

sdmay19-21: Distributed mesh network for data collection and predictive analytics

Report 8

November 5th - November 9th

Client: Danfoss/ Radek Kornicki

Advisor: Craig Rupp

Team MembersRyker Tharp — *Database Design* - BackendCollin Vincent — *System Engineer* - NetworkingColton Smith — *Project Manager* - BackendGage Tenold — *Engagement Lead* - FrontendCody Lakin — *Software Developer* - Hardware InterfacingWill Paul — *Lead Architect* - Hardware and Frontend

Summary of Progress this Report

Looked into js packages for data visualization and started to figure out how to port over the UI. Prepared for our next lightning talk in class. Did more NodeJS testing and worked with linking to our database.

Pending Issues

- Have SQLite databases be able to transfer information to different machines, which will translate to the network nodes. Testing NodeJS for this.
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Plans for Upcoming Reporting Period

- Test NodeJS for potential data transfer between device nodes. (Colton and Ryker)
 - Be able to grab most recent data from tables to send to other devices. (Will and Collin)
 - Start working on implementing our front-end in electron. (Gage)
 - Work on linking data collection with database by storing the interpreted data in JSON (Cody)
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Gitlab Activity Summary

Past Week Accomplishments (Week 8)

- Put orders in for more hardware and set up stuff for CAN data simulation.
- Started working with node and looking into forms of how to package data to send to the UI.
- Interpreted CAN bus values from the J1939 protocol

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Ryker Tharp	<ul style="list-style-type: none"> Wrote example scripts for CRUD operations in the databases. Documented the way the database will update. 	8	53
Collin Vincent	<ul style="list-style-type: none"> Found issue with old images created with tar Created new images that actually work with dd piped into gzip Also worked on slide show for lighting talk 	7	56
Colton Smith	<ul style="list-style-type: none"> Designing API in NodeJS Planned endpoints for API Researched logging in NodeJS 	6	55
Gage Tenold	<ul style="list-style-type: none"> Looked into packages for data visualization Planned out how to display the data for our databases Toyed around with Photon 	7	55
Cody Lakin	<ul style="list-style-type: none"> Worked on interpreting the appropriate stats for J1939. Fuel remaining, gps, oil pressure, etc. 	4	46
Will Paul	<ul style="list-style-type: none"> Make list of all libraries that we will need to install on top of Arch and python for proper operation of piCan hardware and the python scripts to use with it, when we finally get the piCans 	6	45