Mobile Music Interfaces Evaluation

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INTRODUCTION

Today, in a continuously changing environment with a wide variety of products and an increasingly demanding market, the success of a product depends on its ability to adjust to the needs and desires of the user. So, new concepts of importance have emerged.

In this scene, the concept of usability has arisen. Usability refers to the ability of a product used by specific individuals with specific targets under certain circumstances to be effective, efficient, and provide subjective satisfaction to users. In this article, the new musical interfaces on mobile devices are analyzed. These interfaces are the result of the enormous technological development in the last few decades and the increasing demand of consumers in the upgrade of capabilities. Such innovations affect the field of computer music, as well as the market of mobile industry (Margounakis & Politis 2013). So, a new research field is created, which has an imperative need for primary experimental results in the subject. Their contribution will determine the evolution in a relatively new industry regarding computer music applications in mobile devices.

More specifically, this article focuses on the usability of new computer music interfaces in mobile devices. At first, the computer music interfaces are being categorized by specific criteria. Furthermore, the concept of usability is introduced and its criteria are defined by specifications – features and capabilities of new technological products, such as smart phones and tablets, in order to examine the best way for successful results in any mobile music interface.

Finally, the contribution of this article is associated with the role of usability in mobile devices (smartphones – tablets) nowadays, since the need of usability has become widely admissible as a basis for the development of any modern musical application. Besides, the requirements of users (customers) have been upgraded so much that every company of mobile or music industry care about the cooperation between them in such a way that they can afford products, which are possible to cope with the needs of their clients.

BACKGROUND

Mobile Music Interfaces

Mobile music interfaces are software applications that need to be installed on the user's device to operate. A large number of such applications have been developed nowadays. Those are designed especially for certain devices, depending on which operating system they use. For instance, Android applications are not compatible with those produced for Apple (iOS). Therefore, software development teams are obliged to choose their platform, i.e. choose which operation systems are to run their applications on. Nevertheless,

some applications are integrated into most operating systems of the market, despite the fact that they are created by a company that is not directly associated with the company of the specific operating system (third-parties). The acceptance of such applications lies in the terms of use and compatibility of the company.

All these applications, which comprise of music software (this kind of interfaces is the main subject of this article), games, image processing software etc., lie on the Web and are distributed to the users via specially designed applications libraries. Depending on the conventions that apply and the operating system used, the user can download and install them for free or by paying a cash fee. Some usual categories of the applications offered for online downloading are:

- Streaming
- Synthesis
- Controllers
- Accessories
- Interconnection
- Entertainment

More and more new music applications are released in the online stores, gradually increasing the possibilities for musical programming (Earl 2012). A detailed summary of the technical capabilities and limitations of mobile handheld devices regarding their use as musical instruments and interfaces has been presented by Essl & Rohs (2009).

Leader companies like Steinberg and Propellerhead (which produce some of the most important and internationally recognizable DAWs – Digital Audio Workstations) move into developing applications for modern mobile phones and devices, using the capabilities of cloud computing, in an effort to remain competitive and establish their positions in a relatively new technology area. Examples of the most popular mobile music interfaces follow.

DAWs

Steinberg (a subsidiary of Yamaha Corporations), is the company responsible for the creation of one of the most successful DAWs worldwide: Cubase. The latest releases of Steinberg include a series of five new applications for iOS:

- Cubasis
- Cubase iC
- Cubase iC Pro
- Loopmash
- Loopmash HD

Cubasis is a new sequencer for iPad (Figures 1 and 2). It has been created for easy-to-use various opportunities available for recording, mixing and editing music via touch screen. The user can open Cubasis files from Cubase on his personal computer, if it is running Windows or OSX. The software features Key and Sample Editors, sound effects for mixing and various virtual instruments that can be played in real time via the touch screen.

CubaseiC was developed to provide iPhone and iPod with the functionality of a remote controller for Cubase 6, Cubase Artist 6, Cubase 5 and Cubase Studio 5. That enables the user to have control over the basic functions of the aforementioned programs from anywhere within the range of the wi-fi network. It gives access to basic transfer functions and the capability of monitoring and controlling a track by implementing Arranger Track.

CubaseiCPro represents the most sophisticated form of CubaseiC regarding Cubase's control from a portable device and focuses on the process of recording.

Loopmash is a virtual instrument that produces music by combining the offered loops. Based on the virtual instrument Loopmash of Cubase 6, the application offers a wide variety of loops, ranging from disco to ethnic sounds, as well as many options especially for novice users. The user can edit volume, tempo, the effects, the loops and many other settings via the touch screen of the device. The core of the application is the SliceMatrix page (Figure 3) that displays four parts, each consisting of 2 bars. There is the option for a track to be master-track, while the rest 3 tracks follow. Playback options and settings, such as NumberofVoices, SelectionGrid, SelectionOffset and Staccato, are provided.

A more advanced form of Loopmash for iPad is *LoopmashHD* (Figure 4). It bears all the aforementioned features with some differences:

- It contains 30 presets.
- It offers 24 scenes per preset (instead of 8)

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