

EE/CprE/SE 492 BI-WEEKLY REPORT WEEKS 7-8

October 8, - October 20

Group Number: 14

Project Title: IoT Passive Monitoring of Assisted Living Homes

Client: Andrew Guillemette, Optical Operations

Advisor: Goce Trajcevski

Team Members/Role:

Trevor Henderson	-	Server Team
Nick Schneider	-	App Team
Austin Kerr	-	App Team
Austin Sudtelgte	-	Hardware Team
Ryan McCullough	-	Hardware Team
Josh Blanck	-	Hardware Team

Period Summary

Week 7: Met with client 10/7. Members demoed progress thus far with the system. Determined that changes to be made included: transitioning to hardware interrupts, adding a device type field to database, and determining maximum sensor load on a Pi.

Met with Advisor 10/9. Improper communications is noted to be a significant issue across the project space. Steps taken include more frequent reporting, and clarification of schedule times. Advisor notes that specific test goals are important, as well as creating some UML diagrams for our documentation.

Demoed functionality to client 10/11.

Met with secondary team 10/12. Exchanged details about server implementation.

Week 8: Met with client 10/14, focused on detailing network requirements (IP address allocation) and planning initial install in test environment.

Began initial install 10/18: 10 door sensors were attached to cabinets (6), pantry (1), fridge (2), and utensil drawer (1). 3 Pi's are plugged in, 2 sensor relays and 1 local server. 1 of the cabinet sensors is fully connected, and fully functional (i.e. it sends events through the Pi.)

Past period accomplishments

Trevor Henderson: Began working on a big data analytics service to identify red flags in data.

Nick Schneider: Recorded notes during meetings. Helped create the initial questionnaire.

Helped install door sensors on first install day.

Austin Kerr: Fixed how the times were displayed for the app in the flow meter events. Made a template for the Website. Fixed up the structure of the GitLab. Helped Austin and Trevor demo with our client and met with the senior design team we will be handing our project off to at the end of the semester. Helped during the first day of demo to get answers from the patient for the questionnaire.

Austin Sudtelgte: complete end-to-end test with multiple door sensors, get multiple door sensors working with a static IP address from the residents apartment. Find software to use to remote into the raspberry pi's from off-network.

Ryan McCullough: Made major changes to the sensor software by adding interrupts and tested the sensors extensively with the new changes. Worked on install on 10/18.

Josh Blanck: Revised and reformatted introductory Questionnaire and Daily Log. Began enforcing weekly reporting as opposed to bi-weekly. Aided with initial install on Thursday, 10/18.

Pending issues

All: Need more (~30+) female-female pin connectors to connect sensors to Pi's.

Trevor Henderson: data analytics

Individual contributions

Name	Individual Contributions	Hours this period	Hours Total
Trevor Henderson		7.3	27.3
Nick Schneider		8.5	24
Austin Kerr		7	27
Austin Sudtelgte		15	36
Ryan McCullough		12	36
Josh Blanck		8	20

Plan for coming period:

Trevor Henderson: launch big data service with hadoop.

Nick Schneider: Complete install next visit to test unit. Complete app login.

Austin Kerr: Work with the second senior design team on the Android App to help them set up their endpoints in the app. Work with the team on event identifiers.

Austin Sudtelgte: complete install, begin work on event identifiers, print out daily log, and determine where to best mount a camera on a toilet seat

Ryan McCullough: Finish the install

Josh Blanck: Aid in completing install at test site.