

EE/Cpr E/ SE 492 BI-WEEKLY REPORT 4

10/8/18-10/22/18

Group 8 - Smart Garbage Management

Advisor: Prof. Goce Trajcevski

Team Members: Colin McAllister, Nick Pecka, Robert "RJ" Duvall, Steven

Brown, Brendan Finan, Sam Johnson

BI - Weekly Summary

During these last two weeks a large amount of technical progress was made across the stack.

We finished coding each separate stage of the genetic algorithm and simply need to write a controller and do system testing to make sure it is working properly. On the hardware side, we got our boards in and are ready to begin putting our prototype together, which we will be doing over the next week. We are also starting to get our technical report written and are planning for our poster design.

Completed Deliverables

- Nicholas Pecka - Met with team (1 hour), Met with team and advisor (1 hour), Worked on development for dashboards for Resident and Collector (10 hours)
- Colin McAllister - Met with client (1 hour), wrote code for embedded MQTT calls (2 hours), checked specifications for solar panels (2 hours)
- Brendan Finan - Created user interface components for data upload(1h), Met with client (1h) , discussed database creation(2h), worked on additional Android App components (2 hours), templated Final Report and Poster (1 hour) (7 hours total)
- Robert “RJ” Duvall
 - Created the lambda function calls needed to get the route from the back-end (2 hours).
 - Changed the use of Google Maps to Bing Maps and added in the necessary permission requests in the Manifest along with the Map Generation Keys (5 hours).
 - Created a display for the points given by the back-end Routing algorithm starting at the users’ current location using the Polyline overlay in the OSM library (10 hours).
 - Created the compass overlay, scale-bar overlay, my-location overlay, and mini-map overlay (10 hours).
 - Created a lambda proxy for our Android Application (3 hours).
- Steven Brown - Ordered PCB board (1 hour), met with client (1 hour), picked up and verified PCB order (1 hour), began soldering components (3 hours)

- Sam Johnson - Development of mutation code (1 hour), Development of cross-over code(1 hour), Development of initial generation code (3 hours), Development of fitness code (4 hours), Development of successive generation code (4 hours)

Name	Hours This Week	Total Hours
Colin McAllister	5	58.5
Nick Pecka	12	71
Robert "RJ" Duvall	30	97.5
Steven Brown	6	68.5
Brendan Finan	7	73
Sam Johnson	13	100

Plans for Upcoming Week:

- Lambda functions creation - Robert
 - Create lambda functions that will be invoked by the Android application, so it can get information from the Back-End, such as the route from the Routing Algorithm.
- Construction of the device - Steven
 - Solder components to PCB
 - Check whether components work after being soldered to board
- Continue to develop microprocessor code - Colin

- Continue implementing functions on the circuit board as they are added.
- Verify that board has enough power to function.
- Implement MQTT functionality on PCB.
- Continue work on views for web/mobile app - Nicholas
 - Finish work on resident and collector dashboards
 - Touch base with rest of team working on app for combining data from other portions of app
- Work on new genetic algorithm for routing- Sam
 - Write controller for genetic algorithm
 - Write system tests for genetic algorithm
 - Begin writing project report
- Connect Android app to Amazon Web services- Brendan
 - Create tables in database
 - Verify input/output of web application (APIs)