Motor Control Progress Report #4

Skittle Sorter Project

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Problem:

- Until now, most of the inputs for testing have been done in software. In order to interface to the rest of the system, hardware inputs must be used
- Through the development process, certain code blocks and parameters to functions have become obsolete
- The motor had not been tested with the color sensor, which is another module with significant progress made, and which functions on its own
- While we originally intended to have the motor control implemented on a separate microcontroller than the rest of the components in the system, it was determined that it would be more reasonable to implement many of the systems on the same board along with the motor controller

Research:

- The I2C protocol was researched for some background knowledge in order to understand the color sensor's code
    - https://learn.sparkfun.com/tutorials/i2c/all

Action:

- Inputs were initialized for the UMC according to the design document
- Unnecessary parameters were removed from code functions
- A central control file "sorter.c" was added to call functions from both motor control and sensor code
- A meeting was made with the sensor team, and the motor control was successfully integrated with the color sensor. We were able to read a color, and the chute correctly moved to the corresponding color's bin location.
- It was decided that the motor controller would have software inputs as opposed to hardware inputs in order to make the interfacing process easier to implement and maintain, as well as save on components

Value:

- A central control file allows us to keep existing, working code separate from new, rapidly developing code
- Interfacing the two systems opened our eyes to the error in our design approaches, and allowed us to make adjustments accordingly
- Now that the two systems are interfaced and work, we are much closer to a presentable working product