

**ITIS/ITCS 4180 Mobile Application Development  
In Class 06**

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**Basic Instructions:**

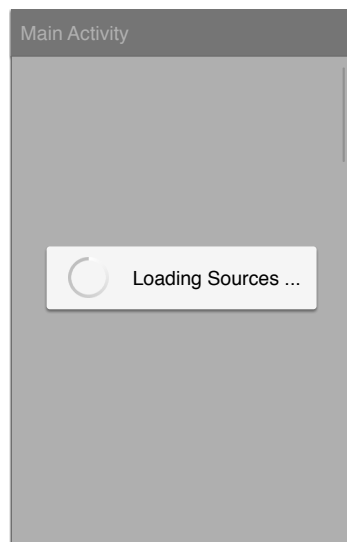
1. In every file submitted you **MUST** place the following comments:
  - a. Assignment #.
  - b. File Name.
  - c. Full name of all students in your group.
2. Each group should submit only one assignment. Only the group leader is supposed to submit the assignment on behalf of all the other group members.
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 all the project folder and any 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.
6. **Failure to follow the above instructions will result in point deductions.**

### **In Class 6 (100 Points)**

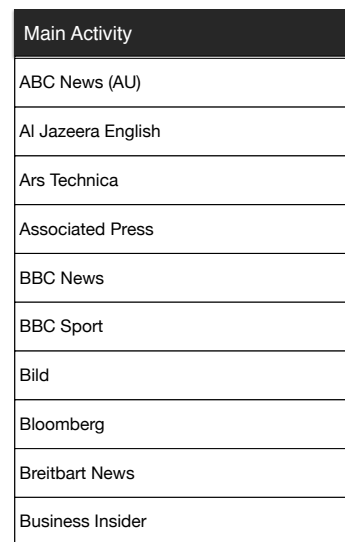
In this midterm exam assignment you will develop a news app. The app will enable the user to select the news source and will display the news for the selected news source. The api used for this assignment is the News API <https://newsapi.org/> .

#### **API Setup:**

1. Go to <https://newsapi.org/register> and to setup a new account and get an API key.
2. You are provided with a Postman file that includes the sources and articles apis to be used in this app.
3. In the PostMan file, Make sure to update the articles api **to use your API key**.



(a) Main Activity loading the news sources.



(b) Main Activity ScrollView listing news sources.

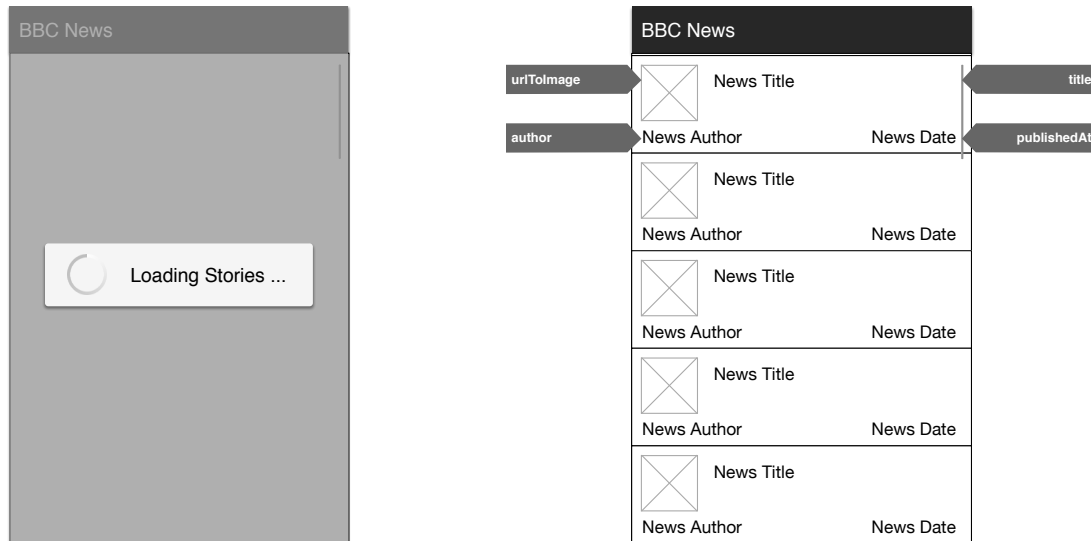
**Figure 1, Main Activity Wireframe**

#### **Part 1: Main Activity (35 points)**

The **Main** activity is responsible for the loading and displaying the different sources available at NewsAPI. The requirements are as follows (Figure 1):

1. Upon loading the Main Activity, the app should connect to the “Sources” NewsAPI api to retrieve the JSON list of the sources provided by the NewsAPI.
  - a) Create a “Source” class containing variables: id and name, which should be populated from the retrieved JSON.
  - b) The app should use a child thread (or AsyncTask) to perform data retrieval and data parsing. The parsed JSON should return a list of Source objects. The list of news sources should be then returned to the Main Thread to be displayed.
  - c) Display a Progress Dialog during the download and parsing of the JSON and dismiss it once these operations are completed as indicated in Figure 1(a).
2. The Source items should be displayed in a ListView or RecyclerView. See Figure 1(b).

- Upon clicking a list item it should open the News Activity, you should also pass the news source *Source* object to the News Activity.



(a) Loading Stories in News Activity

(b) ScrollView listing the news items for BBC News

**Figure 2, News Activity Wireframe**

### **Part 2: News Activity (55 points)**

This activity displays the top news items for the selected news source. The requirements are as follows:

- Update the activity title to display the name of the news source.
- Upon loading the News Activity, the app should connect to the “Articles” NewsAPI api to retrieve the JSON list of the articles for the selected source.
  - Create an “Article” class containing variables: author, title, url, urlToImage and publishedAt, which should be populated from the retrieved JSON.
  - The app should use a child thread (or AsyncTask) to perform data retrieval and data parsing. The parsed JSON should return a list of Article objects. The list of news articles should be then returned to the Main Thread to be displayed.
  - Display a Progress Dialog during the download and parsing of the JSON and dismiss it once these operations are completed as indicated in Figure 2(a)
- The Article items should be displayed in a ListView or RecyclerView.
  - The image for each news item should be downloaded using the Picasso Library located at <http://square.github.io/picasso/>
- Upon clicking a news item it should send the url of the selected news item to the WebView Activity.

### **Part 3: WebView Activity (10 points)**

This activity should display the url of the news item in a WebView. Please use the instructions at <https://developer.android.com/reference/android/webkit/WebView.html> to correctly setup the WebView component.