

2008-9
Permission
to
Use is 7
granted by the
group.

Responsibilities for EE 401 Capstone Project

Group: 7 (Wire Spooler)

Member: Calvin Lui

- I am expected to meet with the group at specified meeting times. (Determined a min. of 24hrs prior and notified through email)
- I am required to meet on weekends if necessary to complete a task
- I am required to assist in completing the breadboard prototyping circuit
- I am required to assist in the layout and tracing of the PCB in Eagle
- I am required to read the Eagle tutorial so that I am familiar with the commands
- I am required to read the PCB layout specification documents so that I know what is expected for the PCB
- I am required to look over the PCB layout to confirm that all necessary components are in place and that the components are properly connected. I will compare the Eagle schematic and PCB to the physical breadboard layout.
- I am required to look over the PCB when it is received and check that the traces are what we required via the Eagle layout
- I am required to ensure proper hole sizes are drilled, and the necessary holes are in the PCB that we will need for mounting the components. If holes are missing or not big enough I will notify the group ASAP so that a plan of action can be taken to fix the problem
- I am required to assist in laying out all the parts onto the PCB so that the whole group is familiar with the placement of the parts when it comes time to solder
- I am required to assist in testing the individual components to ensure that they were soldered properly this way they can be fixed if necessary before all the components are soldered on the PCB and it is too crowded if a solder joint needs to be fixed.
- I am required to complete the soldering for the motors:
 - Solder motor headers (Drive and Oscillation) to the PCB
 - prepare ribbon cables for the drive and oscillation motors
 - Solder the motor FETS to the PCB
 - Solder the diodes for the motors to the PCB
- I am required to assist in debugging programming code
- I am required to do the programming:
 - program the keypad buttons
 - program the LCD
 - program the LCD user interface
 - program the motor speeds
 - program the wheel encoder
- I am required to assist in testing the programming and to ensure that it all works together (ie. key pad inputs show up on LCD, drive motor slows down when spooling length gets close to completion)
- I am required to meet at an off campus location for mechanical/structure assembly

- I am required to assist in building the structural components; this will be done as a group.
 - build frame
 - build panel for keypad and LCD to be mounted on
 - build wire guides
 - build/assemble assembly for oscillating motor
 - build stand for the wheel encoder and measuring wheel
 - build wire tension device

- I am required to assist in mounting components to the completed structure. This will be done as a group.
 - mount the PCB
 - mount the keypad and LCD
 - mount the toggle switch
 - mount the fuse holder
 - mount drive and oscillating motor
 - mount wheel encoder assembly
 - mount remaining misc. components (spooler rods, wire guides)

- I am required to assist in testing the final product.
 - ensure smooth and proper spooling
 - check accuracy of wire spooler
 - check that it is capable of the various wire gauges
 - check the tension on the wire and test/check when slipping may occur

- I am required to promptly inform the group of any problems I may find in the overall project

- I am required to assist in the completion of the final report, poster and presentation slides. I am aware that individual components of the report may be delegated to me later, depending on the remaining time for the project.

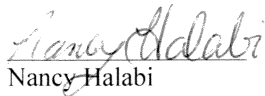
- I am aware that my responsibilities could increase with unforeseen mistakes/errors and that more time may be required from me for project completion and group meetings.



Calvin Lui



Randy Squire-Brown



Nancy Halabi



Graeme Vanderstar