Harris 1 - Vitals Monitoring System

Overview
Our team was tasked with the problem of designing and building a wearable vitals monitoring system. The system was required to be able to store data and transmit it wirelessly to remotely located medical personnel. This meant that the team would also have to wirelessly interface the wearable device with at least one other intermediary device before the data could be forwarded to a remote location.

Objectives
- Create and program the wearable device based on the Seeeduino Film system. (Lead: Aaron, Secondary: Devin)
- Create an Android application to communicate with the device and server. (Lead: Michelle, Secondary: Aaron)
- Set up a server to store data and provide remote access to it. (Lead: Khouri, Secondary: Aaron)
- Create a desktop application in C# which will be used by medical personnel. (Lead: Khouri, Secondary: Devin)
- Design a case for the wearable device using SolidWorks software. (Lead: Devin, Secondary: Aaron)

Approach
- Conduct a site visit to Harris Corporation to discuss customer needs.
- Discuss possible solutions to achieve our design goal.
- Propose engineering specifications of the design.
- Research existing products similar to our intended design.
- Narrow down the proposed solutions based on feasibility and availability existing technology.
- Determine which components to use in the system.
- Create a prototype of the wearable device case using SolidWorks.
- Divide up and write code for each of the separate system components.
- Test code between the different systems to verify compatibility.
- Test the final version of the system to verify proper functionality of all components.

Outcomes
- Although there are similar products on the market none are quite capable of directly forwarding the data to medical personnel.
- The project was finished under the $1000 budget.
- The design goals of the project were nearly completely met, with the exception of server communication.