

EE/CprE/SE 492 Bi-Weekly Report 4

Group 18

10/12/19 - 10/25/19

IoT Elderly Care Solution

Client: Andrew Guillemette **Advisor:** Daji Qiao

Team Members:

Jared Griffin:	Web App Engineer and GitLab Administrator	Siyuan Zeng:	Behavior Logic and Testing Engineer
Nidhi Dalvi:	Meeting Facilitator and Hardware Engineer	Robert Guetzlaff:	Hardware/Software Engineer
Tyler Borchert:	Hardware and Testing engineer	Tina Li	Hardware Engineer

Bi-Weekly Summary:

Over this period our group met with our client and discussed where we are and where we want to get by the end of the semester. We also created our presentation for the second PRIM meeting. We are also starting to integrate our predecessors project into ours.

We have set a goal of November 21st to have the project tested and ready to implement into our testing environment.

Last Period's Accomplishments:

- Tyler
 - Fixed some of the connection issues faced with the sensor tags.
 - Had a cram session with hardware team
 - Came up with a possible way to tell if a door is opened with a gyroscope. Look for max and min values over time. A door should have positive and negative acceleration. This was discussed with Tina.
 - Helped Nidhi out with calibrating the gyroscope and accelerometer.
 - Worked on implementing an algorithm that can get the max and min acceleration values on a given axis.

Jared:

- Finalized overview dashboard mockup
- Implemented the gutter menu from the mockup
- Upgraded Node & removed the starting favicon and edited the web app title
- Robert
 - Tested hardware to server relay code.
 - Regained access to gitlab
 - Picked up last semesters smart outlet project
- Nidhi
 - Working on calibrating the gyroscope and acceleration with tyler.
 - Tried moving average to calculate gyroscope and accelerometer data.
- Siyuan:
 - Implemented the user services including the create, delete and modify services in case that SSO doesn't work as expected or have trouble to set up.
 - Look into the React.js to see if there is anything I can do to help web app development.
- Tina:
 - Had hardware cram session with team
 - Planned a logging system that takes account of multiple sensors and resource sharing issues
 - Talked with Tyler to figure out how to do calculations and how data from the sensors should be interpreted and used
 - Refactoring code by adding calculations thread and making it object oriented

Pending Issues:

We believe that it was group 2's code that caused our project to crash after the end of last semester. This code needs to be vetted and tested to ensure that it won't cause the same problem again.

Individual Contributions:

Member Name	Individual Contributions	Hours this Period	Cumulative Hours
Jared Griffin	Finalized mockup for overview dashboard, added menu to the overview page of the web app, upgraded Node in the web app project, and edited the favicon and title	5	56

Siyuan Zeng	Implemented some user services and deployed the new jar to AWS. Went through the React.js thing about web app to try to help.	7	74
Nidhi Dalvi	Worked on some calculations to calibrate gyroscope and accelerometer data.	10	80
Robert Guetzlaff	Tested and updated sensor reading relay code. Identified group problems for PRIM presentation. Updated Andrew on the functionality of my relay code. Picked up second groups smart outlet project. Approved two Webapp PR Updated bi-weekly report template	8	77
Tyler Borchert	Came up with a way to tell if a door is opened using gyroscope and accelerometer. Helped Nidhi with calibration calculations.	16	96
Tina Li	Figured out what calculation method we should use for hardware code, and what data is relevant for calculations Rewrote code to include calculations, and so it's object oriented and clear for the next group Came up with plan for logging system for multiple sensors Discussed issues that might arrive	12	?

Plans for the Upcoming Period:

- Jared
 - Implement the overview section of the overview page
 - Work with Siyuan on getting resident data for the overview page
- Tyler:
 - Make an algorithm to find tell if a door is opened or closed.
 - Integrate everything needed in Tina's code.
 - Test the sensor arrays.
- Robert:
 - Dig into group 2's code and integrate it into our system
 - Start work on final report
- Nidhi:
 - Figure out the possible way to calibrate gyroscope and accelerometer data by moving average.

- Siyuan:
 - Discuss with Jared to get some parts of web app to implement and help.
- Tina:
 - Finish battery level fetch
 - Implementing logging system for multiple sensors

Summary of Period Client Meeting and Bi-Weekly Advisor Meeting:

Client Meeting

(10/13/19):

Discussed our current progress of individual projects, and our goals for the semester.

Advisor Meeting(10/22/19):

Reviewed what we have done since our last meeting. Got feedback from Daji on our plans for sensor implementation and set a date to have the project ready to go into our testing environment on the 21st of November.