EE/CprE/SE 491 WEEKLY REPORT 01

Availability Prediction Based on Multi-Context Data

Week 4 Report

10/3/18-10/10/18

sdmay19-33

Client & Advisor: Goce Trajcevski

Team Members:

Justice Wright: Report Facilitator

Shane Impola: Scribe

Noah Chicchelly: Meetings and Communications Facilitator

Nick Schmidt: Software Systems Engineer

Tristan Anderson: Network Systems Engineer

Brendon McGehee: Hardware Systems Engineer

Weekly Summary

Having recently established a more concrete design plan, the team worked to shore up many unfamiliar areas this week. The front end team (Tristan and Nick) helped finalize some basic networking model designs and began exploring and familiarization with Flutter for our app development. Our backend team (Shane and Noah) started the process of familiarizing themselves with AWS and adapting their previous design ideas to the now decided upon platform. The hardware team established a proof of concept with data transmission through wireless receivers and further explored Pi to AWS transfer ability. This was very much a week of overcoming barriers to entry along our design path and familiarization with the tools necessary to push us over the finish line.

Past Week Accomplishments

Server side and Database Architecture Work and Research - Noah & Shane

- Continued research into the best ways designing the server side as well as the database.
- Got groundwork ready for upcoming weeks work. (Implementation of research and agreed upon designs)

Researched implementation of networking component with rest of hardware - Brendon & Justice

- Finalized arduino IDEs for transceivers to operate with each other. Was able to get a on off switch to turn an LED on and off over the transceiver models.
- Looked into hardware to see if it was possible to transfer sensor data over the transceiver modules.

Setup Flutter on android studio and got it running apps on phone - Nick

- Got android studio setup with Flutter and was able to get test apps running on my phone.
- Learning how to use Flutter more, working with Google's tutorials and documentation.

Design of sensor network - Tristan

- Narrowed down design of network to two final possibilities.
- Analyzed bandwidth limitations of network pieces to best judge how to build the network.

Hours Report

Team Member	*Weekly Hours*	*Total Hours*
Justice Wright	5	24
Shane Impola	5	24
Noah Chicchelly	6	25
Nick Schmidt	7	24
Tristan Anderson	5	26
Brendon McGehee	7	27

Upcoming Week

Brendon

- Set up sensors and arduino IDEs to transfer sensor seat data over transceiver modules.
- Look into implementing hardware component with networking component.

Justice

- Finalize Pi to AWS testing. If successful, order a pi.
- Work with back end to ensure proper channels to deliver data are available.
- Assist Brendon with establishing sensor data transfer over transmitter receiver units.

Noah

- Finish implementation of server side and database work.
- Work with front end to get communications more complex.
- Add queries, database entries, and overall flow of front to backend communication.

Shane

- Continue research into server architectures and database relationships
- Continue setting up tools that will be used for editing and basic testing

Tristan

- Begin to utilize the work I have done on the Pi to actually interact with the Arduino transceivers.
- Finalize design of the network.
- Continue working with Nick on understanding Flutter for the user application.

Nick

- Work with Tristan on furthering understanding of Flutter and getting the app sending requests to the server.
- Work on learning to create interfaces with Flutter to create an app that is functional looks useable.
- Continue to look into simulating data to be used for testing.