Driver Controls Software Design Project

Project Team: Crystal Gong (Lead), Kirby Julian

#### (Fall 2017) - (Winter 2018)

Contents:

[Project Goal:](#_dl53l7kwlzv8)

[Overview of Project:](#_wnbm1cdrjfvi)

[Current Status:](#_ho1hk82jmwq1)

[Project Timeline:](#_oe9w9oldrbif)

[Components/Tools Needed for Project:](#_9kdbrwakwasz)

[Hardware Components:](#_w2p3e6yniahi)

[Software Components:](#_9ioxzb2stdqn)

[Special Tools Needed:](#_ru3476hr0kp4)

[Design Process/Decisions:](#_lsh993jzulux)

[Related Projects:](#_itr811v73g88)

[Regulations:](#_l5pd5wo6zom9)

[Links to Project (if not saved in folder)](#_ijd2ghnevucb)

[Record of Emails with Major Parts Supplier:](#_b91x7l9yypfm)

[Example: Notes from Email Thread with D2 Solar](#_w1a72f84pnh6)

[Other Notes:](#_bqex778dnd05)

# Project Goal:

Rewrite driver controls to work with CAN library for new Mitsuba motor controllers.

## Overview of Project:

This is a software project that works with the Motor Controller project. We are modifying the CAN library and working on the driver controls arduino code.

## Current Status:

We have finished changing the code to handle the new CAN packets. Additionally, we set up a timer in DriverControls.ino to automatically send requests for packets.

We are waiting for the chassis to be more complete to test the code.

## Project Timeline:

Example:

|  |  |  |  |
| --- | --- | --- | --- |
| # | Task | # of Hours | Person(s) responsible |
| 2 | Add request timer to send requests | 2 | Crystal, Kirby |
|  | No timeline for now, still have to determine a time to test |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 

## Components/Tools Needed for Project:

### Hardware Components:

|  |  |  |  |
| --- | --- | --- | --- |
| Component (and purpose, if unclear) | Number in Stock | Specific Location | Anticipated Cost (if team doesn’t currently have) |
| Driver Controls Arduino | 1 | ? | 0 |

### Software Components:

|  |  |  |  |
| --- | --- | --- | --- |
| File Name | Description | Link | Well-Documented? |
| Layouts.h/ Layouts.cpp |  |  |  |
| DriverControls.ino |  |  |  |
| CAN\_IO |  |  |  |
|  |  |  |  |

### Special Tools Needed:

* None

## Design Process/Decisions:

The driver controls code is largely unchanged from 2016-2017 from the SC6 Driver Controls Code.

## Related Projects:

(Projects that this project depends on/Projects that depend on this project)

* Motor Controller
* CAN

## Regulations:

What rules relate to your project? Check out the race regulations here:

<http://americansolarchallenge.org/regulations/ascfsgp-2018-regs/>

## Links to Project (if not saved in folder)

[Driver Controls Github](https://github.com/nusolar/sc7-arduino-code/tree/master/DriverControls)

[NU-Solar CAN Github](https://github.com/nusolar/NUsolar-CAN)