

# TEAM CHOCOLATE COSMOS

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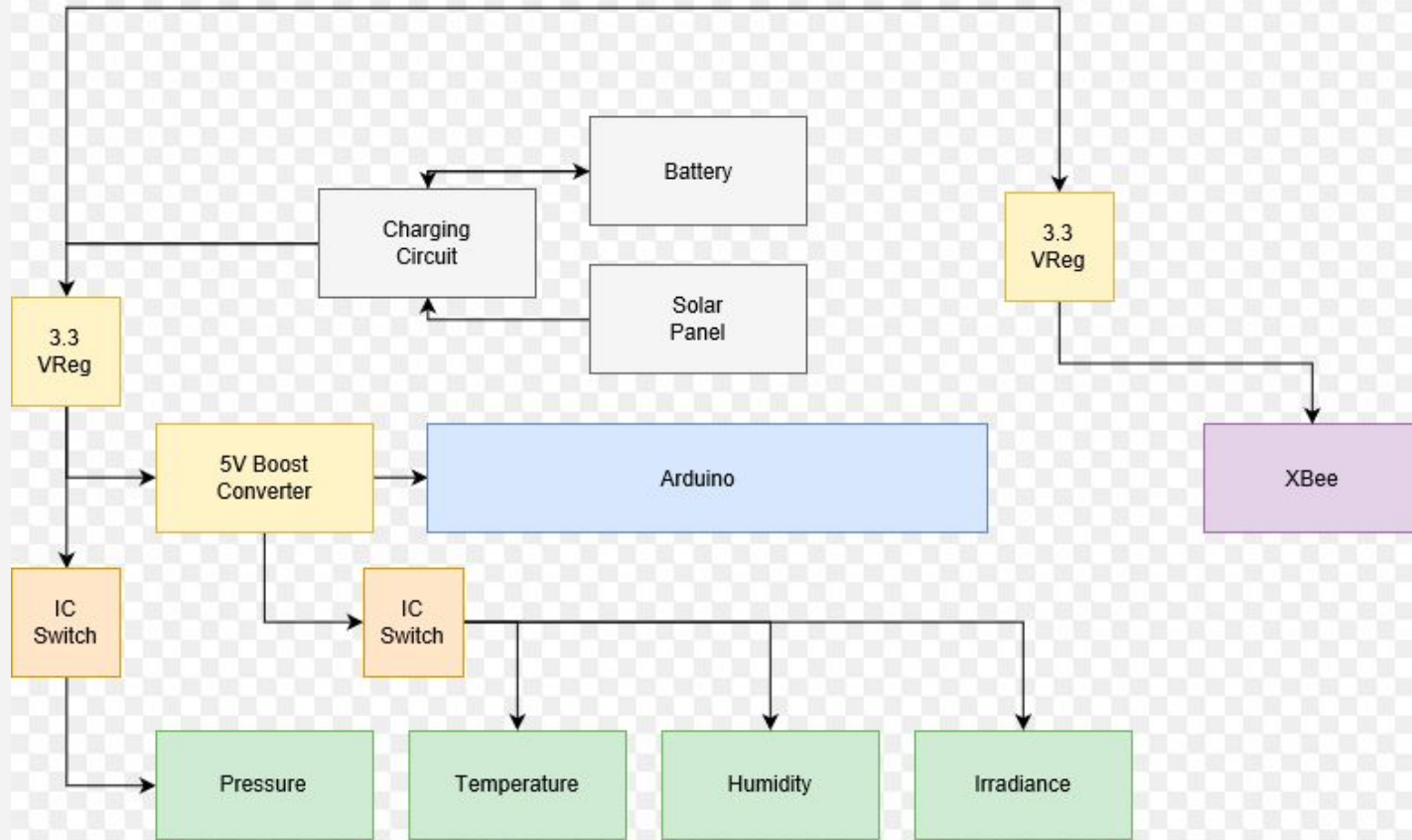
# OVERVIEW

- Block Diagram
- Progress since PDR
- Pseudocode/algorithms
- Problems/Issues
- Updated Schedule



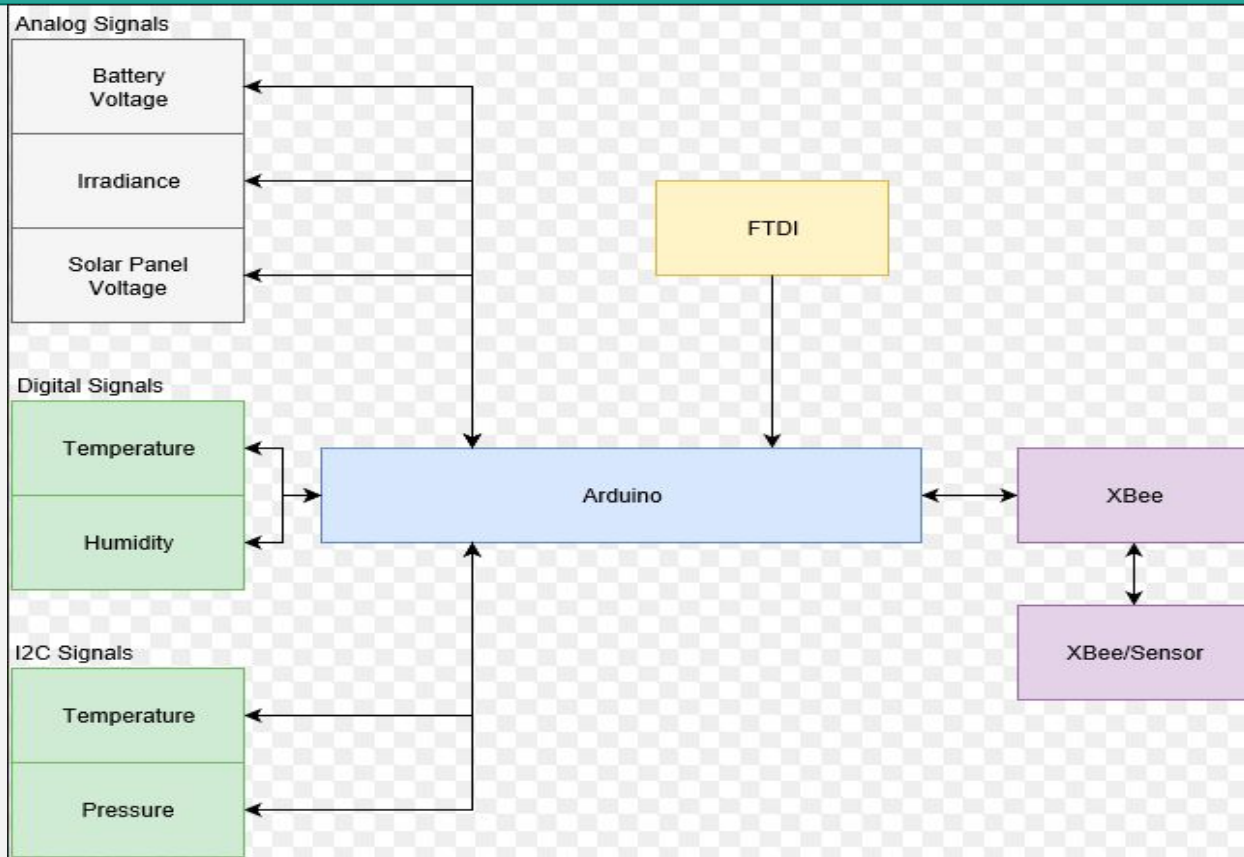


# Block Diagram-Power





# Block Diagram-Signal





# Software Block Diagram



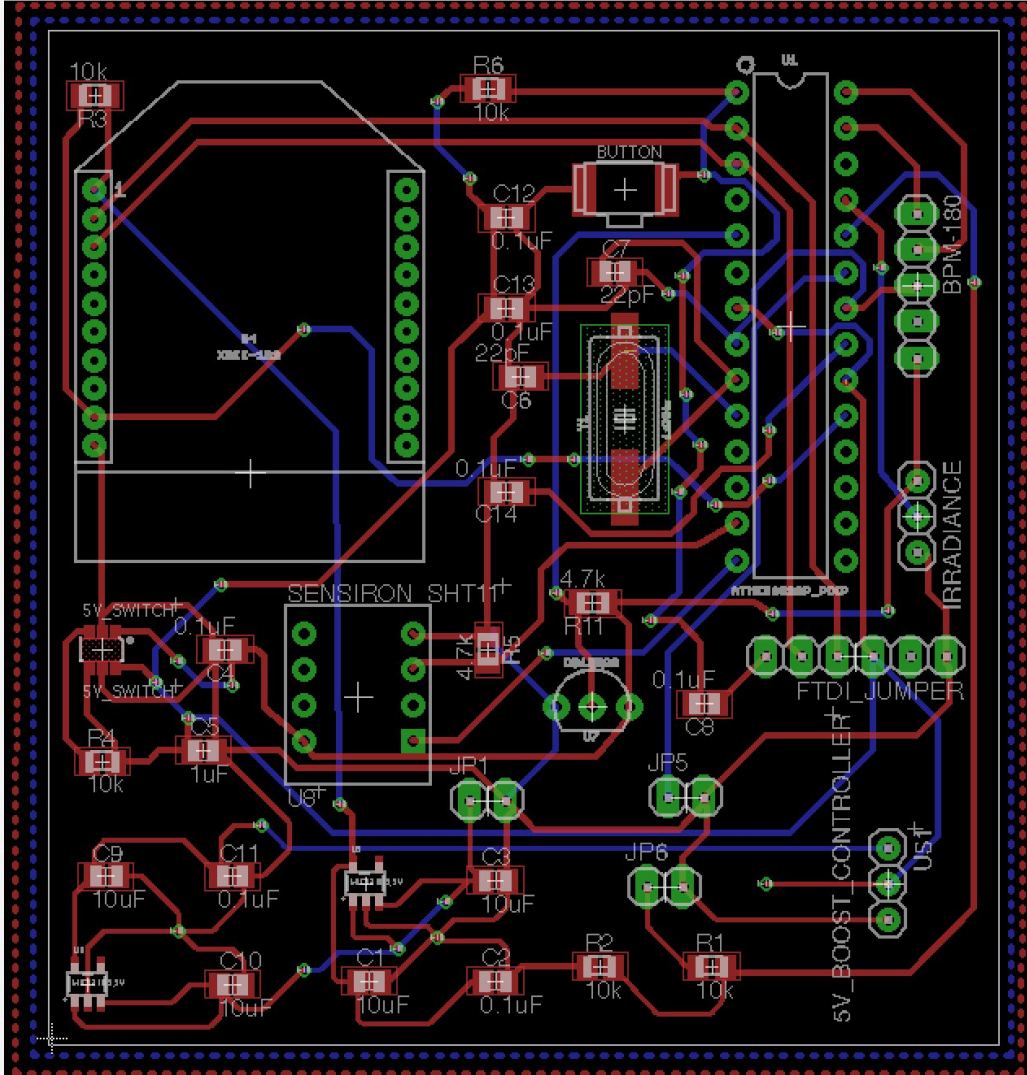


# Progress

- ❖ Schematic
- ❖ Board layout
- ❖ Firmware
  - Pulling/packing sensor data
  - Sending packet via XBee





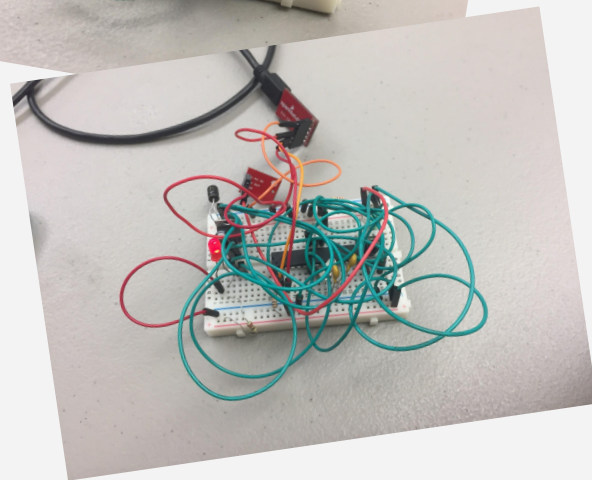
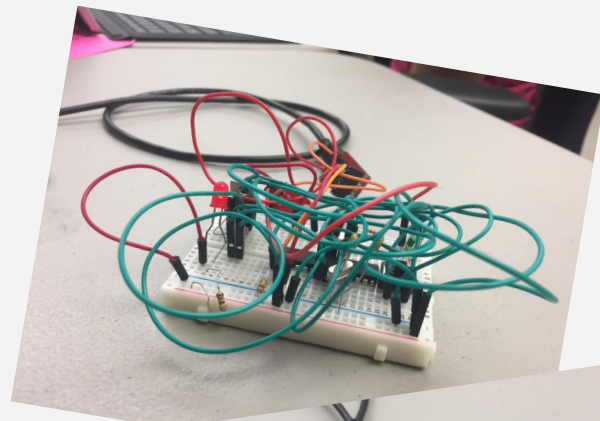






# Firmware & System Integration

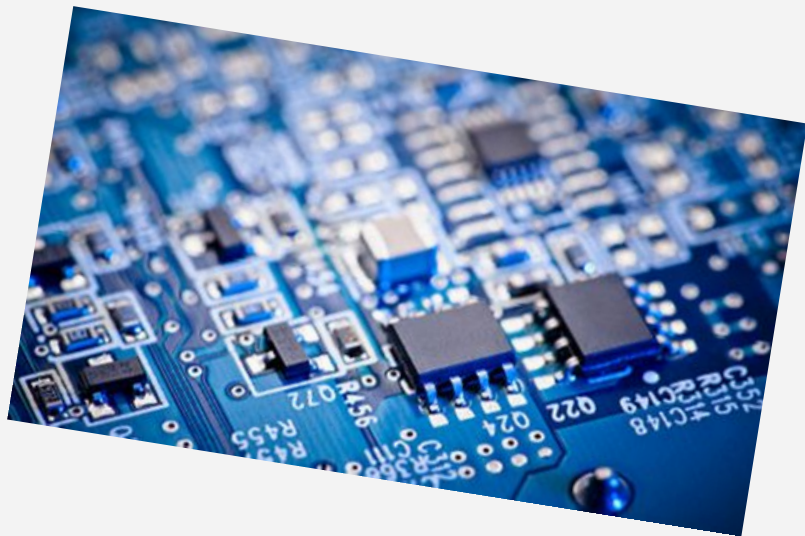
- ❖ System Integration
  - Created functions to poll sensor data and return readable data
  - Printed out all sensor data every  $t$  seconds
- ❖ Firmware
  - Created a schema for the packets that will be sent
  - Made functions to clear, create, and send packets
    - Looked into XBee library and functions
  - Implemented needed functions into one main 'routine' function.





# Pseudocode/Algorithms

- ❖ Initialize sensor classes
- ❖ After every  $t$  seconds:
  - Pull data from sensors
  - Make a packet with sensor data
    - Obtain XBee Address
    - Clear payload
    - Find length(size?) of packet
    - Load payload
  - Send packet via XBee functions
  - Clear packet





# Problems/Issues

## ❖ Schematic

- Took longer than expected
- Making our own parts

## ❖ Board

- Part placement
- Routing

## ❖ Firmware

- Uploading to board (reset button)
- Small breadboard





# TIMELINE

Team Chocolate Cosmos																	
(Gantt Chart)																	
Week	1	2	3	4	5	6	7	8	9	10	Spring Break	11	12	13	14	15	16
Date	1/16/2017	1/23/2017	1/30/2017	2/6/2017	2/13/2017	2/20/2017	2/27/2017	3/6/2017	3/13/2017	3/20/2017	3/27/2017	4/3/2017	4/10/2017	4/17/2017	4/24/2017	5/1/2017	5/8/2017
Sensors																	
Charging Circuit																	
Xbee																	
<b>Build</b>																	
Overall System Firmware																	
System Integration																	
Design/Print PCB																	
Housing																	
<b>Test</b>																	
Debug																	
<b>Reports</b>																	
Final Report																	

# END

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QUESTIONS?



# IMAGES CITED

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