

ITIS/ITCS 5180 Mobile Application Development
In Class Assignment 6

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 group should submit only one assignment. Only the group leader is supposed to submit the assignment on behalf of all the other group members.
3. Your assignment will be graded for functional requirements and efficiency of your submitted solution. You will lose points if your code is not efficient, does unnecessary processing or blocks the UI thread.
4. Export your Android project and create a zip file, which includes the entire project folder required libraries.
5. Submission details:
 - a. Only a single group member is required to submit on canvas for each group.
 - b. The file name is very important and should follow the following format:
Group#_InClass06.zip
 - c. You should submit the assignment through Canvas: Submit the zip file.
 - d. **Failure to follow the above instructions will result in point deductions.**

In Class Assignment 06 (100 Points)

In this assignment we are going to develop a news application using the newsapi.org JSON API. Follow the following steps to setup the API:

- Create a new account and register as a developer at <https://newsapi.org/register>
- Get an API Key to be used for this application.
- In this application we are going to use the top headlines API, for information check the following link <https://newsapi.org/docs/endpoints/top-headlines>.

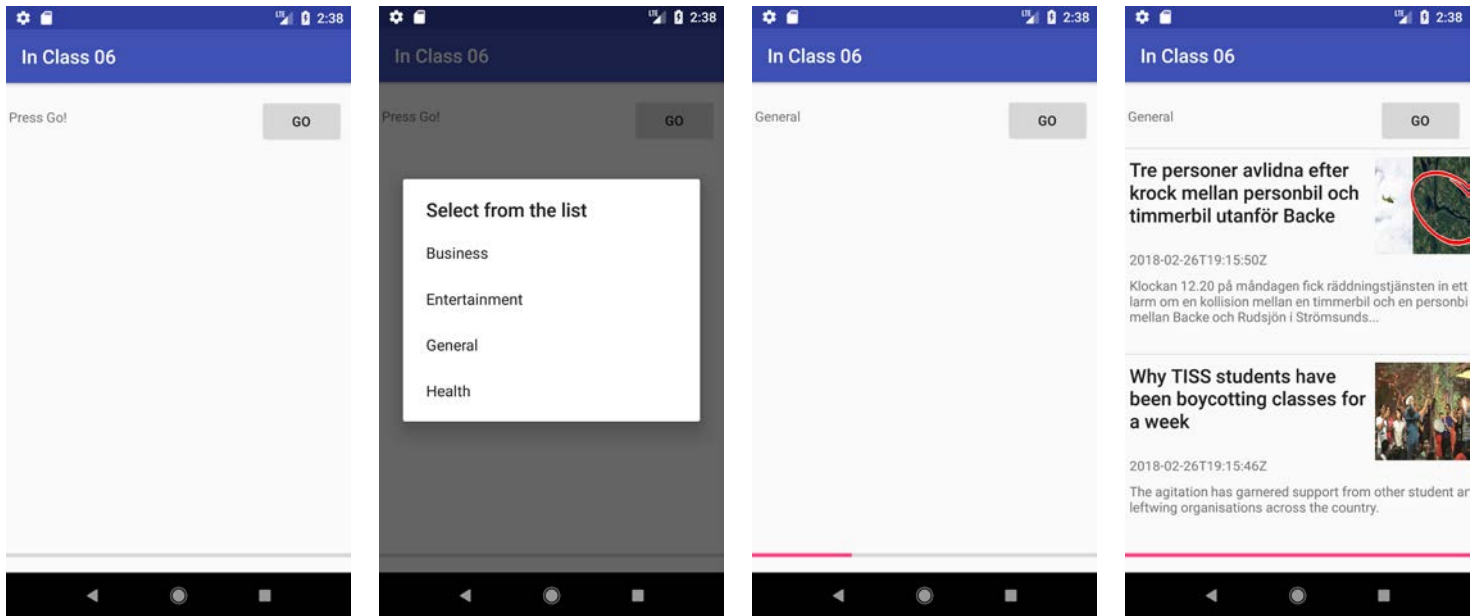


Figure 1: Application Wireframes

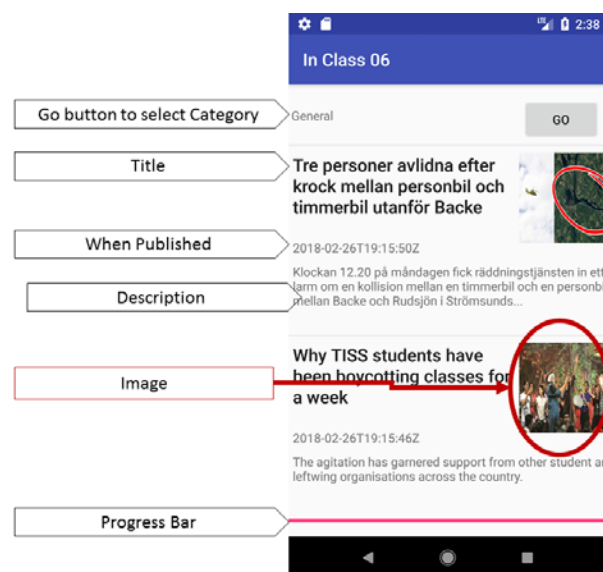


Figure 2: Items

Requirements:

The interface should be created to match the user interface (UI) presented in Figure 1.

You will be using layout files, and strings.xml to create the user interface. Perform the following tasks:

1. This app should use the top headlines API to retrieve news items from the USA and for the category selected by the user. The possible categories are **business, entertainment, general, health, science, sports, and technology** as indicated in the API documentation at <https://newsapi.org/docs/endpoints/top-headlines>
2. Clicking on the “Go” Button should display a list of categories as shown in Figure 1(b). You can either Alert Dialog or Spinner to implement it.
3. Clicking on a category should do the following:
 - a. The TextView will hold the search category clicked by the user.
 - b. Use AsyncTask/Thread to connect to the top headlines to retrieve and parse the JSON returned for the selected category. The AsyncTask/Thread class should be in a separate file/class not inner to the main thread, i.e., you should manage passing parameters to the class and then pass back the result image downloaded to the UI.
4. While loading the API data, display a ProgressBar to show the progress. HINT: you can add manual delays, if there is no numeric progress to publish, see Figure 1(c).
5. When the API data is retrieved:
 - a. Display the news items in a ListView with custom Layout from the list of retrieved news items as shown in Figure 1.
 - b. Use Picasso to retrieve and display the image associated with each displayed news item and display it in the ImageView, see Figure 2.
6. If the API returns an empty list of news items then clear the currently displayed news item and display an error Toast message “No News Found”.
7. Your application should connect with the API and download the requested photo only if there is an established internet connection. If there is no internet connection, you should display a Toast message indicting that there is no internet connection and do not attempt to send the HTTP request.