EE/CprE/SE 491 Weekly Report 6 Group 18

3/30/19 - 4/5/19 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		

Weekly Summary:

Past Week's Accomplishments:

Tyler:

- Research potential wireless solution
  - Found a good one from Ti that is a sensor tag
    - Our advisor uses the same one for his research
    - Thinks it is a little overkill for our project
- Monitoring the testing environment to ensure that data is still being properly recorded.
  - Everything is looking fine now
  - Still getting small data elements from the fridge, but they are being filtered out.
    - This is a hardware issue and we will attempt to fix it the next time we go to the testing environment.

Robert:

- Rewrote the test user survey.
- Corrected a data type error in the database.

Siyuan Zeng:

- Worked on the behavior prediction.
    - Analyze the data in the database to design the prediction algorithm.
    - Achieved the prototype of breakfast prediction and uploaded it on the logic server.
    - Set up the endpoint for the web app to use.
- Helped Robert to create the new survey paper for our target(Bob) to fill out his daily activities.

Nidhi:

- Researched wireless solution

  Found two sensors: drawer magnetic wireless sensor

  Insteon Open/Close Sensor
- The best solution for wireless solution till now is TI which is a sensor tag.

Jared:

- Created a service for retrieving drawer data
    - Researched the endpoint required for collecting the drawer data
    - Mapped the drawer data to a more usable format
- Began implementing client-side state management

Pending Issues:

- **Logic Server side:**
    - Sometimes Bob only opens the refrigerator in the morning. (Maybe there is some food in the refrigerator so he didn't need to open any other drawers/doors.)
    - If Bob doesn't put stuff in the corresponding drawers, we can't get any sensor response. (Like if he put cereal, bowls, milk, and silverware at the table, he can eat breakfast without open any drawers.)

Individual Contributions:

Member Name	Individual Contributions	Hours this Week	Cumulative Hours
Jared Griffin	Retrieved drawer data, began setting up client-side state management, worked on final presentation slides.	10	44

Siyuan Zeng		9	37
Nidhi Dalvi	Helped tyler in researching wireless solution. Worked on final presentation slides.	4	30
Robert Guetzlaff	Rewrote test user survey and corrected a data type error.	5	33
Tyler Borchert	Researched possible wireless solution. Monitored the testing environment for an bad data.	4	37

Plans for the Upcoming Week:

Siyuan Zeng:

- Plan to get more information about the eating behavior from Bob to address the Logic server pending issue.
- Create the prototype for predicting lunch and dinner.
- Going to Bob's apartment to check more information about the stuff layout.
    - Where are the plates actually placed.
    - Did he put everything in the right place we expect.

Robert Guetzlaff:

- Add currently known meals into the database.

Tyler and Nidhi:

- Plan to search for more possible wireless sensors that are not overkill.
    - Also plan on looking more into the Ti solution since our client really likes it.
- Going to Bob's apartment to check up on the sensor to ensure that the current implementation is configured well.

Jared:

- Finish implementing client side state management
- Store drawer data inside of the web app state
- Begin displaying drawer data

Summary of Weekly Advisor/Client Meeting:

Client Meeting:

- We met with our client and the other senior design group to give a rundown of what we accomplished in the prior week.
- The client shared with us a solution for monitoring doors opening using an accelerometer and gyrometer inside of a "tag".

Advisor Meeting:

- We gave our advisor and client an overview of tasks completed during the prior week.

- Tyler and Nidhi went over the research they completed on the different methods of sensing doors opening.
- Robert demoed a debug tool he wrote to be able to review the data our system is collecting from the elderly resident.
- Jared showed the advisor and client a mockup of the web app and received feedback on it.
- Siyuan discussed the status of the logic server.