Mobile Integration – CA3

Project Portfolio Specification 2022

Weight 30% (See Moodle for deadlines)

Objective

The overall aim of this project is to gain experience in the design and develop a number of Android mobile Apps with appropriate user interfaces that involve significant interaction with internet-based resources.
This project may be completed in **pairs or individually**.

Project Tasks [100 marks in total]

For this assignment you will base your work on the tutorials presented in the tutorial samples at the links specified.

Task 1 [10 marks]
Complete the **Services Example** App by following tutorial instructions for Services.
(https://www.usna.edu/Users/cs/adina/teaching/it472/spring2021/course/page.php?shortname=mobileos&id=18)

Complete the task in the Practice section at the end of the Services tutorial (in the same App) i.e. Use *Service*, *BroadcastReceiver* and *Intents* to calculate prime numbers.

Task 2 [10]
Complete the RSS Feeds Example App by following the tutorial instructions for RSS Feeds
(https://www.usna.edu/Users/cs/adina/teaching/it472/spring2021/course/page.php?shortname=mobileos&id=21)

Task 3 [25]
Implement the *RSSExamples* App to display a news items feed **of your choice** (other than the one mentioned in the tutorial). (See Tasks 1 to 8 in the tutorial) Include as many additional/innovative features in the app as possible.

Task 4 [10]
Read the JSON Example App by following the JSON tutorial
(https://www.usna.edu/Users/cs/adina/teaching/it472/spring2021/course/page.php?shortname=mobileos&id=22)
UPDATE: The API for this tutorial example is no longer available so it wont work.
Instead, download and the zipped sample file "JSON OpenWeatherMap". Sign up for an OpenWeatherMap API key (APPID), add it to the program and get it running. (All the code is there and works – all that is missing is the API Key)

Task 5 [25]
Implement the Exercise at the end of the JSON Examples tutorial. (Use the sample program from Task 3 as your guide.) i.e. News API
Include as many additional/innovative features in the app as possible.

Task 6 [20]
Complete the Networking with Volley tutorial. Implement the first set of Exercises in this section (download an image). Do **not** implement the *Sending Data with Volley* part.

Grading Criteria
Structure, coherence and completeness of app and screencast, app functionality (breadth & depth), range of techniques and components used, complexity factor (design and implementation), innovation.

Deliverables - Upload one .ZIP file containing:

- A "File > Export to Zip file" zip of each of your projects. (Task1.zip, Task2.zip. etc…)
  [A zipped file of the whole folder structure will not be accepted.]
- The one page description in .PDF format (*YourName.PDF*) obriefly outlining each app, but identifying in particular what sources of data you selected and how you parsed and processed the data. (Max – 2 pages for all tasks)
- A screen recording demonstrating each of the Apps in action with descriptive voice over, explaining key aspects of code. (Max 2 mins per Task)
  (your name(s) should appear on the App Screen)
  Format: *Task1.MP4* , Task2.mp4, ..etc…

Students will normally **demonstrate** their work and **be interviewed.**
Use appropriate referencing.