ECEN 361 Project Definition

<SMART Watch>  
<Everett Buttars, CORT SIMPSON, SETH BURTON, SHANNON VEGA>

# Project Scope

*Describe the type of project you will be creating. Include details on what it is, what it will do, and why it is important.*

*Smart watch 🡪 Pedometer, Heart Rate, Watch (Time, Stopwatch, date & time, timer, alarm, etc.) and then if we want to expand and have time we would look into other options. IT is not going touchscreen.*

# Lessons to Learn

*Describe the key elements you’ll need to learn more about to complete your project. Include information such as “the team will learn about wireless and cloud connectivity” or “the team will learn how to implement power control software” or similar.*

* *Interface pedometer and heart rate sensor (breakout boards).*
* *Simple watch functions (timer, stopwatch, current time)*
* *How to display*
* *Connect all components.*

# Roles and Responsibilities

*Define roles and responsibilities for each team member and report them here. Note the team leader is required, but the others are provided just as examples.*

|  |  |  |
| --- | --- | --- |
| Role | Name | Responsibilities |
| Team Leader | Everett Buttars  Shannon Vega | * Set up project in Monday.com and invite team * Manage project tasks in Monday.com * Submits group assignments * Establishes meeting schedule (1-2 times per week) |
| Hardware Lead | Cort Simpson  Everett Buttars | * Final decision maker on hardware selection * Hardware block diagram owner * Gathers necessary hardware (purchase or loan) |
| Software Lead | Seth Burton  Shannon Vega | * Final decision maker on software architecture * Software block diagram owner * Set up Git repository and share with team |

# Schedule

*Create initial set of tasks in Monday.com and assign a person and dates and durations. Export main table to Excel and Gantt chart to PDF and turn in with this sheet.*

# Derived Requirements

*List the requirements for your project. Derived requirements are typically broken down into three categories: general, interface, and functional.*

## General Requirements

*General requirements detail the general aspects of the system and cover items such as size, weight, coding standards followed, licensing, etc. Usually this list is short, but not empty. Use these to help guide hardware selection.*

*Pedometer, Heart Rate, Watch (Time, Stopwatch, date & time, timer, alarm, etc.)*

* *Sensors*
* *Display*
* *Main Board*

## Interface Requirements

*Interface requirements detail the interfaces of the system and cover items such as communication standards, protocols, baud/bit rates, cloud connectivity, security, etc. Use these to help guide hardware selection and software design.*

* *Buttons*
* *GIU*
* *Maybe Bluetooth*
* *SPI*

## Functional Requirements

*Functional requirements detail the features and overall functionality of the system and cover items such as specific capabilities and behaviors required to fulfill the scope of the project.*

* *Pedometer,*
* *Heart Rate,*
* *Watch (Time, Stopwatch, date & time, timer, alarm, etc.)*

# Hardware Block Diagram

*Create an initial, rough hardware block diagram showing the major hardware components, how they connect, how they are powered, etc. Use a professional tool such as LucidChart, draw.io, or Miro for this. Export a PDF and turn in with this sheet.* ***Note that this is not final and will be updated weekly.***

***TBD***

# Software Block Diagram

*Create an initial, rough software block diagram showing the major software modules, how they connect, how they interface with hardware, etc. Use a professional tool such as LucidChart, draw.io, or Miro for this. Export a PDF and turn in with this sheet.* ***Note that this is not final and will be updated weekly.***

***A diagram of a company

Description automatically generated***