CS 492/493 Progress Report 1.

Instructions: *Each team member should enter their activities performed for the capstone project in the last two weeks, as well as their expected activities for the next two weeks, along with anything holding them up on completing their activities. These should be discussed by the team and their advisor(s) during the weekly/biweekly meetings, and the advisor(s) should sign and date the sheet indicating a correct assessment of the team's progress. Students need to upload a signed and scanned version to blackboard. Progress reports uploaded to blackboard without a signature and score for progress will receive a 0 for progress.*

Team/Project Name: Biomechanical hand

Team Member #1: Sam Dressler

What I did since last progress report:

This is the first progress report submit for the multidisciplinary senior design team working on the biomechanical hand. Since the project began, our team was formed involving three EE students and two CSCI students. The primary focus of the EE students are to design and create the device and the circuitry to control the hand, whereas the CSCI students will aid in the programming for the control of the hand as well as develop an application that will be connected and provide additional functionality to the device.

Because of our split group, we are in a unique situation where we will be held to two different sets of requirements, one following the EE 480 syllabus and one following the CSCI 492 syllabus. Dr.Tavakolian made it clear that my CSCI partner and myself will receive our final grade for the course from the CSCI side but with feedback from the EE side. Since John and I are focused on succeeding with the project, we will be assisting our team members on the EE side with their tasks especially with regards to programming.

For EE 480, the course is structured into five-phases that span the course. Our team has currently completed phases one and two and has now began working on phase three deliverables.

Phases one and two targeted the background planning and investigation that was the foundation for the project. Phase three, which will continue through the end of the semester, will begin to finalize the requirements and design for each of the project's subsystems.

Individually, I have assisted in completing tasks regarding the business and entrepreneurial side of the project. I was the key member responsible for the completion and presentation of the business canvas during our teams last presentation in EE 480. The presentation also contained our projects problem statement, concept of operations, schedule, and budget.

Anything holding me up on my last progress report's expected activities:

As stated earlier, this was our first progress report, so nothing is holding us up from the last report's expected activities.
Looking forward, some current hurdles we must overcome are the acquiring of all required materials. Before we can continue to develop the device, we need to create a mold of the subject's hand and model it using 3-D visualization software so that we can find the correct sized parts. Once this is completed, we will be able to define the requirements for the size of the components and can get them ordered.

What I plan to do before the next progress report:

I currently plan on helping complete the functional and non-functional requirements for the application side of the project. John and I will also need to determine the software development environment that we want to use to complete the application.

Team Member #2: John Neis

What I did since last progress report:

As Sam stated in his section, this is the first progress report.

My responsibilities have been to create and fill out our groups budget sheet. This is a living document that outlines all of the items we require to build the device as well as how much of each item we will require. This gives us a concrete dollar amount, which we can use to ensure our project comes in under budget, which may ultimately end up being easier as we have both EE and CSCI budgets at our disposal.

I was also tasked with presenting our project pitch to the CSCI 492 class. This involved helping my teammates with putting together the slides, and contributing to the planning and design of the project. It also involved actually presenting the slides, which I did over a Zoom meeting.

Anything holding me up on my last progress report's expected activities:

As of right now, there is nothing holding me back from the last progress report's expected activities, as this is the first progress report, so there are no expected activities at this point. A potential roadblock we may run into eventually is programming the Arduino. As of right now, one of the EE members has offered to program the Arduino, however he is a DEDP student who currently resides outside of North Dakota, so we will need to figure out a way for him to be able to write code that can be tested on hardware.

What I plan to do before the next progress report:

Sam and I will be working together alongside Megan Larson to put together a) a software requirements document for the mobile application for the device and b) requirements for the system as a whole; that is the device and the application together. Sam and I can also begin looking into mobile app development as well as how to program for Bluetooth Low Energy communication between devices.

Date: 25 October 2020

_____

Team Progress (0 -- 3): _____3_____ Kouh October 25th 2020

*The **team advisor** needs to fill out a value 0 -- 3 and email the completed progress report to Mr. Nordlie at john.nordlie@und.edu*

0 -- no progress has been made by the team
1 -- insufficient progress has been made for the team to complete their capstone
2 -- sufficient progress has been made for the team to complete their capstone
3 -- excellent progress has been made by the team

Report Quality (0 -- 3): _____

This will be filled out by Mr. Nordlie after the report has been emailed.

0 -- missing or empty report
1 -- report briefly written with incomplete sentences, lacking descriptions of work
2 -- well written report with sufficient description of work performed since last progress report
3 -- excellently written report with detailed description of each team members progress