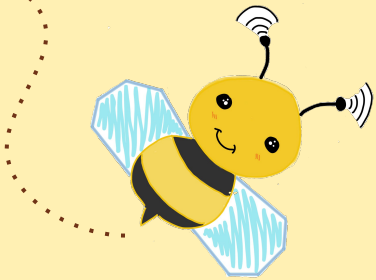
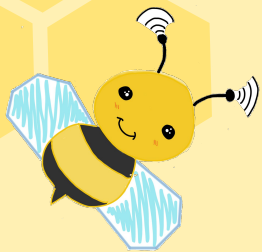


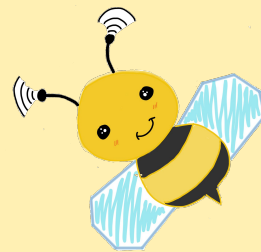
# Proposal Presentation

Team Bumblebee  
Fall 2021





# Members



**Brian Griswold**

EE496, EE- EP

**Yucheng He**

EE396, EE- System

**Thant Thiri**

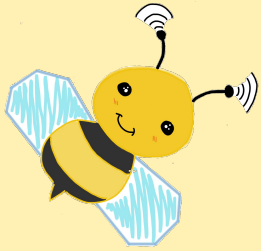
EE496, EE- EP

**Zhongkeng Lin**

EE396, EE-System

**Yin Aye**

EE496, EE-EP

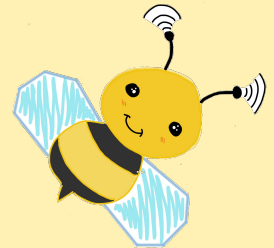


# Presentation Overview

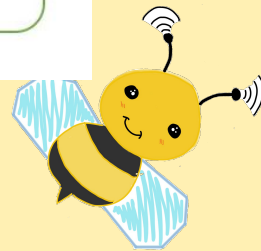
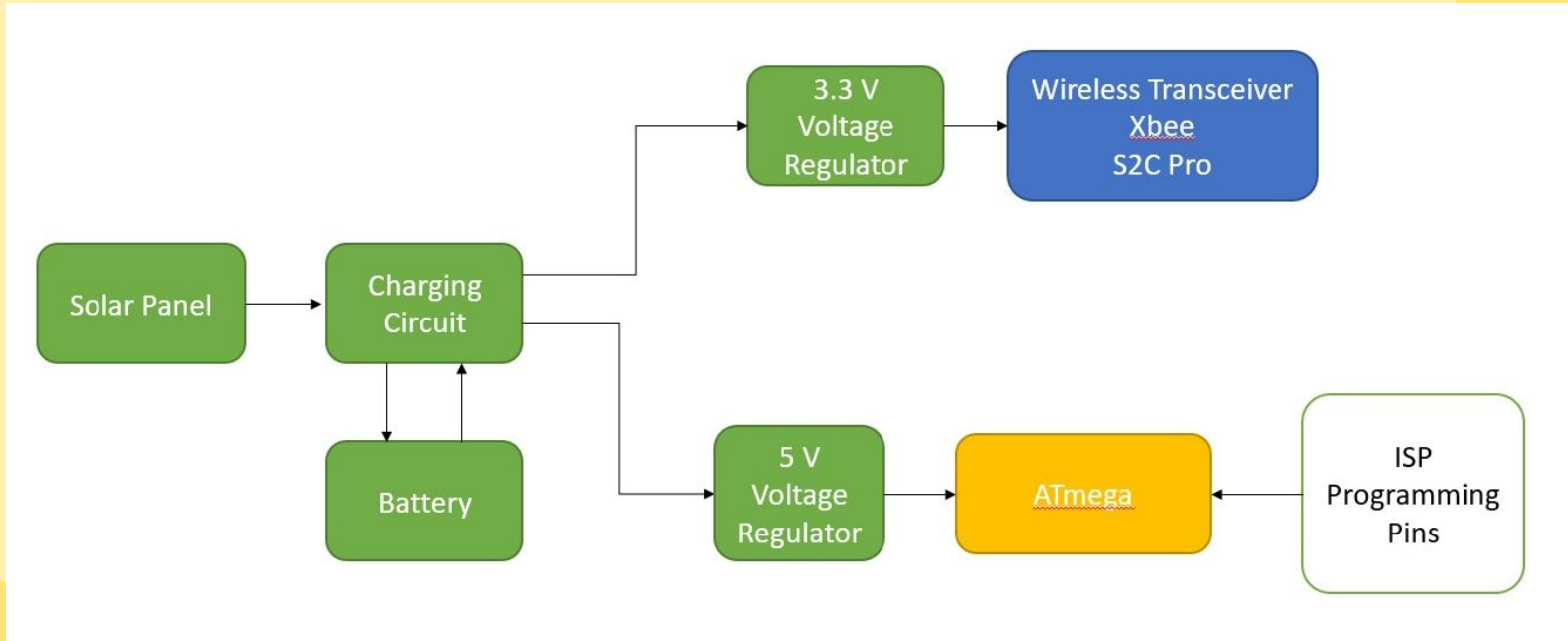
- Motivation
- Project Goals
- Learning Expectation
- Gantt Chart
- Team Progress
- Predicted Problems
- Work to be Done
- Questions

# Motivation/Approach

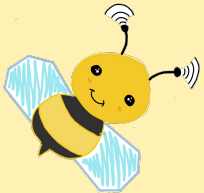
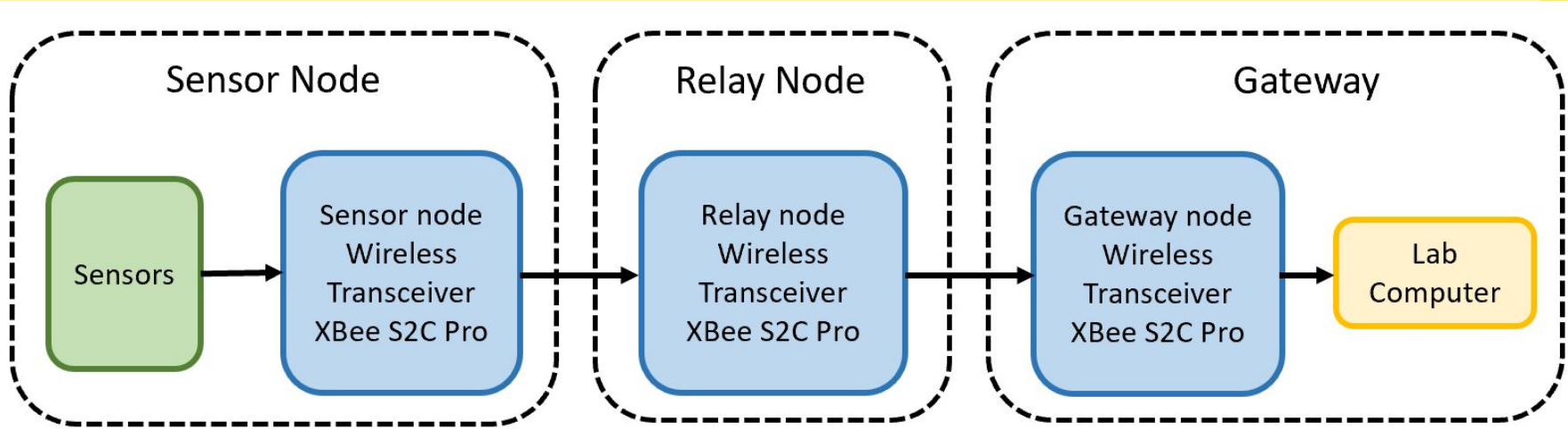
The Bumblebee Weatherbox is the second generation communications module designed to relay meteorological data collected by the other weatherboxes. Its purpose is to increase the effective range of the weatherboxes.



# Block Diagram- Power

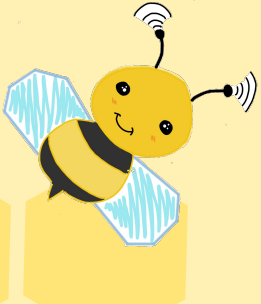


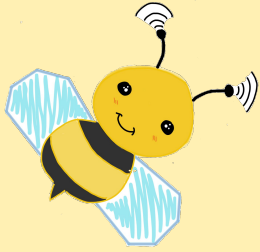
# Block Diagram- Signal/ Communication



# Learning Expectations

- Learn more about XBee
- Get a better understanding of Relay code
- Improve technical skills: Soldering, Eagle, Debugging, etc.
- Work together as a group to accomplish tasks on time





# Project Goals

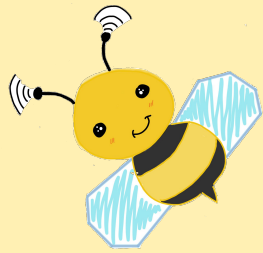
- Teach new members coding and soldering
- Design version 4.2
- Order parts for v. 4.2
- Populate version 4.2
- Range Test if possible



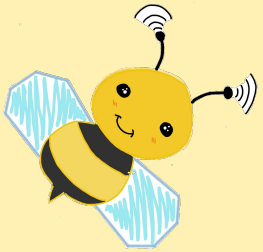




# Team Progress



- Taught new members how to solder
- Went through introductions into Arduino and XCTU
- Built bare arduino and boot loaded

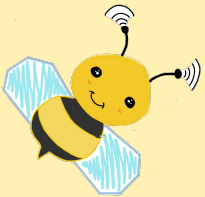


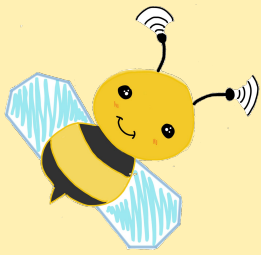
# Problems/Predicted Problems

- COVID-19
  - Ordering and receiving parts on time
- Getting new members up to speed
  - XCTU & Arduino IDE
  - Soldering



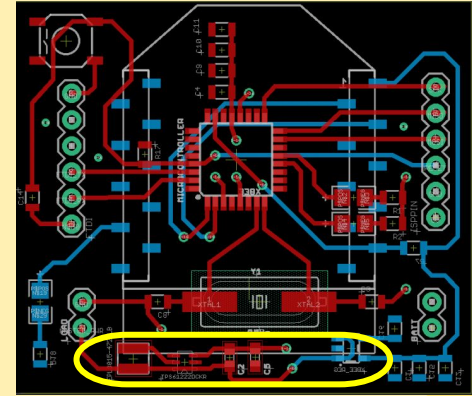
Me and the boys ready for Zoom



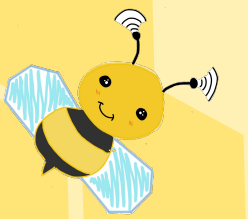


# Work to be Done

- v4.2
  - Redesign v 4.1
  - Order parts
  - Populate more boards
  - Bootload new boards
- Conduct Range Testing



Ver 4.1: 5V regulator SMD (TPS61222DCKR)



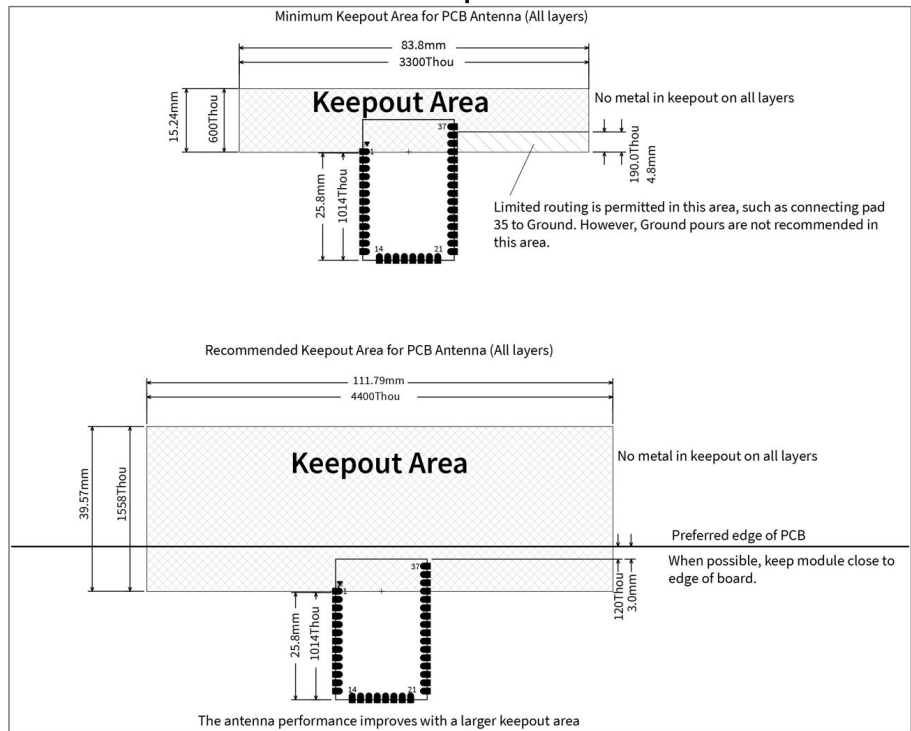
# Version 4.2 design



- V4.2

- Enlarge PCB in order to increase separation of XBee antenna.
- Reduces interference by keeping PCB traces out of EM wave while antenna is transmitting.

## Surface-mount embedded antenna keepout area





Questions?