

SonicPulse – exploring a shared music space

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ABSTRACT

In this paper we present a design for a social music application for mobile devices. The design allows users to passively monitor a shared music space, or actively look for other users of the system. The user can furthermore engage in shared music use. The proposed design can be used to investigate the question of user willingness to engage in playful music sharing, and methods which allow both local and remote experience sharing.

Keywords

Mobile music, collaboration, peripheral awareness, social software, audio interfaces

INTRODUCTION

SonicPulse is an application which allows the user to discover other mobile music users and communicate with them in an abstract manner. The user is able to actively or passively scan the music space for other users. Passive scanning is done by listening to the dynamically generated ambience of the system, the *pulse*. This is an auralisation of the general activity in the system (Figure 1).

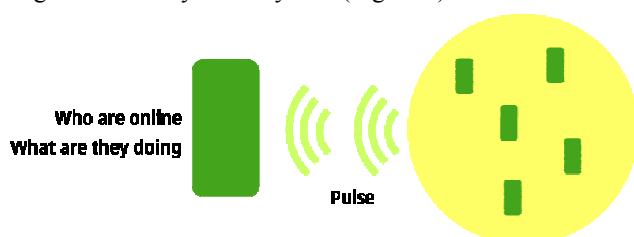


Figure 1. Listening to the pulse of the system

The pulse will allow the user to determine how many users are online in the system and it should allow the user to infer what kind of activity those users are engaged in.

In active scanning the user can send out a *ping*, a personal audio snippet (Figure 2). The ping is reflected from other users as an *echo*, a sound describing the nature of the discovered user. The users can send specific music files or distinct sounds to others, denoting e.g. a willingness to start a shared session.

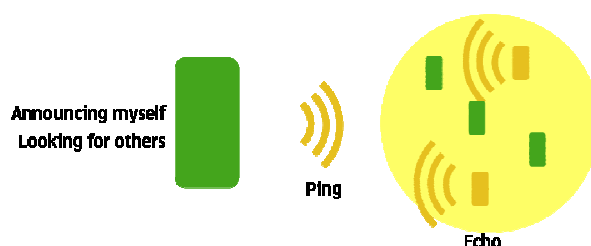


Figure 2. Pinging the system

Thus abstract dialogue can lead to musical sharing, co-listening and taking turns as DJs (Figure 3).

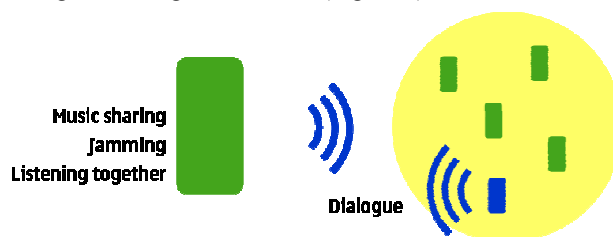


Figure 3. Engaging in collaboration with another user

The proposed system and the results of a field evaluation will provide insight to the value of a musical communication system in a mobile context.

RESEARCH QUESTIONS

The main research questions concern the *musical* and *social* aspects of the design. A third question concerns the *feasibility* of the design for prototyping and implementation.

Musical research and design questions

The system has to provide different kinds of sonic feedback to the user: a general feel of the number of users online – *the pulse of the system*, and specific audio signals for direct communication between users. The nature of these sounds will be one of the key design research questions for the application. The system should allow the user to select or create personal audio signals for themselves.

- Pulse – the dynamic ambient soundscape representing the number and activity level of other users in the system
- Ping – a snippet sent to the music space to detect other users
- Echo – a response to a ping, reflecting the activity and musical taste of the discovered user
- Local and remote echoes – distinguishing between users who are nearby and further away
- Action sounds – system specific sounds or music modulation effects used to communicate with other users
- Music files – longer music snippets and files used to initiate and conduct music experience sharing

Social research questions

SonicPulse is designed to be used in a mobile device, and will have to accommodate a wide variety of contexts of use. The design should incorporate methods to interact with local and remote partners, and allow asynchronous interaction with users who can not fully engage in the *SonicPulse* activity.

The aim of the system is to allow users maintain ties with a group of known contacts, but also allow discovery of new contacts. The system should thus allow users to create identifiable audio personalities for themselves.

Other questions include issues of privacy and identity and whether the proposed system can provide enough entertainment or utility to the user to warrant continued use, and what new and unexpected uses are discovered.

Implementation

The application is designed to work with a mobile low-end audio system, capable of at least monophonic playback and low-bitrate audio. The design is planned to be developed on mobile phones as a Macromedia Flashlite 2 application, and later as a S60 Symbian application.

Evaluation

The design will be refined through rapid prototyping and fast user testing of paper (sound) and functional prototypes. The final prototype will be evaluated through field tests, using at least two non-overlapping peer groups within the same system.

RELATED WORK

Multiparty audio use is explored in e.g. Sotto Voce [1] and Mad Hatter [2]. Use of musical audio in messaging is investigated in Hubbub [5]. DJammer [4] describes a system where multiple users can engage in jamming.

Reflecting the activities of a group of people through music was explored by Mazalek and Jehan [**Error! Reference source not found.**] by adapting the ambient music of a social gathering depending on the way people mix their drinks. Butz and Jung [3] have investigated methods of notifying users through auditory cues in ambient soundscapes.

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