

# school of **computing, informatics, & decision systems engineering**

CSE 335: Principles of Mobile Computing

Homework #1: Fall 2021

100 Pts

Due: Oct 10<sup>th</sup> Sunday by 11:59 pm Online

**Submission :** Make a zip file of your complete project implementation

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**Important Note:** Objective of the class project is not just developing the code. We focus on software engineering activities including planning, requirement, analysis, design, and software architecture and testing, while following a software process model to complete the project.

## **Description: Personal Health Monitoring System**

This homework is to develop a software system called “**Personal Health Monitoring System**” app that helps patients to track their health situation at home and to notify the health care provider if any abnormality occurs.

**Customers:** Customers of this app are individuals with underlying health conditions.

## **Health Indicators:**

Suppose that the individuals with underlying health conditions monitor following indicators daily at home and input to the app to keep track of the fluctuation of these indicators.

- Blood pressure (Systolic/Diastolic)
- Weight in pounds
- Morning sugar level
- Any Symptoms

Your app will keep the data (no need to store data using CoreData or firebase for this homework) for the most recent seven days.

Your app should have following three functionalities

- Enter data for a given day
- View my health (show the summary of health indicators for last seven days)
  - You can show the entries for blood pressure, sugar, and weight only. You are free to design a good UI for this
  - **Optional:** You can show them using a graph as shown in the examples given below (This is only if you are interested in learning and incorporating graphs, not mandatory).

- Am I at Risk

This is determined using three indicators as follows

- If the average weight of last four days of the week is higher than the average weight of the first three days of the week, the app will show a warning sign to the user indicating (“You are gaining weight!”)
- If the current sugar level is 10% higher than the previous day, the app will show a warning sign to the user indicating (“Your sugar level is high!”)
- If the current blood pressure (systolic, diastolic, or both) level is 10% higher than the previous day, the app will show a warning sign to the user indicating, (“Your blood pressure is high!”)
- If none of the above, the app will show the message “You are in good health, keep up the good work” with happy face

(You are free to design a good UI for this)

External Resources:

How to draw graphs using swift

<https://www.iosapptemplates.com/blog/swift-programming/ios-charts-swift>

<https://www.youtube.com/watch?v=GNf-SsDBQ20>

**Grading Criteria:**

1. Correct UI functionality using segmented controller is specified
2. Use the MVC architecture correctly (First, study the MVC examples discussed in the class and then design the MVC for this application)
3. Correctness of the functionality

**Submission:**

Make a zip file containing your homework #1 folder and submit online to the canvas

**NO LATE SUBMISSIONS WILL BE ACCEPTED**

Sample Screenshots of the UI Design (You can change it slightly if needed):

