RUTGERS
WINLAB | Wireless Information Network Laboratory

JukeBox

Summary

Researchers


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Goals

To create an android based social music streaming application using MobilityFirst API and/or Internet Protocol(IP).

- **A user can create or join a station and contribute their songs to the station queue.**
- **All users can listen to the songs on the station queue.**

Features

Current

- Create a station
- Join a station
- Add music
- Stream music to all devices simultaneously

Future

- Vote on music in the playlist
- Remove unpopular songs from the playlist

Details

Application Environment

Creating and Editing Stations

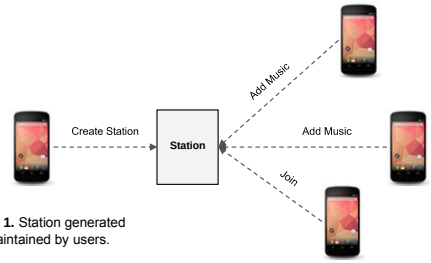


Figure 1. Station generated and maintained by users.

When a song is added to a station queue, only the name of the song, the song length, and the address/GUID of the song holder is stored on the server. The song files are sent directly from the song holder to the other station members.
Music playback starts as soon as a song is added to the statio queue.

Playlist Curation

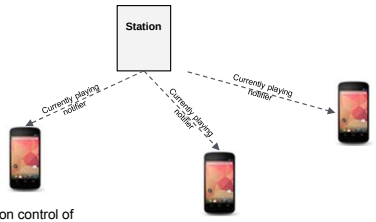


Figure 2. Station control of music playback.

During playback, once a song is reached on the queue, the station makes sure that all the devices have the song downloaded (or a timeout occurs) before instructing the devices to play the song. The station then issues a currently playing notifier to each of the users tuned in.

Details Cont.

Application Environment Cont.

Sending music

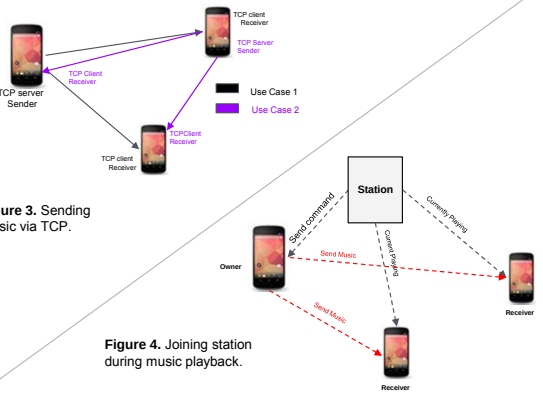
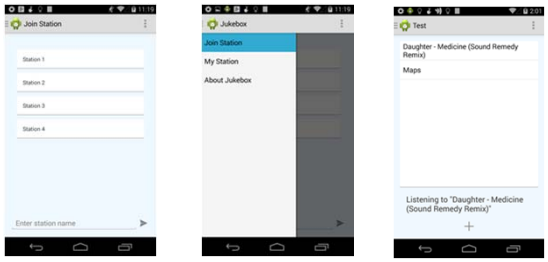


Figure 3. Sending music via TCP.

Figure 4. Joining station during music playback.

If a user joins during music playback, the station tells the device holding the currently playing song to send it to the new user. The station then tells the new user to play the song starting from the current position of the song.

User Interface (UI)



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