**Documentation – ViBeat**

Architectural Overview

**Server side**

Consists of a main thread to catch new comers and a thread for each open party, that manages the synchronization mechanism.

**Client side**

There is ClientManager object which manages the different threads and objects of the application, the main of which are:

* Listener thread which listens to commands coming from the server.
* Sender threads to handle sending to the server the requests which are saved in a queue.
* GUI manager to control the UI, and handle user actions.
* Media manager to manage two parallel MediaPlayer objects: one to play the current song and another to fetch the next one - to reduce loading time between songs.

Main APIs

Firebase Storage - for saving the music files and track pictures.

Firebase Data – for saving music metadata.

Firebase authentication using Google account.

Server is running on an EC2 instance in Amazon AWS.

Usage Instructions

* First you need to sign in to the application using a Google account, and make sure you are connected to the Internet.
* Either enter an existing party (search by name or enter a party near your location – if by location, make sure GPS is on).
* Or create your own party: give it a name, decide if it should be private or public (using the lock icon), and choose a track to begin with.
* After creating a party, you can add song using the leftmost icon (search by prefix).
* You can manage the party members and info, and pending join request in a screen you can get to by pressing the rightmost icon. In order to make another participant admin you need to press the crown icon near the person’s name.
* Use the play / pause, next and the progress bar to control the flow of the music in your party.
* You can shuffle around the order of the tracks in the playlist and change the currently playing song by clicking the one you want to hear.
* Notice – only admins can control the playlist, non-admins may only enjoy the sound or mute the music for themselves only.
* If by any chance the party got out of sync, try using the refresh button to fix it.