

Dream Team

Electric Vehicle Project

Sponsors: Ted Eastman - UCSC IDEASS program

Ben Werner & Eric Sandoz - Revolution Motors

Problem Statement

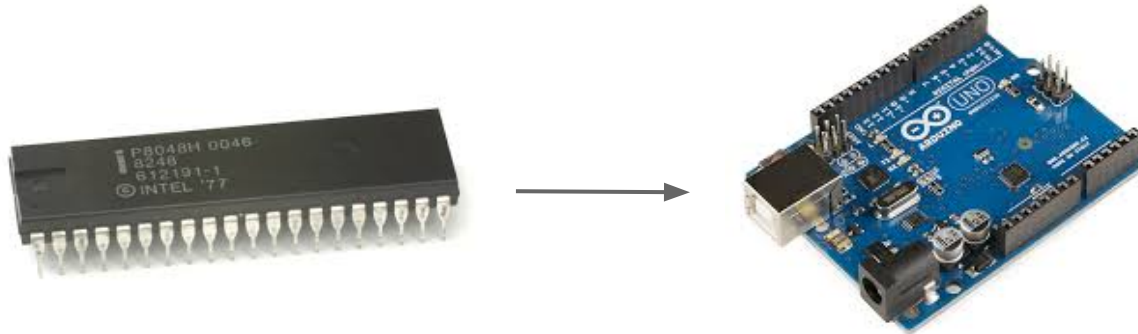
The Dagne EV - a three wheeled electric vehicle with lean action, prototyped by Revolution Motors and donated to the university educational purposes.



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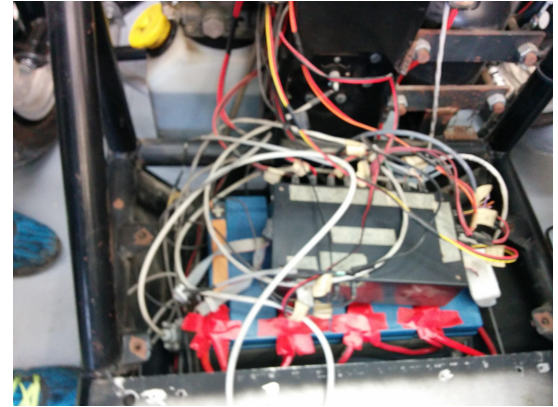
Ted Eastman - UCSC IDEASS program mentor* - wants an Arduino version of the microcontroller on the Dagne for the purpose of an “open-source” vehicle.

Task-at-hand: Convert Intel 8051 to Arduino.



Biggest Challenges and Accomplishments

- Delay getting the original source code
- Lack of original documentation
- Created documentation
 - Covers design of original source
 - Covers implementation on the Arduino
 - Can be used by future development teams on the project
- Began implementation for the Arduino

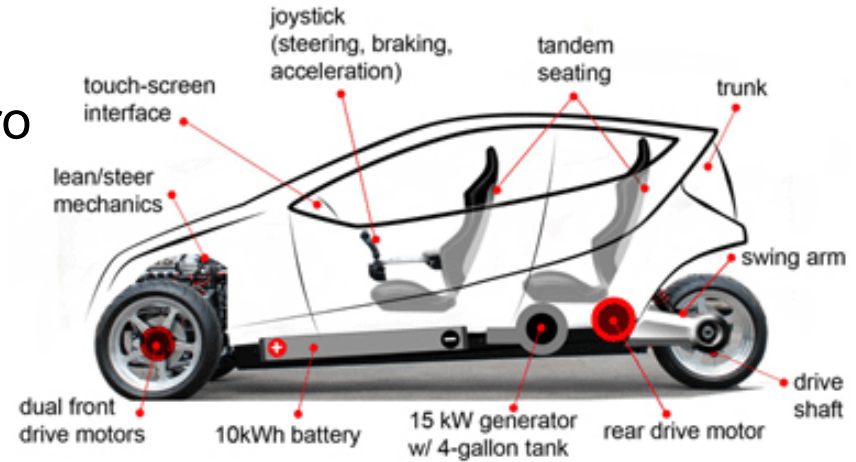


Goals we set out to achieve & Goals we did achieve

Original goal: To translate the old micro controller code into Arduino C code.

Achievements:

- Documentation of old code
- Individual modules working on a simulator
- We are about to install it on the Dagne



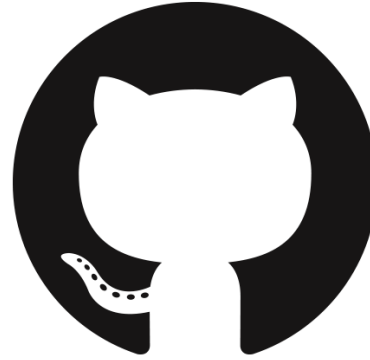
Technologies Used



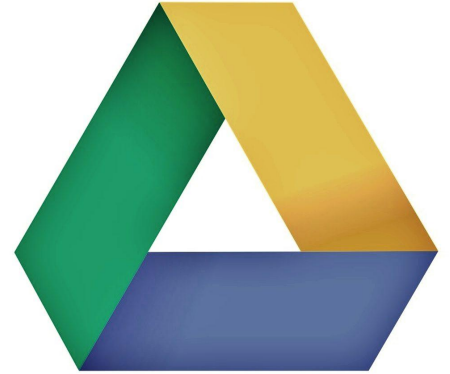
Hangouts



123D Circuits



GitHub



Google Drive

Project management techniques

- Whiteboard for Scrum board
- Hangouts for organizing the Scrum meetings
- Discussions

Things we enjoyed/didn't enjoy

What we enjoyed:

- Working with Arduino
- Coding in Arduino C
- Getting to work with the Dagne vehicle and examine its components
- Getting to work with each other
- Team meetings were very productive.

What we did not enjoy:

- The source code came very late.
- We could not properly test using the Dagne
- There was a slight accident with an Arduino board at one point.



Lessons learned



- Scrum meetings:
 - Should be spaced out evenly
 - Best in conjunction with longer logistical meetings
- Scrum board:
 - Requires clearly-defined tasks from outset
 - Needs to be updated every meeting
- Rewriting old code for different hardware:
 - Need technical knowledge of both systems
 - Sometimes better done from scratch