

DEC15-04

Senior Design 491 - Weekly Report - DEC15-04 Fall 2015 Week 17-18-19-20 (9/7/15 - 10/2/15)

Advisor: Suraj Kothari
Project: Future Wearables
Client: Ted Krepos ("*Krepos Physical Therapy and Performance*")
Ensoft - Jeremías Saucedá
Members: Aaron Reyes - Team Leader
Nick Plutt - Webmaster
William Park - Communication Leader
Josh Cline - Key Concept Holder #1
Nick Gonner - Key Concept Holder #2

Monthly Recap:

I apologize as the Communication leader for not keeping up with the weekly reports. For weeks 17-20, they will be put together in one giant report. This month really can be tied together as a giant report because as a team, we had very few meetings. However, we did assign everyone individual work that needed to be done in order for our project to progress as well as to be successful in what we are doing.

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Meeting Overview:

September 16 2015 - **Meeting-25a**

Duration: 1.0 Hours

Attendance - **25a**

| | |
|--------------|--------------------|
| William Park | Did not attend |
| Nick Plutt | Did not attend |
| Aaron Reyes | -Hardware Meeting- |
| Josh Cline | -Hardware Meeting- |
| Nick Gonner | -Hardware Meeting- |

1. There were actually two different meetings; one each for each respective teams.
2. Hardware discussed what needed to happen in the upcoming month and figure out how to properly deal with the EMG
3. Things that were discussed
 - a. Conductive Fabric. How it will change the data, understanding its use.
 - b. Organization and use of the new Microcontroller
 - c. Battery and Power solution to the device.

Meeting Overview:

September 16 2015 - **Meeting-25b**

Duration: 1 Hours

Attendance - **25b**

| | |
|--------------|--------------------|
| William Park | -Software Meeting- |
| Nick Plutt | -Software Meeting- |
| Aaron Reyes | Did not attend |
| Josh Cline | -Software Meeting- |
| Nick Gonner | Did not attend |

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1. Software created an outline of what needs to happen for this device to work properly.
2. The outline:
 - a. Fix Bluetooth
 - i. Understand Delimiters
 - ii. Make it cleaner
 - b. Database
 - i. Storing data from bluetooth to database
 - ii. Taking data from database
 1. to CSV or txt delimited
 2. to an internal SQLite database
 - a. Sqlite database needs to be setup
 - c. Graphing
 - i. Adding graphic utilities to Kepros App
 - ii. Figure what UI to use for graphing application and API
 - iii. What type of graphs
 - iv. Data types for the graphs
 - d. Testing and Debugging
 - i. Use Case testing
 - ii. User testing (testing random things to find bugs / crashes)
 - iii. Testing on multiple android devices and environments
 - e. Documentations
 - i. Use Cases
 - ii. Step by step Instruction guide

Accomplishments this month:

1. Met with George Amariuca
2. Outline and Goals for the upcoming month
3. Bluetooth functionality works
4. EMG data was adjusted and now is readable

Pending Issues:

1. EMG sensor now collects readable data. Now it needs to be determined if this data can be used for the project's purpose, or if we still need to continue to adjust the readings to fit our projects need.
2. Software application is having trouble with minor bugs with bluetooth if all these cases are not met correctly.
3. PCB and Battery solution for the hardware team (continued)
4. Create an actual wearable device by purchasing the last pieces to complete a working prototype. (continued)
5. Move all our components from old microcontroller to new ordered one.

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Planning:

- i. Getting the design for the PCB finished.
- ii. Assembling the second prototype.
- iii. Software Team needs to push out a prototype application within the next two weeks that actively works around receiving and displaying data.
- iv. EMG solution needs to be researched.
- v. Finish Bluetooth Functionality and Graphing Data for Software Application

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Individual Contributions

Aaron : -- (2 hr)

- i. meetings

William: -- (4.5 hr)

- i. Weekly Report
- ii. Meetings
- iii. Android API coding. Bluetooth Connectivity. Receive and Display Data

Josh: -- (7 hr)

- i. Meetings
- ii. SQLite functionality and database
- iii. Application cleanup

Nick P: -- (4 hrs)

- i. Meetings
- ii. Android Graph API

Nick G: -- (6 hr)

- i. Meeting
- ii. Evaluation of the microcontroller
- iii. Microcontroller Library

Total Contribution for the Project:

Aaron Reyes (56.2 hrs)

William Park (60 hrs)

Josh Cline (82.2 hrs)

Nick Plutt (66 hrs)

Nick Gonner(64.1 hrs)