MobileSoM

MobileSoM (Mobile Selection of Music) is a prototype entirely programmed in Java Micro Edition (J2ME). It allows users to browse through their music collection that is displayed as a two-dimensional map on their mobile device. Pieces of music are played locally or are streamed from a web server. Moreover, the prototype can be used as a remote control (XPlayer). Instead of playing a piece of music on the mobile device, the software triggers another device to play the song.

The Grid-Unit Concept

MobileSoM offers a framework for using different visualization styles of music collections based on the Grid-Unit Concept. A Grid is divided into Units which group pieces of music (Map Items) with similar properties together.

Visualizations

- Album Covers
- Emotions
- Self-Organizing Map

Playlist Generation

Song titles are displayed on the screen by pointing on a specific location on the map. By drawing a path or pointing on a single position on the map, one or more songs are selected and added to the playlist in Creation Mode - Figure (b). According to the list, the user can alter by removing or changing the position of music titles in Edit Mode - Figure (c). The items from the final playlist are played back from the device, streamed from a server or sent to a server in Play/Remote Mode - Figure (d).

Any click with the stylus on a specific location on the screen produces a small circle on that place which fades out within a half second - Figure(1). With a click on the device, a song title is displayed on the screen by pointing on a specific location on the map. Any click with the stylus on a specific location on the screen produces a small circle on that place which fades out within a half second - Figure(1). With a click on the device, a song title is displayed on the screen by pointing on a specific location on the map.

Multiple Device Deployment

The prototype was developed in NetBeans IDE. A MIDlet is tested on an Emulator first. NetBeans supports direct integration of emulators by various manufacturers (e.g. Sony Ericsson, Nokia). Moreover, the IDE supports developing applications for multiple devices by adding and executing device-specific code as configurations within a single MIDlet, called Device Fragmentation.

Innovative User Interfaces for accessing Music on Mobile Devices

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Preprocessing

XPlayer

MobileSoM is the first J2ME application available that implements the paradigm of generating playlists using a Self-Organizing Map. In order to run MobileSoM, the prototype needs a Map Image, which visualizes the music collection and a Data File, which contains the path to the music files and the location of them on the map, as input parameters.

Using the Stylus

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Real World Devices

Testing

Deployment

Nokia 7710

Extenders

Sony Ericsson M600

Nokia 7710

Emulators

Sony Ericsson M600

Nokia 7710