

ITIS/ITCS 4180/5180 Mobile Application Development
In Class Assignment 09b

Basic Instructions:

1. In every file submitted you **MUST** place the following comments:
 - a. Assignment #.
 - b. File Name.
 - c. Full name of all students in your group.
2. Each student in the group is required to submit the assignment on moodle.
3. Please download the support files provided with this assignment and use them when implementing your project.
4. **Export your project as follows:**
 - a. From eclipse, choose "*Export...*" from the File menu.
 - b. From the Export window, choose *General* then *File System*. Click *Next*.
 - c. Make sure that your project for this assignment is selected. Make sure that all of its subfolders are also selected.
 - d. Choose the location you want to save the exported project directory to. For example, your *Desktop* or *Documents* folder.
 - e. When exporting make sure you select *Create directory structure for files*.
 - f. Click Finish, and then go to the directory you exported the project to. Make sure the exported directory contains all necessary files, such as the .java and resource files.
5. Submission details:
 - a. All the group members should submit the same zip file.
 - b. The file name is very important and should follow the following format:
Group#_InClass09.zip For example, Group2A_InClass09.zip
 - c. You should submit the assignment through Moodle: Submit the zip file.
6. **Failure to follow the above instructions will result in point deductions.**

In Class Assignment 09b (90 Points)

In this assignment you will use google maps to display food and cafe places in a user selected city. You will use the Android GeoCoder service or the Google geocoding API to get the geolocation of the selected city. The application is composed of a single activity.

Important App Requirements:

1. Create a new android project called "In Class 9".
2. The required Android Virtual Device (AVD) should have **minimum SDK version set to 14 and target SDK at least 19**. The app should display correctly on Nexus 5. Your assignment will not be graded if it does not meet these requirements, and you will not be granted any points on your submission.
3. You will be using layout files, and strings.xml to create the required user interfaces. The layout XML file can be modified through the raw xml, or through the GUI tools provided within eclipse.
4. All parse.com communication should be performed using the background mechanisms provided by parse.com and should not block the main thread.

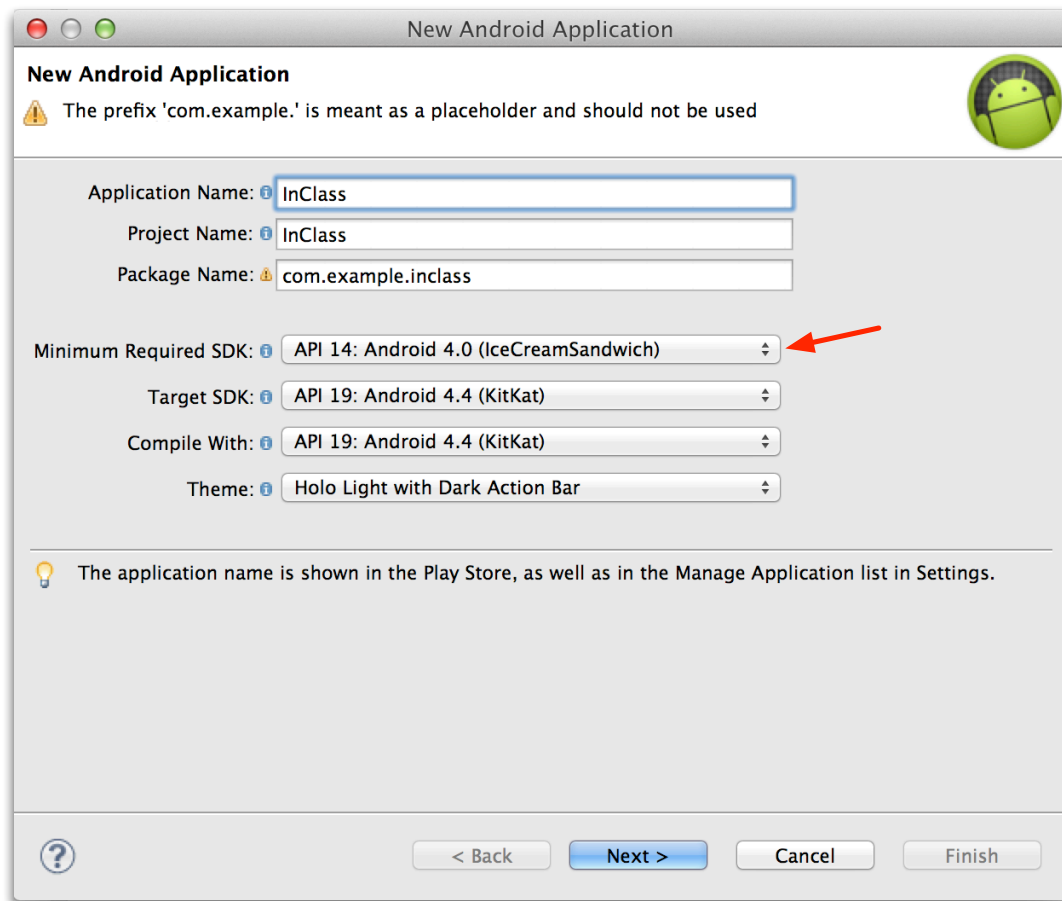


Figure 1. Choosing Minimum Required SDK to 14

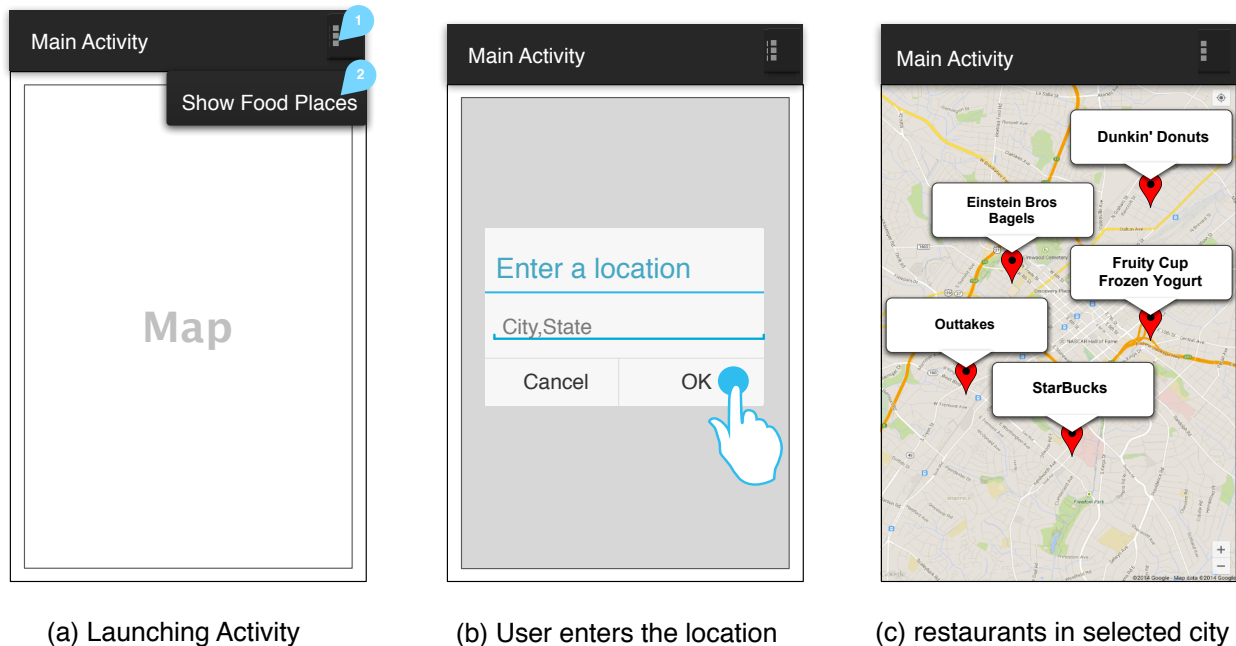


Figure 2. Application User Interface

The interface should be created to match the user interface presented in Figure 2(a). The implementation requirements include:

1. The activity should display a Google Map Fragment.
2. Create a food places app on parse.com. You are provided with a file that contains the Place class, import the provided class file into your application on parse.com using the import function provided by the parse.com website. The provided class contains information about food and cafe places in different cities, it contains the place name, latitude and longitude location as a Parse GeoPoint object for each place.
3. This app does not required user authentication, instead it should use an anonymous user. Include the "ParseUser.enableAutomaticUser();" in the Application class.
4. Clicking on the "Show food places" menu item should display a custom AlertDialog showing an EditText as shown in Figure 2(b). The user should enter the city and state abbreviation (for ex. Charlotte, NC) for which the places should be retrieved from Parse.
5. Use the Android geocoding service or the Google geocoding api (for information about the Google geocoding api go to <https://developers.google.com/maps/documentation/geocoding/>). This should be performed to retrieve the latitude and longitude for the city and state entered by the user. Clicking the "OK" button on the AlertDialog should build should start the geocoding procedure, which should not be performed on the main thread.
6. The retrieved latitude and longitude should be used to compose a Parse query to retrieve all the food places that are within 50 miles from the retrieved latitude/longitude pair. Hint: use a ParseGeoPoint in the composed query to provide this condition. Check the documentation provided at https://parse.com/docs/android_guide#geo

7. On the map display markers for all the retrieved places returned by the above Parse query.
 - a) Markers: Add marker at each location returned. Each marker should display a customized info window that displays the food place name.
 - b) You can read more about Info Window/Customized on this link: https://developers.google.com/maps/documentation/android/infowindows#showhide_an_info_window
8. The map should automatically be centered and zoomed to display all the food place markers as shown in Figure 2(c). For more information go to <http://developer.android.com/reference/com/google/android/gms/maps/CameraUpdateFactory.html>
9. If another city is selected, all the previous markers should be cleared and only the new markers should be displayed.