Class Project: Android App Development

This Android App Development assignment is worth 15% of your overall score in this class.

Deadlines

Checkpoint	Deadline	What to submit
#1	Fri 7 Feb 2020, 5:00 pm	**Sign up for group members (2-3 students/group)** Use the link below to sign-up. Those who do not sign up within the deadline will be assigned to random groups.
#2 (1%)	Sun 23 Feb 2020, 11 pm	**2-page project overview (PDF)** What does the app do? What are features you plan to implement? Draft of user interface and flow of the app that shows how all the activities are linked. Upload your file on the mycourse.ict.mahidol.ac.th
#3 (1%)	Sat 7 Mar 2020, 11 pm	**5-page preliminary report and source code (PDF and code compressed in ZIP format)** The overview and objective of the project, the application design, the system architecture, and screenshots of at **least two activities** of your application. Upload your file on the mycourse.ict.mahidol.ac.th
#4 (1%)	Sat 4 April 2020, 11 pm	**10-page report and source code (PDF and code compressed in ZIP format)** The overview and objective of the project, the application design, the system architecture, and screenshots of at **least 5 activities** of your application. Upload your file on the mycourse.ict.mahidol.ac.th
#5 (2%)	Sun 3 May 2020, 11:55 pm	**Project report and source code (PDF and code compressed in ZIP format)** You final report! Upload your file on the mycourse.ict.mahidol.ac.th
#6 (10%)	4 – 15 May 2020	**Project Presentation**

Group

You may form a group with 2 or 3 members. All members in the group must be in the same section.

Each group member will be graded <u>independently</u>. Each member should contribute to the project and must be able to explain what part of the project that they do.

The App must be your own work.
Copied assignments or download from the Internet will receive <u>zero points</u>.
You may use code snippets (reuse small parts of codes from the Internet) but you must reference them within your code.

Group Sign-up Sheet (Sec1)

https://docs.google.com/spreadsheets/d/1l1Uwcy9gLux9PCnfhR7Sh5q8j3pIRTT59I084bE7MoA/edit?usp=sharing

Group Sign-up Sheet (Sec2)

https://docs.google.com/spreadsheets/d/1QFkyUmojSJ9PLlzQ1g9A6f72ZfKo2kYdEhPesfuJRYA/edit?usp=sharing

Group Sign-up Sheet (Sec3)

https://docs.google.com/spreadsheets/d/1u97f1d2vXSOPFp_YHAjRUxr4H_9cXS0Gau1nH5TAOmQ/edit?usp=sharing

Please input your selected topic number in the Google Sign-up Sheet.

Specifications

You have to develop an Android app by <u>selecting one topic</u> from the below list.

1. Learning material to help users learn the computer network class, especially TCP/IP and OSI models, ARQs, Routing protocols, TCP congestion control, including quiz, exercise, and solutions
2. Crowdsourcing platform that users can donate for an events. Developers must include login and donation history. Example, https://taejai.com/
3. Math game learning binary calculation and hexadecimal calculation
4. Brain exercise game to prevent Alzheimer disease
5. Good-bad diary book that the users can insert photos, text, and location. This diary book must be able to record good things and bad things the user has done for each day, week, and month.
6. Eat-burnt diary book for dieting users so that they can insert photos, text, and location where they eat and do exercise. This diary book must keep the calorie for each activity and calculate the remaining calorie for each day, week, and month).
7. English game for *intermediate* learners (vocabulary, listening and reading for high school students.)

Please input your selected topic number in the Google Sheet.

The project **must not be** the old program from other competitions, works or other classes.

The App must include at least the following features:

1. Support both Thai and English menu
   See this one for reference:
   Localize the UI
   https://developer.android.com/studio/write/translations-editor
2. Provide registration and user authentication
3. The app must store data in a local database using **Room or Firebase**. The App must do INSERT, UPDATE, SELECT, DELETE on the database
   For information about Firebase (Cloud)
   https://firebase.google.com/docs/admin/setup
   https://developer.android.com/studio/write/firebase
4. Use at least three of the following features:
   o Tabs

- o Linking to camera
- o Linking to network
- o Animated images
- o Location services and maps
- o Preferences
- o Dialogs
- o Google Map
- o Recycleview or CardView
- o Other advanced Android features

Items for Final Submission

1. Project code (all classes, source code, resources, manifest file, etc.)

2. Each file should have a comment header block, inline comments at the beginning of each method, and the code must be properly indented.

3. For the checkpoint#3 and #4 reports, you must include the overview and objective of the project, the application design, the system architecture (if any), and screenshots of your application. Include the PDF report file and codes in a ZIP file and submit on the mycourse website.

How to Name Your File for Mycourse Submission

Before uploading to ICT mycourse website, the file name must specify the checkpoint number; and you must add student IDs of all members to your file name. For example,

- Checkpoint2-6088xxx-6088xxx-6088xxx.pdf
- Checkpoint3-6088xxx-6088xxx-6088xxx.zip
- Checkpoint4-6088xxx-6088xxx-6088xxx.zip
- Checkpoint5-6088xxx-6088xxx-6088xxx.zip

Class Project Presentation Schedule (Not Yet)

Sec1: Tue 5 May 2020, 9:00-19:00 @IT321

Sec2: Fri 8 May 2020, 9:00-19:00 @IT322

Sec3: Tue 12 May 2020, 9:00-19:00 @323

Only 15 mins per group. One by one group
(You cannot attend your friend's group presentation)

Guideline for Class Project Presentation (Demo)

- Sign up on the sheet - one group/one shot (The sign-up sheet will be informed later).
- Present one by one group
- Only 15 mins per group
    o 5 minutes of demo (set up before your demo time slot)
    o 10 minutes of Q&A (explaining your source code)
    o No extra time will be given

Grading

The project will be graded using the following criteria

- Accuracy and completeness (30%) - does your App have all the functions listed above? Does your App work without error?
- Quality of the user interface (15%) - Are the screens use-friendly?
- Complexity of the app (15%) - What extra features does your App include? How complex are they?
- Creativity (10%) - for creating a creative and useful App.
- Individual contribution (25%) - for being able to explain their contribution to the project
- Completeness of the project report (5%)