

Team Lotus CDR Presentation

Members: Sean, Dane, Matt
Mentor: Makamae
Advisor: Dr.Kuh

Overview

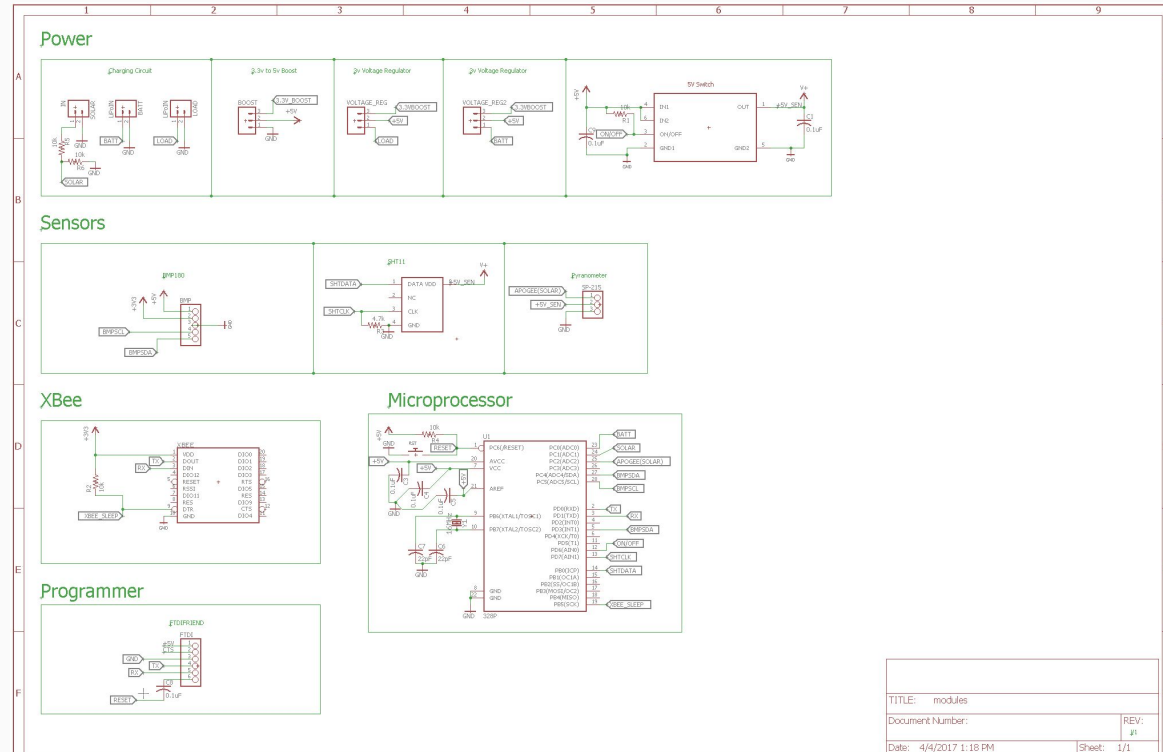
- Progress
- Eagle Schematic/Board Designs
- Problems Encountered
- Potential Solutions
- What's Next
- Gantt chart

Progress

- Iterated on new version of schematic design
- Finished board design
- Continued integration of microprocessor

Eagle Schematic/Board Designs

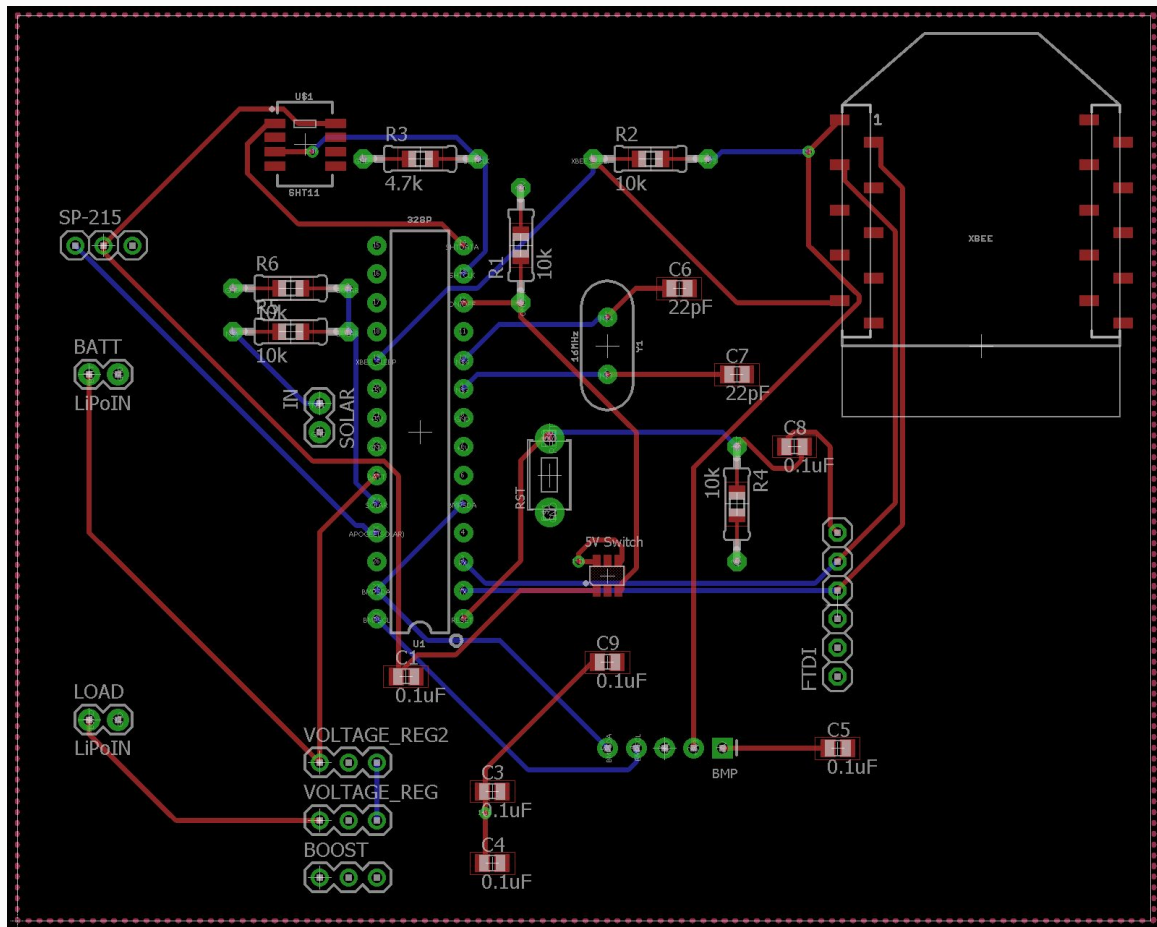
- Minor changes to board schematic
- Added connections for the Microprocessor and XBEE
- Added new part for IC Switch



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Eagle Schematic/Board Designs

- Went through many versions of the design
- Used two planes for the board, +5V and GND
- A few design standards:
 - No right angled wires
 - Limit the amount of vias
 - Have consistent wire widths
 - Limit wires drawn



Problems

- Designing board
- Finding proper components
- Eagle learning curve
- Optimizing board design
- Uploading code to the Atmega328
- Getting sensors to work simultaneously with the Atmega328p

Problem (cont.)

- Integrating the Atmega328 with sensors

BMP180 Works

SHT11 reads -40 C and 0.10 Humidity (even when unconnected)

Irradiance gives random/inconsistent values

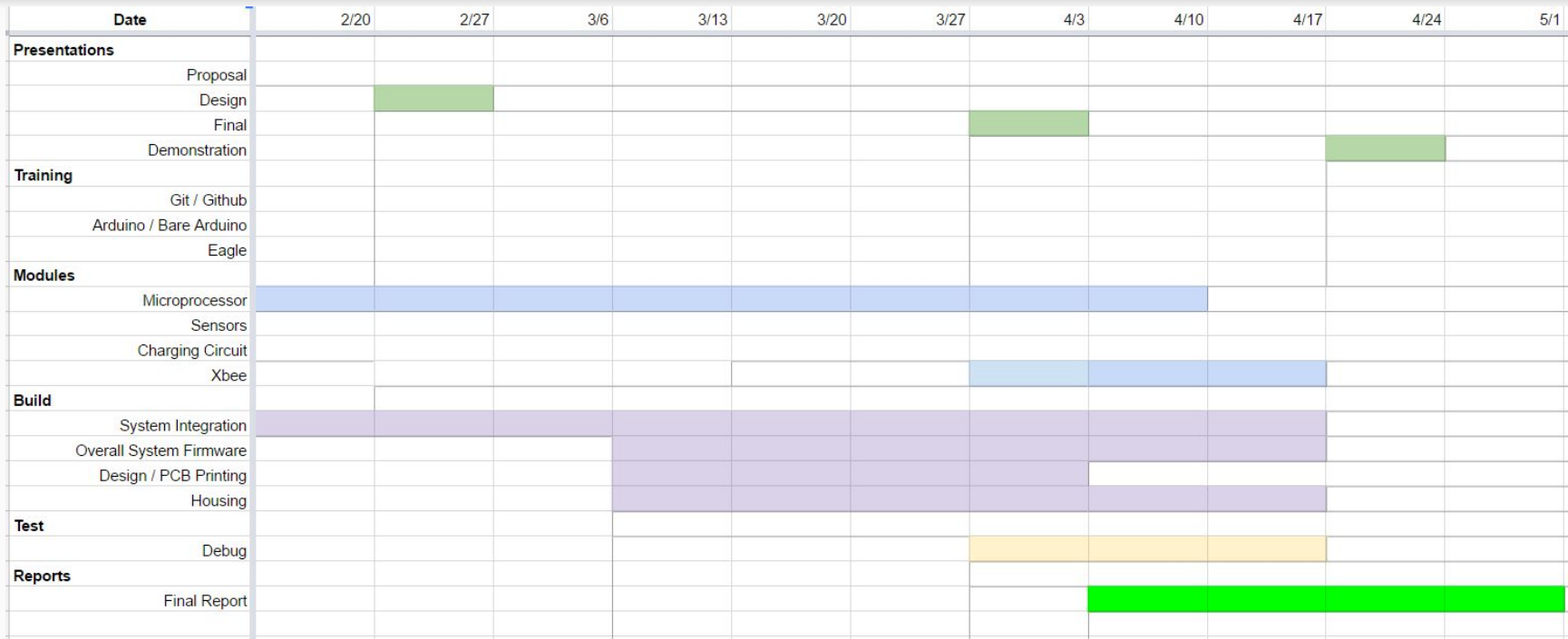
Potential Solutions

- Using wrong usb port when trying to upload
- Needed a capacitor before the reset pin
- Sensors aren't being wired properly
- Might need a resistor to reduce current
- Put in more time/ask for help
- Spend more time learning Eagle

What's next

- Finish integrating sensors with Atmega328p
- Start working with Xbee(sending and receiving packages)
- Check out the roof
- Begin housing design

Gantt Chart



Questions?