CSE 120: Software Engineering Course Fall 2019

Mobile App Project – Lab 04: Implementation Phase Total Points Possible: 200

Purpose of Assignment

The Software Engineering course covers techniques for dealing with the complexity of software systems. We will focus on the technology of software engineering for the individual and small team, rather than business or management issues. This Mobile App project aims to provide an opportunity for students to analyze, design, develop, and deploy a mobile app that is sponsored by an industry partner. By the end of this lab, you will be able to define the main steps of developing a software project by using a code revision and collaboration tools for **implementation phase**.

Direction

This phase of project which is based on object-oriented method aims to implement the following

objects: 1- A database of your project

2- Code implementation of your mobile app based on selected IDE and selected platform from *Lab 1*. In order to complete this task, you may use existing components or start from scratch.

a. All team members must use GitHub as a code version tools to track their code modifications, as well as it will be used for collaboration between all members of your group to complete this phase. The code revision tools will also be used for presenting progress reports in the next four weeks. Complete the following tutorial if you do not have experience with GitHub: https://guides.github.com/activities/hello-world/. You may also want to view a video tutorial on GitHub: https://www.youtube.com/watch?v=SWYqp7iY_Tc

b. Each defined prototype from *Lab 3* must be implemented in this phase. There is still a room for innovation and modifications. However, revising all previous phases are required, if you have any fundamental change. For instance, if you decide to change your project title or substantial modifications on scenarios from *Lab 2*.

c. Object-Oriented Programming (OOP) is required for implementation phase. You may find more detail on OOP in the textbook and the recommended textbook. A simple tutorial for C# OOP can be found here and another tutorial for Java OOP can be found here.

Each item you found as a *thing* from *Lab 2* can be considered as an *object*. In order to find the relationship between objects, you may use *state diagram* and *scenarios* from *Lab 2* and the *class diagram* from *Lab 3*.

Lab #04 Assignment Rubric (200 points):

Lab04.1. DB Report: Due October 25 (40 points):

1- A **summary** of project progress report (6 points) and a URL to your GitHub repository (4 points)
2- The first implementation of database and its key functions (insert, delete, select, edit based on OOP). Submit the script of database design (script of create a DB) and implement DB functions. (30 points)

Lab04.2. Code Report: Due November 8 (40 points):

1- A **summary** of project progress report (10 points)
2- **The first code** revision review on GitHub. Submit the URL of your repository and a one to two page that describe the interface of your classes (the main functions of your code). (30 points)

Lab04.3. Code Report: Due November 22 (40 points):

1- A **summary** of project progress report (10 points)
2- **The second** code revision review on GitHub, Submit the URL of your repository, a GitHub *compare change* (comparing commits across time) function that describes the difference between previous report and the current report, and a one to two page that describe the interface of your classes (the main functions of your code). (30 points)

Lab04.4. Final Implementation Phase Report: Due November 29 (80 points):

1- A **summary** of project progress report for implementation phase (10 points)
2- **Comprehensive** code revision review. Submit a GitHub *compare change* (comparing commits across time) function that describes the difference between the first report, the previous report and the current report (50 points) including the database and its functionality (20 points)