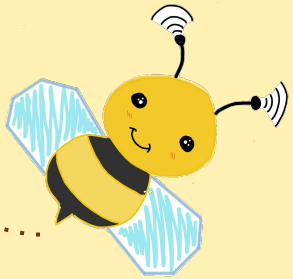
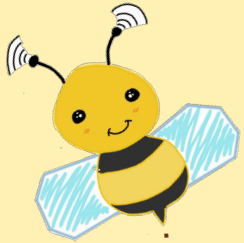
Preliminary Design Review

Team Bumblebee
Fall 2020





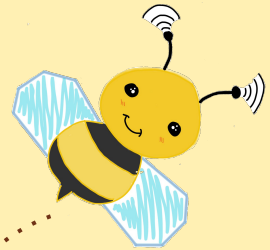
Members

Arnold Flores
EE496, EE-EP

Francis Sonoda
EE396, EE- EP

Raellis Young
EE496, EE- Systems

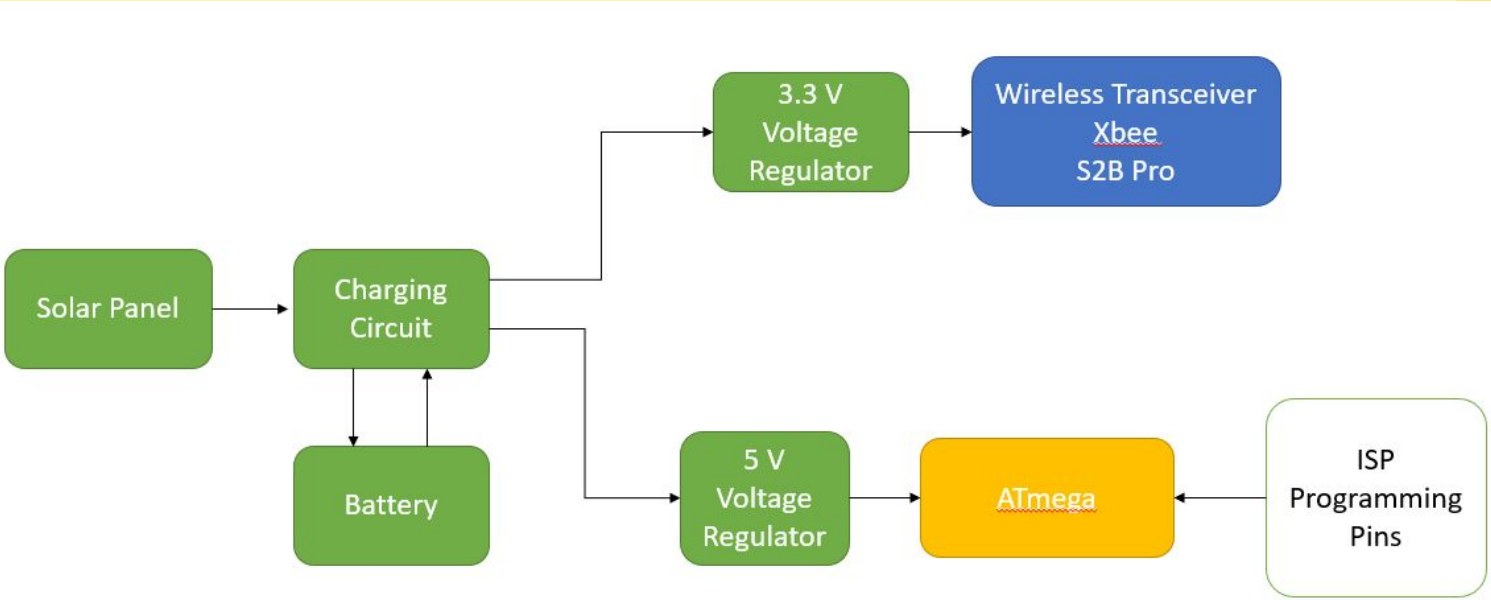
Lauryn Corpuz
EE396, EE-EP



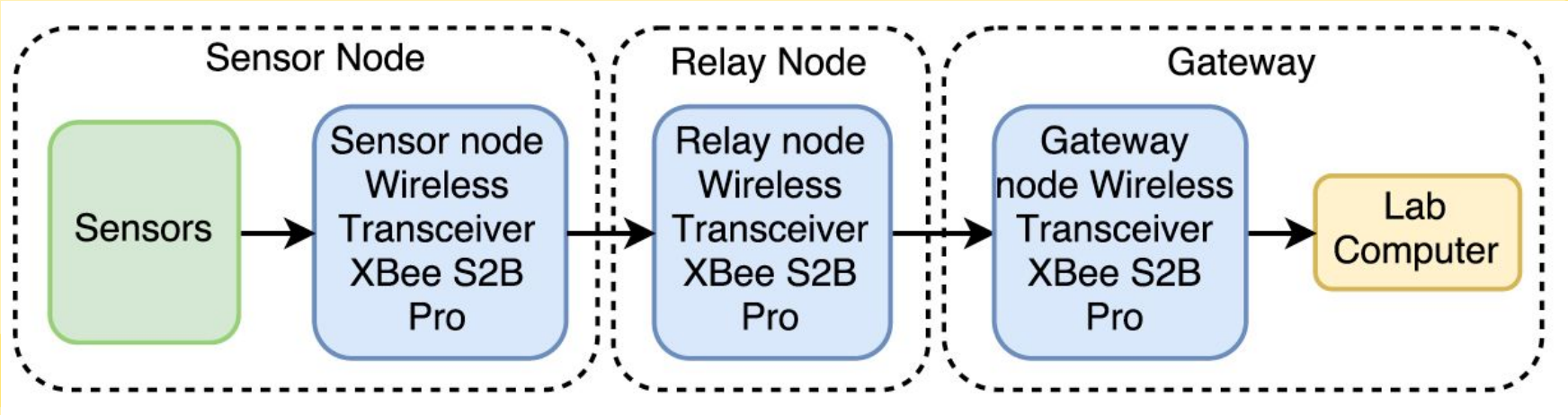
Presentation Overview

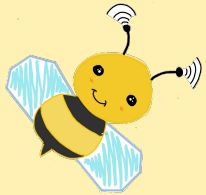
- Block Diagrams
  - Power
  - Signal/Communication
- Team Progress
- Problems
- Gantt Chart
- Upcoming Tasks
- Questions

Block Diagram- Power

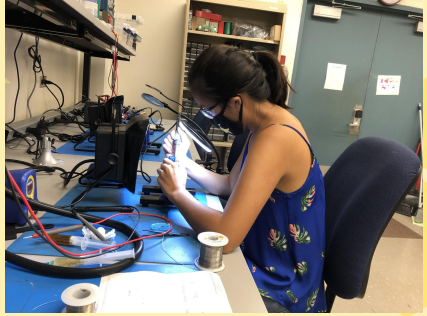


Block Diagram- Signal/ Communication





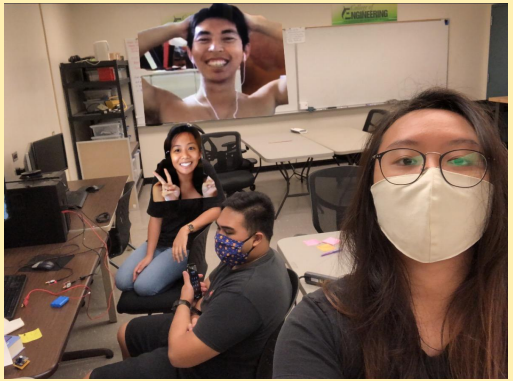
Team Progress



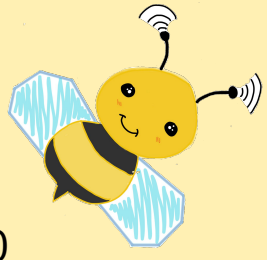
- Got new members up to speed with Bumblebee PCB
- Learned how to solder
- Started populating two Ver. 4.0 boards
- Reviewed Arduino code for XBees
- Reviewed XCTU for XBees to detect each other
- Helped Team Apple with Xbee

Problems

- Ran out of 0.1 uF capacitors
  - Used old capacitors from previous boards
- Range testing (TBD)
  - XBee was unable to detect other XBee's
- Problems with Relay Code
  - Have yet to fix Rx and Tx lines of the relay code
- Waiting for a new board for v4.1
  - Unable to work on v4.1 until then

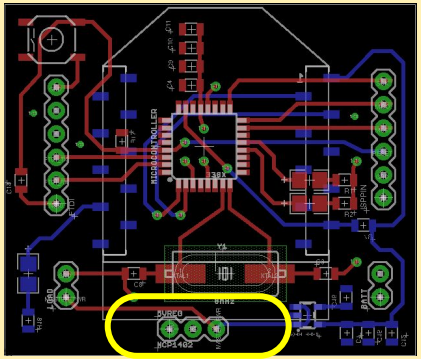



TEAM BUMBLEBEE
Fall 2020
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Date
8/31/20
9/7/20
9/14/20
9/21/20
9/28/20
10/5/20
10/12/20
10/19/20
10/26/20
11/2/20
11/9/20
11/16/20
11/23/20
11/30/20
12/7/20
Presentations
Proposal
PDR
CDR
Final
Bare Bumblebee
Build Bare Board
Test Board
Relay Testing
PCB Bumblebee
Fabricate New Board
Order New Parts
Populate
Test Board
Relay Testing
Research
Raspberry Pi
WiFi Method
Reports
Final Report
New Plan
Range Testing
Documentation
Research
Quarantine

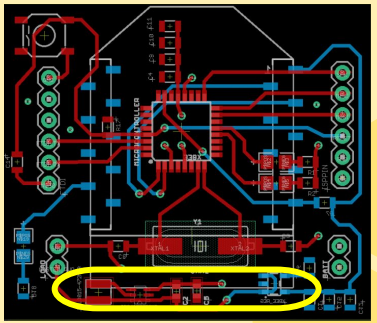


Upcoming Tasks

- v4.0
  - Finish populating
  - Test v4.0
- v4.1
  - Pick up board from EE office
  - Populate
  - Program
  - Test v4.1
- Conduct more Range Testing
- Fix problems with Relay detection
- Consult Firmware Team
- Need to order parts using Ron Ho Fund
- Update wiki with past presentations



Ver 4.0: 5V Step Up Breakout board



Ver 4.1: 5V regulator SMD (TPS61222DCKR)

Questions?