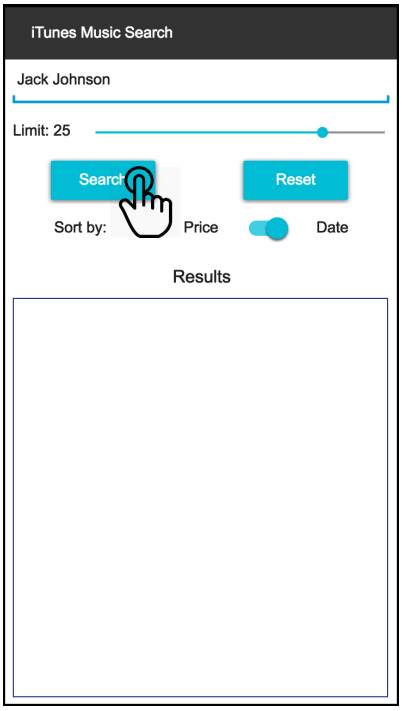
ITIS/ITCS 4180/5180 Mobile Application Development
Midterm

Basic Instructions:

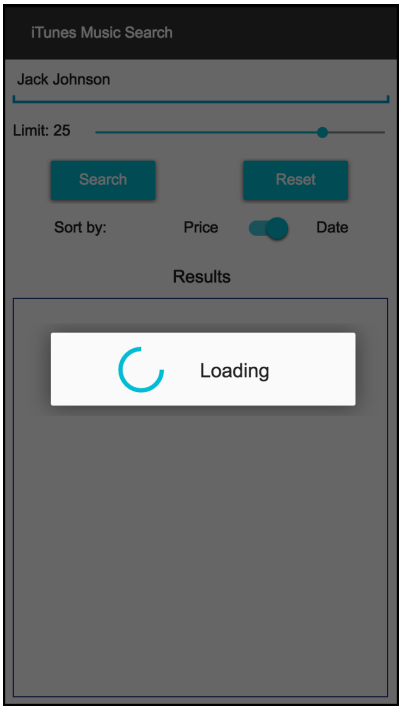
1. This is the Midterm Exam, which will count for 15% of the total course grade.
2. This Midterm is an individual effort. Each student is responsible for her/his own Midterm and its submission.
3. Once you have picked up the exam, you may not discuss it in any way with anyone until the exam period is over.
4. During the exam, you are allowed to use the course videos, slides, and your code from previous home works and in class assignments. You are NOT allowed to use code provided by other students or from other sources.
5. Answer all the exam parts, all the parts are required.
6. Please download the support files provided with the Midterm and use them when implementing your project.
7. Your assignment will be graded for functional requirements and efficiency of your submitted solution. You will loose points if your code is not efficient, does unnecessary processing or blocks the UI thread.
8. Export your Android project and create a zip file which includes all the project folder and any required libraries. The file name is very important and should follow the following format: **800#_Midterm.zip.** Submit the exported file using the provided canvas submission link.
9. **Failure to do the above instructions will result in loss of points.**
10. **Any violation of the rules regarding consultation with others will not be tolerated and will result disciplinary action and failing the course.**

Midterm (100 points)

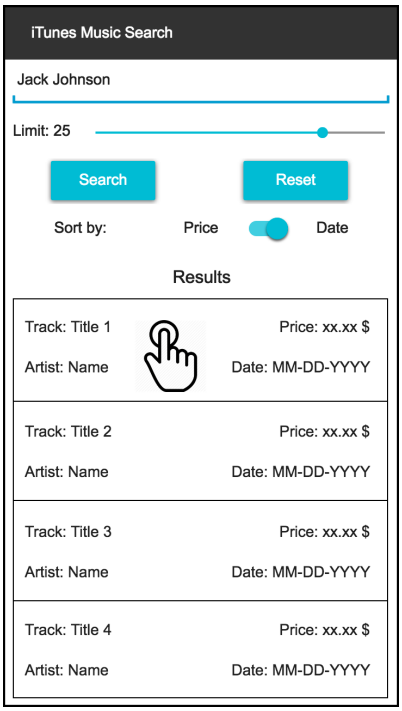
In this assignment, you will be developing a Music Search Application using iTunes API. You can search any music related Key Word (track title, artist name, etc.) and display



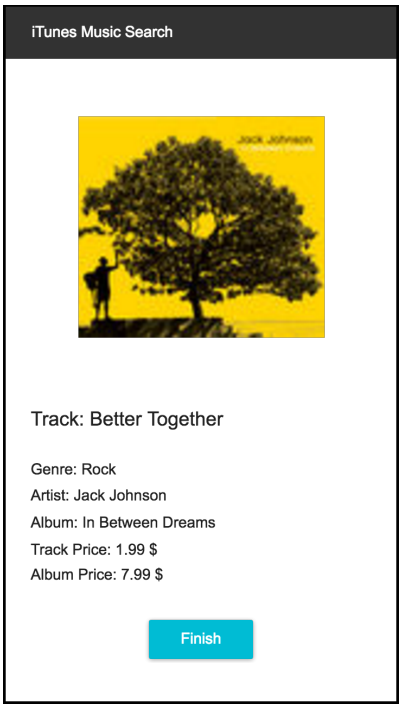
(a) Main Activity



(b) Parsing Data



(c) Display using dynamic layout



(d) Display Activity

Figure: App wireframes

the search results. Your application should be able to view the details of the selected music track. You will be using JSON parsing to retrieve the music tracks, dynamic layout to display the list, and a different activity to show the details of the selected music track.

The assignment consists of two screens:
1. Main screen.
2. Display Details screen.

JSON API: We will be using iTunes search API to develop the app. Please read the following for the API details:

API URL	https://itunes.apple.com/search?term=<Search Keyword/s>&limit=<# of Results>
term	Keyword/s you put in the search bar. If you put two or more keywords in the search bar like in our example, you should modify the URL to https://itunes.apple.com/search?**term=jack+johnson**&limit=25
limit	It should be taken from the SeekBar. The minimum value should be 10, and maximum value should be 30.
Track name	use **trackName** from JSON
Genre	use **primaryGenreName** from JSON
Artist	use **artistName** from JSON
Album	use **collectionName** from JSON
Track Price	use **trackPrice** from JSON
Album Price	use **collectionPrice** from JSON

Main screen: please follow the instructions in the following:
1. The app should have a search bar on the top.
2. There should be a SeekBar to set the limit right below the search bar. The minimum should be made 10 and the maximum should be made 30. When the user moves the Seekbar, the value should be changed accordingly.
3. There should be two buttons right below the SeekBar: Search, and Reset.
4. Putting Keyword/s in the search bar and clicking on Search button should start parsing. It should display a Progress Dialog (Spinning) while parsing the data.
5. Clicking on the Reset button should clear up search texts, and move the SeekBar to the minimum.
6. There should be a switch button to sort the results. There should be two options: Price, and Date. The default should be set to Date. Turning it On or Off should change between the options.
7. There should be a list of results below the sorting switch. It should be created using dynamic layout. **Do not use any ListView/RecyclerView.**
8. Each item in the list should display the Track Title, Track Price, Artist Name, Date (in MM-DD-YYYY format). The list must be Scrollable.
9. Clicking on any item should take the user to a new Display activity.

Display details activity: Please follow the instructions below:

1. On the top, it should display the Track Image (the resolution should be 100x100). You need to display the image of right size using the URL retrieved from the API.
2. Below you should display the Track Name (text size should be a bit larger), the Genre, the Artist's name, the Album name, the Track Price, and the Album Price.
3. Clicking on Finish button should take you back to the main activity.

Good Luck!