

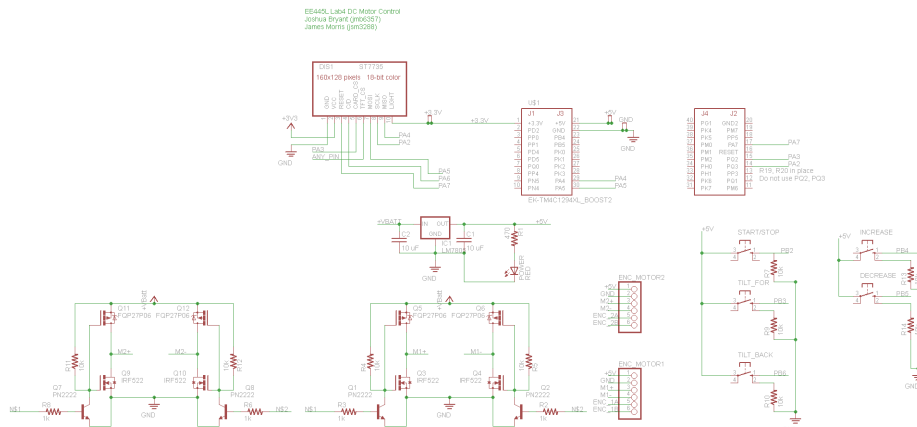
EE 445L - Lab 8: Software Drivers for an Embedded System Prep

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1 Schematic Design and Testing Differences



The included schematic demonstrates both testing and intended final setup of the circuit. The only difference between the current version and the final board is that only headers for one set of breakout pins will be included on the board and the other pins needed will be reached via wires from the board to the appropriate header and pin locations on the board.

2 Header Files

The *encoder.h* header file contains all the function definitions for interfacing with the quadrature encoders. The code currently only accepts quadrature encoders. This may change in the future depending on available time and motivation.

```
#include <stdint.h>

void encoder_init(uint16_t motorNum);

uint16_t enc_getDistance(void);

uint16_t enc_resetDistance(void);
```

The *motor.h* header file contains all the function definitions for interfacing with the brushed DC motors.

```
#include <stdint.h>
#include "encoder.h"

void motor_init(uint16_t period, uint16_t motorNum);

void motor_setSpeed(uint16_t speed, uint16_t motorNum);

void motor_setDuty(uint16_t duty, uint16_t motorNum);

void motor_stop(void, uint16_t motorNum);
```