

IEMS 5722
Mobile Network Programming and Distributed Server Architecture
2015-2016 Semester 2

Assignment 1: Building the UI of Instant Message App

Due Date: 12th February, 2016 (Friday)

Notes:

- i.) Read carefully the instructions and requirements to understand what you have to do
- ii.) Follow the instructions in Section 4 to submit your files for marking
- iii.) Late submissions will receive 30% mark penalty
- iv.) This assignment accounts for 8% of your final grade.

1. Objectives

- To learn how to construct the user interface of an Android app
- To learn how to receive and handle user input
- To understand page transition in Android
- To learn how to use ListView and adapters

2. Instructions

In this assignment, you are going to develop a 'mock-up' instant messaging app based on the 'Hello World' app developed in Assignment 0. The app should have a chat interface similar to those found in common messaging apps like WeChat, Whatsapp or Facebook Messenger.

The figure below shows a draft of the UI of the app.

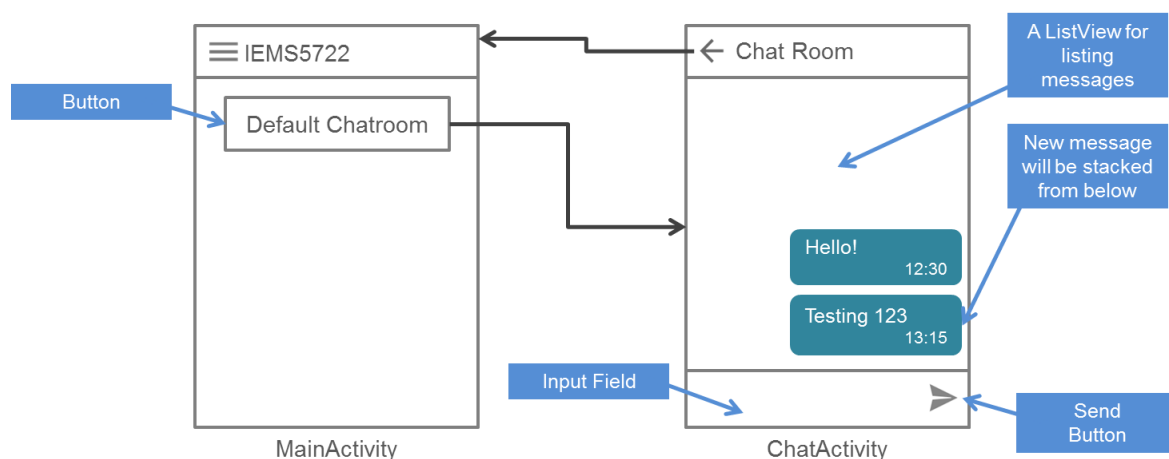


Figure 1: UI of the Instant Messaging App

The app has two activities. One activity is the Main Activity. The Main Activity has a button called "Default Chatroom". When the user clicks on the button, the app should transit to another activity called the Chat Activity. The Chat Activity has an interface containing a ListView, which displays the

past messages in the chat room, an input area where the user can input his or her own message, and a 'Send' button to allow the user to submit the message.

In this assignment, you do not have to worry about creating a real instant messaging app. This assignment is mainly for you to get familiar with the UI components in Android development.

You can style the UI components in your own way, but the app you submit in this assignment should have a layout the same as what is illustrated in Figure 1.

3. Requirements

The app you submit in this assignment should have the following features

- **Two activities** (Main Activity and Chat Activity)
- There is a **button** on Main Activity which will allow the user to enter the Chat Activity
- The Chat Activity has a **back button** on the Action Bar, allowing the user to go back to the Main Activity
- The Chat Activity consists of a **ListView** for listing past messages, an **EditText** for user input, and a **ImageButton or ImageView** for user to send the message.
- Each item in the ListView should contain two elements, one is the message itself, another is the time (HH:MM) when the message is sent
- When the user clicks on the send button, the app should perform the following actions:
 - › Check if the user has input any text (i.e. check whether the input area is empty)
 - › If the user has input some text, add a new item containing the message to the end of the ListView; and then clear the input area

Note that you do NOT need to store the messages input by the user. As a result, when the user enters the Chat Activity, he or she should always see a blank ListView. We will see how to make the app more realistic in the next assignment.

4. Submission

To submit your assignment, compress the project folder and name it using the following format:

<your_student_id>_assgn1.zip. Submit it in the CUHK eLearning System online:

<https://elearn.cuhk.edu.hk/>

5. Resources

- Layouts:
<http://developer.android.com/guide/topics/ui/declaring-layout.html>
- Input Controls:
<http://developer.android.com/guide/topics/ui/controls.html>
- Input Events:
<http://developer.android.com/guide/topics/ui/ui-events.html>