

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.