school of computing, informatics, & decision systems engineering

CSE 335- Fall 2021

Class Project Requirements

Objective: Main objective of this class project to design and implement a reasonably complex problem that encapsulates some of the fundamental concepts discussed during the semester.

Main Requirements:

a) This is an Individual Project
b) Project should include a persistent data storage to keep data permanent (coredata or firebase) .
c) Project design should be done using MVC architecture so that data, view, and controller functionality need to be divided into appropriate modules.
d) Use remote Web Services (Web API calls)
e) Use map and location based map functionality
f) Use UIImagePickerView (both camera and photo library) and TableView

Deliverables:

Phase I (Due October 17th Sunday by 11:59 pm, Online): Design (Use case diagram, UI Walkthrough, MVC architecture diagram, class diagram) and a 1st iteration of the implementation (one or two functionality implemented)

Note (See samples of each of the above artifacts posted with phase I requirements):

Grading Rubric

Artifact	Expected Competency/Point Allocation	Missing Expected Competency
Use case diagram	Use case diagram must follow proper UML notations and diagram drawn using a UML modelling tool such as Violet UML/astsh). Hand drawn UML diagrams will not be accepted - **10 pts**	Did not use a UML modeling tool, not submitting UML use case diagram, not using proper UML notation– **0 pts**
Class Diagram	class diagram must be a UML class diagram drawn using a UML modelling tool such as Violet UML/astsh). Hand drawn UML diagrams will not be accepted - **25 pts**	Did not use a UML modeling tool, not submitting UML class diagram – **0 pts**
MVC Diagram	MVC diagram need to show how Model/views/controllers in your design communicate - **25 Pts**	Missing MVC diagram clearly showing communion among model, views, controllers – **0 pts**
UI Walkthrough	UI walkthrough must be developed using a	Did not use a UI mock-up tool,

	UI mockup tool to mockup screens followed by description of each screen – **30 Pts**	mockup screens followed by description of each screen – **0 pts**
1st iteration of the implementation	Project folder with your implementation submitted as zip file that compiles without errors - **10 pts**	No submission or project doesn't compile correctly – **0 pts**

Phase II (Due November 14th Sunday by 11:59 pm Online): Completed project

(Grading Criteria:

Requirements	Satisfied	Unsatisfied
Complete project submitted and no compilation errors	No compilation errors	Compilation errors that require many changes in the code - 0/100
Implement using MVC architecture (20 Pts)	Correctly implement Model, View, Controllers – **20 pts**	Do not have properly implemented Model – **0/20** pts
Use Web API calls (15 pts) You need to process json result from the web api call in your program. **Do not** use third-party library to process json (you can use swifty-json or swift default json processing technique that we discuss in the class)	Web API calls – **5 pts** Process josn results from the web api calls as specified in the requirements **10 Pts**	Missing API calls **0/5** Do not process json in the program as a result of 3rd party web API calls – **0/10**
Using map and location based functionality - 10 pts	Use map and location based functionality without hardcoding longitude and latitude values – **10 Pts**	Missing map/location functionality – **0/10** Use map/location functionality with hardcoded longitude and latitude values **3/10**
Use permanent data storage (firebase or coredata) – 20 pts	Use permanent data storage (firebase or coredata) to store and use data in the app – **20 pts**	Missing permanent data storage 0/20
Use image pickerview (both camera and the photo library) – 10 pts	Use image pickerview (both camera and the photo library) – 10 pts	Missing both camera and the photo library 0/10 Missing either camera or the photo library 5/10
Use table view appropriately -15 pts	Use table view – 15 pts	Missing table view 0/15

Overall completeness and the quality of the UI – 10 pts	UI is acceptable with no issues in displaying the content – 10 pts	UI elements are not visible properly / not organized in a user friendly manner – **partial credit based on the merit of your UI design**

Phase III (Due November 28th,Sunday by 11:59 pm Online): Project presentation recorded online, Final MVC architecture diagram, final class diagram. This will be counted towards your final exam grade. Presentation should include technical details of the design and implementation.

Project Ideas: You are encourage to have your own project idea. Few examples as a guidelines

Project Idea 1 Efferent Patent Care System (Please talk to me if you decide to do this project)

This year's class project is to develop a software system called **"Efferent Patent Care System"** application that helps healthcare providers to receive conditions/symptoms of terminally ill patients in real-time and take care of health issues efficiently. That may prevent unnecessary emergency visits as well as patents that need immediate attention will be treated quickly.

This system basically has two groups of functionalities (patients' and health care providers'). Patients enter their health conditions/concerns based on well-defined symptoms such as nausea, headache, chest pain …etc through a patient application. Ideally, such an application can be deployed in a smart phone/handheld device. Patients can enter their pain levels using a numerical scale 1(mild) through 10(severe). We will provide more details about symptoms with phase I requirements

Each patient has a backend data records and based on patient data and health conditions severity of each patients' condition will be determined by the system (You can come up with your own algorithm for this or we can provide more guidelines with phase I requirements). Once patients' condition is determined, a message will be sent to the doctor, nurse, or nurse practitioner who work with the particular doctor that the patient is getting treatment from. Arrival of such a message can trigger appropriate actions from the doctor/ nurse practitioner/nurse to take care of patients' situation.

Project Idea 2: Daily Workout Monitoring System (From a previous semester, please DO NOT implement this as your class project)

For this project the mobile application is going to be some type of workout planner. A workout planner is good to have to keep track of workouts, progress, or even routines. This mobile application will contain a number of exercises that the user can look through and view details

of each exercise when the user taps on the exercise. Since only viewing exercises is not enough, the app will also allow the user to create a workout plan. A set of exercises for a particular day.

Primary Goals:

- Create an application that includes using tableview to display exercises.
- Store exercises locally using some type of database management system such as core data.
- Initially allow 7 customizable workout plans, one marked for each day of the week.
- Individual workout plans. ie 3 sets of 5 reps.
- Allow the workout plans to be saved by using some type of persistent storage.
- Ability to search web for health indicators
- Use the Map to show workout places and directions
- Use a tab bar for easy navigation