Course Project-CISC3002

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Introduction

This application named *King of Karaoke* is a quiz game about music. Users will login in with their account(they can use Google Account), answer a number of question which are randomly slected from a questions library within the specified time, finally submit their score to the server and let other users know their grade.

In this project, I use **Java** and **Android SDK** to develop the front-end application. As for the back end which is used to store data, I use **Python** and **Django Framework** to develop it.

Since the course focuses on Android application development, I will not go into details about the specific implementation of the back-end. The source code of the whole project and other data used in this was upload to **Github**.
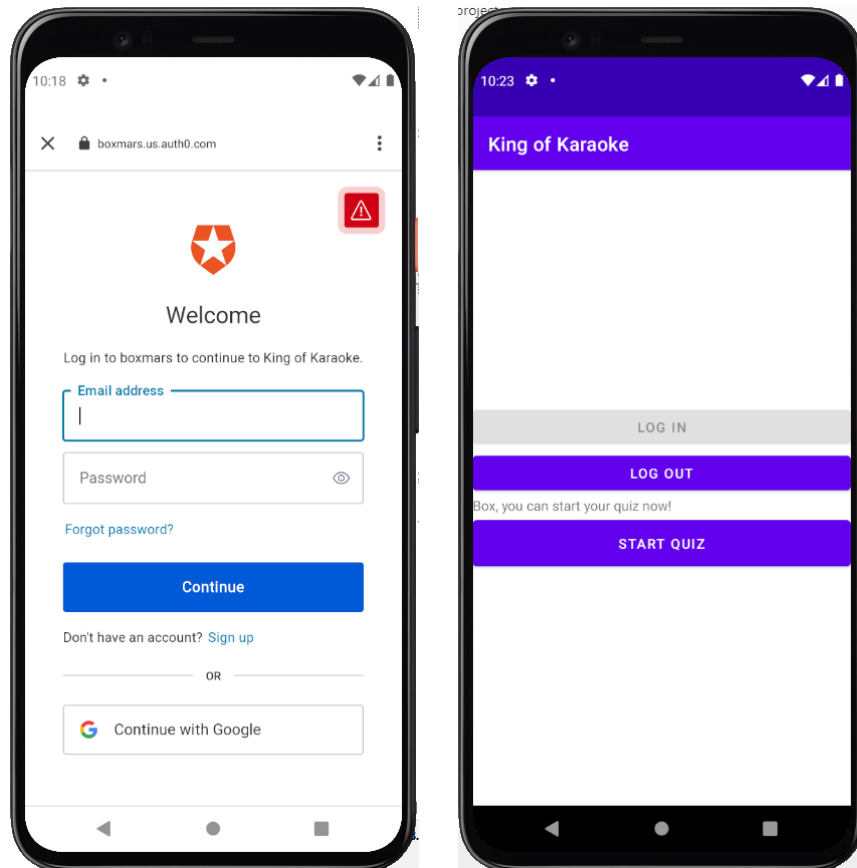
Details

Login/ Loutout

This part uses a third-party services named **Auth0** to implement. When user click the button to login or lognout.

When user click *Login* button, *Auth0* will bring up a browser window.

After the user login successfully, the application will get the username and the email which will be stored and the email will be used as the unique identification information of the scoring system.

Update the data library

When the application starts, it will send a request to the server and get the latest version number of the songs library (VERSION_API). At the same time, it will also get the version information stored locally. If those two version number are different, the application will call a new *Activity* with dialog theme to ask the user whether to update the information. If user choose *Yes*, the application will request the songs infomation in JSON (SONGS_API), like this:

```
[
    {
        "song": "Chocolate",
        "singer": "Alfonso Lugo",
        "songURL":
"https://github.com/BoxMars/AndroidDevCourseProject/raw/master/static/Alfonso_Lugo
_-_Chocolate.mp3"
    },
    {
        "song": "Study and Relax",
        "singer": "D JAY KOI",
        "songURL":
"https://github.com/BoxMars/AndroidDevCourseProject/raw/master/static/D_JAY_KOI_-
_HOUSE_PARTY_._Feat_Fil_Straughan__.mp3"
    },
    ...
```

```
        ...
        ...
    ]
```

Those infomation will be stored in application's internal storage. A `DownloadAsynTask` will start to download all music and sotre them in internal storage.
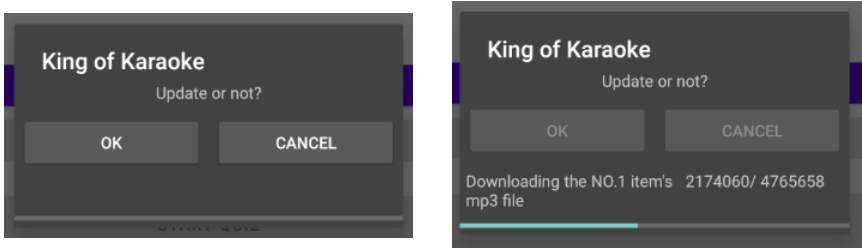
Quiz

The Quiz activeity consists of five parts. On the top there is a *countdown timer*. Under the coundown timer is the *music player* part and the *cover image* of the music. Then, there are four radio button and three button, *Previous*, *Next*, and *Submit*.
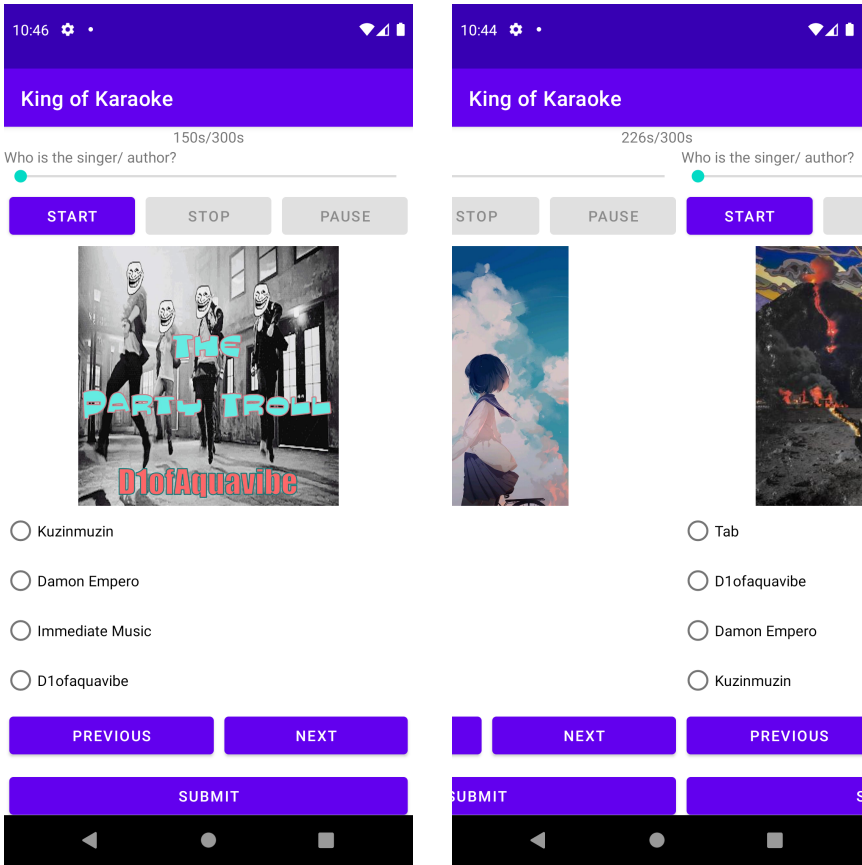
Every question are chosen from question library randomly, and the option of each question are also randomly generated.

The function that several questions can be swiped on the screen is implemented by `ViewPage2` and `Fragment`. The two buttons at the boottom can also be used to browse between different questions.

Countdown Timer

User can submit his/her answers before within the specified time, or answers are automatically submitted, when time runs out.

Music Player

It has three function: *Start*, *Pause* and *Stop* to control the music playing.
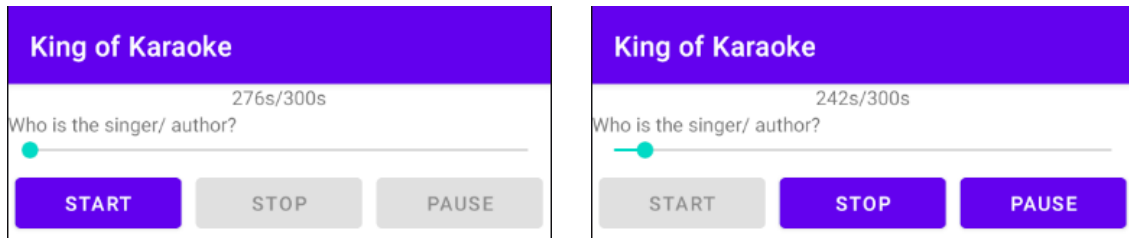
The first image shows the music is stopped or not started. The second image shows that the music is paused after starting.

The cover image are directly from MP3 file's metadata. I use `MediaMetadataRetriever` to decode the infomation and show it on the screen.

```
MediaMetadataRetriever mmr = new MediaMetadataRetriever();
mmr.setDataSource(String.valueOf(new File(getActivity().getFilesDir(),"mp3 file
name")));
byte [] data = mmr.getEmbeddedPicture();
Bitmap bitmap = BitmapFactory.decodeByteArray(data, 0, data.length);
imageView.setImageBitmap(bitmap);
```