EE/CprE/SE 492 Weekly Report 3 Group 18

9/14/19 - 10/11/19 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:

Past Week's Accomplishments:

- Tyler
  - Put firmware onto all of the sensors given to me by our advisor.
  - Gave a couple of sensors to Tina and Nidhi to work with.
  - Worked on a prototype to connect multiple sensors tags on a raspberry pi
  - I was able to get 7 connected to one device all using the Luxometer.

  Jared:
  - Built a simple mockup based on a simpler concept from Siyuan for what the web app would look like
- Robert
  - Finished the sensor reading relay program passing data from a database on a raspberry pi and transmitting off to server.
  - Met with hardware team to discuss integrating our two systems.
- Nidhi

  Researching on how to calibrate and effectively use the gyroscope

  Grabbed more TI sensors from tyler

Discussed what next is to be done on hardware stuff

- Siyuan:
    - Set the backend jar file ready to run.
    - Working on deploying jar file to AWS server.
    - Discussed mockup with Jared.

  Tina:
    - Made a plan for how to send data
        - Not all the data needs to be sent depending on the type of drawer it's put on
        - Make struct for different types of drawers
    - Made plan for dealing with connection errors (sensor doesn't connect, or only a few sensors connect)
    - Created library for gatt client commands
    - Made plan for analyzing open/close data
        - Look at accelerometer and gyroscope data, if a "close" happens, it shouldn't be counted and sent to the server.
        - What counts as open and close?
        - Calculations

Pending Issues:

Jared: Need to meet with our client to discuss the mockups that were made; need to discuss the issue of having Bob's health predictions openly available on the web or if they should be behind SSO

Siyuan Zeng: Need to implement more endpoints for web app to access various data.

Tyler: Need to figure out how to properly pipe all data from sensors to the uploaded for the database.

Nidhi: Need to calibrate the data on gyroscope through equations.

Individual Contributions:

Member Name	Individual Contributions	Hours this Week	Cumulative Hours
Jared Griffin	Built simple mockup for the web app	4	51
Siyuan Zeng	Keep updating backend data transferring and deploying the jar file on AWS server.	5	15

Nidhi Dalvi	Researching on how to calibrate the data on gyroscope.	8	10
Robert Guetzlaff	Build code to transmit data.	6	21
Tyler Borchert	update the firmware on devices. Distributed devices. Successfully connected 7 devices at once.	4	12
Tina Li	Made connectivity error handling state machine, analyzed how to get open/close data using sensors, analyzed what should be sent based on what drawer a sensor is placed on	7	?

Plans for the Upcoming Week:

- Jared
    - Finalize mockups
    - Show the mockups to our client and advisor
    - Begin initial work implementing mockups in web application
- Tyler:
    - Get the information in a format that an uploaded can understand. Also start writing the main program that we will use.
- Robert:
    - Deploy code on test pi and monitor incoming data.
- Nidhi:
    - Calibrate data through equations on gyroscope. Also, continue researching more on how to use it effectively
- Siyuan:
    - Finish the deploy and discuss what more information would be great to display on web app with Jared and Andrew.
- Tina:
    - Code the state machine + connection error handling I wrote out
    - Finish library
    - Integrate struct into Tyler's code and make sure it integrates smoothly

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

Client Meeting (9/8/19):
Did not meet with Client

Advisor Meeting:
Did not meet with Advisor