

# Dream Team

Electric Vehicle Project

Sponsors: Ted Eastman - UCSC IDEASS program

Ben Werner & Eric Sandoz - Revolution Motors

# Problem Statement

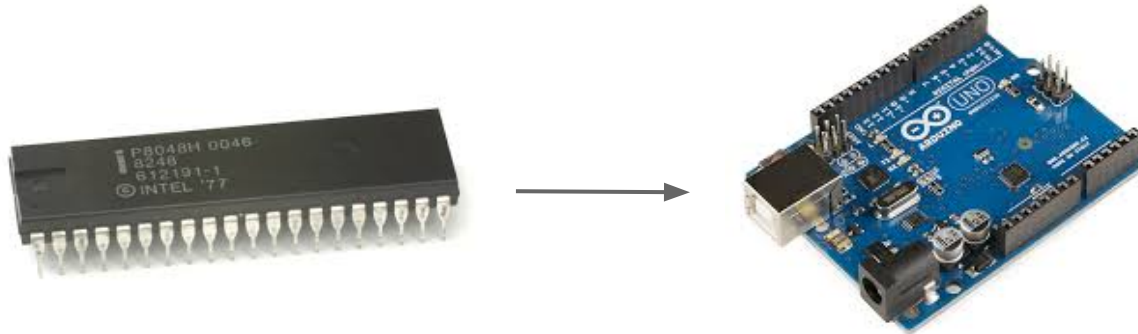
The Dagne EV - a three wheeled electric vehicle with lean action, prototyped by Revolution Motors and donated to the university educational purposes.



# Problem Statement

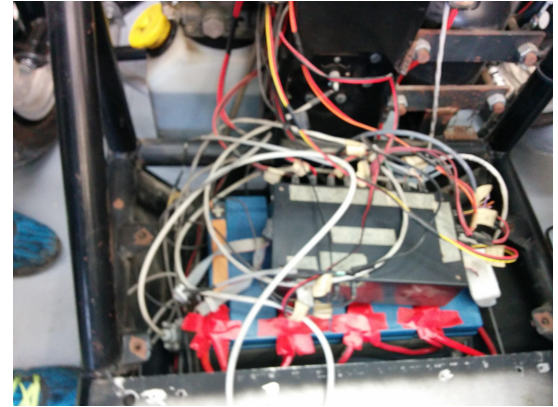
Ted Eastman - UCSC IDEASS program mentor\* - wants an Arduino version of the microcontroller on the Dagne for the purpose of an “open-source” vehicle.

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

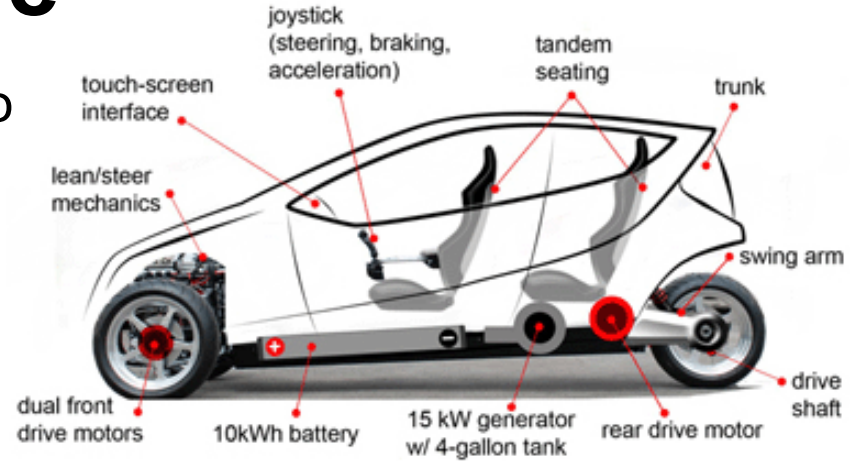


# Goals we set out to achieve & Goals we did achieve

**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



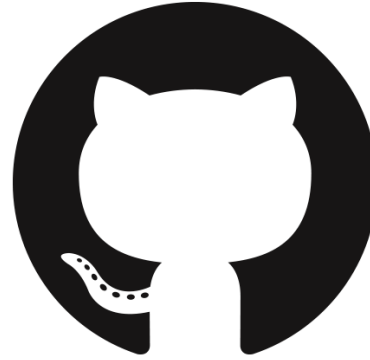
# Technologies Used



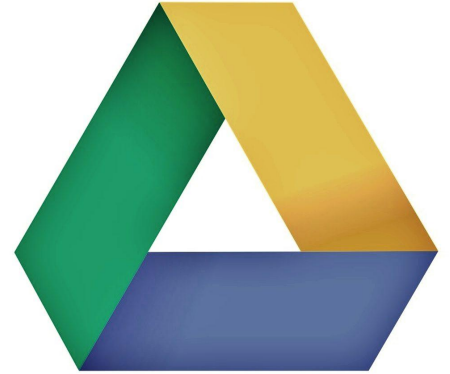
Hangouts



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