reports indicated that very little information was available on a European level about the training of music teachers and about the cooperation between formal and non-formal types of music education. In addition, obstacles for the mobility of music teaching professionals due to recognition problems with studies and professional qualifications were also identified.

In order to address these issues, one of the EFMET project partners, the European Association of Conservatoires (AEC), conducted research with the following aims. To collect and compare information regarding music teacher programmes in European countries. The research effort collected information on music teacher training system programmes in 30 European countries.

To collect and make accessible information regarding the recognition of professional qualifications of music teachers in European countries.

To collect and make accessible examples of good practice of project which have as specific characteristic co-operation between organisations in the field of formal and non-formal music education.

The information was gathered on three levels: European (e.g. issues concerning professional qualifications), national (e.g. descriptions of national systems for music teacher training) and institutional (e.g. details about study programmes and courses). Within the research, a distinction was made between music teachers in general education and instrumental/vocal teachers teaching in music schools and private practices. In addition to the information on training systems, information was compiled on the recognition of qualifications and on regulated professions in the field of music: in most European countries, music teaching in general education is a regulated profession, which poses special requirements on the mobility of musicians throughout the EU.

To realise this research, the AEC appointed music researcher Ninja Kors and formed an EFMET scientific committee with the task to support and monitor the research effort. The results of this research effort can be found in the EFMET Research Study, which can be downloaded from this website.

In addition to the full EFMET Research Study, an article entitled Learning Music in Formal, Non-Formal and Informal Contexts written by music psychologist Peter

Mak, introducing the concepts of formal, non-formal and informal music education, can also be downloaded.

Added value

The main focus lies on the integration of music education and training in the new cultural programme of the European Union starting 2007.

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4. Infomus - The Eyesweb Project



Since 1984, Infomus - The Eyesweb Project has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New hardware and software application research

Summary

InfoMus Lab, founded in 1984 at DIST-University of Genova, carries out scientific research and systems development on innovative multimedia and multimodal human-computer interfaces in performing art, museum, audience and spectators interfaces, therapy and rehabilitation. A main research focus is on the understanding and exploitation of non-verbal expressive gestures, by means of cross-fertilisation of scientific and artistic research. InfoMus Lab develops multimedia systems and platforms (e.g., HARP, EyesWeb) and applications (e.g., VideoBrain), and participates to artistic productions (e.g., with Luciano Berio at Salzburg Festival and Teatro la Scala of Milan) where systems and research results are applied and validated. From 1997 to 2004 InfoMus Lab had a contract with the opera house of Genova Teatro Carlo Felice which included a lab site at the theatre and joint activities.

Objectives

EyesWeb refers both to the research projects of InfoMus Lab on multimodal interactive systems and expressive gesture, and to the open software platform to

support the development of real-time multimodal distributed interactive applications. The EyesWeb project started in 1997, as a natural evolution of the HARP Project (see www.infomus.org). The current release of the open software platform is EyesWeb XML (eXtended Multimodal Interaction). The EyesWeb software platform has been developed in EU IST projects in the 5th (MEGA, www.megaproject.org) and 6th Framework Programme (TAI-CHI, Tangible Acoustic Interfaces for Computer Human Interaction). EyesWeb has been adopted in several other EU projects, has been licensed to more than 15,000 individual users, companies, and institutions. EyesWeb is also used in University courses and summer schools (e.g. the New York University Summer Program on “Music, dance and new technologies”).

Tools

The InfoMus Lab designed and developed a collection of hardware and software tools for use in various applications including artistic and museum productions. The InfoMus Lab is open to collaborations and contracts, e.g., for commercial and artistic applications. No single hardware products distribution is available at the moment (hardware products can be part of delivered installations).

Resources

They have set up the opportunity for users to access the experience of the Lab Staff for specific requests and services around EyesWeb through commercial or in general “pro” or “custom” applications with their support (e.g., specific s/w developments like automatic load and run of a patch at the boot, networked control of patches, as well as specific developments on request).

Activities The Lab Staff experience includes, in the last decade, many developments for a number of artistic productions, museum exhibits, science centres, distributed installations, and other professional applications.

Added value

InfoMus Lab was established in 1984 as a part of DIST (Dipartimento di Informatica, Sistemistica e Telematica), Faculty of Engineering, University of Genoa, Italy. Scientific research on multimodal non-verbal human-computer interfaces, expressive and emotional non-verbal communication, and related innovative multimedia technologies and systems are the main InfoMus Lab activities. A special focus is on the integration of humanistic theories from performing arts (music, dance, theatre), which are therefore both application fields and a source of inspiration for scientific research. Edutainment and cultural (museums, science centres) applications, therapy and rehabilitation are other main application scenarios. Located on University grounds, from 1997 to 2004 the Lab had a contract with the Opera House of Genova Teatro Carlo Felice which included a lab site at the theatre and joint research and production activities. Since 2005 InfoMus Lab leads the project of Casa Paganini, as an International Centre of

Excellence for research on music science and technology, artistic production, cultural activities. InfoMus Lab participated and participates to EU IST funded projects since 1994, including MIAMI (Multimodal Interaction for Advanced Multimedia Interfaces, 1994-1997), MEGA (Multisensory Expressive Gesture Applications, 2001-2003), S2S^2 (Sound to Sense - Sense to Sound), the Networks of Excellence on multimodal interfaces HUMAINE (models of emotion) and ENACTIVE, STREP TaiChi (Tangible Acoustic Interfaces for Advanced HCI), CRAFT U-CREATE (tools for museums and entertainment).

InfoMus Lab designed and developed interactive installations and multimedia interactive systems, hardware and software systems for artistic productions, including the Teatro alla Scala (Milan), the Biennale Architettura (Venice), the Città dei Bambini ("Children Town") science center (Porto Antico, Genoa), the Acquario di Genova (Genoa), the Centro Tempo Reale, the Salzburg Festival, the Città della Scienza ("Science City") science center (Naples), the Museo del Bali, and other national and international institutions and companies. InfoMus Lab is involved in national and international projects with research institutions and the multimedia industry. International awards include in 1995 a selection by the EU Directorate General III (Industry) for the HARP project, pointed out as one of the best research results in Information Technology achieved in Europe in 1995 inside Esprit projects. In 1997 the EU Ministry of Research selected infoMus Lab projects as one of the leading examples for its innovation content in Information Technology within the presentation of the EU Fifth Framework Program and included in the EU presentation video "Inventing Tomorrow" (1997).

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5. E-motion



Since 2009, E-motion has used the following types of Good Practice:

School (*formal*)

Educational Indicators: Retraining and employability

Summary

Too many young people drop out of school without reaching the fundamentals essential to the job market and society. They themselves face social exclusion, and society risks never receiving their input.

Objectives

Pilot projects in schools will explore which educational technologies are most appropriate and foster the realization that investment, in both hardware, software and trained teachers is crucial.

Activities

E-MoTion builds on this and aims to show that innovative and youth-oriented educational music software can help to foster engagement with school in young people at the risk of dropping out. Clearly music and informatics are going to be at the forefront of such technologies, but they are intended as “bridges” to raise enthusiasm for other subjects the students normally dislike due to a different approach to the learning.

Added value

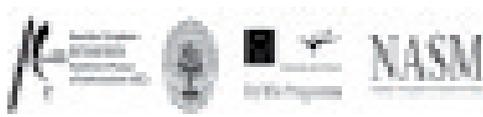
Certain groups (migrants, some ethnic groups, children from difficult socio-economic backgrounds...) are particularly at risk of dropping out of the school system early. Therefore an innovative approach to teaching and instruction is needed. The key point is to modify the way to deliver learning.

A previous European Project (“Espair” [www.schooldropout.org](http://www schooldropout.org)) was led by the Italian Association for Culture Sport and Leisure (Rome), in partnership with several other collaborators in various EU countries (Italy, Spain, Ireland and France) with funding from the Socrates Programme. This project was completed at the end of 2006.

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6. MSMA Project



Since 2001, MSMA Project has used the following types of Good Practice: Conservatory (*formal*)

Educational Indicators: High level of sharing reciprocity, participation and interaction, New cognitive scenarios resulting from ICT's application in Music Education, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

Although music is critically important in European and American culture and education, and although the music profession has always been a subject area with a strong international dimension, contacts between music institutions in Europe and the United States have been limited in number and highly informal. A clear need has been identified on both sides of the Atlantic to conduct an analysis and then to compile and disseminate information in two related areas: (1) advancing and improving joint cooperation projects between European and American music institutions, and (2) considering common issues of curriculum and quality assessment and enhancement, with particular attention to their impact on student mobility. A joint consortium of five institutions for professional music training, together with two international associations of music institutions (AEC and NASM), took up the challenge of answering this need and started the "Music Study, Mobility and Accountability Project" in 2001.

Objectives

In the course of the project, the partners have addressed the following issues and subjects:

- Transatlantic cooperation between music institutions.
- Transatlantic student and teacher exchanges between music institutions.
- Joint curriculum development and joint intensive programmes.
- Quality assurance and quality enhancement approaches in music institutions.

Methods

The member institutions of the European Association of Conservatoires (AEC) and the National Association of Schools of Music (NASM) provided, through their daily work, the reason for this project. They participated in its creation for their mutual benefit and that of their students and faculties.

Activities

As European countries have their own educational system (some even on the level of regional communities) professional music training in Europe is organised in many different ways. In order to achieve a greater comparability and transparency of these systems, the Bologna Declaration Process has been initiated. Detailed information on this process can be found on the AEC website at www.bologna-and-music.org.

In order to give insight into the current situations in all European countries (not limited to EU member states), the AEC has developed an overview of systems for professional music training, including information on duration of cycles, qualifications, academic terms, funding, quality assurance and more. On the American side, NASM has provided an overview of educational structures in use in the US in the field of professional music training. All these overviews are available on the project website.

Added value

The European Commission has already given a unique “Best Practices” designation to the Music Study, Mobility, and Accountability project.

During the MSMA project, a European - American Working Group, including the European Association of Conservatoires (AEC) and the National Association of Schools of Music (NASM), explored issues regarding student and faculty exchanges, curricula, and evaluation criteria and procedures.

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3.6 Support To The Development Of Science Culture (Mathematics And Physics) Matrix

The problem that is often set to the experts of the actual societies is the following: more and more tech-dependent, the societies of the XXI century have a strong need of scientific competences but, at the same time they invite the consumers to forget it, because of the technological transparency of these basic structures, invisible as the air. Almost all (services, information) comes to us as a magician trick, carried on over the invisible nets that are not perceived in their physic reality. And in their complexity

This is the paradox that we have to face, the solidity/fragility of this new environment in which we live, and this is the challenge that school, industry and training must face.

How to fulfil the strong demand of scientific culture (mathematics and physics), and the connected competencies, requested by the complex and hyper structured societies in which we are living in? The research and experimental projects that we present here can be an answer to this question, as it results evident from the experiences that we propose you to discover.

If we think that music is made of physics and mathematics, and also the environments that we use to create and manipulate, are made of logic and mathematics, we can start to understand. The ideal ground to build learning paths where scientific matters can be discovered and studied, in every order and degree, simply starting from the study of the music. Paths that can be exciting for the youngest or of strong scientific thickness for the adults, as the selected projects show.

1. Sonification - Sound production on the GRID



Since 2003, Sonification - Sound production on the GRID has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: Support to the development of science culture (mathematics and physics)

Summary

First experiments involving sound production with INFN-GRID facilities started during the last months of 2003. In September 2003, it was installed CSound, a

free and cross-platform acoustic compiler, on a GRID test site, the Catania INFN-GRID computer farm and it has been developed the right middleware to integrate CSound within GRID. The compiler was tested within the new environment and since its beginning, the test phase produced interesting results: efficient use of the calculus resources, customizable quality of the audio files.

After a four-five months test phase, CSound has been distributed to other GRID farms in Europe, and since the end of the last year, CSound is one of the new resources available on a relevant fraction of the network. Data sonification, sound synthesis and algorithmic composition have been investigated using couple of Csound files and Python (or sometimes Perl) scripts. Python scripts have been used to prepare the right data files during the tests.

In the subsequent months, up to now, it began a second test phase, started with the development of a different software architecture, based on Java (equipped with the standard audio and math libraries), which is more flexible and easy to manage. All the results presented in this website have been carried on using this last approach: sample computation, audio rendering, DFT computing were obtained with the Java sonification program, graphs were drawn by GNUPlot.

Resources

Data sonification is the representation of data by means of sound signals, so it is the analog of scientific visualization, where we deal with auditory instead of visual images.

Generally speaking any sonification procedure is a mathematical mapping from a certain data set (numbers, strings, images, ...) to a sound string. Data sonification is currently used in several fields, for different purposes: science and engineering, education and training, since it provides a quick and effective data analysis and interpretation tool. Although most data analysis techniques are exclusively visual in nature (i.e. are based on the possibility of looking at graphical representations), data presentation and exploration systems could benefit greatly from the addition of sonification capacities. Because sounds can convey significant amounts of information, sonification has the potential to increase the bandwidth of the human/computer interface. Nevertheless, its use in scientific computing has received limited attention up to the last years because of the intensive computations usually required to produce sound. Digital audio usually deals with very high sampling rate, the standard value for CD quality audio signals is 44100 Hz, so to produce one second of audio data it is required to compute 44100 values. One minute will take $60 \times 44100 = 2646000$ calculated samples, just to have a snapshot of the sonification procedure from the point of view of computing. On the other hand, sonification could be a very precious aid, since ear has a very high power of discrimination. As a consequence, one can use very small frequency steps (even smaller than a quarter tone) to take into account any tiny variation of the data. Equally discriminating power is available for which concern the timbre. Finally, in the scientific domain, sound is an extremely interesting tool (and one of

the most easily suitable) to identify regularities in the time domain, both at the level of microstructures and on large scales. In addition to that, sound can immediately make clear and recognizable transitions between random states and periodic phenomena. Most auditory processes are indeed based on the detection of regular patterns: periodic repetitions which turn into understandable qualities like pitch and timbres. Moreover, sonic representations are particularly useful when dealing with complex, high-dimensional data, or in data monitoring tasks where it is practically impossible to use the visual inspection. More interesting and intriguing aspects of data sonification concern the possibility of describing patterns or trends, through sound, which were hardly perceivable otherwise.

Added value

The sonification package has been written in Java and run on INFN GRID. Data sonification is becoming one of the most versatile and precious diagnosis tool, in several fields: data analysis, support to visual data inspection, education. The sonification architecture developed is open and flexible. Its design includes a powerful and customizable audio synthesis engine, and a Digital Fourier Transform (DFT) algorithm which is able to write the results as ASCII file to disk, ready to be plotted, processed with an automatic parser or simply collected into a database.

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2. ATIAM - Acoustique, Traitement du signal et Informatique Appliqués à la Musique



Since 1998, Master scientifique ATIAM has used the following types of Good Practice: University Courses (*formal*)

Educational Indicators: Support to the development of science culture (mathematics and physics)

Summary

Beside strong activity in research domain, IRCAM in Paris is involved in formation (short sessions to two years professional programs) dedicated to music and sound use in different field on musical aspects, including education.

Objectives

The ATIAM -IRCAM 2nd year objectives is a collaborative curriculum developed by Pierre & Marie Curie Sciences University in Paris (UPMC) and Telecom ParisTech School.

Methods

The program include all basic cursus of ATIAM program, with a dedicated specialization on music technologies:

Acoustique Générale, Acoustique musicale, Traitement du signal audio-numérique, Traitement du signal musical, Paradigmes de programmation en informatique musicale, Sciences et technologies de l'information musicale, Musique et sciences depuis 1945, Création musicale contemporaine, Insertion Professionnelle, Perception et cognition musicales, Musique, son et espace sonore, Auto-oscillations: de la physique à la synthèse numérique, Descripteurs audio et indexation: panorama des évolutions et méthodes, Elaborations et transformations de sons, Modèles mathématiques pour l'informatique musicale, Contrôle Gestuel de la Synthèse.

Resources

Students can benefit of resources of research laboratories and collaboration with researchers working on innovative technologies in IRCAM as well as in partners of curriculum.

Added value

Students can benefit of resources of research laboratories and collaboration with researchers working on innovative technologies in IRCAM as well as in partners of curriculum. Students can find work in music and education, industry, sound and music technologies. The courses take place in Ircam.

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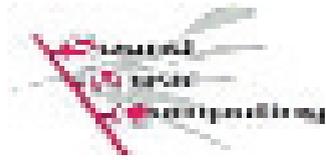
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3. Sound and Music Computing Group



Since 1978, Sound and Music Computing Group has used the following types of Good Practice: University Courses (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education

The Sound and Music Computing Group at the Department of Information Engineering – University of Padova has been active since the 1970's in scientific research, education, and dissemination of all the disciplines related to the application of new technologies to music and sound. Since the creation of the "Centro di Sonologia Computazionale" (the CSC), the activities of the group have always been based on an interdisciplinary approach through a close collaboration between researchers and musicians.

Methods

The research focuses on the development of various techniques for sound generation and processing. Physically-based models are being investigated, in which sound synthesis algorithms are obtained by simulating objects and physical interactions that are responsible for the acoustic events. The goal is to develop sound synthesis algorithms which are suitable to be embedded in interactive systems with audio-visual or audio-haptic display, and gestural control. Recent research has focused on the development of interactive sound models for auditory feedback in multimodal interfaces, in particular contact sounds (impacts, friction, etc.).

Other currently active research threads include: numerical techniques for the simulation of non-linear systems, with applications to sound processing algorithms; musical instrument modelling; spectral methods for sound modelling, specifically spectrum separation and envelope estimation of the residual; audio restoration methods; acoustical enhancement techniques (room acoustics and equalization).

The research also investigates expressive intentions of music performance, from acoustic and perceptual analysis to the development of techniques for rendering expressiveness in a synthetic performance. So far the research has led to the development of an original modelling approach that allows to morph among performances with different expressive contents, both at the symbolic and signal levels.

Sound rendering is obtained by interfacing the expressiveness model with a

dedicated post processing environment, which allows for the transformation of the event cues. The processing is based on the organized control of basic audio effects.

Recent research is focusing on extending these results towards the development of Multisensory Integrated Expressive Environments (mixed reality applications in the performing arts such as interactive dance, music, or video installations): algorithms for the recognition and processing of the expressive content of the user gestures (expressive feature extraction from signal computed using hw/sw motion capture systems).

Resources

The laboratory has equipped sophisticated multipurpose systems which can demonstrate innovative use of new audio visual technology for producing impressive effects in human/computer interaction, music information processing and 3D audio: tracking system, audio processing, haptic interface.

Added value

The Sound and Music Computing Group collaborates with many organizations, both at a national and international levels. Research activities include sound synthesis by physics-based models, 3-D sound rendering, auditory display and auditory feedback in multimodal interfaces, and digital audio post-processing techniques, analysis and modelling of expressive and emotional content in music performance interaction. Teaching activities include the course Informatica Musicale within the master degree in Ingegneria Informatica, supervision of PhD students with research projects in Sound and Music Computing, hosting of Erasmus students in collaboration with our European partners.

4. Sustainable Software for Digital Music and Audio Research



Since 2011, Sustainable Software for Digital Music and Audio Research has used the following types of Good Practice: Research Centres (*formal*)
Educational Indicators: New hardware and software application research

Summary

Sustainable Software for Digital research is a project of the University of London Queen Mary. Researchers in this area come from a wide range of backgrounds

including: signal processing, electronics, computer science, music, information sciences, dance & performance, and data sonification, but have a common interest in the use of audio and music in their work. Through this project, they want to create a climate where researchers think beyond the research they are undertaking at the present, towards the impact that it could have on other researchers, but right from the start. Through helping researchers to strongly connecting their work with that of others, each will see that their work should be reusable: “my research helps your research.”

Objectives

The aim of this proposal is to provide a Service to support the development and use of software, data and metadata to enable high quality research in the thriving UK audio and music research community.

Added value

An important aspect of the Service will be planning for sustainability, so that the software developed during its lifetime, and the Service itself, can be sustained beyond the end of the funded period.

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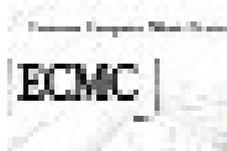
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<http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/H043101/1>

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5. Eastman Computer Music Center



Since 1981, Eastman Computer Music Center has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New hardware and software application research

Summary

Established in 1981, the Eastman Computer Music Center provides computing and digital audio facilities for the realization of compositional, performance, theoretical and other types of musical projects by Eastman, University of

Rochester and visiting faculty, students, musicians and researchers. Currently, the Center supports creative and instructional work by about thirty users annually. Roughly one third of these users are composers, and another third are either performers or music theorists. Our remaining ten or so users are divided fairly evenly among jazz studies, music education, science and liberal arts majors.

Objectives

ARTISTIC MISSION

providing needed resources for creative and research projects of the highest possible musical and technical quality.

EDUCATIONAL MISSION

to teach and to help disseminate the use of these resources to student, professional and amateur musicians of varying specialties, interests and prior experience, and to audiences of similar diversity, in a manner that encourages each participant to explore and to stretch his or her own musical capabilities and artistic vision.

Given the wealth of solo, chamber and large ensemble performing talent at Eastman, many of our projects involve collaborations, from the brainstorming stage through eventual concert presentations and/or recordings, between composers and performers or performing ensembles. Lists of available compact disc recordings and of publications of works realized at the Center are included within the home web pages of several of our current and alumni users.

The Center also seeks to foster artistic collaborations between musicians and film makers, choreographers and dancers, literary and theatrical artists, and professionals and students in a variety of other fields. The yearly ImageMovementSound Festival (co-produced by the ECMC, the Film/Video/Animation Department of the Rochester Institute of Technology, and the Graduate Department of Dance at SUNY Brockport) sponsors the creation of innovative multimedia works by collaborative groups of two or more artists from the three institutions, multiple performances of these works within the Rochester area and on a variety of international venues, and an Image, Movement, Music course. In addition to the IMS Festival works, composers from the Center create several musical soundtracks each year for films produced by faculty and students at RIT and by independent film makers. Purely musical works realized at the ECMC are presented in concerts sponsored by the Center and by various other organizations.

Added value

The philosophy at Eastman is that computer music is not a distinct discipline unto itself. Rather, they believe that computer applications in music are by nature interdisciplinary, and can extend the capabilities of musicians in many areas and in many (sometimes unforeseen) ways. Thus, the center do not offer a separate degree major in digital audio technology. Instead, the School seeks to attract

students of outstanding potential and achievement in compositional, performance, scholarly and pedagogical areas, and to encourage students within all of these areas to apply and share their talents within the introductory through advanced level instructional, creative and technical resources offered by the Center and by other computer-based facilities within the School and the University.

Contact Details of responsible person: Allan Schindler

aschindler@esm.rochester.edu

Promoting institution: Eastman School of Music

<http://ecmc.rochester.edu>

26 Gibbs Street – Rochester 14604 – United States

Tel: 585.274.1000

6. Sound Guides Project | CRM Centro Ricerche Musicali



Since 2002, Sound Guides Project | CRM Centro Ricerche Musicali has used the following types of Good Practice: Research Centres (*formal*)

Educational Indicators: New cognitive scenarios resulting from ICT's application in Music Education, New hardware and software application research

Summary

Guide sound installations of sound, technology-based waveguide, allow a limited diffusion of sound, allowing the design of the sound space with specific interventions and localized.

The waveguides are obtained by tubiform conducted in cylindrical geometry and conic of variable size whose length is proportional to the frequency emitted.

The particular sound distribution of these facilities can create soundtracks that different routes and listening areas.

Resources

CRM – Centro Ricerche Musicali is a non-profit association founded in Rome in 1988 by composers Michelangelo Lupone and Laura Bianchini, to promote research in his musical aesthetic, analytical, scientific and musicological. In 1990, the CRM has been officially recognized by the Ministry of University and Scientific and Technological Research as a 'Centre for Research in Music', and in 1993

received a mention by the Japan Foundation for achievements in research. From 2006 he worked with the Superintendent of Cultural Heritage of the City of Rome to the realization of cultural and artistic development of scientific and applied research on sound design in different contexts, environmental, architectural and museum (Framework Convention). Collaborates with the Superintendent of Archaeology of Pompeii, for which he designed a sound installation art interactive learning in the Palestra great archaeological site. Today, the work of the CRM, who is also training and teaching commitments established musicians and scholars in theoretical and applied research activities, conducted in collaboration with Italian and foreign research centres, with instrumental ensembles and musical institutions. The CRM, in his music, concert in the activity in Italy and abroad, development of 'hardware' and 'software' targeted experiments composition systems and algorithms that allow a constant interaction between the musical languages, the scientific thought and technological resources.

From the laboratories of the CRM, direct from the physical Lorenzo Seno, came out complex digital systems for the synthesis and sound processing in real time (Computer 'experts'); for music composition, the design of spaces for listening, for the study of physical models aimed at the development of virtual musical instruments. They were designed and developed systems for the dissemination of sound multiphonics (Planephones ®, Holophones, resonators and pipes sound).

Many of these systems have found use in large scientific institutions, such as the CRF-CRF, and application in two European research projects psychoacoustics: the first, Soqrates, to study the quality of the noise, the second Obelics, for the study the effects of noise on humans and the creation of major events, great Verdi Gala for the Teatro Regio di Parma; event at the Coliseum, in collaboration with the Archaeological Superintendence of Rome 2003, the first Euro-Mediterranean Conference of Ministers of Agriculture, Venice 2003, White Night, a monumental complex of S. Michele, Rome 2005 supported by MiBAC – Directorate General and Artistic Heritage and Archaeological Rome City. It promotes and organizes international forum MUSIC SCIENCE and the international biennial of contemporary art, science and culture ARTESCIENZA.

Added value

A scientific approach to the highest level guaranteed by Professor Michelangelo Lupone, a pioneer in Italy in the field of Science of Sound and New Technologies applied to music.

Contact Details of accountable person: Michelangelo Lupone

Promoting institution: CRM – Centro Ricerche Musicali

<http://www.crm-music.it/>

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Tel: +39 06 45563 590

3.7. Matrix of the Didactical Innovation. Music and ICT at school

A teaching module to encourage young children to see the potential and to learn music through ICT and digital technologies has been produced by Ian Shirley at Edge Hill University. Or an environment with tools to communicate (users community, forum, groupware), tools to learn (teaching and learning pathways, formative materials and papers), tools to collaborate and exchange (a web environment for the project management, WebCollab, and a repository where upload and download projects). The Web 2.0 school of tomorrow is here.

The combination of the wide availability of collaborative tools in addition to the loosening of copyright restrictions (Common Creatives), coupled with the rise of social networking on the World Wide Web especially among the young), is changing the face of music creation and consumption. It can (and indeed, must) also change the face of music education in a corresponding manner. The world is already seeing a revolution in the way music is made and distributed. That revolution can also be brought to the classroom.

A real innovation can be achieved if we try to foster in the classroom work the growth of musical intelligence in the pupils. Intelligence may assume many forms. Can be intelligent evaluation and reflection on the creation process. Can be the correct evaluation and creation of an assigned theme, e.g. sound design for a given video, and therefore evaluation of visual and acoustical micro phenomena, ability in to investigate their personal, cultural relationship with the digital medium, etc. Musical education should foster the pupils to discover their preciousness, personality, their own musical and human intelligence.

As Jonathan Savage, citing John Cage, put:

«I believe that the use of noise to make music will continue and increase until we reach a music produced through the aid of electrical instruments that will make available any and all sounds that can be heard. ...The present methods of writing music will be inadequate for the composer who will be faced with the entire field of sound.»
(Cage, J. *Silence*, Cambridge, Massachusetts, M.I.T. 1968)

In typically provocative style, John Cage summarised what he saw as the inadequacy of traditional methods of music making in light of the changing conceptual basis on which musical materials are defined. The revolution in musical technologies over the last sixty years has led to a bewildering array of electronic musical instruments and devices. Some of these offer genuinely new and exciting potential to educators, with the possibility to fulfil Cage's prophecy. The challenges that Cage and others confronted during the second half of the twentieth century have similarities to those faced by music educators today. Not least of these is the need for us to face up to increasingly pluralistic models of musical production and

consumption. There is a need for educators to fundamentally reconsider what is meant by musical ability, skill and understanding as ICT becomes incorporated in our classrooms.»

(from Teaching Music with ICT, written by Jonathan Savage, Senior Lecturer in Music Education at the Institute of Education, Manchester Metropolitan University)

And, last but not least, music and Web 2.0 implies the social change factor. It's not only classroom works, it's not only teaching and learning, it's also social changes and cultural evolution.

“The sociology of technology, actor network theory, socio-cultural psychology, and post structural critical theory, however, all make visible the complex relationship between technological development and social change. Although there are different positions on this spectrum, these perspectives imply an understanding of social change as a co-production of technical, discursive and social factors.” (Facer & Sandford, ‘The Next 25 Years? Future scenarios and future directions for education and technology’. Journal of Computer Assisted Learning 26-2010, 74-93. pp.76-77)

The Good Practices we present in this Matrix – as MODEM or NetMusic 1.1. – are all structured to answer to these new paradigms of modern education. Based on Web 2.0 collaborative environments, centred on communication tools but, also, putting the student in the core of the educational process. This is true also for GP like “Le ateliers de la creation” where the interaction of a group of students, an artistic centre as the Centre Pompidou and a research centre (IRCAM) in music field is an exceptional way to increase interest for the connexion between techniques and arts.

These projects aims to coherently transfer all the innovative potentiality of these ITC tools to a plurality of subjects and contexts where there is the possibility to use digital technologies as a support of the music teaching and learning process. Specifically, Conservatories, Universities and Colleges, Music Schools of various degree, and also Training Centres and professionals.

1. MODEM - Music Open Distance Exchange Model



Since 2006, MODEM Project - Music Open Distance Exchange Model has used the following types of Good Practice: School (*formal*)

Educational Indicators: Alternative and interdisciplinary training courses (e.g. sound landscapes – sounds of memory – self constructed instruments), Diverse range of creative activities expressed by the members, High level of competences among the members, New alternative experiences in music production and new forms of expressing musical creativity, New amateur passions and talents, New Quality of tools resources collaboratively developed, Professional advancement, Quality of tools and resources provided, Retraining and employability, Students' courses for musical creativity and expression through ITC and internet, New hardware and software application research, New pedagogical scenarios resulting from ICT's application in Music Education

Summary

The Leonardo Da Vinci M.O.D.E.M. project set up in November 2006 offers a new dimension to online learning: the opportunity to produce and share music remotely within a virtual learning community. The idea of M.O.D.E.M. is to transfer to an educational and formative domain, methods, applications, creative tools and instruments made and used by the international community of musicians and composers in their daily work. The project is primarily a training system leading to European professional formation, a learning environment that applies the latest technology in music production and sound editing software and e-learning platforms for remote music production.

Objectives

The MODEM Project, through an European partnership, composed from leading companies in their sectors, from research institutes, software engineering, formation and communication companies, has devised and developed:

- A remote collaboration platform for the realization of musical projects on the net using open license audio material and open source software.
- Learning paths for the achievement of creative musical projects in web open code with the use of digital technologies.

Methods

The project intends to give ample disposition to the training system and to the professional European formation, a learning environment that makes use of a new highly technological applications (production and sound handling software, e-learning platforms for remote music production) to bring a change from the managerial and creative world its most advanced and can connect the creative and technological know-how with a more strictly bound vision attached to the known theories.

Tools

- The web site
- Supporting territorial websites for developing and using the project's results.
- The already existing websites for digital production in a national European and international context.
- The connection with different young users not always qualified, but anyhow willing to learn, and/or experts in digital music production.
- Continuous monitoring of phase results.
- The experimentation for final validity inside web products.

Resources

In M.O.D.E.M. the methodical approach is able to draw from virtual sites of creative expression (computer and software inter-connected on the web) to virtual sites where communities develop learning constructive processes.

The main key elements of this process are:

- Knowledge and information society;
- New technologies;
- Music.

Activities

MODEM platform is a remote learning and collaborative environment to Create and to change music in virtual communities and in transnational dimension.

Added value

M.O.D.E.M. Looks and thinks about the present and future phenomenon of remote interaction as a widespread way of working. Amongst all these aims, the most relevant is the development of a remote learning and collaborative environment in, and to provide the necessary formative tools to operate within.

Contact Details of accountable person:

Gemma Fiocchetta – *Project Scientific coordinator*

gemma.fiocchetta@istruzione.it

Web site <http://www.modemproject.org/>

Platform to create music in transnational dimension

<http://modem.N.E.T.Soundsproject.eu/>

Promoting institution: ITCG Deffenu – Olbia
63 Via Vicenza – Olbia 07026 – Italy
Tel: +39 0789 66936

2. Computer application in music lessons - Computeranwendung im Musikunterricht



Since 2002, Computer application in music lessons (Computeranwendung im Musikunterricht) has used the following types of Good Practice: School (formal)

Educational Indicators: Alternative and interdisciplinary training courses (e.g. sound landscapes – sounds of memory – self constructed instruments), Students' courses for musical creativity and expression through ITC and internet, Teachers' training for musical Education through ITC and internet

Summary

Computer assisted music lessons have been practised in a secondary school and later on integrated into a regional music teacher training.

Objectives

The good practice aims at imparting musical knowledge, music analysis, harmonics, playing and composition abilities by the support of computer tools.

Methods

The computer application makes it possible to teach traditional musical content in combination with new media which makes the content more attractive and interesting for the students.

Tools

The tools used are:

- Notation programmes (e.g. capella, sibelius, finale).
- Sequencer programmes (e.g. cubase, logic, reasen).
- Musik playing programmes (e.g. musikmaker, dj).

Activities

The following topics are addressed:

Elementary lessons

Harmonics

Melody lessons

Training: Notation

Analysis

W.A.Mozart, Requiem

A. Webern, Symphony op.21

Training: Import and processing of a MIDI file

Creativity lessons

Song

Counterpoint

Fugue

Training: Creation of a fugue exposition, arrangement of a ragtime, sound collage

Making music with the class

Training: Processing of an audio file

Added value

The tools used allow to make the optical notation of a composition hearable and to facilitate the composition of new music pieces by providing direct hearing control and the opportunity of immediate improvement by the students. After the successful pilot project in a secondary school in Wuppertal the concept has been transferred to a further training for music teachers in the region of Cologne.

Contact Details of accountable person: Joachim Galemann – *Music teacher*

Promoting institution: St. Anna-Schule

<http://www.st-anna.de/sites/faecher/musik/index.htm>

Dorotheenstraße 11 – Wuppertal – Germany

Tel: +49 (0)202 42965-0

3. BAO-PAO



Since 2006, BAO-PAO has used the following types of Good Practice:
School (*formal*)

Educational Indicators: Alternative and interdisciplinary training courses (e.g. sound landscapes - sounds of memory – self constructed instruments)

Summary

The BAO-PAO was invented by an engineer passionate about music: Jean Schmutz. Initially designed to allow disabled children to practice a musical instrument, the instrument is now intended to allow students to make music together in an accessible, intuitive and playful way. BAO-PAO develops the listening through a physical approach, enriched and guided by the introduction of fundamental concepts in acoustics, sound synthesis and computer music.

Objectives

The goal is to make access to musical practices (individual and collective) a wider audience as possible, including disabled people, unlimited virtuosity and directories.

Methods

Interpretation of gesture through an invisible rope laser beam to generate sounds and midi notes.

Tools

BAO-PAO is a physical new tech and computer assisted instrument, made of four steel arches completed by two chrome spheres, among which you imagine an invisible rope. Cutting this virtual rope with a stick or your finger you can produce notes through the laser beam.

Added value

Original solution to allow disabled people, as well as standard students to access to musical hearing, discovery and training. BAO-PAO allows in a playful way to learn and practice musical listening, internal hearing development, instrumental practising as well as vocal training.

Contact Details of accountable person: Lionel Sabbatier – *Music teacher*

Promoting institution: Zicaucollege

<http://zicaucollege.free.fr/baopao.htm>

269 bd Henri Barnier – Marseille 13016 – France

Tel: 04 91 09 27 01

4. Using ICT in Primary Music Education - an open access teaching module



Since 2008, Using ICT in Primary Music Education - an open access teaching module has used the following types of Good Practice:

School (*formal*)

Educational Indicators: Teachers' training for musical Education through ITC and internet

Summary

A teaching module to encourage young children to see the potential and to learn music through ICT and digital technologies has been produced by Ian Shirley at Edge Hill University.

Objectives

The module includes seven video clips with accompanying class guides to stimulate discussion and to bring children's attention to the connections between music, ICT and digital technologies – prevalent in their day-to-day experiences. Informal contact with music is demonstrated as made through mobile phones, Ejay, karaoke machines which are all discussed as directed by the module, as are the use of digital synthesizers in modern pop music.

Video clips include the use of Doctor Who Music through several series and digitized alien noises which the children are asked to describe. The module also incorporates free downloadable programmes: Audacity, Tuned In and Jaberwocky.

Added value

This module can be used to draw children's interest to the *relevance* and prevalence of ICT and digital technologies in music. As the module is available on-line it can be used and adapted not only by schools but also by community groups and other youth organisations.

Contact Details of responsible person: Ian Shirley

Promoting institution: MUSIC-ITE –

Subject resource for network for teacher education

<http://www.music-ite.org.uk/resources/primary-ite/using-ict-primary-music-education>

Ormskirk – L39 4QP – United Kingdom

5. Les Ateliers de la creation



Since 2007, Les Ateliers de la creation has used the following types of Good Practice: School (*formal*)

Educational Indicators: New alternative experiences in music production and new forms of expressing musical creativity, Students' courses for musical creativity and expression through ITC and internet

Summary

Ircam in Paris is widely known for its strong activity in research domain dedicated to music, sound treatment and technologies. "Atelier de la Création" is a special program initiated by IRCAM and Centre Pompidou-Paris dedicated for high-schools (*lycées*) and supposed to be inserted as a part of new program concerning Decorative arts and art history in middle school and high school.

Objectives

The objective of "Ateliers de la Création" is to comfort the aims of Education Nationale, promoting the basic "socle de connaissances" supposed to give to the students the efficient knowledge for an adult life.

Methods

The development of the project is based on the discovering of a selected artistic creation, on which are constructed all aspects of arts in sight to improve the project.

Resources

Artistic, technologic and musical resources of Centre Pompidou and Ircam are involved in the project.

Added value

The interaction of a group of students, an artistic centre as Centre Pompidou and a research centre in music field is an exceptional way to increase interest for the connexion between techniques and arts.

Contact Details of responsible person: Beros Cyril – *Director of pedagogy and cultural action in Ircam*

Promoting institution: IRCAM

<http://www.ircam.fr/>

1, place Igor-Stravinsky – Paris 75004 – Tel: +33 (0)1 44 78 48 43

6. Finalekurser (Finale courses)



Since 2011, Finalekurser (Finale courses) has used the following types of Good Practice: School (*formal*)

Educational Indicators: New alternative experiences in music production and new forms of expressing musical creativity

Summary

Computer based notation and scoring is a powerful tool for anyone wanting to arrange and publish musical arrangements. Kulander Musik offers education based around scoring program Finale.

Methods

Learning-by-doing is a straightforward method of advancing. That's why this course requires of each student to have Finale installed on their home computers. After the first day of education, students are expected to practice what they've learnt during day one. New questions will inevitably arise, and those will be discussed during day two. Each student will be equipped with their own workstation during classes.

Added value

Our two-day courses are offered as two class days with a few weeks in between or as two consecutive days. Kulander Musik also offers lodging near the premises.

Contact Details of accountable person: Jan-Olof Kulander
produktfragor@kulandermusik.se

Promoting institution: Kulander Musik

<http://www.kulandermusik.se/Finalekurser.htm>

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7. NET MUSIC 0.1



Summary

NetMusic 0.1 Leonardo Da Vinci project provides educators and teachers with a web platform where they can consciously use digital technologies as a means to innovate basic and advanced music teaching for the formative environments into which they professionally operate (Music Conservatories, Universities and Colleges, Formative entities of each and various degree, Music Schools).

Objectives

NetMusic 0.1 aims to coherently transfer all the innovative potentiality of musical TD to a plurality of subjects and contexts where there is the possibility to use digital technologies as a support of the music teaching and learning process. Specifically, Conservatories, Universities and Colleges, Music Schools of various degree, and also to the undefined universe of operators working in the field of teaching music with the support of digital technologies and the Web. Main objective of the Project NetMusic.01 is the transfer of innovation in the field of new digital music making technologies as a tool for enhancing education and VET into public and private bodies.

The fields of reference for the action of transfer of content and innovative are three:

- education, with particular reference to teachers of music education, musical instruments and other disciplines involved in any use of digital technologies in the sound/music field;
- the field of tertiary education with particular reference to students and teachers of universities and institutions of AFAM (Conservatoires);
- the area of training, including non-formal, with special attention to training centres linked to companies operating in the field of technology applied to the sound and music arts.

Methods

The diversification of the strategies and the methodologies of intervention in order to reach the maximum number of potential users;

the planning and the suitability of the activities;

the coherence between the planned activities and their addressees and the coherence between the expected results and programmed activities.

Tools

The NetMusic website does so providing teachers, educators, students, professional operators and others subjects interested to get knowledge and skills in the sector:

- tools to communicate (users community, forum, groupware);
- tools to learn (teaching and learning pathways, formative materials and papers);
- tools to collaborate and exchange (a web environment for the project management, WebCollab, and a repository where upload and download projects).

Resources

The networks for the transfer and reticular structures that has ensured the connection among the various actors involved in the first trial and then in the transfer actions to end users by the action of limited testing and enlarged The principals networks of interest was Italian music teachers and Students present in the Schools, Conservatory, University and in the FP system.

Key operational instruments are:

- Portal NetMusic [in all its features].
- Interconnecting facilities with virtual products and models for networking objects transfer [access platforms E-Musinet, and Musiweb Modem].
- Other networked resources and activities to support the transfer promoted by the project partners (including through its sites, forums, business development etc.).

Activities

Through NetMusic teachers and educators can:

- To create a teachers community that managed resources for the music education whit musical td and web 2.0 instruments.
- To create and share: in a dedicate web portal area Educational Tools; Scientific Papers; Surveys and Reports music and technologies related.

Added value

Expected changes in the formative system can be reconnected to the development of a new way of teaching music and to a new teaching model to develop musical competencies: the substance of the relationship with the music itself, as the technologies involved are a very essential tool for the renewal of musical languages.

Contact Details of accountable person:

Gemma Fiocchetta – *Project Scientific coordinator*

gemma.fiocchetta@istruzione.it

NetMusic0.1 web site <http://www.netmusicproject.org>

Promoting institution: ITC “A Deffenu”

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Beyond NET Sounds

Towards a video encyclopedia of shared knowledge in the music field.

The Netsounds thematic channels on YouTube

Andrea Pozzi

YouTube, by providing a video hosting service, has been involved with popularizing Internet trends in popular culture. Its users represent of society and it is part of a set of social networking sites that people and organizations often maintain a presence on. Founded on February 15, 2005 and online since June, YouTube (with the motto "Broadcast Yourself") has quickly established itself as an extraordinary archive of video contents, has been recognized and honored as a global archive and bulletin board of socially valuable video messages and now we begin to have a generation of users that is forming its own visual imagery on the images of the platform. The NetSounds project, that has been established to promote the use of digital technologies and social networking tools in music education, could not do without such a powerful Web 2.0 tool. In particular the NetSounds portal has been set up to be an open environment for people and actors actives in the field of music and technology using dedicated tools and areas like these. The video repository contains a large number of video clips concerning the use of IT in music education: all the video materials have been produced in the most innovative sectors linked to the binomial music and technology. Since the videos have been already selected and validated from the original YouTube Channels, having most of these hundreds of thousands of views, the Netsounds Video Channel can be considered as a complete database collection of video resources that can become a reference for all the project target groups. This video resources database offers to the Netsounds networks the possibility to be updated on brand new initiatives, to share video materials and resources among all the stakeholders and finally to promote their products, especially for the private companies that are member of Netsounds Networks. This last feature is really important also in terms of exploitation and continuously updating of Netsounds portal.

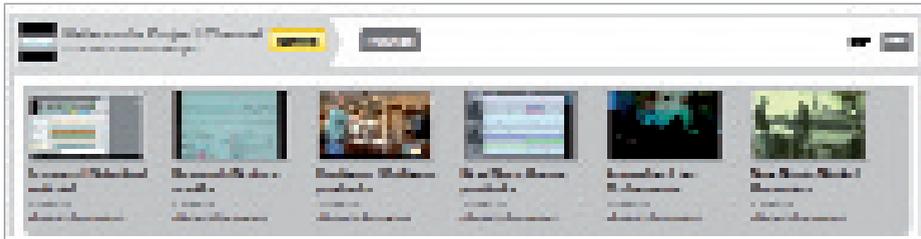
The Netsounds YouTube Video Channel is structured in seven thematic sections:

- Lessons / Didactical material
- Research Centres results
- Hardware / Software products

- New Open Source products
- Innovative Live Performance
- New Music Market Scenarios
- Netsounds Project Events

This channel represents a relevant extension of the Good Practices database, the main database implemented in the web portal. Furthermore, it is a great resource for the educative and formative system linked to music and digital technologies, since it makes available the video presentations of the best products selected by the developers themselves (Universities, Research Centres, Companies, Open Source world, etc) and which are later validated by the interest already gained in the web (number of contacts for each video). Looking through the different sections we can see how is possible to move towards a real video encyclopedia of shared knowledge in the music field.

The first section (Lessons/Didactical material) is a video collection from the most important Universities, Schools, Conservatoires and public and private Vocational Training schools. Complete video footage of lessons about new technologies applied to music are available in this playlist section with all the sources material available from didactical institutions like Berklee Music School and Stanford University, amongst others. Is possible to find here Lessons and Didactical material from tutorial on how to work and study with a Digital Audio Workstation, to complete lessons about Fourier transform and acoustics. A contribution like the clip 'Composing With Sounds and Images' from Stanford University allows to benefit from a very interesting video where Jaroslaw Kapuscinski, an intermedia composer, pianist and Stanford faculty member, presents both the process of composition and audiovisual performance, demonstrating how various real time musical actions reinterpret animated sequences. Another good example of the resources available in this channel is the clip "At the Intersection of Music & Science" from the Emory University. This is a complete video footage of a discussion between Atlanta Symphony Orchestra Music Director Steve Everett, Professor of Music at Emory University and Martha Grover, Associate Professor of Chemical & Biomolecular Engineering at Georgia Tech and member of the NSF/NASA Center for Chemical Evolution. Together they explores the overall connections between music and science and specifically looks at ways in which these relationships might benefit in illuminating and explaining scientific concepts. In addition to exploring musical works that have drawn significantly from some aspect of scientific research, a collaborative project between Everett and Grover that seeks to use music to help explain research on the chemical origins of life undertaken is highlighted. But the in depth level of the video repository is quite diverse and varied; there are even complete video series on how to write electronic music, from scratch. In these video series all aspects are covered: basic and advanced synthesis, sampling, progression, mixing, everything is explained in depth.



The second section (Research Centres results) is dedicated to the most important results exploited by the responsible of some of the most important research centres in the field. Institutions like Ircam, InfoMusLab or Isti Cnr are well represented in this video channel section. Moreover in this section, there are some very important contributions from the Stanford University, like the video related to the results of the internal research on the project "Chuck - A Computer Music Programming Language". In particular this is a lecture by Ge Wang for the Stanford University Human-Computer Interaction Seminar. In the first part of this talk, Ge presents the design, philosophy, and development of ChucK, a computer music programming language intending to provide a different approach, expressiveness, and thinking with respect to time and parallelism in audio programming - as well as a platform for precise and rapid experimentation. In the second part of this presentation, Ge describes his adventures with the "laptop orchestra": a new type of large-scale, computer-mediated music ensemble. Videos about this project are also in the dedicated section "Innovative Live Performance". Another remarkable contribution is the clip "Ray Kurzweil - Futurist". In this discussion with Computer History Museum Senior Curator Dag Spicer, Kurzweil shares his vision of how technology will re-shape the human body (and culture generally) into one that incorporates advanced technologies into a new type of post-human organism. Kurzweil sees this transformation occurring over the next 20 to 50 years and beginning with the integration of electronic-based systems into the human body. Some decades after that, a further transformation occurs which incorporates the manipulation and construction of interfaces and complex systems based on atomic-level structures that merge with and control specific bodily functions.

In another contribution two of the most important pioneers of computer music, Max Mathews and John Chowning, explain why computers have revolutionized music making. Research led by Mathews at Bell Laboratories, beginning in the 1950s, created a series of programming languages that are the direct precursors of today's software synthesizers. Max Mathew's many contributions to interactive music systems, algorithmic composition, and psychoacoustics (with Jean-Claude Risset) are equally seminal. Stanford's legendary Center for Computer Research in Music and Acoustics (CCRMA) led for many years by Chowning, has long been a hotbed of innovation. After groundbreaking research in sound spatialization,

Chowning's invention of frequency modulation (FM) synthesis led to the most successful synthesizer of all time: the Yamaha DX7. In one of the main videos here present, Chowning and Mathews are in conversation with Curtis Roads, composer and music historian. Other contributions are more directly related to the presentation of results, like for the IRCAM clip "Gestures Associated to Environmental Sounds". This video illustrates an experiment settled at IRCAM by IMTR and PDS teams in 2010. The goal is to analyze how people move while listening to either causal or non-causal environmental sounds and this video presents a particular example dealing with a non-causal sound.

In the third section (Hardware/Software products) are presented all the most relevant hardware and software products for music production and audio research developed in the last years. There are mostly commercial products, as the free open source project are presented in another dedicated area of the Netsounds Project YouTube Channel. Music software and hardware companies like Propellerhead, Steinberg, Ableton, amongst others, are here well represented. There is a particular focus/attention for the most innovative products, like for example the New Musical Instrument Prototype presented directly by the creator Roger Linn, one of the most brilliant industrial designer in the field. There are also video linked to experimental software and hardware solutions, like the one invented by Tim Thompson that offers players any number of arbitrarily-shaped multitouch areas with three-dimensional spatial control. Interaction with this space allows users to control and play virtual synthesizers using nothing but a Microsoft Kinect as the controller.

In the videos of this section the tools are presented with in many cases a practical test and examples of the product, like in the Moog Taurus 3 clip where the instrument is played in many different situations. All of these applications are fairly basic, so that most of the people can understand how to use the product as its best.

The "New Open Source products" area can be considered one of the most attractive area of the video channel, presenting only free open source hardware and software products that can be used for the main music production and education tasks. There are in this section products that can easily permit to record and mix instrument tracks for free in Linux, like the open source software Ardour, that can control music via MIDI like with the hardware Italian open source project Arduino. There are plenty of reasons to consider free software tools as part of the toolchain for music making. They might fit the budget, give the needed flexibility, allow to use a tool driven more by development needs than commercial ones, give to the user tools that would otherwise lack proprietary commercial niches, allow the user to run (via Linux) on a wider variety of hardware or with greater low-latency performance, or allow the people to contribute more directly to a project, from documentation to actual development. Even proprietary hardware can become more "open" in the general sense. In the early days of synths, it was commonplace to include detailed specifications and even circuit diagrams. That

arguably furthered the evolution of music gear, as knowledge was shared, and it certainly allowed more advanced users to better understand how that gear worked. Open Source Hardware goes further, by placing everything under a license that makes it free for use. This would include the software (either running on the device, on an attached computer, or both), the schematics of the design, and even visual elements of the design, as well as the documentation.

The “Innovative Live Performance” section collects a lot of video resources available on the net about impressive and innovative live performances with new musical tools discovered thanks to clever appliance of new technologies. The already mentioned Stanford Laptop Orchestra, as well as their Mobile Phone Orchestra and iPhone Ocarina are well presented in this section. In particular there are a lot of very interesting video resources that comes from the Moog Sound Lab, a web-based performance series where artists are filmed performing in the Moog Music factory in Asheville, North Carolina. Moog Sound Lab is all about organic experimentation providing a unique opportunity for artists to explore analog sound-scaping, synthesis and effects. One other impressive clip is about the Stanford Laptop Orchestra (SLOrk), an ensemble of student computer scientists and musicians that uses PCs to compose and perform new music. SLOrk generates an avant-garde synthesis of sound: computerized clicks, chimes, and bleeps dance over the drone of string instruments, square waves, and clean electronic tones. The director Ge Wang conducts the orchestra, leading his musicians through acoustic landscapes as they perform electronic chamber music and compose freestyle melodies. The music fits right in at the Stanford University Center for Computer Research in Music (CCRMA), the orchestra’s home, where Wang is an assistant professor. After selecting the PC as the basis for his orchestra, Wang designed unique speaker systems to give each performer in the orchestra his or her own sonic space. Using its custom sound systems, the SLOrk ensemble can generate a wall of sound to rival any traditional orchestra. The way it generates that sound, however, is very different from anything Mozart or Bach envisioned. Each musician in SLOrk creates his or her own instrument and interface using the proprietary code ChuckK, already mentioned in the second channel section. Wang conducts the orchestra, giving the musicians visual cues. The ensemble is synchronized with an electronic metronome that broadcasts its signal to each notebook via Wi-Fi.

SLOrk performers are equal parts musician and computer scientist. Some members are obsessed with code, others are hooked on sheet music. All of them joined SLOrk to do something different with electronic music. Since its debut in early 2008, SLOrk continues to perform on and off campus, giving students and music fans a chance to experience the ensemble’s unique fusion of code and music. Among other projects, the orchestra collaborated on an Internet-based performance with musicians at the Central Conservatory of China in Beijing. The SLOrk ensemble connected to Beijing via the latest internet audio system from SoundWIRE (another research group at CCRMA, led by the Center’s director,

Chris Chafe) and jammed with conservatory musicians in real time. It was the first performance of its kind in history. Wang plans to hold more Internet concerts with orchestras across the world, and hopes to meet up with the Beijing musicians - in person - in the future. But live performances alongside traditional orchestras are just the beginning. Wang plans to find new ways for people to make music with computers and code, taking advantage of emerging technologies to further blur the lines between composition and computers. The results of this experiments will find place in this Netsounds YouTube channel section, but maybe also in the next one "New Music Market Scenarios". This is the section that collects videos that can be very useful to understand how digital technologies and Web 2.0 are changing the music market, music production and marketing. All the hardware and software tools presented in the other sections of the Netsounds Project official YouTube video channel are often only for research applications or private studies, but in many cases these tools are used as a regular basis for music projects that are accessible to everyone. At the same time a lot of musicians are using the web 2.0 tools to better promote and, maybe, sell their music. In this section there are videos that has this kind of requirements. For example one of the videos presents Beatport, the recognized leader of electronic music downloads by DJs and fans alike delivering content in premium-encoded formats that match the professional performance quality standards of the world's leading sound systems. Beatport.com allows users to access the world of club music through secure, legal, hi-speed, high quality downloads in MP3, MP4 and WAV formats on a pay per download basis from an impressive library of the world's leading independent labels. The first version of Beatport launched in January 2004 with 79 record labels on board. By mid 2004, Beatport started to gain recognition collaborating with some of the top DJs and technology companies in the business and now is the standard and the first net label in the music world. Another powerful tool well shown in this video section is SoundCloud, the world's leading social sound platform where anyone can create sounds and share them everywhere. Recording and uploading sounds to SoundCloud lets people easily share them privately with their friends or publicly to blogs, sites and social networks.

As stated by the renowned italian sociologist Alberto Abruzzese "YouTube allows you to read the entire social history of the screen, the device that literally gave rise to the twentieth century, transforming the three-dimensionality of the metropolis in two-dimensional film, thus giving room for the modern processes of socialization, their mythologies and narratives, their actors." Moreover, what made YouTube successful immediately has been the possibility to share, suggest and comment the video contents in a large community. Collecting a lot of video resources in the music and technology area on this strong basis, can become the perfect way to reach the Netsounds project target groups and stakeholders, towards a video encyclopedia of shared knowledge in the music field.

The UK National Plan for Music Education

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Despite large cuts in public funding, the UK government has made a commitment to maintain high provision for music education. Engagement with music is recognised to improve performance in other subject areas and access to music can be cost effective through the use of internet based programmes.

Funding Provision

The 2010 government austerity cuts impacted heavily on music and the arts. The department of Culture, Media and Sport suffered a 25% budget cut. As part of the higher education cuts, arts courses now receive no central funding and as a result, The Royal Academy of Music, The Royal College of Music and The Royal Northern College of Music now receive no public money at all. Consequently, the government were criticised for not placing enough value on the arts and extra pressure leant on private sourcing and grants funders the largest of these, The National Lottery to compensate for this shortfall.

Yet, despite this, and the education budget being cut by 10-20%, music education provision in the UK looks remarkably robust. In February this year, the government announced that it would provide £82.5m in funding for music education in 2011/2012, equal to the amount of provision in 2008/2009. A report³ was released which provides recommendations for the upcoming National Plan for Music Education, due out this autumn and an indication of priorities.

Reducing inequalities

In addition to the contribution made to a rounded cultural experience, the report acknowledged that a quality music education can improve self confidence,

³ Music Education in England: The Government response to Darren Henley's Review of Music Education.

behaviour, social skills as well as improve academic attainment in areas such as numeracy, literacy and language. One stated aim of National Plan for Music Education is to broaden out provision: the opportunity to learn music should not just be restricted to children and young people whose families can afford to pay for tuition, ensemble opportunities and instruments.

Due to developments in music production, the relatively falling cost of technology and the increase in internet based technologies, music can be produced with a relatively cheap set up. While participating in a traditional orchestra may still be difficult, virtual orchestras can be accessed online and current plans are being drawn up in recognition of this opportunity and to utilise internet technologies in schools.

Technology

The importance of technology in the delivery of music education and the value of keeping schools up to date with technological advancements in music making and production was highlighted in the review. It was hoped that these changes would help to maintain pupil interest in music education. The report acknowledged that teachers need to be better trained in uses of modern forms of music technology and more up to date with latest developments. It was also recommended that plans should examine how technology could enable better teaching of music, particularly in rural communities.

Role of the Internet

The internet and online technologies can go some way to provide an important link and bridge between different areas of the country and overcome barriers of physical provision by creating online communities addition to sharing resources. While this does not mean that every child who wants to will be able to buy and practice a real orchestral instrument, every child can access samples and record loops, songs and virtual forms of these instruments. This allows creativity to be expressed and musical expertise to be achieved in all regions across the country. Future provision is currently being designed using the initiative and website Sing Up as an example of best practice where music can be used to reach disadvantaged communities. The website provides the link between schools who register with Sing Up and contains an interactive library of over 350 children's songs with practice and performance tracks, lesson plans and appropriate curriculum-linked activities. The website can be used to connect schools across the country and enable them to collaborate and share resources. This can be successful in very rural communities with small schools and minimal opportunity for economies of scale on equipment and facilities. In addition, this is useful for

children who are learning in special provision; Special Educational Needs, Short Stay School or Pupil Referral Unit or for children who attend primary mainstream schools but face difficulties accessing or attending for example, due to travelling lifestyles or refugee children.

Another project which has been commended is In Harmony Sistema, a real time symphony orchestra programme which has been piloted in three schools and has been highlighted due to transformational effect on children and their communities. This has been earmarked as an excellent scheme for narrowing the gap in attainment, however, the scheme is relatively expensive and to achieve greater results, elements of the programme would have to move online to achieve the economies of scale and a wider reach while adhering to budget restrictions that are being placed on the project.

Further than the aforementioned projects, funding specification is not yet known. It is expected that the government through The National Plan for Music Education will direct organisations as it has, Youth Music; to seek to engage more, in partnership working across projects and to reduce administration costs. It will be interesting to see how the Plan combines all of these priorities, whether the teachers are trained and brought up-to-date with developments in music technology and whether the potential of internet based music programmes are effectively utilised.

The National Plan for Music Education will be published and available from November 2011 at: <http://www.education.gov.uk>

Education, technologies and Music in European perspective

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This chapter intends to point out the strategy defined by European Commission in the fields of education and training. A short overview in terms of scope, purposes and objectives of the European framework for education and training 2020 is provided.

Moreover, a paragraph written by Prof. Walter F. Kugemann, in a story telling way, will guide the reader through the historical background on how music has changed in last century and on the impact that new technologies have had on it.

Finally, the last paragraph aims to address issues that are still open for further reflections and developments on how music education and training should change according to the E&T 2020 objectives while building on the triangle of knowledge approach within a knowledge-based society vision.

European framework for education and training 2020⁴

The European commission launched the Strategic framework on Education and training (E &T 2020) in 2009. This framework builds on the achievements of the "Education and Training 2010" (ET 2010) work programme launched in 2001, with a view to responding to the challenges of creating a knowledge-based Europe and making lifelong learning a reality for all.

The main aim of the framework is to support Member States in further developing their educational and training systems. These systems should better provide the means for all citizens to realise their potentials, as well as ensure sustainable economic prosperity and employability. The framework should take into consideration the whole spectrum of education and training systems from a lifelong learning perspective, covering all levels and contexts (including non-formal and informal learning).

⁴ All the information related to E&T strategy are based on the EC official documentations available on http://ec.europa.eu/education/lifelong-learning-policy/doc28_en.htm

The E&T strategy is an integrated part of the Europe strategy 2020 that has **4 strategic objectives**:

- **making LLL and mobility a reality** – progress is needed in the implementation of lifelong learning strategies, the development of national qualifications frameworks linked to the European Qualifications Framework and more flexible learning pathways. Mobility should be expanded and the European Quality Charter for Mobility should be applied;
- **improving the quality and efficiency of education and training** – all citizens need to be able to acquire key competencies and all levels of education and training need to be made more attractive and efficient;
- **promoting equity, social cohesion and active citizenship** – education and training should enable all citizens to acquire and develop skills and competencies needed for their employability and foster further learning, active citizenship and intercultural dialogue. Educational disadvantage should be addressed through high quality inclusive and early education;
- **enhancing creativity and innovation, including entrepreneurship, at all levels of education and training** – the acquisition of transversal competences by all citizens should be promoted and the functioning of the knowledge triangle (education-research-innovation) should be ensured. Partnerships between enterprises and educational institutions as well as broader learning communities with civil society and other stakeholders should be promoted.

In a time of crisis Education and Training become key factors in order to face global societal challenges. Indeed it is widely acknowledged that knowledge and innovation are or should become the EU's most valuable assets, particularly in light of increasing global competition. This approach recognises that high-quality pre-primary, primary, secondary, higher and vocational education and training are fundamental to Europe's success. However, in a rapidly changing world, lifelong learning needs to be a priority, as it is the key to employment, economic success and to allowing people to participate fully in society.

With each EU Member State responsible for its own education and training systems, Union - level policies are designed to support national actions and help address common challenges such as: ageing societies, skills deficits among the workforce, and global competition. These areas demand joint responses and countries can benefit from sharing experiences.

According to data collected by the European Commission, important challenges for E&T to face are⁵:

⁵ This analysis has been taken from the presentation delivered during the LLP 2012 Info day in Brussels by Mr Pierre MAIRESSE Director – Lifelong learning: horizontal policy issues and 2020 strategy EC DG Education and Culture.

- millions of low-skilled jobs disappeared; 20% youth unemployment;
- accelerated transformation of labour markets, by 2020 35% of all jobs will require high-level qualifications;
- meeting future skills needs;
- preparing for longer working lives;
- scarce public funding for Education and training in a number of Member States.

Taking into account these needs and in order to define an overall strategic plan, the European Commission defined two main Flagships initiatives:

- a. "Youth on the move";
 - b. "Agenda for new skills and jobs.
- a. The Europe 2020 Flagship "Youth on the Move" aims to:
 - Respond to challenges young people face (high unemployment, high drop-out rates, etc.) and help to succeed in knowledge economy.
 - Deploy and integrated EU strategy for young people, embracing both education/training and employment.

To reach these objectives, European actions focus on:

 - Improving quality of E&T, including VET.
 - Reduction of early school leaving.
 - Modernisation of higher education to raise share of people with tertiary attainment in population.
 - Increase learning mobility.
 - Prevent and reduce youth unemployment.
 - b. The Europe 2020 Flagship "Agenda for new skills and jobs" aims to:
 - Modernisation of labour markets to raise employment levels and trigger growth.
 - Acquisition of new skills to enable workforce to adapt to new conditions and career shifts, reduce unemployment and raise labour productivity.

To reach these objectives, European actions focus on:

 - Implementation of ET 2020 (in particular LLL principles, flexible learning pathways; attractiveness of VET).
 - Ensure acquisition of competences required for LLL and labour market participation, better recognition of learning(including non formal and informal).
 - Improvement of skills needs forecasting.
 - Partnerships and common language between the worlds of business, employment, education & training.

European Union activities are being developed to address priority areas in each of the different levels of education and training – early childhood, school, higher, vocational and adult education – based on these overall aims.

These include, for example, expanding opportunities for learning mobility or enhancing partnerships between education and training institutions and the broader society.

Other actions are relevant to all levels of education, such as promoting multilingualism, innovation, creativity and adoption of ICT (Information and Communication Technology).

To monitor the process a series of benchmarks have been set for 2020, they are:

- at least 95% of children between the age of four and the age for starting compulsory primary education should participate in early childhood education;
- the share of 15-years old with insufficient abilities in reading, mathematics and science should be less than 15%;
- the share of early leavers from education and training should be less than 10%;
- the share of 30-34 year olds with tertiary educational attainment should be at least 40%;
- an average of at least 15 % of adults (age group 25-64) should participate in lifelong Learning.

The table below provides a more detailed overview of the objectives according to the level of education.

Level of Education	Objectives
For school education	<ul style="list-style-type: none"> ▪ Developing key Competences for lifelong learning. ▪ Improving the quality of teacher education and other school staff. ▪ High quality learning for every student: reduce the number of young people who cannot read properly and the number of early school leavers; improve learning achievements for learners from a migrant and disadvantaged background and with special needs. ▪ From 2011 more focus on the quality of learning at early years.
Higher education	<ul style="list-style-type: none"> ▪ Modernization of higher education (curricular, governance, & funding reforms). ▪ Business- university cooperation. ▪ Social dimension and mobility strategies. ▪ Excellence in higher education.
Vocational Training	<ul style="list-style-type: none"> ▪ Key role of VET in meeting skills needs and fighting youth unemployment ▪ Enhance attractiveness, quality and performance of VET –including by developing mobility strategies ▪ Improve transparency, guidance and recognition –including by implementing common tools, notably ECVET (VET credit transfer) and EQAVET (VET quality assurance) ▪ Close cooperation with world of work, including SMEs
Adult learning	<ul style="list-style-type: none"> ▪ Boost participation in adult learning –formal & non-formal. ▪ Enhance quality of adult education provision and improve services (guidance, validation or prior learning). ▪ Develop adult learning for social inclusion, addressing demographic challenges (ageing, migration) and active citizenship. ▪ Improve data, monitoring, research on adult learning. ▪ Focus on lower-skilled adults, second chance to learn, literacy & numeracy, key competences and new literacies (e.g. digital)

Such policy provisions on the European education and training strategy aim to highlight how the educational and training systems have to change in terms of didactical methodology, methods and tools to be applied in order to reach all the above mentioned objectives according to different target groups.

Education is a dynamic process strictly linked to the context in which it acts and aims to discover, orient and develop skills and potentialities that the individual already has and make him/her able to enrich them and acquire others through learning processes.

Each educational process cannot be extrapolated by the context since it is according to the reality in which it acts that objectives and final scope of the process shall be defined. When we talk about education, once defined the political context, we have to focus our attention on the society that individuals live in. The high technological society, the speed of technological developments, the diffusion of technological tools/devices in our daily life, are the big changes with which education and training activities have to deal in an overall educational process in

order to enhance individual development with the purpose of bringing up active and responsible citizens able to tackle challenges offered by their society.

A wise use of technology and the innovation that the application of these technologies can bring in the education activities, are the main goals, together with developing creativity, addressed by European educational policies.

Needless to say, the importance to educate and train all typologies of learners to and through new technologies have an impact in all educational practices and more so in music education and training practices.

Based on the binomial of Music and Technology (the starting point of the NETSounds project), the music education and training activities should include in their practices also innovative ways, through the application of new technologies, in exploring, creating, producing and playing music.

Before entering in details on the potential changes in music education due to the application of new technology in composing, creating and producing music, it is important to make a brief presentation on the background and the development occurred in music production and consumption in the recent year.

The following section, written by Prof. Walter Kugemann of MENON network specifically addresses the relationship between music education and ICT.

European music culture under change: the role of ICT

How music “production” and “consumption evolved from late 19th century to the second decade of the 21st? I am convinced we need this broader perspective to understand, how and why ICT and the Web changed music’s processes and are continuing to change. This is the very core of NETSounds: to better understand processes, to set up communities to exchange experiences and visions, to frame and deepen understanding and finally based on these achievement take actions, which are grounded on shared expertise and experiences, strategies, value beliefs as well as shared passion.

A music “amateurs” very personal perspective

My great career as a musician ended 54 years ago (I was 13), when flexibility and span of my fingers was assessed by the teacher to be not sufficient to learn to master a Violoncello. Only the music “amateur” rested to today. Introducing the NETSounds project core findings in this publication, I can only offer this very personal perspective from a passionate observer. To avoid to be too individual I would like to go beyond my experiences by those of the generations behind and in front of me.

Let me start with my grandfather Johann. Born around 1875 as a poor farmer’s fifth child in a little village not too far away from the then famous European spa of

Carlsbad in Bohemia, he turned out quickly as highly gifted with his musicality. Quite naturally he wanted to be trained as a professional musician, in the school for the famous Carlsbad spa orchestra. But you had to pay for this school, money his parents could not afford. So he had to give up his dream. But he did not give up his wish to do something professionally and with passion, which combines artistic excellence with creativity to interpret something given in a new and attractive way, to add by this value.

He decided to get trained as a chef. And at the end he was head chef in one of this time best renewed restaurants of Carlsbad. Music he only played now for his family, popular local music, no longer the professional classical one he aimed at in his youth.

Had he lived in our time, what would have been his life history? Orchestra musician? Rock band leader? Digital music editor? Or a bit of all?

But first let's abstract what we can learn in general on music in his generation: it dealt with professional producers or performers, it was for privileged audiences, it was clearly separated in musical genres, and represented a "universe" on its own. Both my parents were born the first decade of the 20th century in Carlsbad before the wars. After World War II they had to move to Regensburg in Bavaria (now a UNESCO World Heritage town), these days with a long music tradition and a rich, but very traditional music culture. Both my parents were not musically gifted or active. My father was gifted in drawing, painting, design and other optical arts, a completely separated wing of arts than music these days. For my parents the music culture was music as a high culture for the social event. It was formal. In private life music was limited to listening at certain times over the radio: the Sunday Concert, Chamber Music on Thursdays, Church Music on Christian holydays. To abstract for this generation: music was a high culture societal event, linked to "formal dress codes", it was costly, and it started to be somehow "controlled" by technology through the use of the radio.

Born at the very end of World War II, as already said I was an early "Drop Out" of my proper music education by learning to master the Violoncello with my fingers. In consequence I was labeled "not gifted" and therefore – at least for my school music teachers – as a musical ignorant, a type of a "lost soul". My passive perception of music was dominated by two quite distinct boxes these days: "earnest" classical music versus popular / folkloristic / entertaining one. Every shop these days had different shelves, even rooms for "Classical" and "Popular" records. And then there was this revolution of the audio cassette, later the Walkman: music became for the first time completely under individual control, it infiltrated into all life activities, from wake up to falling asleep, at home, at work, when mobile, during leisure activities, individually, with a partner or in a group. Consequently music diffused, maybe even invaded societal change processes. It gave groups feeling disregarded and societal movements a sound. This was not completely new: early worker protests were backed by workers protest songs, French revolution had its Marseillaise, Luther's reformation the protestant's

songbooks. But for my generation music became a way to stabilize and communicate a life-feeling, to share values and visions with others, not being a member of a crowd, but based on individual decisions the first time enabled by technology. Generalizing, for my generation, on one side a divide between “the gifted” and “the ignorant” and a deep divide between classic and pop existed, on the other the audio tape and the Walkman led a revolution towards user control, while music was contributing to give the '68 era a sound and an identity.

Musical talent in my family obviously hopped over two generations and then was magnified by the great musicality of my wife. My children were born in the early '80s', and both were lucky to meet at kindergarden sensitive persons to identify musical talent at the age of 3, sending them to the low cost “early music education” offered by the Erlangen municipality financed “Music School”. From there, over properly documented next steps of music education, Andreas for many years learned and practiced a Gamba and elaborated solid “amateur” level. Monika went to a secondary and higher secondary school, where music is a main subject like Maths or German. The instrument she chose was the church organ (luckily we lived next door to the church, which facilitated practicing substantially). “Dad, I feel the piano (which she had learned before) much too limited compared with my organ”. Of course the quarter of a million Euro church organ was not owned by my daughter, but this was her personal feel of ownership based on mastery of this complex instrument. Later she studied Theater Science, integrating her talents as an actor, as a dancer, as music performer (including semi-professional classical singing), as a writer into a profession. Andreas goes into Biotechnology, music stays “amateur”, but – based on his computer literacy – set up his private mini music studio with semi-professional hard – and software to edit and produce music – for him, friends, family, maybe a bit more. Today his MP3 player with his particular selection of music goes wherever he is, is part of his identity since many years (besides, his town Erlangen is home of MP3 development). Andreas never was school music teacher’s darling. In contrast sister Monika developed her music profile in parallel and in accordance to music at school. For both music curricula at school lost credibility and relevance. Their trust is completely on other actors, extra school committed, passionate music performer, peers, persons on the net. Again to generalize for the 80th generation, access to early music education was much easier, the divide between professional and amateur diminished, music integrated into lifestyle, becoming ubiquitous music and part of everybody’s identity, despite the widening “credibility gap” of (music) educational institutions.

Let’s finish with our youngest granddaughter Clara, 11 month. During pregnancy, Clara’s parents intensively searched the net to learn more about all factors supporting early personality development even before birth (when you can observe your embryo intensively month before birth on an ultrasonic high resolution video, why not to start your parental education this time?). At the end they decided, instead of using specially edited “embryo music” to use mums voice

to sing, just as it corresponds to mums actual mood (remember: the semi-professional classical singer training when young). In the meantime his dad collected from the net all the child songs and lullabies of his youth and stored on his smartphone to get familiar with. So for Clara (a name carefully selected, because spelling and pronunciation are completely identical in Spanish and German) German (mum) and Spanish (dad) were her very first, even pre-birth multilingual and multicultural experiences on a way to a bi-cultural identity, not a bad start into life for a young citizen of Europe, likely to live over her lifespan in many quite different places and cultures around this globe. Living around 500 km away from German grandparents and 1500 km from Spanish ones, Skype video became very early Clara's core means of communicating with them. Language is not yet available for Clara, we – Clara and us in face-to-face-communication during visits – developed very individual patterns for this purpose to distinguish persons important for her. And from the very early age of three month on she was able to take these face-to-face patterns into virtual rooms. In my case this pattern includes my gray hair including the beard, my dark voice, "Hallo Clara" and a bright smile. After a small pause to control and identify Clara replies with a very bright smile and "How, aaghaa", which for Clara maybe signifies grandpa Walter. Her Spanish grandma sings a rather noisy Spanish child song, intensively clapping hands. Here Clara replies clapping hands (not yet perfectly synchronized with the song, but visibly improving) and with the Clara bright Skype smile, very visible, even with low video resolution). For sure, Clara never will be able to really imagine a world without world wide multimedia communication wherever she is, ubiquitous, with no pressure from costly tariffs to keep short. Distances for her will be less important for people emotionally near. Sounds and music, pictures and symbols will allow to embed communication beyond words deeply into emotions. Clara will have and enjoy a "multimedia identity" as she will expect this from others. Before speaking a word, she is already a complex digital integrated native, with sounds, voices and music as an indispensable element in it. Still Clara seems to us privileged, in particular by the professional and emotional competences of her parents. But all technologies used are already ubiquitous, costs are affordable all across Europe today and globally tomorrow. Should not all new born children tomorrow be as privileged as Clara is today? Should not music be a natural part of communication and personal as well as cultural identity for all mankind? What to generalize for this second decade of the 21st century generation: web 2.0 digitally integrates music as a communication media, at least of similar impact as language and pictures, based on "multimedia identities" within a globalized communication culture with regional identities.

The 7 Challenges

Generalizing the drafted development of more than a century and trying to

summarize the key findings of the NETSounds context analyses and strategic development trends, the following 7 challenges emerge:

- using European music patrimony to manage change proactively;
- increasing the credibility of music education;
- credibility of music educators/stakeholders;
- building inclusive digital music for societal coherence;
- establishing music, values and coherent identities;
- reaching a new balance between music creator - performer - consumer;
- guarantee to every citizen a particular “Gesamtkunstwerk” in its own right.

The last challenge needs a small explanation. Using the German origin term from second half 19th century “Gesamtkunstwerk” (maybe translated: a piece of art incorporating coherent messages including all art domains), the 21st century interpretation of this concept seems to me: technology and societal innovation may allow in principle every citizen in near future, to develop its very personal complete scope of personality, motivational profile, talents, giftedness, values and visions in an individually satisfying way, under the vision of the beauty and joy of this life long pathway, following the idea of art in a balance of completeness and complementarity of strength and weaknesses. Music for all would be an indispensable element of this vision. And if we consider all indicators on media use, on identity shaping, on emotional priorities for the young generation around the globe, music might be even the key element.

European strategy and music education music education

As the Prof. Kugemann’s amazing story-telling section confirms, digital technologies have had and keep on having a big impact on each sphere of our existence, from the way we work to the way we learn, from the way we communicate to the way we socialize, until the way we build our emotional relationships.

Prof Kugemann’s 7 challenges highlight also the complexity of the context/society where we live in, in relation to the role of music and its contribution to the development of individual’s creativity, which can turn into a societal asset. With such background in mind, we can make hypotheses on how music education and training systems should change to fit new needs and realities according to what stated by the European Education and Training framework strategy 2020.

Without any doubt music education for children is essential for fostering and enhancing their creativity, to know and express themselves, to develop their emotional intelligence. Furthermore, research has shown that music has a profound effect on body and psyche, in fact, there is a growing field of healthcare known as music therapy, which uses music to ease pathological conditions or design healing pathways. And still, thinking of the role of music in daily life for relaxation, to gain energy, or for catharsis when dealing with emotional stress, it is

striking how most individuals experience a lack of educational tools to approach and deal with it.

Music education still remains, or in many cases should become a fundamental learning not only for children in primary school but also for youngsters and adults who can chose to apply own passion for music as future job activity. Talent, creativity, shared work-spaces and opportunities for collaboration and mutual learning can be enhanced by new technologies, and yet much remains to be done to provide European citizens with user centered policies and frameworks in which to combine passion for music with improved artistic and professional skills.

We have to think also how music in itself is changed, in terms of music creation and composition and in terms of instruments played. In this sphere, innovation and new technologies have given a great speed to this changes by providing new tools and software for creating music or producing new sounds or still duplicating and transforming in different tones the sounds of different instruments.

In a continuously changing context like this, we can easily imagine how the application of digital technologies in music sector can stimulate the growth of new jobs that require of course the acquisition of new skills (in particular digital one).

The growth of creative industries (for which Europe has a centuries long tradition) can substantially impulse European competitiveness. Yet, music and technologies need to get closer and their education pathways sufficiently integrated, to being able to harvest the yields of blending artistic talent and digital creativity. Progress is therefore needed in terms of national education and training frameworks (primary, secondary, higher education and VET) possibly avoiding to build further conceptual barriers between an object of learning called "music" and another one defined as "technologies".

Translated into an innovation agenda of education and training in Europe, action on music and technologies should be inspired by the knowledge triangle, linking creativity, discovery and innovative tools to the capacity to promote new professional profiles and markets.



What the digital music education can provide among other things is for example:

- Promotion the development of key competences.
- Acquisition of new skills essential for new jobs.
- Fostering the employability of youth by linking the private sector (composed by companies active in production of music or in developing new music software) with Higher education and/or VET.

The NETSounds project was launched to meet these needs and can be considered as first step for fostering and enhancing change and the application of new methods and tools in music education (in formal, non-formal and infomarl settings) based on the use also of digital technologies. The hope (and the need) is to go beyond the NETSounds project for further developments and steps to promote a deeper impact in all European members educational system according to what defined by European Commission.

Annexes

Annexes

A. The project partners



ESU -The National Unions of Students in Europe

ESU - The National Unions of Students in Europe is the umbrella organisation of 45 national unions of students from 38 countries, representing more than 11 million students. ESIB represents the educational, economic and cultural interests of students at a European level towards all relevant bodies, in particular the EU, Council of Europe and UNESCO. ESIB is a member of the Bologna Follow Up Group and its Board.

<http://www.esu-online.org/>



MENON NETWORK EEIG

MENON is a European innovation and research network providing information and advice to policy makers, education communities, and the ICT industry on issues related to innovation and changes in Education and Training, Lifelong Learning and Knowledge Society developments in Europe and worldwide. MENON, established as a European Economic Interest Group (EEIG) since 1999 in Brussels, provides the necessary insight for all stakeholders in Europe and worldwide to enhance a value-oriented and innovative use of ICT, and to develop useful ICT applications and services of better quality.

<http://www.menon.org/>



ITCG "A . Deffenu"

High School "Attilio Deffenu", contractor and coordinator of the project, is since many years the leader in the territory in the experimentation and research activities in the educational field, oriented to the didactical and methodological innovation. In the last ten years the Deffenu Institute has been involved in many National and European projects, building a schools network in order to experiment with teachers and students new learning models and new methods with the aid of new technologies. <http://www.deffenu.it/>

Hitech France



Hitech France company has been created in March 1995 under the name of Steinberg France. Its specialization is the distribution of Music software and Hardware. Most of the people involved in Hitech France have started their business in distributing Music software in the late 80's, at the very beginning of the Worldwide Music software industry. <http://www.hitech-france.fr/>

Brightonart Ltd.



Brightonart is a versatile production company that excels in delivering multi-faceted projects with precision and flair. Firm that has been expanded for some years in Essex U.K., south east of London, and specialised in managing entertainment projects and digital technology in multimedia installation projects, in audio-visual projects' management and developing of software and hardware methods and architectural systems projects for the artistic musical live events. <http://www.brightonart.co.uk/>

KRS Holding



KRS Holding is strategic consultancy firm in the media business. We work with many manufacturers in the pro audio, video and media field. Founded by Mr. Per Erik Larsen, previously Chief Operations Officer at Steinberg Media Technologies AG in Hamburg, Germany, the company offer partners in Europe and Asia a wide coverage and links to resellers, educational institutions and private customers. <http://www.krsholding.se/>

MidiWare Srl

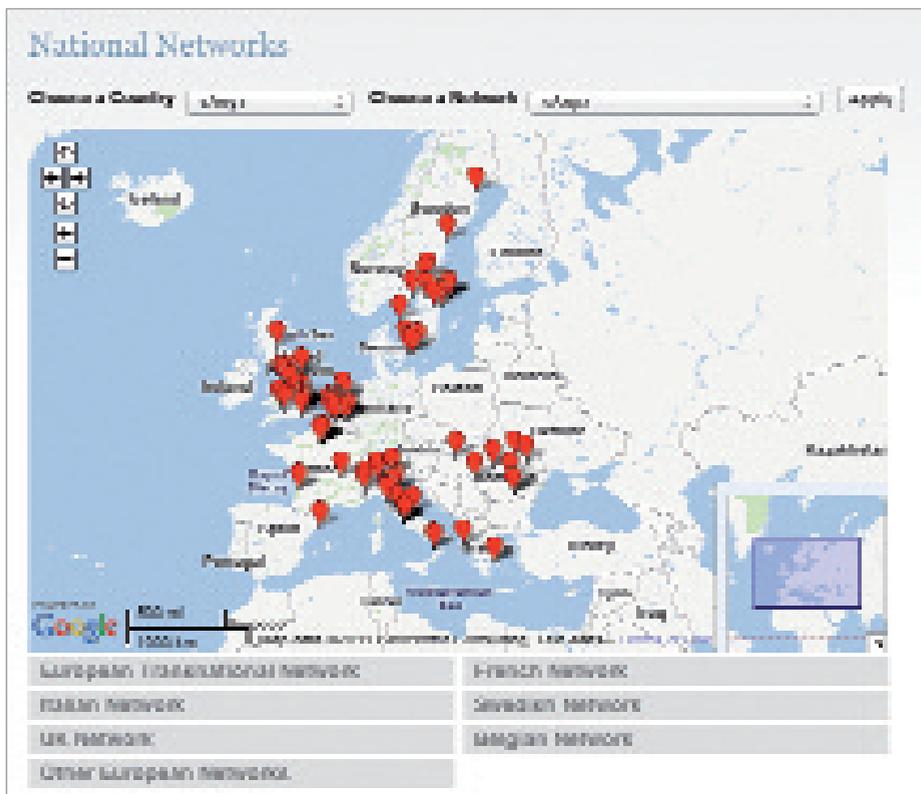


MidiWare has 25 years of experience in the computer music market. It has been the very first Italian company dedicated to the computer music distribution in the musical instruments channel. Employing 11 people, MidiWare is the biggest and most powerful CM distributor in Italy. MidiWare assures the best coverage of the Italian territory. The main office is located in Rome, in the center of Italy, and there is also an office and Show Room near Milan. MidiWare has always invested heavily in the Educational Market. <http://www.midiware.com/>

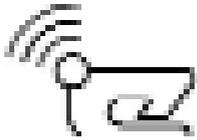
Annexes

B. The European Network of N.E.T. Sounds

In the following pages are listed all the European Network stakeholders with a detailed map.



EUROPEAN TRANSNATIONAL NETWORK



European Modern Music Education Network (EMMEN)

Active since the year 2000, the European Modern Music Education Network (EMMEN) is an independent association whose membership is composed of specialist Music Schools from across the European Union. EMMEN's structure is composed of a General Assembly comprising all members of the association and an Administrative Council which is elected by the General Assembly. The structure of the Administrative Council includes a President, a General Secretary, a Treasurer, two Vice- Presidents and Commission Presidents. Current commissions include: Pedagogic Commission, Training Commission, Community Activities Commission.



RESEO - European Network for Opera and Dance Education

RESEO's strength lies in the number and diversity of its members, which currently comprises over seventy opera and dance companies of all sizes from twenty countries in Europe. RESEO acts as a forum for exchange on the practice of opera education at a European level - members can share information, experience and ideas. RESEO is the European platform for the development of opera education and supports the sector through research, lobbying and projects.



The International Association of Music Information Centres

IAMIC - The International Association of Music Information Centres is a world-wide network of organizations that document and promote the music of our time and was founded in 1986. IAMIC currently supports the work of 39 member organizations in 37 countries (2010).



The European Association of Conservatoires

The European Music School Union (EMU) is the European umbrella organisation of national music school associations in Europe. The EMU is a non-governmental and a non-profit organisation. The EMU represents a supranational platform comprised of member associations from various countries. These countries need not be members of the European Union (EU).



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European Conference of Promoters of New Music

The ECPNM is the European union of organizations concerned with the promotion of contemporary music, especially music composed after 1950. Among its 80 members are famous festivals of contemporary music as well as small local concert organizers and new music ensembles. Its aim is to improve the international cooperation and the coordination of new music events in Europe.



EFQUEL - The European Foundation for Quality in E-Learning

The European Foundation for Quality in E-Learning (EFQUEL) is the leading European network in the field of E-Learning quality, open to institutions dealing with E-Learning, open and distance education. The Foundation serves as sustainable and proactive network and provides valuable services to the worldwide E-Learning community, including support, transparency, open participation and leadership for a broad range of topics related to E-Learning quality.



EDEN European Distance and e-Learning Network

EDEN - the European Distance and E-Learning Network - exists to share knowledge and improve understanding for professionals in distance and e-learning across the whole of Europe and beyond, and to promote policy and practice in this field of endeavour.

ITALIAN NETWORK



National Committee for Music Practical Learning

The National Committee for the practical learning of music is an organism of Italian Ministry of Education, University and Research (MIUR) that has as main tasks the study, research and proposal in the musical education and training field.



Conservatorio di Trento

The Conservatoire in Trento is one of the most innovative and active music school in Italy, with music and multimedia laboratories where all the newest technologies for music are taught and learned.



Audio Video & Music

Audio Video & Music is a free magazine dedicated to the dissemination of technologies in audio and video in relation to music.



Conservatorio S. Giacomantonio di Cosenza

The "Cosenza Conservatory" is the place where in southern Italy the

Italian "musical excellence" is taught. Students learn how to become professional musicians and teachers.



Insound

InSound is a magazine capable of creating a true link amongst the different experiences of musicians, listeners and those associated to the music industry, who all have a common goal: making and listening to good music, created thanks to adequate instruments.



Percorsi Audio

Percorsi Audio is a leading training center in Italy for audio pro education. It is a Digidesign- and Ableton- certified center and IMSTA member.



Istituto Europeo di Design - Sound Designing

IED is now the only international design training network. It offers three-year post-secondary school courses, advanced courses and Masters.



SIEM - Società Italiana Educatori Musicali

The SIEM association was founded in

1969 and is a professional and cultural non-profit Association, active throughout the whole of Italy. The Statute affirms its commitment to promoting the spreading of musical culture at all levels and in all types of environment, the in-service and professional training of teachers and of those working in music education as well association the scientific research concerning matters of music education.



Digital Music

Digital Music magazine is a renowned Italian computer music magazine focusing on both hardware and software. The seriousness of their articles has made them a reliable publication among the Italian musicians.



Università di Roma Tor Vergata

The University of Rome Tor Vergata is a university located in Rome, Italy. It is one of the largest research- based institutions in Italy. The University is an international center for research and education and it is well known for scientific studies. In recent years the activity of technology transfer and cooperation with other public and private organizations in different fields has obtained an increasingly important role.



Università di Trento - Laboratorio di Comunicazione delle Scienze Fisiche

The University of Trento has always aimed at reaching and keeping high quality standards and over the years has also been able to create a solid policy basis, aimed at delivering high quality services to its students and the territory. The result is a wide range of excellent courses, supported by a high-level scientific research profile which even achieved important confirmations at international level.



Fondazione Musica per Roma

The Musica per Roma Foundation was created on 19 July 2004 out of what was originally a joint-stock company at its founding in 1999. From a legal standpoint, this was the first significant transformation of a joint-stock company into a foundation to be allowed under the reform of the new corporate law.



Computer Music & Project Studios

CM&PS (Computer Music & Project Studio) is a brand new Italian magazine specialized in professional audio recording, hardware & software, for sound engineers, musicians e DJs, which includes articles made by renowned Italian musicians and sound engineers who work in Italy and abroad.



Accademia del Suono

Accademia del Suono was born in 2005 with the mission to become within a short time an important reference point for all musical activities in Milan. The premises of the Accademia del Suono cover an area of over 500 sqm, designed specifically for the musical purposes of the school and all its artists, technicians and teachers: comfort and the latest in sound technology are blending into a functional and relaxing atmosphere that can better exploit the students potential.



Saint Louis Music School

Saint Louis Music School is the most important private college of music in Rome. Since 1976 there are a lot of vocational training courses of a very high level. The computer music faculty is one of the most important in Italy.



SAE Institute

SAE Institute is a private school for learning Sound, Audio Engineering, Music Production and Digital Film Courses in Milan. The Italian branch of this worldwide media college provides practical training courses, as well as academic degree programmes.



Accademia di Santa Cecilia

The Accademia Nazionale di Santa Cecilia is one of the oldest musical institutions in the world. Officially founded in 1585, it has evolved over the centuries from an organization of largely "local" musicians to a modern academy and symphonic concert organization of international repute.



ISTI CNR di Pisa

The computerART project by ISTI (Institute of Sciences and Technologies of Information) of National Research Council of Pisa, started in the research activity in Muscal Division at the beginning of the seventies.



Latenza Zero

LatenzaZero is born in 2003 and is now one of the most active computer music school in the center of Italy.



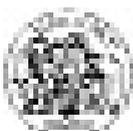
Università di Bologna - Informatica/Robotica

The University of Bologna (Italian: Alma Mater Studiorum Università di Bologna, UNIBO) is the oldest continually operating university in the world, the word 'universitas' being first used by this institution at its foundation. The University counts about 100,000 students in its 23 faculties.



Conservatorio G. Frescobaldi di Ferrara

“Ferrara Conservatory” is the place where the Italian “musical excellence” is taught. Students learn how to become professional musicians and teachers.



Politecnico di Milano - Polo Regionale di Como

The Politecnico di Milano University is the largest technical university in Italy, with about 38,000 students. In 2009 the university was ranked as the 57th technical university in the world by Top Universities, in a research conducted on behalf of Times Higher Education.



Alto Perfezionamento Musicale di Saluzzo

The Scuola di Alto Perfezionamento Musicale (APM) was founded in 1986, and its aim was to provide specific professional training for young people striving to embark on an artistic profession within the constantly changing work scenario. Today the Scuola di Alto Perfezionamento Musicale has become a training agency that is active in the area of post- diploma training for young musicians.



NAM - Nuova Audio Musica di Milano

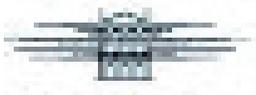
Born in 1987 as “Nuova Accademia

di Musica Moderna” based in Milan the NAM has been the first structure in Italy for the vocational training in modern music field.



Conservatorio Santa Cecilia di Roma

The Rome Conservatoire was founded as a “congregation” or “confraternity” – a religious guild, so to speak – and over the centuries, has grown from a forum for local musicians and composers to an internationally acclaimed academy active in music scholarship (with 100 prominent music scholars forming the body of the Accademia) to music education (in its role as a conservatory) to performance (with an active choir and symphony orchestra).



Conservatorio G. Verdi di Torino

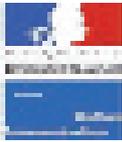
The “Torino Conservatory” is the place where in northern Italy the Italian “musical excellence” is taught. Students learn how to become professional musicians and teachers.



Istituto Italiano di Tecnologie Musicali

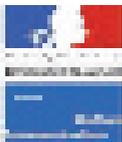
The Italian Institute of Music Technologies is a vocational training center with a special focus on Sound Designing, Sound Engineering, Electronic Music and Virtual Orchestration.

FRENCH NETWORK



Direction générale des médias et des industries culturelles - Ministère de la Culture et de la communication

Reference administration concerning technical evolution of media, networks, radio, regulations and softwares.



Direction Générale de la Création Artistique - Ministère de la Culture

Reference administration concerning music in France and its "official" teaching.



SACEM

Sacem is a private company in charge of collecting payments of authors' rights and redistribution.



APEMU

APEMU (Association des Professeurs d'Éducation Musicale) is the most significant Music Teachers association in France.



MUSIQUE ET HANDICAP

Musique & Handicap federates, under Ministère de la Culture patronage, all professional actors in music field concerned in disabled people music formation and practicing.



CDIUFM (Conférence des Directeurs d'instituts Universitaires de Formation des Maîtres)

IUFM, for Institut Universitaire pour la Formation des Maîtres is a 31 schools network for students aiming to become teachers.



Centre de Formation des Musiciens Intervenants (CFMI)

CFMI in Orsay is one of the nearly 20 CFMIs in France, in charge to teach future music teachers in local activities (schools, workshops,...).



SAE Institute in Paris

SAE Paris is a private school for learning Sound, Audio Engineering, Music Production and Digital Film Courses in close North of Paris.



ARIAM Ile de France www.ariam-idf@ariam-idf.com ariam-idf@ariam-idf.com

ARIAM-IDF acts as a formation resources as well as information media for music activities in Ile de France.



Chambre Syndicale de la Facture Instrumentale

CSFI is the federation of all professional branches in music field in France: instrument makers, trading, shops and retailers.



Confédération Musicale de France

CMF is a federation of nearly 6000 music schools, amateur music groups as brass bands, choirs, symphonic orchestras, and all sorts of collective music ensembles.



CNSMDP (Conservatoire National Supérieur de Musique et de Danse de Paris)

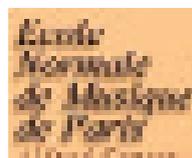
"Paris Conservatory" is the place

where the French "musical excellence" is taught. Students learn how to become professional musicians.



Conservatoire National Supérieur de Musique et de Danse de Lyon

The "Conservatoire de Lyon" was founded in 1980, to offer to the southern part of France a professional teaching environment for music.



ÉCOLE NORMALE DE MUSIQUE DE PARIS

ENM as been founded in 1919, by Alfred Cortot and welcomed as teachers some of the most famous musicians (Nadia Boulanger, Paul Dukas, etc.)



CENTRES MUSICAUX RURAUX

As a federation, CMR acts in local teaching of music at school for small children. Teachers of CMR act during school time, or in launching seminars, workshops for instruments discovering, ensemble practicing or heritage knowledge. New technologies bring music teachers some new ideas in application of their teaching and music practicing.



IRMA

Very important information hub concerning all music activities (concerts, employment, formation, infos...), mostly dedicated to actual musics.



AudioFanzine

Most popular website concerning music in French language: bench tests, products infos, music technologies and know-how, prices informations, etc.



Cité de la Musique

Cité de la Musique and Mediatheque are efficient informations transmission medium, by their Internet Site and their formations sessions referencement in Mediatheque. Networking, information sharing, peer learning.



Ministère de l'Éducation Nationale - Inspection générale de la Musique

As a department of Ministère de l'Éducation, the inspection gives the global orientations for music programs at school. New perspectives in Education (curricula development, other).



KR RECORDING

Probably the most famous "paper" magazine in French language. Completed with a website of informations.



La lettre du musicien

The magazine of French classical music musicians and professionals. A very important place is dedicated to musical teaching and methods.



Fédération Française de l'Enseignement Musical, Chorégraphique et Théâtral

The aims of FFEMCT is to federate music teachers, schools chairmen for formation and pedagogic experience exchanges.

UK NETWORK



School of Everything

School of Everything brings together teachers and learners in a web 2.0 community. School of Everything is collaborating with Netsounds to bring a feed of UK music teachers into the Netsounds portal.



Under 1 Sun

Creating team building, confidence and creativity in the education and corporate sectors with samba drumming and dance workshops.



BeingHuman

Independent Multimedia Company based in the BeingHuman warehouse - Frome, Somerset.



CEDIA

Professional body for Consumer electronic system integration primarily audio visual and high end music reproduction.



Same Sky

Same Sky is an artist-led charity that produces high quality arts projects with participation and legacy.



The Great Escape

The Great Escape Festival is a major music festival based in Brighton. The Festival is composed of a large music festival and a music industry Convention.



Creative Brighton

Creative Brighton is an independent industry-led group that represents the creative industries sector in Brighton & Hove, recognised locally and regionally as the primary consultative organisation for the city's creative sector.



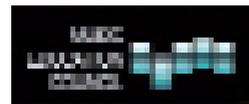
Music Education Zone

We're an online publishing company. We help people across the sector communicate with each other and provide them with up-to-the-minute information and essential resources.



Youth Music

Youth Music is the leading UK charity using music to transform the lives of disadvantaged children and young people.



Music Education Council

The Music Education Council is the umbrella body for all organisations connected with music education in the United Kingdom.



DARnet

Distributed Research dot Net

Distributed Research dot Net is the 'Home page' for the DARnet family of research blogs. Sound and Music is the UK's landmark organisation for new music and sound. The result of bringing together the British Music Information Centre, Contemporary Music Network, Society for the Promotion of New Music and Sonic Arts Network.



Sound and Music

Sound and Music is the UK's landmark organisation for new music and sound. The result of bringing together the British Music Information Centre, Contemporary Music Network, Society for the Promotion of New Music and Sonic Arts Network.



Musically Fluent

Music, like language, is a natural form of expression. It is best learned with childlike enquiry. Musically Fluent provides simple tools – like toys – for you to play with and develop your ability to recognise, reproduce and spontaneously create permutations of musical patterns.



Music Leader

Funded by Youth Music, MusicLeader is a unique national network which supports the development of the music leading workforce.



MATD

They believe that deafness is no barrier to making and enjoying music, and since 1988 have worked with thousands of people all over the UK.



Edge Hill University

Edge Hill University

At the heart of Edge Hill's vision and values is the aim to provide an innovative, high quality and inclusive learning experience.



SMA

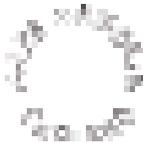
The Schools Music Association is recognised as a national voice for music in education. We provide an

essential network for music teachers, which serves as a vital link between those working with young people and the policy makers at local, regional and national level.



Rockschool Ltd

Rockschool was set up in 1991 to bring the best in pop and rock into mainstream education.



British Arts Council

Arts Council England works to get great art to everyone by championing, developing and investing in artistic experiences.



Music at School

Finding good music resources and links on the web can be a troublesome task. This site allows you instant access to some worksheets and other material.



Song Galaxy

Song Galaxy offers professional backing tracks and software tools for gigging musicians. They are supported by a network of musicians from all over UK.



UK Music

UK Music is an umbrella organisation representing the collective interests of the UK's commercial music industry, from artists, musicians, etc.



Intellectual Property Office

Providing advice as to the protection which can be afforded by the use of trademarks. The Intellectual Property Office enhances the international competitiveness of British Industry and commerce.



Musicians Union

The Musicians' Union is an organisation respected around the world which represents over thirty two thousand musicians working in all sectors of music business.



PPL

PPL is the music licensing company which, on behalf of 42,000 performers and 5,000 record companies, licenses the use of recorded music in the UK.



Music Publishers Association

The Music Publishers Association

exists to safeguard and promote the interests of music publishers and the writers signed to them.



Nordoff Robbins

Nordoff Robbins is the largest charity in the UK specialising in the transformative and communicative power of music.



N.A.M.E

National Association of Music Educators - Supporting High Quality Music Education for All NAME, the National Association of Music Educators.



Rob Jones Education Ltd

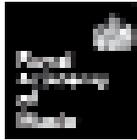
Formed in 2004, Rob Jones Education supplies the education sector in the UK with a variety of services for teacher training, primary schools, secondary schools, universities and other private companies serving education.



Jackdaws Music Education Trust

Jackdaws runs a range of residential

courses for people of all ages, abilities and backgrounds.



Royal Academy of Music

The Academy was founded in 1822, and ever since has trained versatile and resourceful musicians with the skills they need to enjoy life-long.



C.A.T.S

C.A.T.S. (Computer Aided Theory Skills) is the music theory software to have if you want to learn music theory with fun.



Voice Source

Voicesource creates and distributes products for everyone interested in the voice.



Excel Music Schools

Excel Music Schools Ltd. provides the intelligent solution to the expansion of music and the performing arts within schools.



Royal College of Northern Music

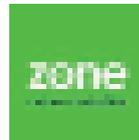
The RNCM, formed in 1973 from the merger of the Royal Manchester

College of Music with the Northern School of Music, has, for many years, been the first choice institution for a large number of aspiring professional musicians from the UK and overseas.



Music Manifesto

The Music Manifesto campaigns to ensure that all children and young people have access to high quality music education.



Zone New Media

At Zone, where music and music education are concerned, they've got their finger on the pulse. An online publishing company that help people across the sector communicate with each other and provide them with up-to-the-minute information and essential resources.



Musicians Benevolent Fund

Creativity, crisis or continuing care. Helping and enabling aspiring, professional and older musicians who need it, when they need it most.



Broadcast Music Inc (BMI)

Broadcast Music, Inc. (BMI) collects

license fees on behalf of the more than 400,000 songwriters, composers and music publishers it represents.



BASCA

BASCA exists to support and protect the artistic, professional, commercial and copyright interests of songwriters, lyricists and composers of all genres of music and to celebrate and encourage excellence in British music writing.



Association of Professional Recording Services (APRS)

In order to achieve its goals, the APRS is organised to deliver a strong, proactive message, with wide-ranging activities and a high profile.



The British Recorded Music Industry

British Phonographic Industry

The BPI is the representative voice of the UK recorded music business. A trade organisation funded by our members - which include the UK's four major record labels and hundreds of independent music companies. BPI members account for approximately 90% of all recorded music sold in the UK, and globally the UK's recorded music market is the third biggest.



The Performing Right Society

The Performing Right Society Limited is the UK association of composers, songwriters and music publishers. It collects licence fees for the public.



First Musical Academy

FMA is an Arts Awards registered centre that offers quality instrumental and vocal training to all ages and stages, which varies from guidance to first steps in music to preparation for ABRSM and Trinity/ Guildhall Grade exams as well as Performance Diplomas. We also offer mentoring, masterclasses and workshops. Our tutors, mentors and workshop leaders are qualified, experienced and CRB checked.



ABRSM

'We are here to support and encourage music learning throughout the world so everyone can share in its power.' Motivate musical achievement through authoritative assessment of students, the professional development of their teachers, and a wide range of published resources. Actively support music education through funding and advocacy.

SWEDISH NETWORK



Brunnsviks folkhögskola

Brunnsvik is a folk high school with centuries-old traditions in southern Dalarna. The school is housed in a number of different houses, in a long slope, down towards the lake Väsman. In one of the red-painted houses live the students who choose to read on Brunnsvik the boarding form. But Brunnsvik exist not only in southern Dalarna. A small proportion, namely songwriter line found in Motala in Östergötland.



Skurups folkhögskola

Skurups Folkhögskola was founded in 1888 as a general school. Today it's a creative environment where artistic knowledge is delivered and exchanged.



Hämösands folkhögskola

Are you interested in music and need to qualify for higher levels of education? A general music course may be a good choice for you. At Hämösands Folkhögskola you'll spend half the weeks studying general topics and the remaining time is music classes.



Mega Musik gymnasieskola

Mega Musik is an independent gymnasium with a direction towards pop and rock music. We offer a specially designed musical programme, providing a wide musical base for our students.



Royal College of Music in Stockholm

The Royal College of Music in Stockholm (KMH) is an inspiring setting for artistic learning and development – an excellent place to develop your talent and ability, deepen your understanding, and explore fresh fields of knowledge. At KMH, you will meet other students and skilled teachers involved in a wide variety of disciplines: classical music, Nordic folk music, music from other cultures, jazz, improvisation, composition, conducting, music and media technology, and various forms of music education.



Academy of Music and Drama Gothenburg

The Academy of Music and Drama is a big institution at University of Gothenburg with its about 600 students and 150 staff. We are housed in Artisten, a building of our own in the very city centre of Göteborg. Our Bachelor programmes include composition, musical theatre, music with six specializations, teacher training with three orientations and theatre. The Master programmes comprise music with various orientations as well as opera and acting. You can also pursue

Ph.D.studies at our Academy. We are part of the Faculty of Fine, Applied and Performing Arts at University of Gothenburg.



Föreningen Furuboda

Furuboda is a nonprofit organisation established in 1960. We focus on personal development of individuals and inclusion in society. Being a nonprofit organisation, our angle is slightly different than that from corporations and authorities. We don't strive to create profit or do things because we have to. We do it because there is a need and because we can contribute with our devotion, competence and experience.



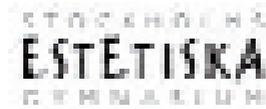
Nyköpings Folkhögskola

Nyköpings Folkhögskola is located in central Nyköping, right in the middle of some very exciting and historical surroundings. We offer a meeting place for people and culture, where practical and artistic approaches meet. The students are able to affect the pace of studies and our ambition is to increase knowledge, give access to higher levels of studies and promote personal development.



Rytmus

Rytmus is the natural choice for anyone wanting to study music or media production, for pleasure or as a start of an artistic career. Rytmus is located in Stockholm, Norrköping, Göteborg, Malmö and Örebro.



Stockholms Estetiska Gymnasium

Stockholms Estetiska Gymnasium is a school owned by its students and staff. Our direction is music, dance and theatre.



ORCA

Orca will tailor a training solution for your business. Based on your circumstances and needs, we develop an action plan in addition to the relevant training that will address the concept, installation and support. Training can be held in our fully equipped training centers located in all of Sweden's larger cities, but if it suits you better we'll come to you. We can give the training using your equipment, or take our mobile computer room along.



Film & musikgymnasiet Norrköping

Film och musikgymnasiet is a purely artistic gymnasium. Our classes have a width and a depth that gives students access to university studies.



The Ingesund Academy of Music

The Ingesund School of Music

outside Arvika is one of six music colleges in Sweden. In this part of Värmland there is a deeply rooted cultural tradition in which all forms of music have played a great part. It is a perfect environment for a modern music college. Ingesund is the location for most of our programmes and courses but some are offered as on-campus courses in Karlstad.



The Malmö Academy of Music

The Malmö Academy of Music has developed an international study environment. Since 1990, our efforts at organised internationalisation have firmly established the Academy's reputation with foreign contacts stretching far beyond Scandinavia and Europe. We have over 60 institutional agreements in Europe (Erasmus, Nordplus), as well as access to Lund University's comprehensive contracts with universities that span the globe.



Department of Music and Media Pitea

The Department of Music and Media – with its two departments; Media & Production Experience and the School of Music – aims to become Europe's most exciting and innovative venue for music and media. Our field of activities will meet students' expectations of an artistic and academic learning environment where the meeting generates knowledge that is the driving force in the department's work.



The Music Academy of Örebro University

The School of Music, Theatre and Art offers a wide range of courses in music, music education, musicology, art and theatre education. The dynamic selection of courses develops constantly and gives students great possibilities to influence and shape their own education.



BoomTown Music Education

BOOMTOWN strives to make Borlänge, Dalarna into a leading, creative epicenter for rock, pop and all kinds of popular music in Sweden and Europe.

BELGIAN NETWORK



Institut supérieur de musique et de pédagogie de Namur

Situé au cœur de la capitale de la région wallonne, l'IMEP propose un enseignement de type long (baccalauréat de transition, master didactique et spécialisé, AESS) dans les options Chant, Claviers, Cordes, Ecriture et théorie musicale, Percussions et Vents ainsi qu'un baccalauréat de type court en pédagogie: AESI.



IPEM (Institute for Psychoacoustics and Electronic Music)

IPEM (Institute for Psychoacoustics and Electronic Music) is a research center for musicology in Belgium. IPEM belongs to the Music department, which is part of the larger Department of Art, Music and Theatre Studies, at the Faculty of Arts and Philosophy, at Ghent University.



MATRIX New Music Centre

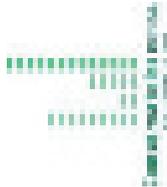
MATRIX is a centre for contemporary music set up in 2000 with the support of the University of Leuven and Cera Foundation. Today, MATRIX

has a double focus: documentation and education.



Musiques & Recherches

Musiques & Recherches is an association whose concentrated efforts focus upon the development of electroacoustic music, more specifically, acousmatic music.



Conservatoire royal de Bruxelles

Le Conservatoire royal de Bruxelles, officiellement fondé en 1832, mais dont l'existence remonte de fait à 1813, occupe depuis lors la première place dans l'enseignement au plus haut niveau de la Musique et des Arts de la parole en Belgique.



Conservatoire de Musique de Tournai

Le Conservatoire de Musique de la Ville de Tournai apporte depuis 1829 sa contribution à l'épanouissement culturel et artistique de la cité. Il offre un large éventail de formations de nature à apporter à l'enfant, à l'adolescent mais aussi à l'adulte, un complément de culture essentiel à son épanouissement personnel, sans négliger la part de divertissement et de plaisir.



ORPHEUS INSTITUTE

Orpheus Institute has been providing POSTGRADUATE EDUCATION (laureate programme) for musicians since 1996 and introduced the first doctoral programme for performers and composers in Flanders (2004).



Belgian Centre for Music Documentation

The Belgian Centre for Music Documentation "CeBeDeM" was founded in 1951 in order to stimulate the promotion and performance of the works of Belgian contemporary composers of serious music.



Stedelijk Conservatorium Brugge

In 1847 at the initiative of Jean Baptiste Valckenaere (1810-1888) and patron Charles Serweytens the Mercx (May 3, 1812 to April 26, 1868) large timber merchant and chairman of the scene and literary society "Kunstliefde" a "Song and Show Knowledgeable school" was established in Bruges.



Koninklijk Conservatorium Brussel

The Royal Academy Brussels is first

of all an artistic training centre. Only by striving for the greatest artistic skills, music can fully reveal its significance. This includes the Royal Conservatory of Brussels, the Brussels model, with education, research and arts are embedded into each other.



Flanders Opera Studio

Operastudio Flanders' mission is more up-to-date than similar initiatives abroad, which are either integrated into an opera house or part of a training institute.



Lemmensinstituut Department of Music, Arts and Education of College of Arts & Science

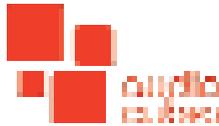
The Lemmens Institute offers bachelor and master programs in the fields of music and drama. As a music department, performing arts and education is the Lemmens Institute member of the Academy of Sciences and Arts since 2002, member of the KULeuven Association.



Conservatoire royal de Mons

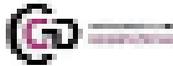
Au cœur de Mons, sur deux sites historiques, vit une école des arts, une institution de l'enseignement supérieur artistique de la

Communauté française Wallonie-Bruxelles, le Conservatoire royal.



Percussa BVBA

Percussa is a small music technology company based in Belgium, Europe. We are supported by IWT Vlaanderen.



Conservatorium van Gent

The Conservatory of Ghent tailors its teaching to the development of excellent and versatile operating music artists who own an original contribution to developing the arts.



Social Fund for the Performing Arts of the Flemish Community

The Social Fund for the Performing Arts is the Fund for Social Security of the entertainment business (PC 304), particularly the Flemish Community. It is active in two areas, namely training and employment, with a particular focus on groups at risk .



Queen Elisabeth College of Music

A prestigious and international center of excellence for artistic training of exceptionally gifted young musicians in piano, violin, cello, chamber music and voice that will form the musical elite of tomorrow.



Kortrijk CONSERVATORY

More than 160,000 young people aged 6 years and adults of all ages follow in their spare time training in art schools (DKO), better known as the 'Music' and 'art school'.



Institut Musical Pédagogique Suzy Zuinen s.c.

Founded in 1990, the Musical Pedagogical Institute Zuinen Suzy is a private school specialized in teaching music and vocal arts. Various formulas have been developed to meet the needs of those who want to learn or improve in music theory, studying an instrument or to diction, declamation, or theatre area.



Flanders Music Centre

The Flanders Music Centre is an organisation established by the Flemish government to support the professional music sector and to promote Flemish music in Belgium and abroad.



Conseil des étudiants du Conservatoire royal de Bruxelles

Since several years there has been

an active representation of students from the Royal Conservatory of Brussels. This is done previously under the name "Student Committee" and had a vocation centered mainly on festive activities and meetings.



Koninklijk Conservatorium - Royal Conservatory of Antwerp

In 1898, the Royal Conservatory of Antwerp was founded by Peter Benoit being the first Flemish institution of art education. For more than a hundred years, musicians have been trained as instrumentalists, singers, composers, conductors and teachers.



Conservatoire royal de Liège

The Royal Conservatory of Liege offers full-length, university-level education. The Bologna Accord, which created the European Higher Education Area, has been in effect since the beginning of the school year in September 2004.



ArKaos

ArKaos is a world-leading provider of technology for live visual performances. Since its start in 1996, it develops visual synthesizers that trigger and manipulate the graphic content that is displayed on large screens at events, concerts, clubs and more.

OTHER EUROPEAN NETWORKS



Institute for Research on Music & Acoustics

The Institute for Research on Music & Acoustics (IEMA) - Greek Music Information and Documentation Center, is a non-profit, non-governmental organization, covering the areas of music research, documentation and information.



The Music Technology Group (MTG) of the Universitat Pompeu Fabra. The Music Technology Group (MTG) of the Universitat Pompeu Fabra in Barcelona, part of its Department of Information and Communication Technologies, is specialized in sound and music computing.



Lambrakis Foundation

The Lambrakis Foundation (LRF) is a non-profit research and development private institution of public interest, founded in Athens, in 1991, by an initiative undertaken by Mr Christos Lambrakis, main shareholder and president of the Lambrakis Press Group SA.



National Student Association, University of Music Bucharest (ASUNMB)

This is the first and only student representative body set up in a musical profile university in Romania, formed by young musicians of the academic community in Bucharest.



"Sigismund Toduta" Music High School

Founded in 1949, "Sigismund Toduta" Music High School represents an outstanding name in the vocational education from Romania.



The University of Arts «George Enescu» Iasi

The University of Arts «George Enescu» Iasi works as a State institution according to the Romanian Constitution, the Education Laws, the By-Laws of the teaching personnel and the Human Rights Declaration.



IONIAN UNIVERSITY, DEPARTMENT OF MUSIC

The Department of Music was established in Corfu in October 1992. It has a dynamic five year programme of studies covering five different areas of Music Theory and Practice.



The College of Arts "Ciprian Porumbescu Suceava

Division I. Instrumental: A. symphonic orchestra instruments - Piano, violin, (classes I-XII); - Viola, cello, bass, guitar, flute, oboe, etc.



National University of Music Bucharest

The National University of Music was founded in 1864 by the Prince Alexandru Ioan Cuza of Romania, as a Conservatory for Music and Drama.



Transilvania University of Brasov - Faculty of Music

Component of Transilvania University, the Faculty of Music is a State-owned institution with attributions in the following directions: musical higher education, scientific research and artistic creation.

"Gheorghe Dima" Music Academy

The „Gheorghe Dima" Music Academy came into being in 1919, part of a lively modernizing process involving the whole Romanian education system.



The West University of Timisoara - Faculty of Music

Born in 1906, the need for an institutionalized music education, able to contribute to a student organization of the city's musical life, soon became a genuine conservatory whose teachers of a high professionalism, had to prepare generations of outstanding musicians.



Scoala de muzica si arte plastice nr.1 "Iosif Sava"

School of Music and Fine Arts 1 "Iosif Sava", Bucharest was founded by the decision in 1959 and 1260 HCM is a school with additional art program,

Annexes

C. The list of Good Practices present in the N.E.T. Sounds data base

In the following pages are listed the Good Practices of the NetSounds database (last update 24 October 2011).

In the project web portal there is a complete presentation of the single Good Practices with all the contact details of the related institutions.



Linked Musicians

Linked Musicians is a unique and powerful social networking enabler for the live music industry. It is the first truly international, local- for- local, multilingual music industry social networking website, targeted at musicians, bands and orchestras, professionals and amateurs, and products and services.



Sing Up

Sing Up is a national initiative set up to link schools in the UK and to encourage children to sing. The government have provided funding since its inception in 2007.



Church Music Network

The Church Music Network website offers a Certificate in Church Music which is run from the Diocese of Salisbury in the UK. The course of study is available on the internet as a distance learning course.



Digital Music Research Network

Launched by collaborative teams from UK universities, and coordinated by Queen Mary, University of London, the Digital Music Research Network aims to promote research in this area, by bringing together researchers from UK universities and industry in electronic engineering, computer science, and music.



The Music Network

Music Network is a professional arts organisation, funded by The Arts Council, committed to promoting, encouraging and funding the highest standards of music creation and performance throughout the island of Ireland.



MusicTank

MusicTank is a non profit business development network for the UK music industry set up to engage with industry, drive innovation and create change across the music business. MusicTank was launched in 2003, it's remit: to establish itself as a business development network for the UK music industry.



Vocalises.net

Vocalises.net is a pleasant website where every people involved in lyric singing might find advisories,

informations and comments concerning singing activity.



e-Vocal: e-Learning for vocal/song education

The cooperation of music schools, academies and conservatories as well as language schools and institutes for informatics accomplished European demands and therefore developed e-Learning modules, which would support the quality and efficiency of the education in classical vocal training.



La Muse en Circuit

La Muse en Circuit promotes "projects pedagogy" accompaniment towards musical creation and new technologies. It offers different equipped studios, helping composers and artists in creation projects. La Muse en Circuit has a special dedicated activity in radiodiffusion as partner of RadioFrance and Sacem.



Reaper

Reaper is a Digital Audio Workstation developed by Cockos: a complete multitrack audio and MIDI recording, editing, processing, mixing, and mastering environment.



Ardour

Ardour is a hard disk recorder and digital audio workstation application. It runs on Linux, Mac OS X and FreeBSD.



PLOrk - Princeton Laptop Orchestra

Founded in 2005 by Dan Trueman and Perry Cook, the Princeton Laptop Orchestra, or PLOrk, takes the traditional model of the orchestra and reinvents it for the 21st century



Michigan Mobile Phone Ensemble

The Michigan Mobile Phone Ensemble is a new music ensemble using mobile smart phones as primary musical instruments. Founded by Assistant Professor Georg Essl.



MoPho - Stanford Mobile Phone Orchestra

The Stanford Mobile Phone Orchestra (MoPhO) is a first-of-its-kind

ensemble that explores social music-making using mobile devices (e.g., iPhones and iPads).



Musician's Institute - Online Courses

Musicians Institute has been an accredited member institution of the National Association of Schools of Music since 1981 and is licensed to operate in the State of California by the Bureau for Private Postsecondary Education.



SAE Online

SAE Online brings the experience of studying with SAE Institute directly to your computer anywhere in the world you want to be. Now you can become part of the largest network of creative media schools on the planet.



Point Blank Online School

Point Blank Online Music Production School offers a range of music production courses designed to give students the same level of skills and tutor interaction you could expect if you attended the music production college in London.



Boston University Online - Master of Music in Music Education

The Boston University Online Master of Music in Music Education (MusM) combines a time-honored curriculum with cutting-edge technology to make this valuable credential available.



Berkleemusic Online Courses

Berkleemusic.com is part of the renowned Berklee College of Music.



Musiclassroom.com

For beginners as well as for professionals, the academy teaches online music lessons of the highest quality, with video, audio, score or text support. Different levels are available, and each lesson includes an evaluation test.



Le web pédagogique

As hosting more than 24000 scholar blogs "Le Web Pédagogique" is a small company offering a free of charge hosting platform for

classrooms exchange and communication tools, pedagogical resources and informations. Not especially dedicated for music, it might be a good solution for uploading/ downloading.



TI:ME Technology Institute for Music Educators

TI:ME is an Institute with the mission of assisting music educators in applying technology to improve teaching and learning in music. Formed in 1995 following a bottom-up approach, it consists of representatives from a broad array of educational institutions, publishers, and music technology companies.



Berkleemusic, Berklee College of Music

Berkleemusic is Berklee College of Music's online continuing education division. Berkleemusic offers a growing catalogue of accredited online courses and certificate programs in all areas of contemporary music, including songwriting, arranging, production, education, music business, and performance.



Bachelor of Arts (Hons) in Music Technology, Institute of Technology Tralee

This course provides an excellent opportunity to explore musical creativity and production with computer applications. The course has been carefully constructed after wide discussion with creative and technical professionals in the music industry. I



B.A. in Music Technology, National University of Ireland

This course is designed for students with an interest in music who wish to work towards a degree in audio and information technologies. Students explore general elements of music, such as basic theory and notation, composition and aspects of popular music, alongside technical areas including computer.



Music Years 7-10 Syllabus - Year 8 "Composing on computers" unit of work

The revised Music Years 7-10 Syllabus of the New South Wales Government (Australia) includes specific outcomes addressing the use of computer technology in music as well as a clear statement requiring students to engage with ICT throughout the music course.



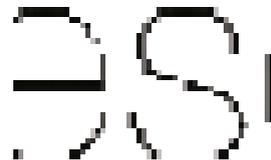
Sound Training Centre - Courses on Music Technology

The Sound Training Centre is committed to developing comprehensive educational programmes in music technology and sound engineering that reflect the demands of the current music industry.



MusTech.net

MusTech is a blog network established in order to spread the "word" faster about music, technology, and other related educational topics.



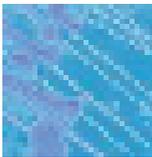
MuseScore

MuseScore is free and open source music notation software for Microsoft Windows, Mac and Linux. MuseScore is a so-called "WYSIWYG" ("What You See Is What You Get") editor that offers a cost-effective alternative to commercial programs with similar features.



MuseSpring

MuseSpring is the training and service arm of SongBliss.com (under development), an emerging community for artists and users alike. It is dedicated to serving the needs of artists/bands, industry professionals and entrepreneurs through technical publications, online training, networking opportunities, etc.



Pitch through history

Music teacher Kenneth Hutchings wrote this unit called "Pitch through history" during the Music Technology Online course in 2007. Revised and presented as an Adobe Portfolio this unit provides an overview of aspects of pitch that have been developed and refined as technology (including instruments) and science.



Early Years Foundation Stage ICT - Exploring Music Composition Software

Simon Haughton is a primary school ICT manager who is keen to help and inspire others with their use of technology within the classroom. Among its activities, he teaches how to compose music using ICT.



Teacher Training Programme at Malmö Academy of Music

Malmö Academy of Music is a place where you can realise your visions, turn your dreams into reality and create your professional identity. Studies at the Academy are characterized by breadth and a variety of specialisations in music.



One year musician's course at Fridhems Folkhögskola

This music course is preparatory for a line of work within African American music.



Sound and Music Production at Högskolan Dalarna

The programme for Sound and Music Production at Högskolan Dalarna is the biggest of its kind in Sweden – also one of the biggest Swedish music educations.



Skurup Rock-Musikerlinjen at Skurups Folkhögskola

Skurup Rock-Musikerlinjen at

Skurups Folkhögskola attracts music students from all over Scandinavia who want to participate in a recognised and practical study method which is heavily based on ensemble playing led by active, professional musicians.



AKKS: Cubase

AKKS Oslo offers a Cubase course for beginners and professionals.



Musikproduktionslinjen (Music Production Programme)

This is Orca's entirety music production course. It teaches you to create professional music, all the way from a basic musical idea to finished mix. Music Production Programme is a ten week long evening class with two weekly meetings, allowing those with a daytime job to attend.



BoomTown Music Education

BoomTown is a regional, EU-funded project based in Borlänge, Sweden. The project stands on three pillars: Education, Networking and Business. But the BoomTown umbrella spans much further!



Digital Audio Production

As a sound designer and audio programmer you produce the auditory content of future games, web and video productions. It is a challenge that requires creativity, technical knowledge and ability to work in teams.



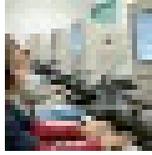
Studio Blue Inspelningsteknik (Recording Technique)

Studio Blue is run by a bunch of music lovers with a passion for creativity within the fields of audio technique and music production. Studio Blue has educated audio engineers and music producers since the mid-nineties.



Ecole de Musique Guy- Jean MAGGIO

EMGJM as a private music school welcoming teaching of new technologies approach in music field, as complementary learnings for conventional instruments practicing. Niort cours de musique Niort cours de musique is a private music school in center of France where ICT for music are part of teachings.



Informatique musicale

Luis Patricio Leal is a professional musician in Lyon. He also have an activity of music teacher and offers music-on- computer lessons. Specialist of Macintosh products, its course includes MIDI and acoustic bases as well as experimentation on different software.



Mignot Music Academy

Located in Chartres, Mignot Music Academy is a private music school where actual musics are major teachings. Music-on-computer is a part of these teachings, including basic initiation to hardware and software to skills and techniques for music producing.



Atelier Musique assistée par ordinateur- OMJA Aubervilliers

Operated by Office Municipal de la Jeunesse d'Aubervilliers, the ICT for music workshop is one of the artistic workshops accessible to all population in the town who needs a basic social environment by the way of a cultural surrounding.



Ecole ATLA, Paris

ALTA is one of the "important" professional music school in Paris. The cursus in ICT for music is hold by three teachers, Xavier Decarpentrie, Regis Lamora and Joseph Escribe, professional musicians who got a strong experience concerning music-on-computer activities. .



Musique Assistée par Ordinateur- MJC of Brequigny

MJC (Maison des Jeunes et de la Culture) of Brequigny, one of city of Rennes district, offers activities around music, including music-on-computer seminars and courses.



Music-on-computer in music school of St- Chamond

Music School of Saint- Chamond give an significant place to ITC in music learning, in addition with traditional theory sequences and for composition and arrangement initiation, as well as recording technologies.



Atelier MAO, La Clé de Sol

Located in LA CALMETTE, close Nîmes in South- France, La Clé de Sol/ les Ateliers Musicaux de la Calmette is a private associative music school running a complete program for discovering ICT music applications.



Atelier MAO, Collège Délivet

Collège Henri Delivet runs different workshops dedicated to students from 11 to 15, including a music-on-computing workshop.



Prelude - Centre for Innovation in Education

Tehne (Center for Innovation and Development In Education) is partner of the PRELUDE project (Training programme for ICT in Music Education) aims to develop an in-service training programme for music teachers who are motivated to learn about, integrate and critically evaluate the use of ICT in music education.



VEMUS, Virtual European Music School

VEMUS object is the development of an open interactive system promoting the learning of traditional instruments as flute, saxophone or clarinet. Digital environment purposes to extend traditional teaching methods on different axis as instrument practicing, music-class environment and on-line learning applications.



GRAME, Research activities

Grame was set up in 1982 by Pierre-Alain Jaffrenou and James Giroudon, and in 1996 it was certified as a "Centre National de Création Musicale".



PARIS MIX Workshops

Paris Mix technical workshops hold by professionals involved in digital innovation in music, included in Paris Mix Musique/Innovation/ Diversité program. The two hours long workshops are effective tools for "how-to- prepare" and "how-to-run" projects.



MELODIE 7

Mélodie 7 schools are famous private institutions in Marseille concerning artistic education. Four schools in Marseille, two in Paris, offers to nearly 600 students 35 different classes, including classical and electric instruments, dance, theater, painting in different styles.



CLUB M.A.O.

Included in projects launched by scolar association "Seconde Nature", in Lycée Emile Zola in Aix-en-Provence, the Music on Computer Workshop is a 30 hours optional experience offering students from 13 to 18 a first discovering of digital music.



Sonification - Sound production on the GRID

First experiments involving sound production with INFN-GRID facilities started during the last months of 2003. In September 2003, it was installed CSound, a free and cross-platform acoustic compiler, on a GRID test site, the Catania INFN-GRID computer farm and it has been developed the right middleware.



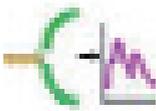
Dance for Life

This is a big project involving Red Zebra (see other document) and the charity "Dance for Life" They have taken on Red Zebra's motto ("Tell me and I will forget,



Cre8tive Sounds (and Cre8tive Vocals)

This project has started relatively recently and is being formally evaluated by Roehampton University.



BA and BSc in Music Informatics

The person who set up the Music Informatics programme died suddenly, so this is the first year that people have completed the degree programme.



Assessment / Feedback (including by peers)

Due to large lecturing pool (all staff are also professional musicians, so quite a lot of people teach, and have very varied backgrounds), it is common practice to be able to find the right person for the right, specific feedback.



Break-out week; different activities; extracurricular

All staff are professional musicians (or semi- professional, as they also

work at the college). This means that there are more staff for the students to have access to, and with "real" experience.



Red Zebra

Rhythm and other musical workshops.



Computer application in music lessons (Computeranwendung im Musikunterricht)

Computer assisted music lessons have been practised in a secondary school and later on integrated into a regional music teacher training.



Musik@Multimedia

The opportunities of computer-assisted music production make it possible to create substantial productions by using affordable equipment.



Université Paris IV Sorbonne-Musicologie

Sorbonne is the older and probably the most famous University in France. Initially founded in 1257, Sorbonne-Paris IV is hosting Musicology Department for the early seventies. The Sorbonne Musicology curriculums are now insered in LMD progression.



Virtual European Music School - VEMUS

VEMUS is an open, highly interactive, and networked multiin-gual music tuition framework for popular wind instruments. Based on the outcome of an international wind instrument popularity survey, the instruments covered by VEMUS include the flute, the clarinet, the saxophone, the recorder and the trumpet.



Audio Engineer Diploma

"Audio Engineer Diploma" is an audiovisual training based on the expertise and the approach both technical and creative tools of modern production to meet the requirements of the audiovisual industry.



Music Production Basics (Musikproduktionens grunder G1N 7,5 hp)

Are you interested in learning the basics in modern music production? How does music creation and production work and in what way can modern tools help? How you we use the vast possibilities of the computer based music recording programs?



SAME

Developed by Ircam research laboratory "Interactions Musicales Temps Réel Programs", SAME (Sound and Music for Everyone, Everyday, Everywhere, Every Way) is an original program which aims constitute a complete link and technologic development for music listening systems in mobility context.



Audio Engineering Courses

Audio Engineering Courses are divided into three levels of studies.



Music Marketing 101

The number of digital portals currently available for music promotion increases on a daily basis. Social media tools provided by Facebook, LinkedIn and Sound Cloud, to name but a few, can become a very effective marketing machine when used correctly.



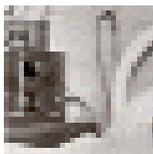
Now Play It - On-line music tutorials

An on-line video service offering music tutorials between five and 30 minutes long including famous artists teaching users how to play their songs.



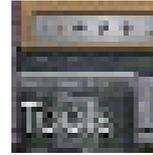
Simply Music

Simply Music delivers music workshops, which combine interactive technology and live music performance with percussion, through a fun- filled and engaging process.



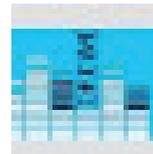
"Theory and techniques of Contemporary Music"

The main idea behind the project „Theory and Techniques of Contemporary Music“ is creating a platform for discussing different aspects of contemporary sound based practices, as well as complementing the current education standard of the Slovenian national education system.



Producing with Pro Tools

"Producing with Pro Tools" is a Online Course that develops your music knowledge to the next level and pursue your performance, guitar, music business, theory and song writing craft with new depth and insight.



"EMBODIMENT - EXPERIMENT"

EMBODIMENT- EXPERIMENT is a two-day seminar jointly convened by York University's Department of Music and the Orpheus Research Centre in Music, Ghent. The seminar opens 13.30 Tuesday May 10th, closes 15.30 Wednesday May 11th.



Learn Ableton Live online with Berkleemusic.com

Through Learn Ableton Live online with Berkleemusic.com, it is possible Master the creative tools and techniques required to compose, record, remix, improvise, produce and edit your musical ideas using Ableton Live.



Musiques & Recherches: Electroacoustic department

Electroacoustic department
-"another way of listening"
The electroacoustic music department offers university-level teaching with an international reputation, training composers and sound designers.



Musik- och ljuddesignprogrammet (Design of Music and Sound Programme)

Linnéuniversitetet educates for a continuously changing audio and music industry that has grown large and diversified. A wide competence will give students the ability to find a niche within studio recording, audio and music for film and live sound.



Komposition och Musikproduktionsutbildning (Composition and Music Production Education)

Music is needed in more situations than ever today and new hi-tech soft- and hardware appears every week. There is an increasing need for composers, sound engineers and producers with competence in every aspect of music production.



Lärandeprocesser i musik (Learning Processes in Music)

The profile for this course is aesthetic learning processes and presentation of ideas in music education. The different work processes of the students will be documented from a teacher's perspective.



Filmkomposition (Film Composition)

Filmkomposition is an education where students get specialised in knowledge, skills and competence in the field of digital and acoustic film composition at the highest level.



Elektronisk komposition (Electronic Composition)

The BMus (Electronic Composition) degree at The Royal Academy of Music, Aarhus, is a 3-year study course (180 ECTS credits) in which students acquire knowledge, skills, and qualifications to become composers and teachers of electronic music.



Electronic Music Production

Electronic Music Production is a six months long course about technique, arrangement, and sound behind modern music creation.



Sibelius, notskrivning i datormiljö (Sibelius, computer based scoring)

The purpose of this class is to teach students the musical notation program Sibelius.



Musikproduktion i datormiljö (Producing Music with Computers)

This course is for those who want to study music creation, recording, arranging and production in the most common music programs. The students will learn the basics about the structure and possibilities in Logic and other programs.



Musik i samhällsperspektiv (Music in a Community Perspective)

This course contains studies on what part music plays in society and how music helps young people create their gender identity. Parts of musical history are discussed are viewed from various perspectives and also how music has sounded in various times.



Audio Production Program Audio

Production Program has been designed to educate skilled sound producers, audio engineers and music producers for an ever evolving music industry. Keywords are technical and creative dexterity, combined with a wide theoretical knowledgebase.



Master in Sound and Music Computing

The mission of the SMC Master is to train the professionals that will push forward the sound and music technologies of the new information society.



Musik- och ljuddesign (Music and audio design)

Today's fast development in audio technology has made a radical change in the way we work. Productions that used to involve huge personal and equipment resources

can today be carried out with integrated equipment by a small team of people – or even a single person."



i-Maestro

European music educational institutions need to increase the efficiency while reducing costs, in order to be more attractive and effective and to provide a wider access. The i-Maestro project is supported by the European Commission under the IST Sixth Framework Programme.



VARIAZIONI

The VARIAZIONI project is a public web site focused in the first phase on classical and traditional music. This collaborative platform aims to offer new technological solutions along with a high number of digital music assets.



You Tube Symphony Orchestra

The YouTube Symphony Orchestra is an amateur orchestra assembled by open auditions hosted by YouTube, the London Symphony Orchestra and several other worldwide partners. Launched on December 1, 2008, it is the first-ever online collaborative orchestra.



Musikproduktionsprogrammet (Music Production Programme)

The Music Production Programme aims to educate students within one of Sweden's most important export industry sectors – the music business. Here, educated entrepreneurs are needed. Our idea is to create music producers who can start their own companies, market their own product, protect their rights.



Cours collectif de Violon à distance (CCVD)

The CCVD (Cours Collectif de Violon à Distance) is a project launched by a violin amateur, seeking to build a regional network for collective violin learning on site and across new technologies (vidéo). Still actually at tentative step, the program would mostly concern adults beginners on violin.



Sound technology an digital Music

Sound technology an digital Music (2012) .The technology of sound is an exciting and rapidly expanding field of engineering that now interfaces with many other aspects of media production.



Sustainable Software for Digital Music and Audio Research

Sustainable Software for Digital research is a project of the University of London Queen Mary.



AdMIRe 2011

AdMIRe 2011: 3rd International Workshop on Advances in Music Information Research. In Conjunction with the IEEE International Conference on Multimedia and Expo (ICME).



TELEMATIC TRANSFORM MUSIC

At NYU Steinhardt they believe that the successful professional is one who sees connections between communities and cultures. Education is an instrument for change and the means for a better quality of life for people throughout the world.



Echo Nest Platform

The Echo Nest is a music intelligence company that powers smarter music

applications for a wide range of customers.



SALAMI

SALAMI (Structural Analysis of Large Amounts of Music Information) is an innovative and ambitious computational musicology project. To date, musical analysis has been conducted by individuals and on a small scale.



mSpace exploration reinvented

mSpace is an interface service that includes an interaction model and software framework to help people access and explore information.



DoReMi

Directionally Optimised Representation of Musical Instruments. The DOREMI project was coordinated from Technical University of Lyngby, DK.



Midlothian: The Digital Music Summer School

Midlothian Council is made up of 18 elected councillors covering 6 wards (areas) within Midlothian.



Msc Audio Production

The Audio Production MSc/ PgDip course is a highly comprehensive, informative, progressive and creative production course. It will give students valuable, up-to-date, highly transferable professional skills, preparing them for the new wave of North West and UK creative industries.



Variations2

The Variations2 project aims to establish a digital music library testbed system containing music in a variety of formats, involving research and development in the areas of system architecture, metadata standards, component-based application architecture, and network services.



Music Hack

SonarPro Music Hack is the meeting point for professionals in the music industry and technologies applied to audiovisual and new media art.



YLOTANA

YLOTANA Project is a unique alternative music band, which was born in the consciousness of people, who are infinitely devoted to art. It represents a certain musical, literary and visual art symbiosis. The vision of this project is to expand the role of art in people's day- to-day lives.



Centre for Digital Music

The Centre for Digital Music is a world-leading multidisciplinary research group in the field of Music & Audio Technology.



Musicology for the Masses

This project sets up scenarios to examine how people's relationship with music is changed by using new technologies, enabling us to understand how to bridge the gap from our proven digital music research to the mainstream market



Kingsbridge: Digital Music

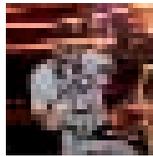
The Kingsbridge Education

Improvement Partnership is made up of 14 schools within Wigan LEA, 9 Primary and 5 secondary, working together.



Dubspot Mixing & Mastering Program

Dubspot Online stems from the same idea that founded Dubspot in New York City; music technology is only as good as the music you make.



Dubspot Essential Music Foundations Program

Dubspot Online stems from the same idea that founded Dubspot in New York City; music technology is only as good as the music you make.



Duspot: Ableton Live Producer Certificate Program

Dubspot Online stems from the same idea that founded Dubspot in New York City; music technology is only as good as the music you make.



Connect With Music

Connect With Music is a new website created with the generous support of NAMM by three music technology experts from the Technology Institute for Music Educators (Ti:ME) and three exemplary classroom teachers.



SECONDE NATURE - Atelier MAO

"SECONDE NATURE" is a place dedicated to digital arts and electronic cultures in Aix en Provence. The place is strongly involved in local cultural actions concerning all new digital cultures.



EMAHO- Corsica

The activities of EMAHa are mainly dedicated to people interested in music on computer and multimedia technologies on a non- professional aspect.



EMAHO -Ateliers de Création Multimédia.

The activities of EMAHa are mainly

dedicated to people interested in music on computer and multimedia technologies on a non- professional aspect. They offer initiation and training sessions concerning major music on computer software and different aspects of multimedia creativity.



STEPFAN.NET - EDUCATION MUSICALE

Stepfan.net is a database collecting links dedicated to music teachers or people involved in music education.



ERASME

With "laclasse.com" ENT (Digital Working Surrounding), ERASME promotes the linkage of schools or different institutions involved in artistic creation with multimedia.



i-pedagogie.net

i-pedagogie.net is a "professional" musical pedagogy forum, mostly dedicated to music teachers. Different topics as pedagogic exchanges, exercices models, teaching tips..., are provided on the website. Accessibility to the forum must be validated by inscription.



Le Chanteur Moderne

"Le Chanteur Moderne" is a blog website. It doesn't offer new pedagogy on line, but references several major informations concerning singing (technical tips, training sessions, comments...) which can be used by singers of any level.

For over twenty years, PUCE MUSE invented "à la carte" shows, which bring together music, new technologies and images, based on double knowledge of Serge de Laubier, as composer and sound engineer.



PARCOURS MUSIQUE MIXTE

Ircam in Paris is widely known for its strong activity in research domain dedicated to music, sound treatment and technologies. "Parcours Musique Mixte" is a program initiated by IRCAM which aims are to help conservatoires students to understand and to become used with the acoustic and electronic real- time music.



Synthèse et traitement sonores

IRCAM in Paris is widely known for its strong activity in research domain dedicated to music and sound treatment and technologies.



Musique et Son pour le Multimédia

The cursus Musique et son pour le Multimédia in Université de Franche-Comté is a Master diploma dedicated to students interested in composing and sound illustrating for all products in multimedia. With a perfect knowledge of aims of sound illustration for computer games, internet websites, etc.



STUDIO LAF

STUDIO LAF offers an "in- line" teaching for first level of use (mostly) of musical software Cubase (others available on demand). With a small software, the teacher can "control" at distance the student's computer and explains and comments the major functions of the software.



PUCE-MUSE



Musique appliquée aux arts visuels

Included in Music and Musicology department of Université LYON2, the formation "Musique appliquée aux arts visuels" is a professional cursus in music and sound creation for visual arts. It is dedicated to all the professional activities where image needs to be supported by appropriate sound sources.



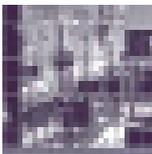
Informatique Musicale à l'école de musique

Music School of Valognes, in North-West of France, is a local music school. Anyway, music on computer is taught for initiation to edition software, recording and composing... ITCs are also used for Music theory learning.



FOREMI

FOREMI is a European project partly financed by the action European Union LifeLong Learning Program. Its aims is to develop training tools and implement proved remote teaching techniques for adapting them to teaching of instrumental practice.



Forumnet

FORUMNET is the internet forum created for the users of Ircam softwares, and classified in four categories designed for different

users categories: composers, multimedia developers, sound technicians and designers, researchers and teachers.



AudioSculpt

AudioSculpt (actual version 2.9.4v2) is a software conceived by Ircam in Paris, widely known for its strong activity in research domain dedicated to music and sound treatment and technologies. Its features and functions can offer a new approach in music education.



Musique en Clic

New multimedia tools used in partnership with "Delegation aux usages de l'Internet" and Apple Expert Solutions.



Creative Common Search

Creative Common Search is a WEB based META Engine able to identify Multimedia materials under Open Source license. This tool is very useful to embellish teachers training supports.



BAO-PAO

The BAO-PAO was invented by an engineer passionate about music: Jean Schmutz. Initially designed to allow disabled children to practice a musical instrument, the instrument is now intended to allow students to make music together in an accessible, intuitive and playful way.



bac L Musique

Baccalauréat L (literary section) includes a special option in music knowledge. It is the first step in future professional formation in music: students are supposed to carry further on to University for completing their teaching.



Enseignement de l'Informatique Musicale - Université de Bourgogne

Université de Bourgogne, located in Dijon hold a Music Degree in partnership with Regional Conservatoire in Dijon. The cursus contributes to Pôle d'Enseignement Supérieur de la Musique, preparing students to Diplôme National Supérieur Professionnel de Musicien (DNSPM).



practicing workshops or in the way of professionalisation. Professional curriculums as "Les techniques du chanteur" initiate professional or new arrived singers.

government-funded research organization, under the administrative authority of France's Ministry of Research.

MUSIQUE DE FILM

MAI (Music Academy International) located in Nancy (North East of France) is widely known for its professional musicians courses, in partnership with Berklee College of Music - Boston.



L'ENTROPODCAST

Supported by the Town of Issy les Moulineaux, in immediate South-East suburbs of Paris and operated by "Cacestfait" a local company, L'ENTROPODCAST offers on the town official Website informations and assistance to amateur people involved in music practicing. (the town owns its Web-TV channel).



Music on computer teaching

Considering that computer use is now a part of official teaching in elementary school, it is efficiently in use in Louis Ducos du Hauron school in music lessons.

LES ATELIERS DE LA CREATION

Ircam in Paris is widely known for its strong activity in research domain dedicated to music, sound treatment and technologies. "Atelier de la Création" is a special program initiated by IRCAM and Centre Pompidou-Paris dedicated for high-schools (lycées) and supposed to be inserted as a part of new program.



Les Journées d'Informatique Musicale

Organized by AFIM, the "Journées d'informatique musicale" is a meeting point for all people involved in the use of computer for music systems for composing, art expression or teaching. 2011 is the 17th issue of the project.

Interlude

Interlude is a research program from Ircam dedicated in development of digital paradigms for experimentation of interaction between gestual expressivity and musical creations.



Master Design sonore

Beside strong activity in research domain, IRCAM in Paris is involved in formation (short sessions to two years professional programs) dedicated to music and sound use in different field on musical aspects, including education.



i-St@ge - vocational training in music software use for show and entertainment

i-St@ge is a formation center dedicated to professionals working in music and its teaching, show-business and entertainment and multimedia technologies. i- St@ge contributes with partnership of major audio and music computer products French distributors, to



Le geste créatif en informatique musicale

LMA is a research laboratory of the National Center for Scientific Research (CNRS-Centre National de la Recherche Scientifique). CNRS is a



Les techniques du chanteur

ACP is one of the "good addresses" in Paris for learning to sing, as

implementation of music professional software.



IN TOUCH MEDIA

IN TOUCH MEDIA offers a wide range of sessions concerning Apple products and major musical software. The Apple certifications are ran by professional operators and musicians certified as Apple trainers. Beside professional sessions, the "Matinales" sessions (on Saturday) offers to a wider audience some very good didactical material.



i-St@ge -Vocational training for assisted teaching of music

i-St@ge is a formation center launched in March 2008, with contribution and partnership of major audio and music computer products French distributors, dedicated to professionals working in music and its teaching, show-business and entertainment and multimedia technologies.



I-St@ge- vocational training for music teaching to disabled people

I-St@ge is one of the only formation center in France which offers sessions concerning the pedagogic assistance to music teachers in

situation to teach disabled persons.



Formations à la composition et à l'informatique musicale C.1 & 2

Beside strong activity in research domain, IRCAM in Paris is involved in formation (short sessions to two years professional programs) dedicated to music and sound use in different field on musical aspects, including education.



Formm@

FORMM@O offers an "in- line" and on site teaching assistance for the most current musical actual softwares.



FORMATIONS DU FAUNE

Located in "STUDIO DU FAUNE", a famous studio in western area of France, near Rennes, the professional surrounding of FORMATIONS DU FAUNE benefits to sessions and seminars concerning music on computer, sounds and image technologies.



Exposition du CNRS Images

OCIM is an organisation planning and managing exhibitions concerning scientific knowledge. Exposition of CNRS images is an exhibition concerning music on computers technologies. Conceived as a mobile exhibition, it can be hosted in most of situations.



ELEPHORM

Elephorm is specialised in formation on creative tools, and use DVD-ROM, webloading, VOD streaming for 9 families of software. Music softwares are only a part of their activities.



Digital musical instruments

LMA is a research laboratory of the National Center for Scientific Research (CNRS-Centre National de la Recherche Scientifique). CNRS is a government-funded research organization, under the administrative authority of France's Ministry of Research.



Conservatoire à Rayonnement Régional de Caen

The Conservatoire à Rayonnement Régional de Caen (CRR), in North-West of France area Normandy welcomes new technologies and music on computers.



Conservatoire à Rayonnement Régional de Boulogne-Billancourt

Because of its history, location, and the distinction of its faculty, the Conservatory's reputation is recognized throughout France and internationally.



CENTRE DES MUSIQUES DIDIER LOCKWOOD

Didier Lockwood is a famous jazz violinist who performs with the most referent musicians of the jazz area.



AudioFanzine

AudioFanzine comes in a very poor music specialized press in France: only two main monthly distributed magazines (KR and SonoMag) share a total of nearly 50,000 issues. AudioFanzine records now now far from 150,000 connexions/week.



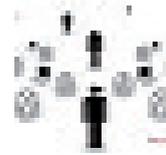
APPAXDESIGNS

Jean-Louis Hennequin is a famous French sound ingeener and producer as well as appreciated musician sideman.



Berkleemusic

Berkleemusic is the online Extension School of Berklee College of Music, the world's premier institution for the study of contemporary music. With Berkleemusic, you can study what you want, when you want, and where you want, with recognized experts in contemporary music education.



Stanford Laptop Orchestra

The Stanford Laptop Orchestra (SLOrk) is a large-scale, computer-mediated ensemble and classroom that explores cutting-edge technology in combination with conventional musical contexts - while radically transforming both.



Stockholms Estetiska Gymnasium

Stockholms Estetiska Gymnasium is an independent school. It's owned by pupils and staff and specialises in music, dance and theatre.



Eastman Computer Music Center

Established in 1981, the Eastman Computer Music Center provides computing and digital audio facilities for the realization of compositional, performance, theoretical and other types of musical projects by Eastman, University of Rochester and visiting faculty, students, musicians and researchers.



MSMA Project

Although music is critically important in European and American culture and education, and although the music profession has always been a subject area with a strong international dimension, contacts between music institutions in Europe and the United States have been limited in number and highly informal.



EFMET Project

A new European initiative in the field of music education, entitled the 'European Forum for Music Education and Training - EFMET' was launched in 2003. This project, coordinated by the European Music Council, brings together European organisations active in formal types of music education and non-formal types of activities.



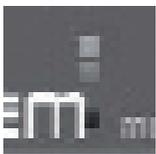
WEDELMUSIC

WEDELMUSIC allows content distributor (publishers, archives, etc.), corporate consumers (theatres, orchestras, music schools, libraries, music shops), and users (students, musicians, etc.) to manage interactive multimedia music in WEDELMUSIC XML format.



NetMusic Project

NetMusic 0.1 Leonardo Da Vinci project provides educators and teachers with a web platform where they can consciously use digital technologies as a means to innovate basic and advanced music teaching for the formative environments into which they professionally operate.



MODEM Project - Music Open Distance Exchange Model

The Leonardo Da Vinci M.O.D.E.M. project set up in November 2006 offers a new dimension to online learning: the opportunity to produce and share music remotely within a virtual learning community. The idea of M.O.D.E.M. is to transfer to an educational and formative domain, methods, applications, creative tools, etc.



The network of electronic music

Since the year 2000 through the European Structural Resources (FSE_FESR), the Italian Ministry of Education has funded, in experimental way, a network of 30 centres dedicated to digital music production, one for each of the south province of our country.



Infomus - The Eyesweb Project

InfoMus Lab, founded in 1984 at DIST-University of Genova, carries out scientific research and systems development on innovative multimedia and multimodal human-computer interfaces in performing art, museum, audience and spectators interfaces, therapy and rehabilitation.



Musiweb - The electronic music portal

A virtual space of integration, sharing, communication, planning and training of students of the electronic music network in the Italian school.



MARTLab Laboratorio e Tecnologie per il Recupero ed il Restauro di Musica ed Audio

The Music Academy "Luigi Cherubini" boasts of a long tradition in the field of new technologies applied to music.



AIMI Associazione di Informatica Musicale Italiana

Its purposes are to foster the communication between musicians and researchers of the field, to promote, stimulate and support activities, organize workshops and conferences. The whole computer music community in Italy co-ordinates itself through AIMI with a true interdisciplinary spirit.



Sound and Music Computing Group

The Sound and Music Computing Group at the Department of Information Engineering - University of Padova has been active since the 1970's in scientific research, education, and dissemination of all

the disciplines related to the application of new technologies to music and sound.



MidiWare Educational

Midiware was born in Rome in 1986, the first firm in Italy to import and distribute musical software and hardware. Midiware firm is certainly bound to digital technologies applied to music, in particular for software of sound recording and handling.



Scuola di Musica e Nuove Tecnologie - Conservatorio Paganini di Genova

The "Niccolò Paganini" State Conservatory of Music in Genoa – High Level Institute of Arts and Music Education – was founded in 1830 as Municipal School of Music and, in 1967, became state-managed included in the AFAM department.



EMMEN - European Modern Music Education Network

EMMEN is a European Network which brings together private institutions, schools and federations dedicated to education and training in the field of popular music.



MayDay Group

The MayDay Group was founded by Thomas A Regelski and J Terry Gates in the winter of 1993.



Musicbus

Musicbus is a new multimedia tool for anyone involved in Music Teaching Methodology and who wishes to make their teaching more relevant and more interesting.



Ohm Studio

Ohm Studio is a standalone real-time collaborative music making application (daw/ sequencer) in addition to a web-based collaboration platform and a music driven online community.



Compose Music Forums

The purpose of these forums is to create a meeting place where all who are interested in making music can discuss various tips and techniques, theory and practice.



MOODS - Music Object Oriented Distribution System

Since the 1970s, the idea of an "electronic lectern/stand" for music has been a dream of many people. In 1994, our research group started to study the problems involved in producing a network of computer-based music lecterns oriented to musicians.



MusicReader - Digital music stand software

MusicReader is an innovative software that makes reading music easy and convenient. The digital music stand offers solutions for all kinds of problems musicians have with (paper) sheet music, both individually and in orchestras and ensembles.



Noteput

An interactive music table with tangible notes, that helps students to learn the notation of music. Noteput" is an interactive music table with tangible notes, that combines all three senses of hearing, sight and touch to make learning the classical notation of music for children and pupils easier.



INScore - Interactive Augmented Music Score

INScore is an open environment for the design of Interactive Augmented Music Scores. An Augmented Music Score is a graphic space that provides representation, composition and manipulation of heterogeneous music objects (music scores but also images, text, signals...)



GAM - Musical Acoustics Group

The Group of Acoustics and Music is born in 1992, during the XXI Congress of the Italian Association of Acoustics.



THE 'MUNDUS MUSICALIS' PROJECT

The Norwegian University of Science and Technology – department of music (NTNU) and the European Association of Conservatoires (AEC) have been successful in obtaining a grant for a project in the framework of the ERASMUS MUNDUS Programme.



The "Polifonia" project

"Polifonia" was the largest project on higher music education to date. It started in 2004 and studied various subjects related to professional music training in Europe.



EarMaster - Interactive Music Training Software

EarMaster is a powerful tool to train your musical ear and put music theory into practice. With over 650 progressive lessons from beginner level to very advanced - including a set of Jazz lessons - you will learn to easily identify, transcribe and play intervals, chords, harmonic progressions, scales, modes, etc.



Integra - Fusing Music and Technology

Integra is running a Europe-wide programme of live electronic music activities. They have commissioned composers, organised more than 30 performances and transferred classic pieces from their original technology to more modern platforms.



Drake Music

Drake Music is a dynamic music and technology hub, founded in 1988 by Adele Drake. For over twenty years Drake Music has pioneered the use of assistive music technology to make music accessible and have developed a wealth of innovative and imaginative approaches to teaching, learning and making music.



Charanga Music - The digital learning community for music

Charanga Music is the UK's leading digital learning system for music. It is used by over 60 Local Authority Music Services in England and by over 10,000 professional music teachers.



FOREMI - Training For Trainers

FOREMI (Formation qualifiante des enseignants de musique instrumentale) is a European project partly financed by the action European Union Programme Leonardo da Vinci.



UMSIC - Usability of Music for the Social Inclusion of Children

UMSIC is an intelligent and accessible way to support children's social inclusion by music. The multidisciplinary and transnational S&T UMSIC project develops a system that opens interactive environments for children to communicate.



SoundJunction - E-learning music

SoundJunction is a web portal and resource center produced by the Associated Board of the Royal Schools of Music of UK.

The Music Division - University of Salford

The Music Division forms part of the Media, Music and Performance Department at the University of Salford and offers innovative foundation and degree programmes in a range of practical musical performance including band musicianship.



Youth Music - Origin8

Youth Music ran a competition for talented artists, producers and bands which was hosted via an interactive website. To encourage participation and sound experimentation, an on-line sampling tool was developed on the Origin8 competition website with sampling loops supplied by M-Audio.



E-Motion Project

The objective of the EU Project E-Motion, funded with the support of the EU Lifelong Learning Programme, is to improve learning of pupils by introducing a course at school of the latest musical technologies (computer music) to improve, as a consequence, their scientific and general knowledge.



DO RE MI FA SOCRATES

DoReMiFaSocrates aims at collecting and presenting information about activities in the field of music of the European Union programmes.



SOUND: knowledge of the physical phenomenon

Using new teaching methods in all disciplines using "sound" as an argument motivating. The experiments were carried out on the sound in the classroom, where was set up a corner equipped with different types of materials.



E_LAB & LIVE_8 - TEMPO REALE

E_LAB is the environment for changing sounds, consisting of nine modules of digital processing in real time. LIVE-8 is a composition environment for mounting and mixing live music, consisting of eight sound players.



CRANMUS Project

The CRANMUS was founded in November 2008 as a research project and teaching, with the dual purpose of promoting new "surveys field on ethno- culture (in Europe but also in the future, non- European) and to actively involve in them a mo 'for' field-school, "students selected - primarily the Conservatory.



PNA - The National Arts Award

The National Arts Award has been created to motivate students in evaluating their talents, creativity, ideas, experiments, in institutions of higher education art and music. The Music Conservatory of Trento was the responsible in 2009 for electronic music.



Prix du jeune chercheur "Science & Musique"

AFIM (Association Française d'Informatique Musicale) is the

promotional support of music on computer techniques activities in France as "Prix du jeune chercheur "Science & Musique".



Enseignement de l'Informatique Musicale - Université Paris VIII

Université Paris VIII is featuring, in Arts UFR, plastic arts, photo, cinema, theater, dance, and music and had always be considered as an "avant-garde" university. Music software have been included in cursus a few years ago in optional teaching of computer assisted composition for Music graduation.



Music Production International

MAI (Music Academy International) located in Nancy (North East of France) is widely known for its professional musicians courses, in partnership with Berklee College of Music - Boston. With Music Production Coursus, all the aspects of music professional productions are taught in the school.



Finalekurser (Finale courses)

Computer based notation and scoring is a powerful tool for anyone wanting to arrange and publish musical

arrangements. Kulander Musik offers education based around scoring program Finale.



Rockgymnasiet Scen & Musik (Rock Gymnasium Stage & Music)

Rock Gymnasium is a meeting place for young people from all over Sweden with music as their mutual interest. On top of all education offered, students are also allowed to make use of the digital music studios and other facilities of the school during evenings.



Musical Futures Young Champions - Peer review

Young Champions is an initiative set up by Musical Futures in conjunction with NUMU to provide peer-to-peer advice, mentoring and to offer guidance to students in other schools.



EmcoMetecca

The EmcoMetecca project is a long-term ("Methusalem") project that aims at closing the gap between musical experience and the digital/electronic environments that provide this experience.



UNKNOWN DEVICES: THE LAPTOP ORCHESTRA

Unknown Devices is an 'orchestra' of free improvisers playing laptop computers, analogue electronics, turntables, radios, minidiscs, strange sonic devices and (even) conventional amplified musical instruments.

2009

In musical terms Q-O2 explores mainly three lines of approach: acoustic and electronic improvisation and composed music as well as installations and soundart. Through its conceptual preoccupations Q-O2 finds easily points of access to other disciplines.



TICCE

Beyond the introduction to computers, now an indispensable tool for the citizen, the use of calls as well as a technical familiarization intellectual training, the TICCE also represent a significant potential for educational innovation and an almost infinite pool of new practices for teachers.



Using ICT in Primary Music Education - an open access teaching module

A teaching module to encourage young children to see the potential and to learn music through ICT and digital technologies has been produced by Ian Shirley at Edge Hill University.



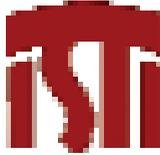
Master scientifique ATIAM

Beside strong activity in research domain, IRCAM in Paris is involved in formation (short sessions to two years professional programs) dedicated to music and sound use in different field on musical aspects, including education.



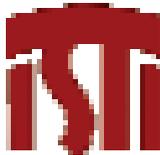
PRELUDE Project - ICT in Music Education

The PRELUDE project (Training programme for ICT in Music Education supported by the European Commission in the framework of the Socrates Programme - Comenius 2.1. Action) develops an in- service training programme for music teachers who are motivated to learn about, integrate and critically evaluate.



pureCMusic language Project - Institute of Information Science and Technologies (ISTI)

In order to put at work the gesture tracking devices and systems realized and to fully use the processing capabilities of a laptop computer, I started to write a very basic library of functions for synthesizing and processing sound.



Hyper-instruments Project - Institute of Information Science and Technologies (ISTI)

The PalmDriver (formerly TwinTowers) is an electronic device based on IR technology which consists of 8 sets of 4 sensing elements arranged as the vertical edges of a square-based parallelepiped.



System Fly Project | CRM Centro Ricerche Musicali

The system was created in 1990 with the specific intent to rethink the traditional algorithms for numerical implementation on a DSP with floating-point algorithms for testing original and new control systems for real-time applications.



Sound Guides Project | CRM Centro Ricerche Musicali

Guide sound installations of sound, technology-based waveguide, allow a limited diffusion of sound, allowing the design of the sound space with specific interventions and localized.



Helsinki Mobile Phone Orchestra

Helsinki MoPhO is an ensemble performing music with mobile devices. The phones – the instruments – create sounds which are controlled with hand gestures and keypads. The mobility of the instruments takes the ensemble far beyond ringtones by creating interesting 3D soundscapes.



Degree in "Composition in Electronic Music" - Department of Music and New Technologies

The recent reform (2003) of the Italian Music Conservatories system made these Institutions very similar to Universities. The "A.Casella" Conservatory - following this reform - set- up several new degrees and departments. This site is devoted to Electronic Music and New Technologies.



Chez Fabrica Project

Chez Fabrica is the music compilation realised for the 2009 Milan International Furniture Show. In the language of musical notes, the album narrates the ordinary and bizarre experiences of the young resident artists in Fabrica.



Town Musicians of Bremen

Creation of a hypermedia, freely adapted from the Brothers Grimm fairy tale.



Music Lessons Online

Creation of an Internet web site that contains Music Education material produced by the teachers, to be used in replacement of the traditional textbook



The Open Mind Project

The Open Mind Project is the dream of turning a computer into a musical instrument that can be used by children. The idea that a child makes music with a computer may seem

strange, but the educational value of this experience has proved to be significant in several aspects.



Musique Lab 2

Musique Lab 2 allows to explore many sounds parameters, to manipulate musical material or to rebuild parts of complex pieces of Music, like in a composer workshop.



Musique Lab 1

Musique Lab is a combination of 5 applications, each of them exploring the particular domain of sound creation, all based on musical langage fundamental notions.



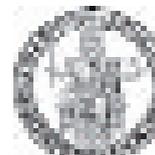
CIARM: Centro Interuniversitario di Acustica e Ricerca Musicale dell'Università di Bologna

CIARM means Centro Interuniversitario di Acustica e Ricerca Musicale, a Centre that links some Italian University Departments involved in Acoustics and Musical Research.



International Polytechnic "Scientia et Ars" - Vibo Valentia

"Art is Me; Science is Us" said Victor Hugo to claim the individual value of the artistic creation process compared to the collective collaboration necessary to develop and ascertain the scientific knowledge.



ACEL - ACoustics and ELectronics research group - Università di Napoli

The Acoustics and Electronics (ACEL) research group at University of Naples has been active in the field of acoustic signal processing for over fifteen years, promoting and performing research activities in computer music, speech and music analysis, synthesis and coding, vibration analysis and digital signal.



Collège Van Gogh -Clichy

Collège Van Gogh in Clichy music courses afford to students a innovative contents according the use of music software and discovering of actual musics. An effective course to discover the sound manipulations (recording, editing) on songs learned by students, as well as MIDI technologies.



Department of Electronic & Computer Engineering - Technical University of Crete

The Digital Image and Signal Processing Laboratory of Department of Electronic & Computer Engineering in Technical University of Crete is related with Signal and Image processing issues.

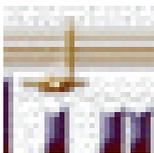


Orchestres à l'Ecole

The program was initiated by French Professional Syndicate for Music Trades and Music Handicraft, coordinated by Jean- Claude Decalonne .

Teaching the Blues 12-14 years

Pupils will listen to recordings of blues songs and/or teacher performance of blues. Whilst listening, pupils are expected to answer questions using listening sheets which will ask them to identify instruments used, tempo, subject matter of song, song structure, mood,



LIM | Laboratorio di Informatica Musicale

Laboratorio di Informatica Musicale (LIM, Music Informatics Laboratory) is one of the main labs of the Department of Informatics and Communication - Università degli Studi di Milano. It includes 4 labs equipped with a number of music, multimedia and computer devices.



E-motion

Too many young people drop out of school without reaching the fundamentals essential to the job market and society. They themselves face social exclusion, and society risks never receiving their input



EMPro

E.M.Pro. Electronic Music Producer is the first workshop in Italy for electronic music producer and live performer intended for musicians, djs or people keen on music. It is promoted by independent labels and management offices.

Annexes

D. The Net Sounds thematic channel on You Tube

In the following pages are listed the video resources of the NetSounds YouTube official project channel (last update 24 October 2011).

In the project web portal is possible to gain access to the channel divided in six different thematic channels: Lessons/Didactical material; Research Centres Results; Hardware and Software Products; Innovative Live Performance; New Music Market Scenarios.

LESSONS / DIDACTICAL MATERIAL



**Record micro tutorial 1 -
Record basics**
PropellerheadSW
88,223 visualizzazioni



5:14
**How to Record a Song -
Part 1: Set Up**
line6movies
13,575 visualizzazioni



1:18:38
**Composing With Sounds
and Images**
StanfordUniversity
2,352 visualizzazioni



5:04
**REX Jockeying with Livid
OHM64 and Reason 5**
PeffTV
5,644 visualizzazioni



56:12
**Samplitude&Sequoia-The
Object Editor A Guided Tour
(Full Version)**
kraznet
3,308 visualizzazioni



37:08
**Lecture 12w | MIT 21M.380
Music and Technology
(Contemporary History and
Aesthetics), Fall 2009**
MIT
11,120 visualizzazioni



27:32
**Lecture 12d | MIT 21M.380
Music and Technology
(Contemporary History and
Aesthetics), Fall 2009**
MIT
4,455 visualizzazioni



1:20:57
**Lecture 13 | MIT 21M.380
Music and Technology
(Contemporary History and
Aesthetics), Fall 2009**
MIT
7,187 visualizzazioni



1:14:55
**Lecture 16 | MIT 21M.380
Music and Technology
(Contemporary History and
Aesthetics), Fall 2009**
MIT
4,176 visualizzazioni



52:06
**Lecture 19 | The Fourier
Transforms and its
Applications**
StanfordUniversity
8,250 visualizzazioni



1:11:59
**The Anti-Ergonomy of
Instruments of Interaction**
StanfordUniversity
553 visualizzazioni



1:16:07
**Performance, Technology,
and [Post-] Postmodern
Engagement**
UCtelevision
1,006 visualizzazioni

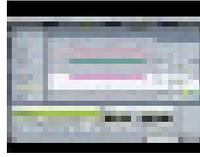


59:42

Capturing Sound: How Technology Has Changed Music

LibraryOfCongress

4,837 visualizzazioni



55:58

Electronic Music Tutorial (How to write beats) Part 2

cosmcosm

25,736 visualizzazioni



9:58

Samplitude CD Mastering Part 1

kraznet

29,267 visualizzazioni



34:36

Reason 5 | Propellerhead | Hip Hop Chord Progressions | Rick Ross Maybach Music Style Beats Tips

TodaysbeatsTV

12,926 visualizzazioni

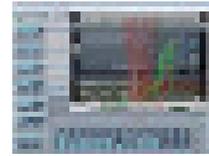


1:23:51

Tulane: The Founders of Computer Music

Tulane

6,558 visualizzazioni



6:04

Samplitude Music Studio 15, Reason and Rewire

kraznet

35,062 visualizzazioni



45:52

CPCO09 - John Maddog Hall "Make your own tipe of music" (V. campusparty)

923 visualizzazioni

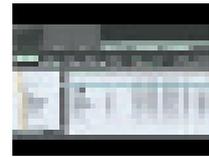


1:03:42

Collaborative Creativity - Zeitgeist Europe 2009

eurozeitgeist

5,223 visualizzazioni



3:41

Samplitude 11 Pro/Sequoia 11-BPM Loop Synchronization

kraznet

5,264 visualizzazioni



58:44

Electronic Music Tutorial (How to write beats)

cosmcosm

97,141 visualizzazioni



9:34

Samplitude - Getting Started

kraznet

27,920 visualizzazioni



6:52

Samplitude - Audio to Midi Transient detection

kraznet

10,630 visualizzazioni



1:00:46
At the Intersection of Music & Science
EmoryUniversity
351 visualizzazioni



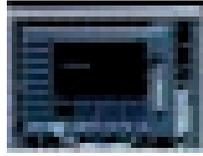
1:59
Pro Tools and Reason Rewire - Aux & Instrument Tracks
BerkleeMusic
8,450 visualizzazioni



7:51
Ableton Live 8: Quantizing Audio
BerkleeMusic
71,753 visualizzazioni



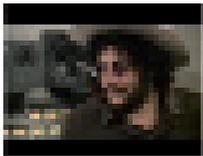
29:39
Loudon Stearns - Ableton Live Looping - Berkleemusic Open House
BerkleeMusic
4,943 visualizzazioni



4:11
Cubase 5 - Parametric EQ
BerkleeMusic
18,803 visualizzazioni



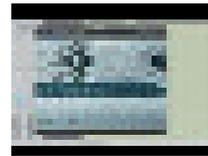
6:43
Logic Pro - Controlling Amplifier Section with Note Velocity in ES1
BerkleeMusic
12,306 visualizzazioni



5:00
Online Music Production Clinic with Don Was
BerkleeMusic
11,358 visualizzazioni



4:21
Logic Pro - Screensets
BerkleeMusic
2,817 visualizzazioni



3:58
Logic Pro - Changing Presents in Logic Instruments
BerkleeMusic
6,342 visualizzazioni



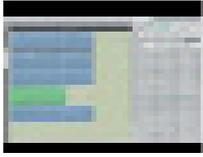
5:33
Audio Mastering Techniques
BerkleeMusic
30,698 visualizzazioni



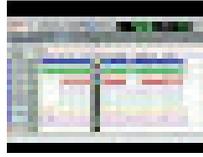
6:32
Dave Franz Discusses Producing with Pro Tools
BerkleeMusic
3,629 visualizzazioni



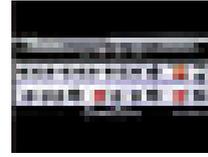
3:58
Logic Pro - Changing Presents in Logic Instruments
BerkleeMusic
6,342 visualizzazioni



3:03
Logic Pro - Arrange Window Tour
BerkleeMusic
6,648 visualizzazioni



0:39
Experiment With Song Forms In Pro Tools
BerkleeMusic
22,021 visualizzazioni



2:11
EQ Your Favorite Amp Sound In Logic
BerkleeMusic
7,369 visualizzazioni



1:26
Programming Beats in Ableton Live
BerkleeMusic
182,989 visualizzazioni



1:31
EQ Essentials in Pro Tools
BerkleeMusic
49,195 visualizzazioni



3:03
Compressing your Lead Tone in Logic
BerkleeMusic
8,923 visualizzazioni



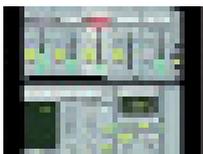
1:13
Live Drum Loops with Ableton Live
BerkleeMusic
65,010 visualizzazioni



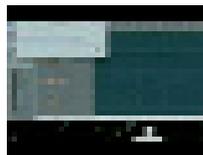
0:46
Mic Your Virtual Amplifier in Amplitude
BerkleeMusic
9,381 visualizzazioni



1:51
Pro Mixing with Compression in Logic
BerkleeMusic
53,908 visualizzazioni



1:43
Customize Your Effects in Ableton Live
BerkleeMusic
26,228 visualizzazioni



0:57
Recording Over a Backing Track in Logic
BerkleeMusic
3,782 visualizzazioni



1:58
Mixing Basics In Propellerhead Reason
BerkleeMusic
67,948 visualizzazioni



2:14

Automating Your Tracks in Reason

BerkleeMusic

21,828 visualizzazioni



1:45

Using Track Groups to Mix in Pro Tools

BerkleeMusic

123,578 visualizzazioni

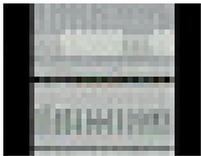


2:21

Getting Started 1: Audio Interface

AbletonInc

28,249 visualizzazioni



1:14

Operating Effect Sends In Pro Tools

BerkleeMusic

30,777 visualizzazioni



1:27

Easy MIDI Editing in Digital Performer

BerkleeMusic

11,127 visualizzazioni



3:01

Getting Started 2: Recording Audio

AbletonInc

12,868 visualizzazioni



2:14

Using Filter EQ in Pro Tools

BerkleeMusic

49,667 visualizzazioni



1:32

Convert Your Digital Performer Tracks into MP3s

BerkleeMusic

5,794 visualizzazioni

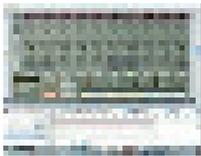


13:43

Propellerhead Software - Keyboard Drumming for Beginners part 1

PropellerheadSW

12,182 visualizzazioni



2:01

Adding Drum and Percussion to Hip Hop Beat Using Reason

BerkleeMusic

64,264 visualizzazioni



1:46

Transpose Your MIDI Data in Digital Performer

BerkleeMusic

3,216 visualizzazioni



8:04

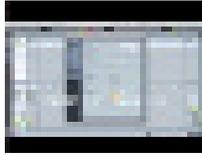
Mixing & Mastering Tutorial Pt 1: Limiter in Ozone w/ Ableton Live

DubSpot

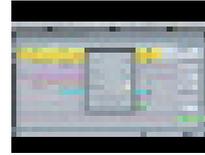
46,034 visualizzazioni



7:21
Practical iPad Music Making: Connecting Hardware with Create Digital Music & Tekserve
tekserve
38,543 visualizzazioni



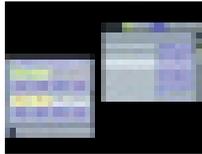
3:01
Getting Started 2: Recording Audio
AbletonInc
12,868 visualizzazioni



3:15
Getting Started 6: Exporting Audio
AbletonInc
6,297 visualizzazioni



17:10
Milton Babbitt on Electronic Music
echasalow
4,108 visualizzazioni



3:14
Getting Started 3: Setting Up Your MIDI Controller
AbletonInc
9,859 visualizzazioni



2:55
Getting Started 7: Session To Arrangement View
AbletonInc
6,921 visualizzazioni



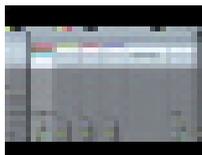
49:13
New technology and the music it creates
mirko124
539 visualizzazioni



4:49
Getting Started 4: Making Music with MIDI-Beats & Melodies
AbletonInc
17,199 visualizzazioni



2:21
Getting Started 1: Audio Interface
AbletonInc
28,249 visualizzazioni

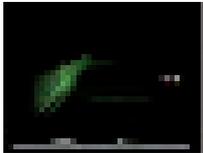


3:35
Getting Started 5: Working With Session View
AbletonInc
7,301 visualizzazioni

RESEARCH CENTRES RESULTS



Ircam Score Following Demo: "Partita I" by Philippe Manoury
ircamimtr
5,789 visualizzazioni



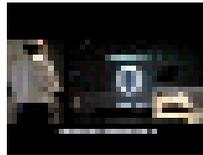
1:25:05
Chuck: A Computer Music Programming Language
StanfordUniversity
31,109 visualizzazioni



7:17
i-Maestro video
imaestrovideo
1,793 visualizzazioni



2:46
Human-Robot Jazz Improvisation (Highlights)
gerbilsproductions
44,064 visualizzazioni



1:17
Experiment: Gestures Associated to Environmental Sounds
ircamimtr
104 visualizzazioni



2:39
Mobile active music listening: Sync'n'Move 4All
InfoMusLab
312 visualizzazioni



1:21:30
MySong: Automatic Accompaniment for Vocal Melodies
StanfordUniversity
5,242 visualizzazioni



5:03
macchina della musica
SILabIstiCNR
383 visualizzazioni



9:46
music in touch 05
castifabrizio
855 visualizzazioni



3:11
Music and Digital Technology Converging at Emory
EmoryUniversity
437 visualizzazioni



14:13
AudioGL Pre Beta Demonstration Video 2 - Tech Demo
AudioGL
31,683 visualizzazioni



30:51
Max Mathews Radio Baton Demonstration
ComputerHistory
21,666 visualizzazioni



1:53:53
Max Mathews & John Chowning - Music Meets the Computer
ComputerHistory
1,721 visualizzazioni



1:09:52
Roger Linn Hosts New Musical Instruments Event at CCRMA - Eigenharp, Continuum and LinnStrument
SynthMeTV
3,252 visualizzazioni



3:27
Electrocado - Mechacado v2.0 Complete
Electrocado
2,916 visualizzazioni



1:10:53
Ray Kurzweil - Futurist
ComputerHistory
76,932 visualizzazioni



5:54
In Conversation w/ Ge Wang (SMULE) and Bill Stewart (Apple CoreAudio) @ CCRMA Stanford University
Oceanachine
315 visualizzazioni



3:48
kinect studies #2 - by Johannes Kreidler
mirko124
4,007 visualizzazioni



11:00
Beat Hacking With Euclidean Rhythms and Tonys Pulses
nuldude
9,048 visualizzazioni



2:00
SbLAC: Sonic bubble Linear Accelerator and Crasher
choihongchan
144 visualizzazioni



9:35
The Lattice Harp Information Session - CCRMA - Stanford University
nickkruge
328 visualizzazioni

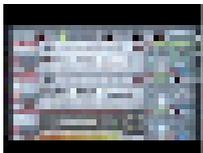


2:16
Musica e scienza ecco il suono della ricerca
Video la musicafisica091210
NetsoundsProject
25 visualizzazioni

HARDWARE SOFTWARE PRODUCTS



An Exclusive First Look at Tim Thompson's Kinect-Based Instrument: MultiMultiTouchTouch
newechoproductions
7,302 visualizzazioni



8:12
ReBirth for iPad PropellerheadSW
265,536 visualizzazioni



1:56
Barcodas iPhone app- Convert Barcode to Musical Patter - iPhone App Review by SenseiPhone
SenseiPhone
426 visualizzazioni



1:39
Introducing K-Bow KeithMcMillen
13,003 visualizzazioni



2:30
Roger Linn Design - New Musical Instrument Prototype
rogerlinndesign
267,416 visualizzazioni



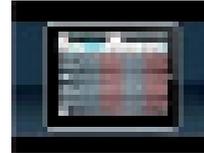
10:26
EarMaster 5 - Ear training software on Windows and Mac
eartraining
1,636 visualizzazioni



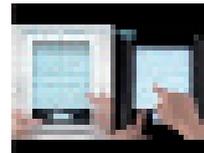
3:23
Weekend Project: Moofronic Mini Synth
makemagazine
145,594 visualizzazioni



1:00
Z3TA+ 2 - Second Generation Waveshaping Synth
CakewalkSoftware
32,993 visualizzazioni



9:04
FL Studio Mobile | Getting Started
imageline
153,431 visualizzazioni



3:27
Yamaha TNR-i online session
yamahajp
18,816 visualizzazioni



4:35
Quick Beat With The OP-1
MrYellowTangerine
37,609 visualizzazioni



0:57
Android Open Accessory demonstration
AndroidCentral
17,236 visualizzazioni



7:23
LV3 what's new.mov
MrFaderfox
8,830 visualizzazioni



9:24
Eigenharp range demo
eigenlabs
22,074 visualizzazioni

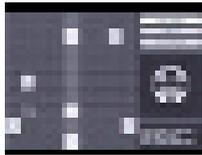
???? ?1??DEMO
@ KORG monotribe?
chuyaonline
21,246 visualizzazioni



5:54
Max for Live: The Monolake Granulator
AbletonInc
25,746 visualizzazioni



2:02
Nodal Networks :: A New Way To Control Synths & Effects
experimentalsynth
2,509 visualizzazioni



3:38
Generative Online Sound Sequencer - Otomata noiszez
229,370 visualizzazioni



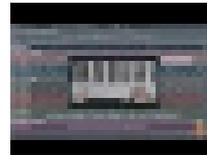
6:01
Novation Twitch Overview
NovationTV
112,555 visualizzazioni



2:15
Ambient Backgrounds with Nodal
experimentalsynth
2,128 visualizzazioni



1:59
Taurus 3 :: A Step Outside
experimentalsynth
3,305 visualizzazioni



5:51
FL Studio 10 | What's New?
imageline
635,566 visualizzazioni



2:24
Philip Glass' Koyaanisqatsi on Eigenharp Alpha
gbevin
7,819 visualizzazioni



1:05
Coagula MIDI Ribbon Controller 2.0
CoagulaTube
6,658 visualizzazioni



1:09
Bluetooth MIDI Demo
NettoyeurNY
3,302 visualizzazioni



3:50
Musik messe 2011 chuya's



2:20
Moog Synths & Modular Sequencing
experimentalsynth
2,742 visualizzazioni

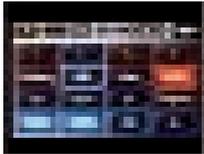
iPad - Dynamic Multitouch Filter
SynthTronica
10,761 visualizzazioni



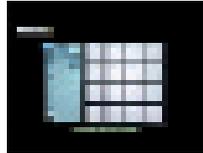
4:15
Octatrack 1
Genjutsushi
4,276 visualizzazioni



4:35
Propellerhead Balance with Reason Essentials
PropellerheadSW
88,664 visualizzazioni



2:23
mikrosonic SPC - Music Sketchpad for Android
mikrosonic
48,629 visualizzazioni



3:59
INTUA BeatMaker 2 - Official demo
IntuaTeam
153,664 visualizzazioni



4:35
Propellerhead Balance with Reason Essentials
PropellerheadSW
88,664 visualizzazioni



9:49
Renoise 2.7 feature-tour
vvoois
8,638 visualizzazioni



6:55
Sequencomat V3.2 functions
tonvibration
4,009 visualizzazioni



2:25
Jeremy Ellis performs on Maschine Mikro
NativeInstruments
724,668 visualizzazioni



5:28
SynthX overview
wayoutware
11,046 visualizzazioni



3:53
Moog Little Phatty - Arpeggiator, MIDI and CV Applications
experimentalsynth
5,063 visualizzazioni



19:52
Tempest QuickStart Video
rogerlinndesign
30,015 visualizzazioni



10:46
SynthTronica - synth for



4:18

PocoPoco
IDEELab

16,080 visualizzazioni



14:55

**Moog Chief Engineer Cyril
Lance and Moogerfooger
Cluster Flux**
cdmtv

8,585 visualizzazioni

NEW OPEN SOURCE PRODUCTS



**Ardour - Music Editing in
Linux - Part #1**
metalx1000

39,991 visualizzazioni



2:53

**MEEBLIP "The Hackable
Digital Synth"**
canecreek00

4,144 visualizzazioni



1:05

**Coagula MIDI Ribbon
Controller 2.0**
CoagulaTube

6,658 visualizzazioni



1:01

**Hydrogen Drum Machine -
Website Video**
metalx1000

4,815 visualizzazioni



5:33
iPad MPC Style Drum Pads - TouchOSC with Propellerhead Record PeffTV
42,679 visualizzazioni



2:45
Rakarrack Reverbtron Making simple echo w/ Hand Edited File transmogrifox
13,776 visualizzazioni



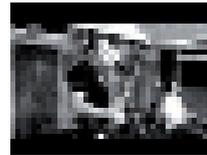
8:45
The Definitive Roland TB-303 vs Adafruit x0xb0x shootout phono1337
15,288 visualizzazioni



2:14
Euclidean Rhythms MIDI Pattern Demo WouterHisschemoller
5,770 visualizzazioni



3:17
PAM solo, take one by Steven Kemper universal0neness
42,549 visualizzazioni



2:37
An Open Source, Guitar Mounted, Multi Touch, Wireless, OSC Interface for Ableton Live JimPurbrick
1,919 visualizzazioni



4:15
Adam Drew: Open source music opensourceway
2,842 visualizzazioni



4:11
iVoxel - The singing vocoder virsyn
47,952 visualizzazioni



9:05
Linux Software for Audio I Puredata | Jack | Ardour mbutubuntu
2,058 visualizzazioni



2:49
SimplenZAR hannesder3te
5,740 visualizzazioni



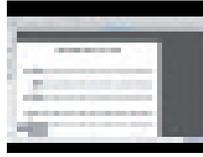
3:31
Odu, musical interface concept by Nicole Weber cdblogs
3,482 visualizzazioni



10:08
MIDI Controllers with Ardour - Linux metalx1000
1,075 visualizzazioni



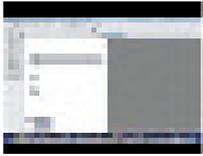
4:51
AmSynth Virtual Keyboard
metalx1000
1,524 visualizzazioni



3:19
MuseScore in 10 Easy Steps: Part 4 Note Entry with a MIDI Keyboard and Playback
MuseScoreHowTo
25,068 visualizzazioni



2:56
Musescore in 10 Easy Steps: Part 8 Codas
MuseScoreHowTo
8,975 visualizzazioni



2:59
MuseScore in 10 Easy Steps: Part 1 Score Setup
MuseScoreHowTo
71,079 visualizzazioni



2:32
Musescore in 10 Easy Steps: Part 5 Lyrics, Copying & Dynamics
MuseScoreHowTo
16,155 visualizzazioni



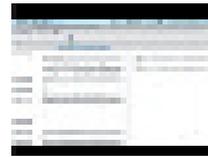
4:10
Musescore in 10 Easy Steps: Part 9 Drum Parts
MuseScoreHowTo
12,982 visualizzazioni



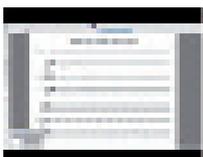
2:11
MuseScore in 10 Easy Steps: Part 2 the MuseScore screen
MuseScoreHowTo
24,899 visualizzazioni



2:38
Musescore in 10 Easy Steps: Part 6 Adding instruments, articulation and bars
MuseScoreHowTo
16,667 visualizzazioni



4:00
MuseScore in 10 Easy Steps: Part 10A Layout and Formatting
MuseScoreHowTo
4,967 visualizzazioni



4:35
MuseScore in 10 Easy Steps: Part 3 Note Entry Basics
MuseScoreHowTo
37,790 visualizzazioni



1:46
Musescore in 10 Easy Steps: Part 7 Repeats, 1st and 2nd time endings
MuseScoreHowTo
9,871 visualizzazioni



3:35
**MOOG SOUND LAB:
Tegan & Sara, Living Room**
MoogMusicInc
27,571 visualizzazioni



6:12
**sequencomat v3 meets
analog modular**
erasemusic
5,133 visualizzazioni



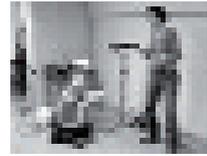
1:05:17
**Telematic Performance -
Mark Dresser CRCA**
Calit2ube
8,052 visualizzazioni



5:53
**MOOG SOUND LAB: Junip,
Sweet and Bitter**
MoogMusicInc
14,187 visualizzazioni



1:52
Herrmutt Lobby - Fader
Monky. max4live
hrrmtt
17,251 visualizzazioni



8:15
**Improvisation for Two
Augmented Voice
Performers - Nios Karma &
Nicolas d'Ales**
Ilkooks
677 visualizzazioni



2:43
**Harvestworks Primus Luta
Performance**
harvestworksnyc
2,261 visualizzazioni



4:38
**CCRMA Musicircus -
Excursion Into Mixed
Reality Installation**
phunter8
134 visualizzazioni



4:22
The Lost Sounds Orchestra
dante09cambridge
3,004 visualizzazioni



3:48
**BeatMaking with Triple A
(Episode 3)**
tripleabeats
21,007 visualizzazioni



8:18
**Fragmenta - CCRMA Fall
Concert 2009**
choihongchan
259 visualizzazioni



3:49
**MOOG SOUND LAB: OK
Go, This Too Shall Pass**
MoogMusicInc
17,610 visualizzazioni



2:25

Jeremy Ellis performs on Maschine Mikro
NativeInstruments

724,668 visualizzazioni



3:33

Controller Battle - ARTFUL CODGER (qualifying)
controllerismdotcom

4,851 visualizzazioni



6:18

PocPoco Live @ Tokyo Metropolitan University / SCIENCE CAFE
IDEELab

718 visualizzazioni



5:21

Nicolas Jaar: My Instrument
AbletonInc

24,835 visualizzazioni



7:33

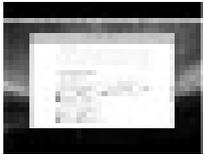
Morton Subotnick at Transmediale 2011 - Live Excerpt
AbletonInc

17,868 visualizzazioni

NEW MUSIC MARKET SCENARIOS



7:00
How to get your music on Beatport
54,171 visualizzazioni



2:35
SoundCloud: The Tour
soundcloudcom
2,247 visualizzazioni



Futurist Scenarios at MidemNet 2009: David Smith & Mark Earls MIDEM09
994 visualizzazioni



5:42
Aweditorium iPad App; a Journey Through Music & Video
AppsForiPads
839 visualizzazioni



1:42
Battle Studies Video n. 1
mayermusic
311,627 visualizzazioni



3:19
leeSA - VIVA LA VIDA (Cover)
friendznet
91,855 visualizzazioni



5:20
Radiohead - Staircase (live From the Basement)
radiohead
1,457,889 visualizzazioni



6:29
Adele - Someone Like You (Live in Her Home)
AdeleVEVO
45,298,684 visualizzazioni



2:10
Corinne Bailey Rae - Observer Music Monthly Podcast
CorinneBaileyRae



3:36
OK Go - White Knuckles - Official Video
OkGo
11,312,829 visualizzazioni



4:50
White Knuckles - Outtakes
OkGo
116,801 visualizzazioni



10:39
Sade - Soldier of Love: Making Of The Album
SadeVEVO
84,836 visualizzazioni



5:21

**Arcade Fire - Sprawl II
(Mountains Beyond
Mountains) (Sound
Opinions session) | Part 1
of 2**

ArcadeFireTube3

44,184 visualizzazioni



8:20

**Jarvis Cocker and Brian
Eno interview for BBC 6
Music
sixgroupsix**

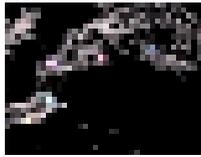
5,274 visualizzazioni



2:10

**Chickenfoot - Greeting from
the Studio Feb 2011**
iChickenfoot

45,273 visualizzazioni



2:15

**björk biophilia app intro
narrated by david
attenborough**
bjorkdotcom

135,345 visualizzazioni



4:28

**Bruno Mars -
"Grenade" (Studio Session)
LIVE!!!**

BillboardMagazine

35,813,184 visualizzazioni



4:07

**Brian Eno - Triennale
(Album Version)
SpaceAmbient**

1,795 visualizzazioni