

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

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 09 (100 Points)

This In this assignment you will get familiar with fragments. You will implement an app to add and retrieve items from a ToDo list using fragments. You will use parse.com to store and retrieve the ToDo list. The application consists of a single empty activity (Main Activity) and five fragments.

Important App Requirements:

1. Create a new android project called "In Class 09".
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.

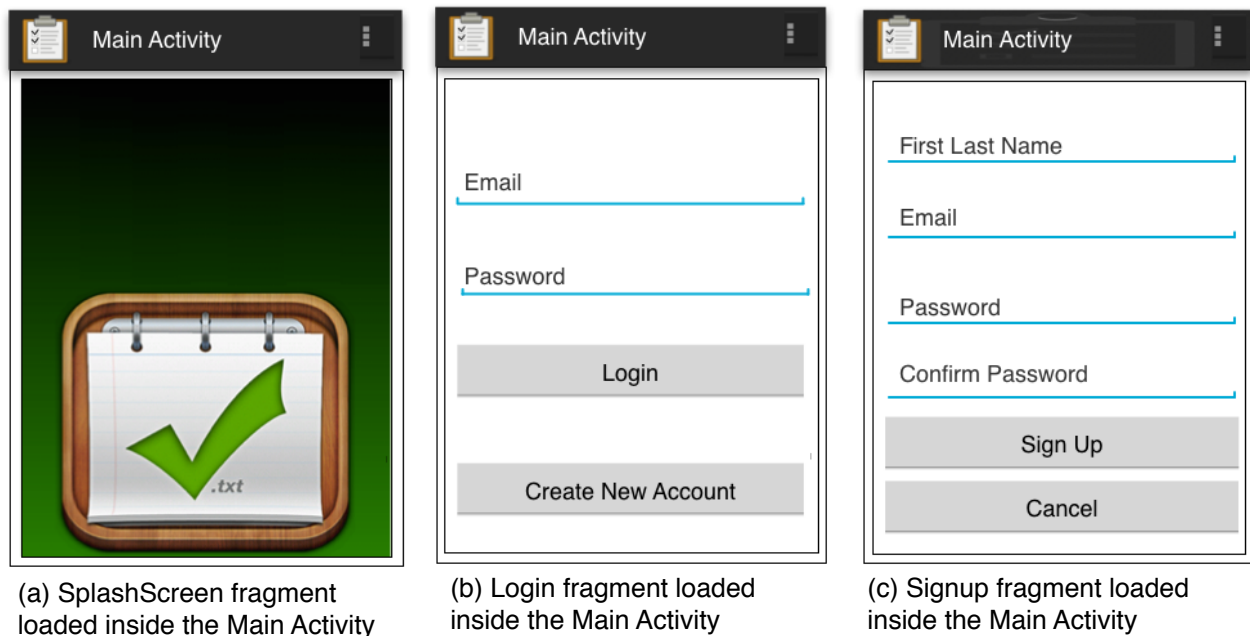


Figure 1, Wireframe for SplashScreen, Login and Signup fragments

Part A: Splash Screen (10 Points)

Your application should display a splash screen when the application is launched. The requirements are as follows:

1. Create a SplashScreen fragment as shown in Figure 1(a).

2. The Main Activity should dynamically load this SplashScreen fragment when the application starts.
3. After 5 seconds, the Main Activity should replace the current fragment with the with Login fragment (Figure 1(b)).

Part B: User Signup and Login (20 Points)

Your app should implement both login and signup functionalities. You should use parse.com to store the user name, email address and password in the User class. The requirements are as follows:

1. When the Login fragment loads, the app should check if there is a current user session, by using the parse provided methods to check if there is a valid current user:
 - a) If there is a current valid user, then the Main Activity should replace the Login fragment with the ToDo fragment.
 - b) If there is no current valid user, then the Login fragment should be used to provide user login.
2. Create a Login fragment (Figure 1(b)):
 - a) The user should provide their email and password.
 - Check the user input, if the email or password field is left empty, print a toast message indicating that these fields are required and don't submit the login information to parse.com.
 - b) The provided credentials should be used to authenticate the user using parse.com. Clicking the "Login" button should submit the login information to parse.com to verify the user's credentials.
 - If the user is successfully logged in, then the Main Activity should replace the Login fragment with ToDo fragment.
 - If the user is not successfully logged in, then show a toast message indicating that the login was not successful.
 - c) Clicking the "Create New Account" button should replace the Login fragment with Signup fragment.
3. Create a Signup fragment (Figure 1(c)):
 - a) Clicking the "Cancel" button should signal the Main Activity to replace the Signup fragment with the Login fragment.
 - b) The user should provide their user name, email and password. The provided credentials should be stored in the User class in parse.com. Clicking the "Sign Up" button should submit the user's information to parse.com to verify the user's credentials.
 - Check the user input, if any of the fields is left empty, or if the password and confirm password do not match, print a toast message indicating the corresponding error message and don't submit the provided information to parse.com.
 - If an account with the same email already exists, display an error message indicating that the account account was not created and the user should select a different email.
 - If an account with the provided credentials does not already exist, then store the new account information and display a Toast indicating that

- the user has successfully login. Then replace the Signup fragment with ToDo fragment.
- Note that, the username and email should set to the same value in the user's table

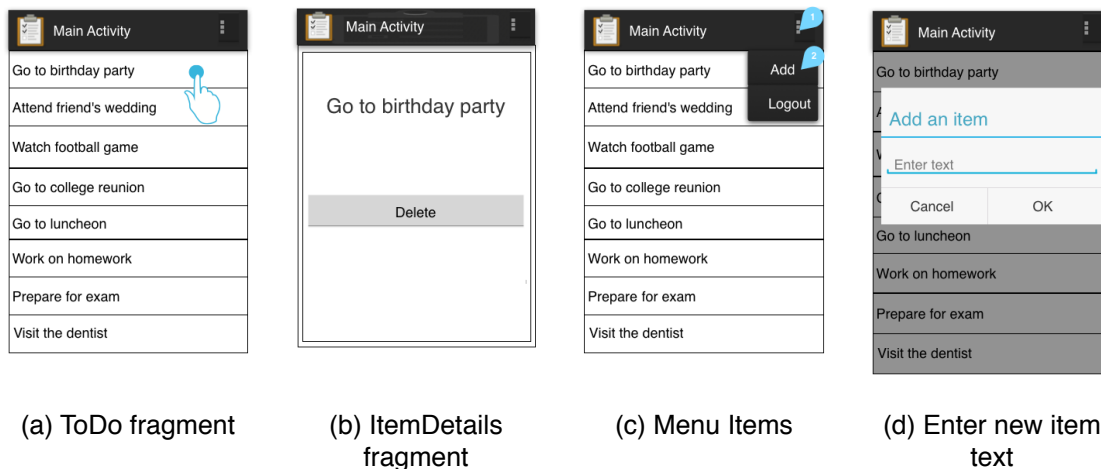


Figure 2, Wireframe for ToDo and ItemDetails fragments

Part C: ToDo Fragment (70 Points)

The ToDo fragment should retrieve the items in the ToDo list for the currently logged in user that are stored in the ToDo class on parse.com. A ListView should display the items in the ToDo list, see Figure 2(a). The requirements are as follows:

- In parse.com create a new parse class to store the ToDo list item text.
- The ToDo list items should be retrieved in the background using the Parse provided background query mechanism. The query should retrieve the ToDo list items belonging to the currently logged in user. Check the documentation provided at https://parse.com/docs/android_guide#queries
 - You can consider using the ParseQueryAdapter class. Check the documentation at https://parse.com/docs/android_guide#ui-queryadapter
- Clicking on an item inside the ToDo list should replace the ToDo fragment with ItemDetails fragment as shown in Figure 2(b). The ToDo fragment should be placed on the fragment back stack. If the back button is pressed then the ToDo fragment should be popped from the stack.
- In the ItemDetails fragment, clicking on the “Delete” button should:
 - Delete the current to do item from parse.com
 - Should communicate with the Main Activity to pop the ToDo fragment from the back stack, which will replace the current fragment with ToDo fragment. The list displayed in the ToDo fragment should be refreshed to display the updated list of items.
- Clicking the “Add” action bar menu item should provide the following requirements:

- a) The “Add” action bar item **should only** function if the ToDo fragment is loaded in the MainActivity. If it is clicked in other fragment, then print a Toast message indicating that it is only accessible in the ToDo fragment.
- b) The “Add” action bar item click is captured by the MainActivity and should be passed on to the ToDo fragment through public methods.
- c) When “Add” action bar item is clicked show an Alert Dialog as shown in Figure 2(d) to enable the currently logged-in user to enter the item description of a new item. To create a custom layout for AlertDialog, check the documentation at <http://developer.android.com/guide/topics/ui/dialogs.html>. The requirements are as follows:
 - If no input is provided, display a Toast to indicate the a missing description.
 - If the input is provided, then save the new ToDo item in the ToDo class on parse.com using Parse’s background storing mechanism, and display a toast message indicating the successful addition of the item.
 - Upon closing the Alert Dialog, the list should be updated to display the newly added item.
6. Clicking the “Logout” action bar menu item should provide the following requirements:
 - a) Logout the current user using the provided parse.com methods.
 - b) The Main Activity should replace the current fragment with the Login fragment.