

ITIS/ITCS 4180/5180 Mobile Application Development
In Class Assignment 5

Basic Instructions:

1. In every file submitted you MUST place the following comments:
 - a. Assignment #.
 - b. File Name.
 - c. Full name.
2. This is an individual assignment.
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. The file name is very important and should follow the following format:
800#_InClass05.zip
 - b. 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 Assignment 05 (100 Points)

In this application we are going to build a News application. We will use a URL that receives JSON file containing different News summaries. We will be using News web API (<https://newsapi.org/>). The format of the URL is given below:

https://newsapi.org/v1/articles?apiKey=<YOUR_KEY>&source=<NEWS_Source>

Getting your API key: Visit <https://newsapi.org/> and click on Get API Key. Sign Up there and get your API Key.

News sources: You will find the sources index here: <https://newsapi.org/sources> . Here you will find all the keywords you need for different news sources.

You need to put appropriate keywords and create the URL to receive the JSON using GET method. For example, if you put the URL:

https://newsapi.org/v1/articles?apiKey=<YOUR_KEY>&source=bbc-news

It will return a JSON file having news from the source BBC News and sort them by in the order they appear on its homepage.

A snap of the JSON file is:

```
{
  "status": "ok",
  "source": "bbc-news",
  "sortBy": "top",
  "articles": [
    {
      "author": "https://www.facebook.com/bbcnews",
      "title": "One in 14 on hospital op waiting list as pressures grow",
      "description": "Hospitals are treating more patients, but the number on the waiting list for routine care is still rising.",
      "url": "http://www.bbc.co.uk/news/health-38853709",
      "urlToImage": "http://ichef-1.bbci.co.uk/news/1024/cpsprodpb/4BB7/production/_93938391_istock-509249886-1.jpg",
      "publishedAt": "2017-02-05T17:10:48Z"
    },
    {
      "author": "https://www.facebook.com/bbcnews",
      "title": "France election: Far-right's Le Pen rails against globalisation",
      "description": "Globalisation is \"manufacturing by slaves\" says the far-right leader, launching her presidential bid.",
      "url": "http://www.bbc.co.uk/news/world-europe-38872335",
      "urlToImage": "http://ichef-1.bbci.co.uk/news/1024/cpsprodpb/135D5/production/_93971397_mediaitem93971396.jpg",
      "publishedAt": "2017-02-05T16:25:24Z"
    },
    {
      "author": "https://www.facebook.com/bbcnews",
      "title": "Trump suffers new travel ban setback",
      "description": "A US appeals court rejects the Trump administration's request in a late-night ruling.",
      "url": "http://www.bbc.co.uk/news/world-us-canada-38872680",
      "urlToImage": "http://ichef.bbci.co.uk/news/1024/cpsprodpb/612C/production/_93967842_mediaitem93967838.jpg",
      "publishedAt": "2017-02-05T16:52:19Z"
    }
  ]
}
```

Here you see inside the JSON object, there three elements on top followed by an array of articles. You can use <http://codebeautify.org/jsonviewer> for better understanding of the JSON you receive.

In this assignment we will be building a single activity. In this activity you will display the retrieved news.

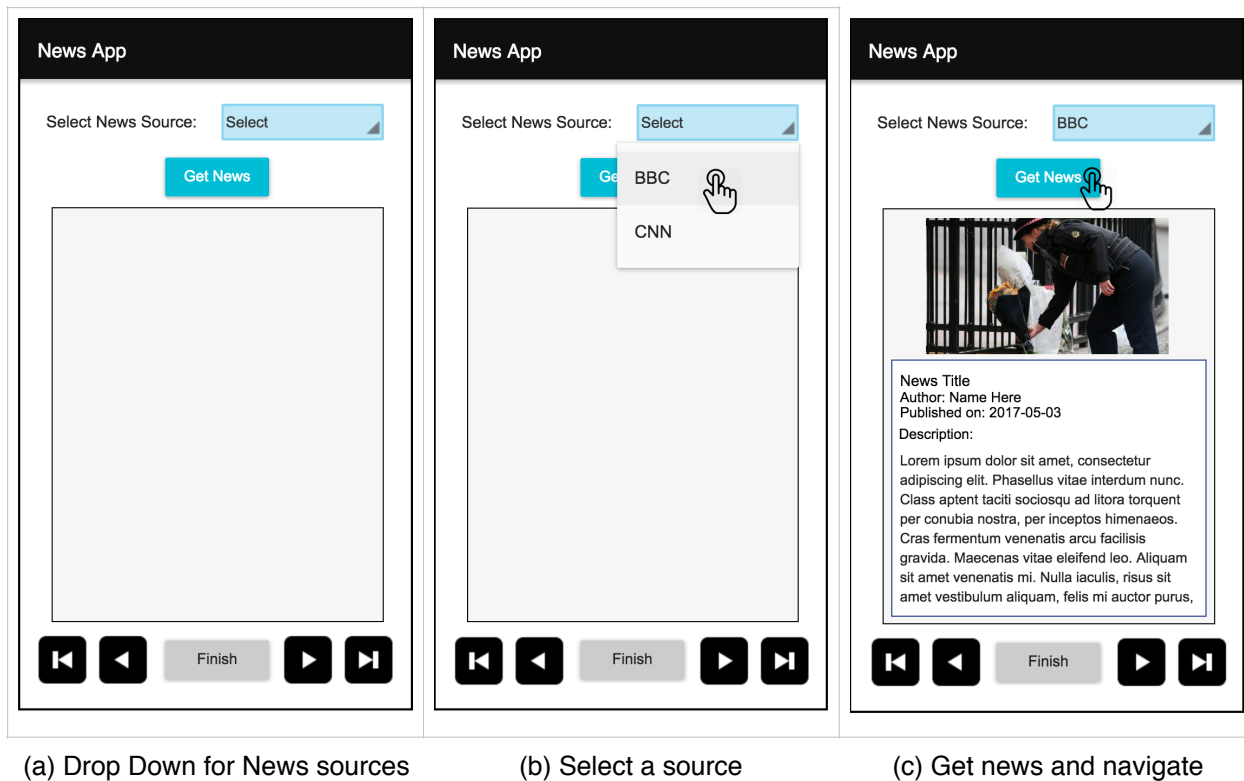


Figure 1: Main Activity

Main activity (100 Points):

You need to implement the following:

1. You need to have a Spinner for selecting the news source. You need to add two options. (Figure 1, a).
 1. BBC
 2. CNN
2. There should be a button labeled as “Get News”.
3. Clicking on the Get News button should create the URL as described above and parse the news. All the parsing and HTTP connections should be performed by a worker thread or an AsyncTask and should not be performed by the main thread.
4. You basically need to parse the “articles” array. You need to store the array in a News List. each item should contain the “urlToImage”, “title”, “author”, “description” and “publishedAt”.
5. You need to display the image using the URL given in the element “urlToImage”. Use a separate AsyncTask to do it.
6. You need to display a ScrollView having all other details, as it is in Figure 1(c).
 1. Title: get it from “title”.
 2. Author: get it from “author”.
 3. Published on: get the date from “publishedAt”. Use Simple Date format.
 4. Description: get it from “description”.
7. Next you will implement a navigation pane. It will have four icons:
 1. The leftmost button is the indicator of first news.

2. The second button indicates the previous news.
3. The Finish button is to close the app.
4. The fourth button indicates the next news.
5. The rightmost button indicates the last news.
8. At first, the buttons on the navigation pane will be inactive. It will only activate when you click on "Get News" button.
9. After clicking on the Get News button you should parse the news array and display it using the navigator pane.

Good Luck!