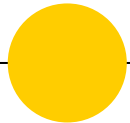




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# PROPOSAL PRESENTATION

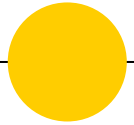
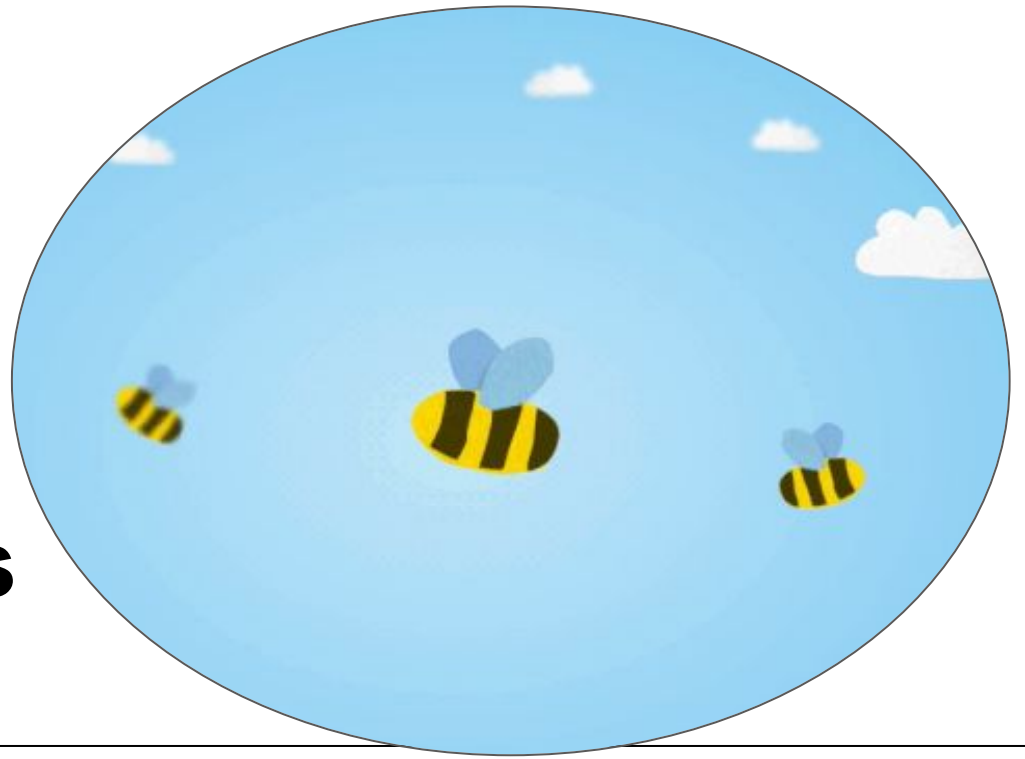


Spring 2019

Advisor : Dr. Anthony K



# Meet the Bees





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# Team Bumblebee



**Mizpah  
Mansanao**

- ◉ Senior-496
- ◉ Electrical Engineering- Electro Physics

**Sharmaine  
Javier**

- ◉ Junior - 496
- ◉ Electrical Engineering - Electro Physics

**Xiao Chen**

- ◉ Junior - 496
- ◉ Electrical Engineering- Systems





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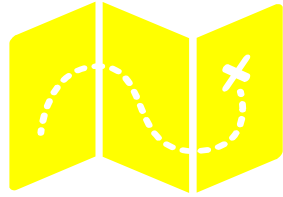
# Team Progress

- Configured XBee Pro S2C
- Populated and bootload one PCB board
- Started fabricating new PCB layout





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# Presentation Overview

- Motivation/Approach
- Project Goals
- Gantt Chart
- Predicted Problems
- Design
- Team Progress





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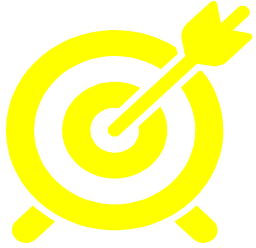
## Motivation/Approach

The Bumblebee Weatherbox is the second generation communications module designed to relay meteorological data collected by the other weatherboxes. Its purpose is to increase the effective range of the weatherboxes.





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## Project Goals

- SUCCESSFULLY deploy a working Bumblebee
- Fabricate new housing design
- Redesign PCB layout
- Conduct more field/range test
- Network with more than one weatherbox



# Gantt Chart



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Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Jan-14	Jan-21	Jan-28	Feb-4	Feb-11	Feb-18	Feb-25	Mar-4	Mar-11	Mar-18	Mar-25	Apr-1	Apr-8	Apr-15	Apr-22	Apr-29
<b>Presentations</b>																
Proposal Presentation		Jan-26														
Preliminary Design Review					Feb-16											
Critical Design Review											Mar-30					
Final Presentation															Apr-27	
<b>PCB Fabrication/Assembly</b>																
Fabrication Time																
Populating																
Debugging																
Testing																
<b>Firmware</b>																
<b>Housing</b>																
Fabrication																
Deployment																
<b>Final Report</b>																





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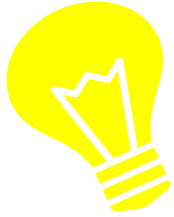
# Predicted Problems

- Debugging
  - Software and Hardware
- Time Management
- Networking
  - Multiple weatherboxes
- XBee Pro S2C





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# Learning Expectations

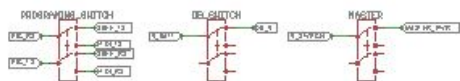
- Get a good understanding of connecting Xbees in a network
- Become more proficient with EAGLE and other softwares
- Become more proficient with soldering small components
- Work well as a group



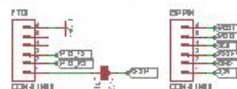


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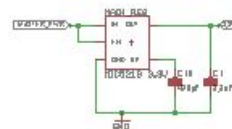
## Switches



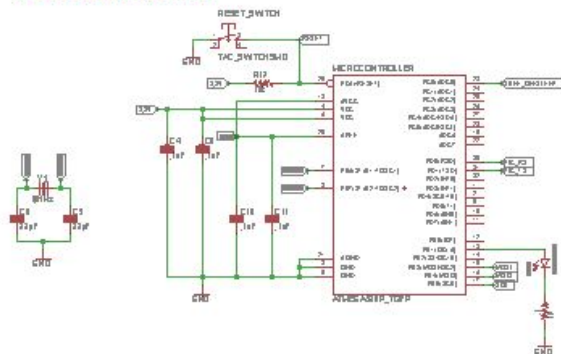
## Programming Circuit



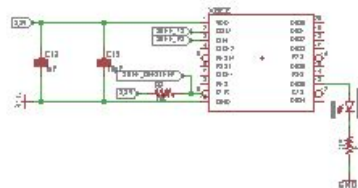
## Voltage Reg



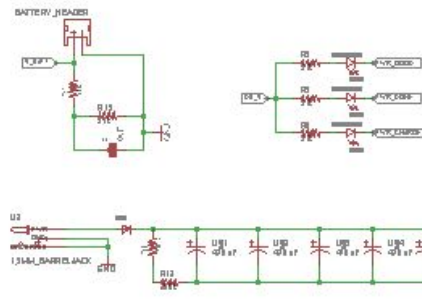
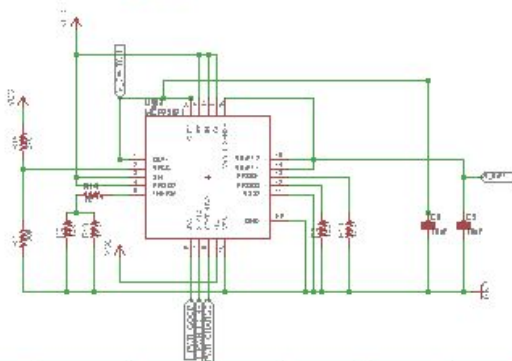
## Microcontroller



## Xbee



## Solar Charging Circuit



Title:	Bumblebee_F18
Version:	1.0
Date:	10/19/16 9:42 AM
Drawn By:	1/1





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