

# ***Positioning device for ophthalmic scanning laser systems***

## ***Team: “Ocular Imaging” Team***

*Client: Carol Rasmussen*

*Advisor: Professor Tom Yen*

*Team Members: Daniel Frost (Team Leader, BWIG)*

*William Stanford (Communicator, BSAC)*

*March 27 to April 2*

### **Last Week’s Goals**

- Get motors and motor controllers functioning together.
- Connect motors to table.
- Look into joystick purchase.

### **Summary of Accomplishments**

- Got motors running with motor controllers.
- Discovered that we need to use pulse width modulation.
- Looked into circuits that convert voltage to frequency.

### **This Week’s Goals**

- Purchase converter circuits and possibly joystick.
- Couple the motor and table.
- Brainstorming on how to mount motors.

### **Project Difficulties**

- none

### **Activities**

- 3/27 – Work with motors and controllers. ~1.5 hr. each
- 4/1 – Conversion circuit research. ~1 hr. each

## Project Schedule

Preliminary Project Schedule	
Dates	Activities
Jan. 23-30	Form team roles and contact client. Individual research on mechanizing design.
Jan. 31 – Feb. 5	Client meeting. Contacted McMaster-Carr about motor/joystick and planned experiment.
Feb. 6 – Feb. 12	Got information on joystick and came up with initial plan for rotating mechanism.
Feb. 13-Feb. 19	Found more suitable motors and joystick.
Feb. 20-Feb. 26	Found motors powerful enough to work and ordered them. Also ordered motor controllers and mounting brackets.
Feb. 27-Mar. 5	Decided to wait on joystick until motors are working. Midsemester preparation.
Mar. 6 – Mar. 12	Midsemester presentation and paper.
Mar. 13 – Mar. 26	Motor assembly and troubleshooting.
Mar. 27 – Apr. 2	Motor/controller configuration, research on voltage to frequency conversion circuit.

## Expenses

- **Motors Trossen Robotics MP-36016-385 \$37.50 x3 - \$112.50**
- **Motor Mounts Trossen Robotics M-800-PB-S3751-BB \$10.00 x3 - \$30.00**
- **Motor Controllers Trossen Robotics C-100-DC-BB-0518 \$46.50 x3 - \$139.50**

**Total - \$282.00**