EE/CprE/SE 491 - sdmay18-18

Fleet Monitoring System

Week 3-4 Report

1/25-2/7

Client/Faculty Advisor: Lotfi Ben-Othmane

Team Members:

Venecia Alvarez - Point of Contact
Kendall Berner - Project Manager
Matthew Fuhrmann - Report Manager
William Fuhrmann - Test Engineer
Anthony Guss - Technical Lead
Tyler Hartsock - Web Manager

Past Two Week Accomplishments

- Vehicle Testing and Path Plotting - Venecia
  - Tested vehicle with Raspberry Pi, but found that the model of car did not support CAN on the OBD-II port.
  - Worked on developing path plotting between certain times for a vehicle for the front-end.
  - Researched multi-page AngularJS applications, which we will need to implement soon to connect the pages on the website.
- Login Page Implementation - Kendall
  - Implemented the login page for the web application.
- API Design and Server Code Documentation- Anthony
  - Worked on designing the API for vehicle PID selection and processing.
  - Improved documentation on the server code.
- Statistics Generation Research and Prototyping - Will
  - Researched/learned about R programming for use in calculating statistics from server data.
  - Developed prototype of using R to gather data from the MongoDB database.
- Web Page Development and Text Notification Research - Tyler

- - Worked on developing new functionality for several web pages.
    - Investigated the possibility of creating text notifications for fleet managers.
  - Raspberry Pi Application Redesign and Implementation- Matt
    - Redesigned the Raspberry Pi application to:
      - have more configurable PID selection.
      - move CAN data processing to the server.
      - improve start-up process to check for the presence of hardware parts without failing.
    - Researched and recommended the use of a Hologram Nova to give mobile connectivity to the Raspberry Pi.
    - Worked on designing the API for vehicle PID selection and processing.

Individual Contributions

Team Member	Contribution	Hours for Current Report	Total Hours
Venecia Alvarez	Vehicle Testing and Path Plotting	6.5	67.5
Kendall Berner	Login Page Implementation	3	63
Matthew Fuhrmann	Raspberry Pi Application Redesign and Implementation	7	87
William Fuhrmann	Statistics Generation Research and Prototyping	4.5	63.75
Anthony Guss	API Design and Server Code Documentation	3	69.25
Tyler Hartsock	Web Page Development and Text Notification Research	5	45.5

Plans for Next Two Weeks

- Raspberry Pi - Matt
  - Test current PiCAN2 connection over OBD-II with vehicle using Lotfii's car.
  - Create GitHub repository for Raspberry Pi code for automatic deployment.
  - Continue changing Raspberry Pi (working with server team) for new server API that receives raw OBD-II data and uses server PID requests.
- Server - Will, AJ, Matt
  - Implement server API to ingest OBD-II output data instead of already processed data.
  - Work to develop API for choosing which statistics the fleet managers want and connecting that to PID requests.
  - Begin creating framework for statistics calculation extensions to the server.
  - Improve R statistics prototype to do a calculation that outputs back to the database.
- Front-end - Tyler, Kendall, Venecia
  - Work on integrating Google Roads API into front-end for more accurate descriptions of vehicle location.
  - Work with server team for developing API for statistics selection.
  - Implement multi-page application for changing between login, registration, and data display pages.
  - Debug issues with login/register pages.
  - Implement the Edit Fleet web page.