CECS 327
Assignment 1: Music Streaming Interface

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1   Task

A music streaming service allows users to play different song. Examples
are Spotify, Pandora, Amazon Music, etc. During the semester you will
implement your own music streaming service. The first assignment is to
design the user interface of the music streaming service similar to Spotify.
The service is a standalone application. In other words, it runs in its own
process and all data are local. The service must be fully functional. The
imlementation is in Java or C++. The service DOESN'T use any database.
Instead, it reads the file music.json that contains all the available songs.

A Json file consists of a set of (key, value). A value can be another Json
object, array, set, or a single value. Braces denote sets and square brackets
denote arrays. Use Gson https://github.com/google/gson to parse the file.

To play a song, you need the to have the id that appears in "song:id" key
of one specific song. The name of the song must have such id. For testing
purposes, you can use some songs with any mp3 attached to it. For example,
for the song "I Didn't Mean To" by "Casual", the json objects is::

```
"release": {
  "id": 300848,
  "name": "Fear Itself"
},
"artist": {
  "terms_freq": 1.0,
  "terms": "hip hop",
```

```
  "name": "Casual",
  "familiarity": 0.581793766,
  "longitude": -63.933357868519515,
  "id": "ARD7TVE1187B99BFB1",
  "location": "California - LA",
  "latitude": 37.15735675013362,
  "similar": "ARV4KO21187FB38008",
  "hotttnesss": 0.401997543
},
"song": {
  "key": 1.0,
  "mode_confidence": 0.636,
  "artist_mbtags_count": 0.0,
  "key_confidence": 0.736,
  "tatums_start": 0.28519,
  "year": 0,
  "duration": 218.93179,
  "hotttnesss": 0.60211999,
  "beats_start": 0.58521,
  "time_signature_confidence": 0.778,
  "title": "I Didn't Mean To",
  "bars_confidence": 0.643,
  "id": "SOMZWCG12A8C13C480",
  "bars_start": 0.58521,
  "artist_mbtags": "",
  "start_of_fade_out": 218.932,
  "tempo": 92.198,
  "end_of_fade_in": 0.247,
  "beats_confidence": 0.834,
  "tatums_confidence": 0.779,
  "mode": 0,
  "time_signature": 4.0,
  "loudness": -11.197
}
```

The name of the mp3 file would be SOMZWCG12A8C13C480 without extension.

The interface must have the following minimum features (extra features

will account for originality):

- Users need to sign in the system.

- Each user has a profile with the list of play list. Use Json objects.

- Users can create and delete play lists.

- Users can make any search by artist or song. Other keys are a plus.

- Users can play songs.

2 Grading

The rubrics of the assignment is in Dropbox of Beachboard

3 Deliverables

Compress in a zip file and upload to beachboard. The zipfile must contain:
1.-Source code. (The program has to compile after download)
2.-User guide
3.-Summary of work completed (if some features are not implemented)
4.-List of member contribution