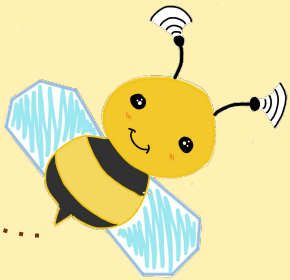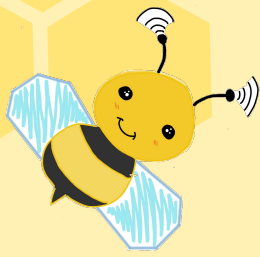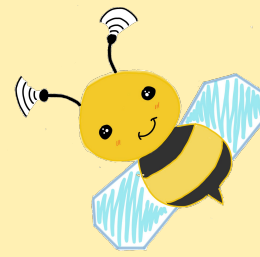# Proposal Presentation

Team Bumblebee
Fall 2020

Members
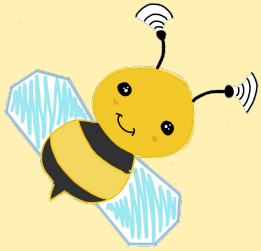
Arnold Flores
EE496, EE-EP

Francis Sonoda
EE396, EE- EP

Raellis Young
EE496, EE- Systems

Lauryn Corpuz
EE396, EE-EP

Presentation Overview

- 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.
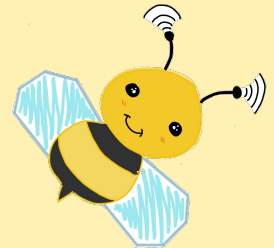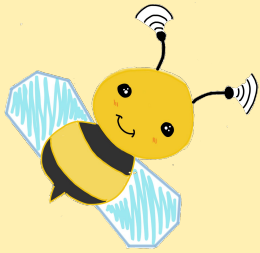
Project Goals

- Improve and build a working Bumblebee Relay
- Hope to teach new members the code and other information on how the Xbee works
- Discover alternatives to Xbee
  - Learn if these alternatives can improve our weatherbox.

Learning Expectations

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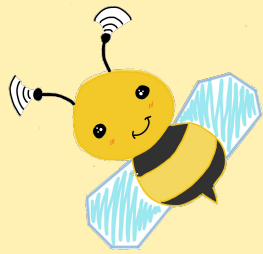- Get a better understanding of Relay code
- Improve technical skills: Soldering, Eagle, Debugging, etc.
- Work together as a group to accomplish tasks on time

TEAM BUMBLEBEE

Fall 2020 / Date	1 8/31/20	2 9/7/20	3 9/14/20	4 9/21/20	5 9/28/20	6 10/5/20	7 10/12/20	8 10/19/20	9 10/26/20	10 11/2/20	11 11/9/20	12 11/16/20	13 11/23/20	14 11/30/20	15 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	■	■	■	■											

Team Progress

- Researched on possible alternatives for XBee
  - XigBee
  - Xbee Mesh Network
  - XRF Wireless RF Radio UART Serial Data Module
  - CC1101
- Research on different network configurations
  - Many-to-one Routing
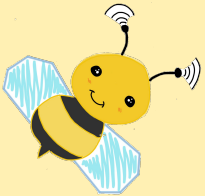 - One-to-many Routing
  - Source Routing
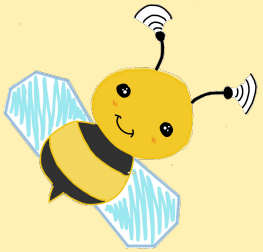
Problems/Predicted Problems

SCEL

I'm sorry, ▮▮▮▮ is closed today.

- COVID-19

  - Project is delayed by a month

  - Couldn't go into the lab

  - Parts won't come in on time

- Can't get new members up to speed without going into the lab

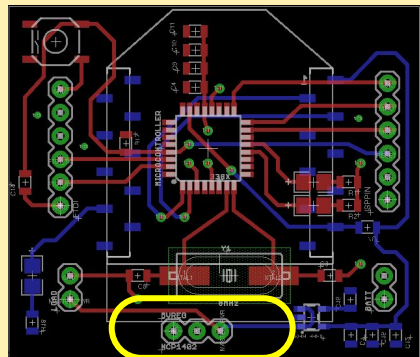- Status of range testing

- Switch on board broke
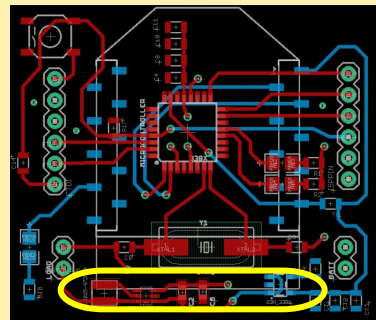

Me and the boys ready for Zoom
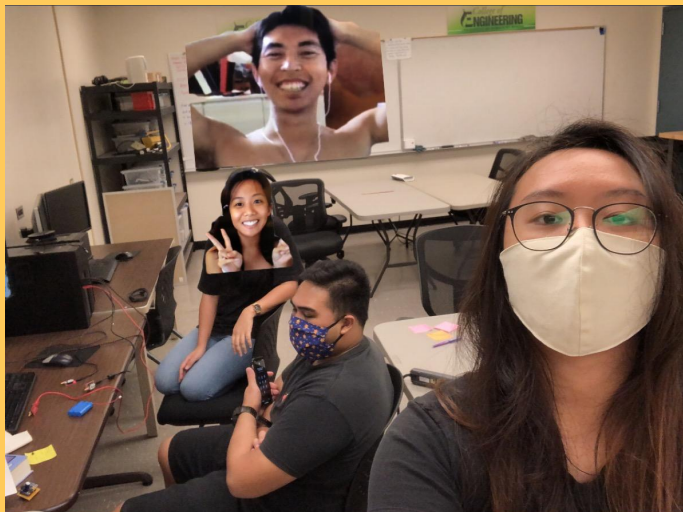
Work to be Done

- GET INTO LAB
- v4.0
  - Declare TX and RX pins in Relay code
  - Consult Firmware Team
  - Repopulate due to broken reset trace
  - Test v4.0
- v4.1
  - Populate
  - Program
  - Test v4.1
- Conduct more Range Testing

Ver 4.0: 5V Step Up Breakout board

Ver 4.1: 5V regulator SMD (TPS61222DCKR)

Questions?