1. Introduction

The Internet of Things (IoT) has entered our lives for the past years with several cool gadgets that are connected to the Internet. One of the most common is the personal health monitor and Fitbit is one of the most well-known brands. For this semester project you will need to analyze and build software to control a personal health monitor, similar to a Fitbit. Your software solution should continuously monitor a person’s physical activities and vital signs, and motivate people to be more physically active. The final product of this project will be a prototype of a health monitor software and User Interface, as well as a complete design document with use cases, UML sequence, class, activity, and state diagrams.

You will work in groups of up to three students. A good publication on group collaboration that I recommend for you to read is titled: “All I Really Need to Know about Pair Programming I Learned In Kindergarten”. Keep in mind that you will submit a team review document in the end and work needs to be achieved by both partners. Furthermore, you will have a project presentation where I can ask detailed questions about your work and figure out if you have worked equally. Finally, the whole class will have the same project and plagiarism is impossible in a project like this and will be easily discovered. The project will be uniquely built based on your questions and interviews that you will conduct with the client (me 😊).
2.  Deliverables: you will need to revise some deliverables based on feedback and comments.
   2.1. **D1 - Inception (10 pts)**: For this deliverable, you will need to submit all the inception documents for your software such as: Vision, Use-Case enumeration with 2 use cases "fully dressed", supplemental specs, and a glossary.
   2.2. **D2 - Elaboration (10 pts)**: Submit all use cases fully dressed and domain model.
   2.3. **D3 - Elaboration (10 pts)**: Submit system sequence diagrams and operation contracts.
   2.4. **Revise D3**: Revise and resubmit D3 based on feedback and comments.
   2.5. **D4 - Objects (10 pts)**: Identify objects needed to implement your operations; Suggest object responsibilities and collaborations with example sequence diagrams.
   2.6. **D5 – Objects (10 pts)**: Complete the object design, revise sequence diagrams. Note: it is important to apply the GRASP principles, especially Information Expert, Creator, Controller, and Low Coupling.
   2.7. **Revise D5 based on feedback**
   2.8. **D6 - Java code and Testing (20 pts)**: You will need to create a prototype of the project using Java and Netbeans or Eclipse. Produce Java classes to implement your design as specified in your sequence diagrams; use NetBeans to create project [teammameHealthMonitor] (no spaces) with Junit tests; use test-driven development by first creating tests for each class and method; use package structure com.csci360.healthmonitor;
   2.9. **Powerpoint presentation (10 pts)**: You will need to present your work in class. This will be a 15 min presentation with 5 mins left for Q&A. The presentation should have professional slides that will present briefly your requirements, analysis, system design, objects, and a demo your prototype.