

EE/CprE/SE 492 Weekly Report 2

Group 18

9/14/19 - 9/27/19

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:

The group met with our client to discuss our path forward. We will be removing our central hub located in our deployment location and allowing each Raspberry Pi to communicate to the server. We met with our test user and have removed all of our testing equipment from the location to prepare for the installation of our updated system in the coming weeks. We have continued to work on our UI, logic, sensor code, and server code.

Past Week's Accomplishments:

- Tyler
 - Got the accelerometer and Gyroscope to present the correct data.
 - Got more sensors from our advisor and got him up to speed on our groups progress.
 - Have a full working prototype for the luxometer for one sensor.
- Jared
 - Helped remove previous sensors and Pis from Bob's apartment
 - Preparing mockups for the web app after having rough ideas sent to me by Siyuan
 - Helped give presentation to senior design class

- Robert
 - Removed and collected test equipment from our testing environment.
 - Built a test system to report data stored on a database to a remote server
 - Redesigned the communication method between the raspberry pi's receiving sensor data to the AWS server.
- Nidhi
 - Removed the wires from the Bob's apartment.
 - Re-checked the code for the prototypes for sensor tags.
 - Discussed with tyler about the progress on sensor tags.
- Siyuan:
 - Went to Bob's apartment to take more information to help the logic algorithm.
 - Keep implement the logic algorithm and alter the old jsonobject to a more clear one.
 - Discuss the data that should be sent to web app with Jared
- Tina
 - Set up raspberry pi and flashed sensors
 - Brainstormed test plan for sensors
 - Found way to measure power usage for sensors
 - Writing experimental code to connect raspberry pi to several bluetooth devices at once

Pending Issues:

Jared:

Siyuan Zeng: The ending time for an activity such as breakfast and lunch is hard to determine because not enough flags are triggered, which means the result depends on few factors and that means the result might not be accurate.

Tyler: Need to make sense of the Acc and Gyro data for the project context. Also need to put firmware on the sensortags that we were given and then test multiple connections.

Tina

Individual Contributions:

Member Name	Individual Contributions	Hours last Two Weeks	Cumulative Hours
Jared Griffin	Met with Bob to remove previous sensors and Pis, helped put together and execute presentation on the	3	50

	project to our senior design class, preparing mockups for the web app.		
Siyuan Zeng	Meet with Bob and get more information that might contribute to logic algorithm. Worked on the logic implementation.	7	12
Nidhi Dalvi	Met with Bob and removed all the wires from his apartment. Discussed with tyler about hardware. Working on sensor tags.	6	10
Robert Guetzlaff	Met with Bob, and worked on rebuilding the Pi to server communication	7	14
Tyler Borchert	Met with Daji to grab more sensors. Worked on some of my prototypes.	7	7
Tina Li	Set up sensors + pi in my apartment, writing code that connects multiple sensors to one pi, created a test plan for sensors	6	12

Plans for the Upcoming Two Weeks:

- Jared
 - Take the rough mockups sent to me by Siyuan and flush them out
 - Prepare tasks for the web app for implementing the mockups
 - Get Andrew's approval on the mockups
 - Refactor the mockups as desired
- Tyler:
 - Get the new sensortags in a usable state.
 - Figure out the ACC and Gyro.
 - Create a prototype that is able to handle multiple sensors.
- Robert:
 - Move Pi communication endpoints to the AWS server
 - Prepare database and transmission code for deployment
 - Work with Sensor team to ensure they are able to store readings to local server
- Nidhi:
 - Test sensor tags.
 - Debug issues with sensors
- Siyuan:
 - Thinking about a better algorithm to determine ending time.

- Start deploying the backend to the AWS server.
- Prepare for the whole system mock up.
- Tina:
 - Finish code for multiple bluetooth sensors
 - Debug issues with sensors

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

Client Meeting (9/8/19):

We went to Bob's apartment to remove the previous sensors and Raspberry Pis, and we gave a brief overview of what we have accomplished over the last couple of weeks.

Advisor Meeting:

Did not hold because our advisor was out of town