AudioWire

The first part of this document explains what an Epitech Innovative Project is and what AudioWire is about.
The second part gives a list of other existing softwares.
The final part of the document will show what our project offers over other applications and what we will not implement.

Maximillien Brunelle, Huai Xie, Stéphane Rose

Guillaume Feraud, Augustin Pasquini, Hugo Defrance,

Vivien Meilhac

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Date	13/03/2012
Authors	Huia Xie, Stéphane Rose, Guillaume Feraud, Maximilien Brunelle, Augustin Pasquini, Hugo Defrance, Vivien Meilhac
E-Mail	audiowire_2014@labeip.epitech.eu
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Reminder of the EIP

What is an EIP and what is Epitech?

Epitech, the school of innovation and Information Technology

Epitech, is a school of computer expertise created in 1999 in the wake of the School of Computer Science and Advanced Technologies (Epita) to accommodate the graduates enthusiasts who wanted to learn IT by practicing and not with theory classes. The course lasts five years and provides an expert information technology degree recognized as Level I by the CNCP.

The specificity and strength of this school is based mainly on the fact that students are encouraged to learn for themselves information they need with group projects and more ambitious such as PFA (Projet de Fin d'Année) and EIP (Epitech Innovative Project). Contrary to the traditional schools where education or knowledge is brought to the student to solve problems, a student at Epitech will have to find himself the concepts he needs with his working group to resolve an ambiguous problem. It is the main goal of the Epitech pedagogy, which is the capacity to adapt to a problem and concepts as well as managing a team.

Epitech Innovative Project

The Epitech Innovative Project also known as EIP, is a group project and innovative project in the field of computing. It must be realized over a period of 18 months and consists of groups ranging from 5 to more students. EIP illustrates pedagogy taught by the school because it helps empower students on research and development of an innovative idea in order to bring it to the end of its completion on time, both technically and administratively.

This project represents a major step in the curriculum of an Epitech student

because it enables him to move from student status to a real professional. Indeed, the success of this project will allow most students to settle in the business market by starting their own company, or by joining an existing firm that would be interested in the concept.

Objectives

You should know that the EIP is not just a project to demonstrate the knowledge we gained during our Epitech curriculum. Indeed, technology and more particularly the field of computer science constantly evolves. That is why the knowledge is not really interesting because it is only temporary. A major goal of the EIP is to teach students to go beyond the technical aspects of a project in computer science, to develop the documentation part and external communication. You can have a functional project, but if you don't know how to sell it, it's worth nothing. This educational aspect of the project is very important because they are external markers who will judge the project and the work provided during these two years during the oral presentation of the defense.

EIP subject

Our project AudioWire is an evolved music player.
It has the following features:

- Library Manager
- Play-list management
- Smart Play-lists (Learning Algorithm based on the tastes and desires of the user) with algorithms related to data mining.
- Synchronized playback on the LAN (two computers in two places playing the same song at the same time - the song is not necessarily on both machines)
- Visualizer
- Ability to listen to radio stations and podcasts

Also this software will offer more web-oriented functionalities:

- A chat and a list of friends

- File Sharing
- Sharing of personal tastes (playlists, smart playlists ...)
- User streaming, that is to say the opportunity to listen at the same time the same music between multiple users.

AudioWire will be compatible with Windows, Mac and Linux. We also plan to port it to Android and IOS.

Existing projects

List of projects

- iTunes
- Windows Media Player
- Winamp
- VLC
- Real Player
- Spotify
- Last.FM
- SoftSqueeze

Description and status of these projects

- iTunes

iTunes is a software that allows you to manage your media files.

An interesting feature of this software is called Genius. It enables creation of play-lists based on songs in you audio library. Another feature of iTunes is its social network linked to music: Ping.

It allows you to rate your music and to discover songs that you might like.

- Windows Media Player

We often find this software installed on windows machine because it is their default player.

Its major feature allows the user to manage his media library, to import songs from a CD, to burn a CD based on a play-list. It is a basic but stable player.

- Winamp

It is a multimedia player available on both Windows and Mac (still in beta version). This software is able to read and play most of audio and video files. Furthermore, it offers access to numerous free Internet radios and channels.

Another feature of this player is its management of plugins.

- VLC

VLC is open-source player based on the VideoLAN project. It is avaible on more than twenty platforms.

It integrates the majority of codecs needed to read an audio or a video file. It is estimated that at least 50 millions users use VLC and places this software as one of the leaders of the free multimedia players.

- Real Player

This software uses an open-source engine named Helix. Real Player was first released in 1995 under the name “REAL Audio Player”.

It was one of the first players to read streams on the Internet. Real Player exists in two versions: a free on and a paid version that gives more features.

- Spotify

Spotify is a proprietary music streaming software developed in Sweden. Thanks to a peer-to-peer function, it allows you to listen to songs almost instantly.

The Spotify library of songs is estimated at 10 million songs. An offline listening feature will also be available for premium users.

- Last.FM

Last.FM is both a web radio and a website allowing to find songs based on statistics and recommendations. Last.FM has about 40 million users.

- SoftSqueeze

SoftSqueeze is a synchronized audio player that works on a local network. It also allows users to stream their music on the Internet with other users.

Other features found in SoftSqueeze are those of a basic media player.

Links for these projects

iTunes : http://www.apple.com/fr/itunes/

Windows Media Player : http://windows.microsoft.com/fr-FR/windows/products/windows-media-player

Winamp : http://www.winamp.com/

VLC : http://www.videolan.org/vlc/

Real Player : http://france.real.com/video

Spotify : http://www.spotify.com/fr/

Last.FM : http://www.last.fm/

SoftSqueeze : http://softsqueeze.sourceforge.net/index.html

Positioning of the project

What we contribute

The Audiowire project is based on two parts: a software and an interactive web platform.

The software will feature an automatic play-list management based on an artificial intelligence, which will suggest songs to the user according to his musical preferences and his mood. It will also be possible to broadcast music synchronously on the local network or over the Internet with friends.

Moreover, Audiowire will add a social component to the music listening experience allowing the user to share his musical tastes and mood with his friends.

The interactive web platform will let the user reach his friend list, communicate with them and listen to their musical suggestions if they are available for free on the Internet.

What is not covered

Audiowire will not handle video because we chose to concentrate our efforts on a clever music suggestion. It will also not be possible to buy music from Audiowire. Finally, the conversion between different audio formats will not be possible nor will the burning of CDs.

The obsolete

Nowadays, the Internet includes more and more social tools.

Softwares, such as VLC Media Player, do not include that kind of features which means that they are likely to soon cease to exist and should be redesigned. That's this interactive philosophy that animates the Audiowire project, which makes it not obsolete. A lot of audio player do exist, but only a few include that kind of social and clever solution.

Conclusion

Here, we focus on features that an audio player usually offers. Some of these features, like video playback, are not shown in the following table.

	iTunes	Spotify	SoftSqueeze	AudioWire
Library Management	X		X	X
Play-list Management	X		X	X
Smart Play-lists				X
Synchronized playback			X	X
Internet Radio / Podcast	X	X		X
Visualizer	X			X
Web Interface	X	X		X
Windows	X	X	X	X
Mac	X	X	X	X
Linux			X	X
iOS	X	X		X
Android		X		X

To conclude, Audiowire brings good features from other softwares together in one application. The software is innovating on two major parts. The first is its management of smart play-lists and the second is its synchronized music playback. By joining powerful features from other softwares, AudioWire will stand out. Thanks to these options the user will have a unique experience.