

Interactive Music for Mobile Digital Music Players

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Introduction

The iPod [1] and similar mobile digital music players are becoming part of our everyday life, enabling anyone to carry his complete music collection to anywhere. While facilitating the permanent and immediate playback of any desired song, these devices generally lack an important feature: the playful interaction with the music playback and the creation of new music itself. After initial experiments with the port of ucLinux to the iPod [2], we believe that playful mobile music creation needs to be an integral part of the digital lifestyle device of the future. We managed to port Pure Data (Pd) [3][4] to the iPod, which now enables us to create interactive musical content for this device.

Scratching & other DJ Tools

The first application that obviously comes into one's mind is the creation of a scratching simulation. The iPod's touch wheel is already perfectly designed for such an application and we are planning the implementation of variations such as classic vinyl scratching techniques and newer digital derivatives. In a party music playback scenario this and other DJ Tools could become a valuable and fun extension to ordinary music playback.

Musiclets

In contrast to the first application scenario where existing musical content is modified *Musiclets* are autonomous musical applications that create continuous musical output based on various algorithmic music generation methods. User input is limited to the occasional modification of parameters by turning the scroll wheel for example. Alternatively the addition of sensors such as accelerometers could modify parameters such as tempo based on the personal rhythm of a jogging person.

Microinstruments

A third general category of possible applications for an interactive digital music player is *Microinstruments* which optimally take advantage of the limited input methods and sound generation possibilities of the mobile device. Such small musical units could also be implemented on similar mobile devices such as mobile phones and PDAs and extend to collaborative musical tools by taking advantage of wireless communication such as Wi-Fi or Bluetooth.

References

- [1] Apple Computer Inc., iPod: <http://www.apple.com/ipod/>
- [2] ipodlinux community web site: <http://www.ipodlinux.org/>
- [3] Miller Puckette, Pure Data: <http://www-crca.ucsd.edu/~msp/software.html>
- [4] Günter Geiger, PDA: <http://gige.xdv.org/pda/>