# PDR Presentation

Team Melon: Wind Sensor

# Overview

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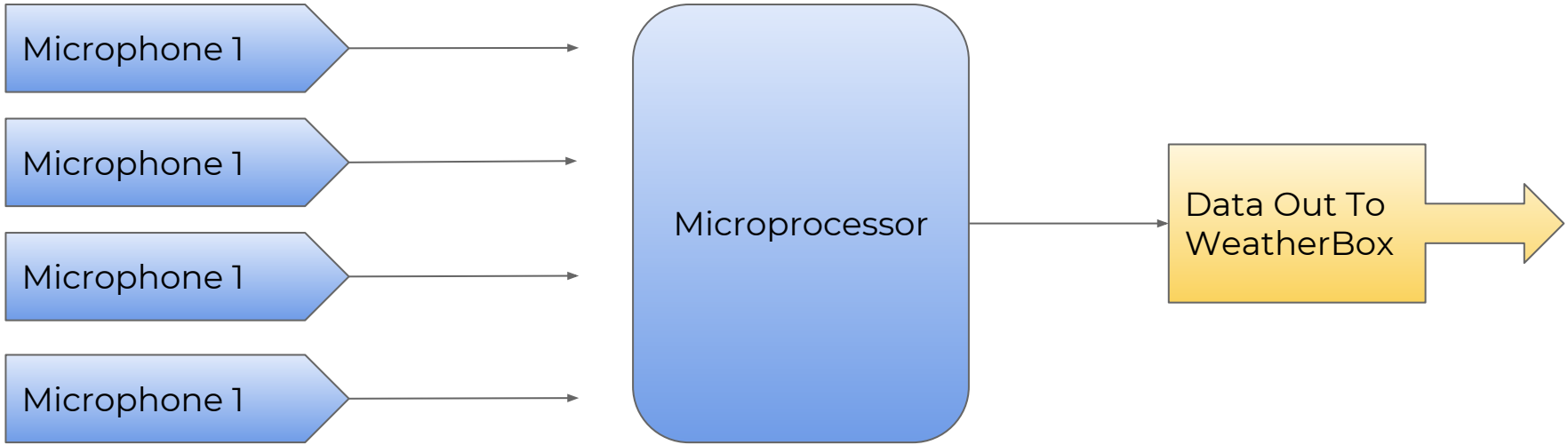
# Progress

- Maintaining close contact with prior Wind Sensor team members
- Custom wind tunnel for testing
- Gained new understanding of ultrasonic sensor
- Acoustic sensor focus, ultrasonic on back burner until Fall 2018

# Block Diagram | Acoustic Sensor



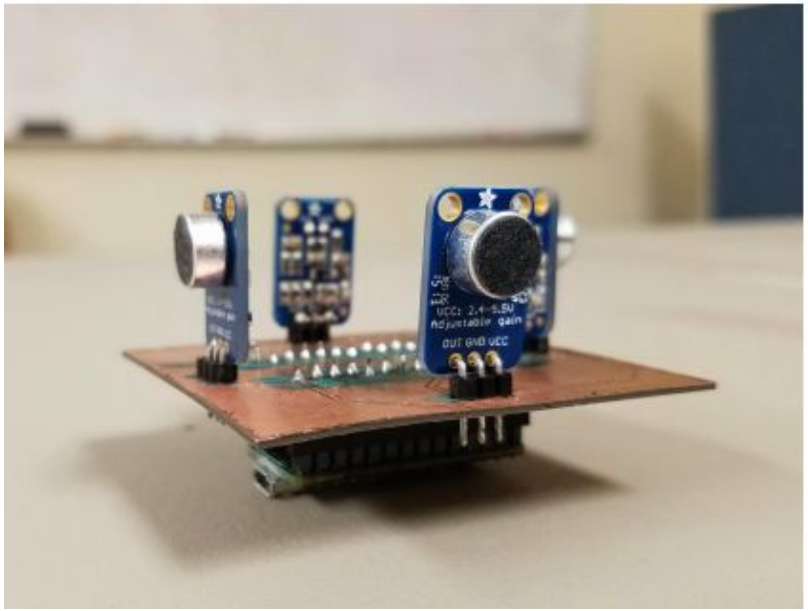
# Problems | Acoustic Sensor

Readings have been inconsistent

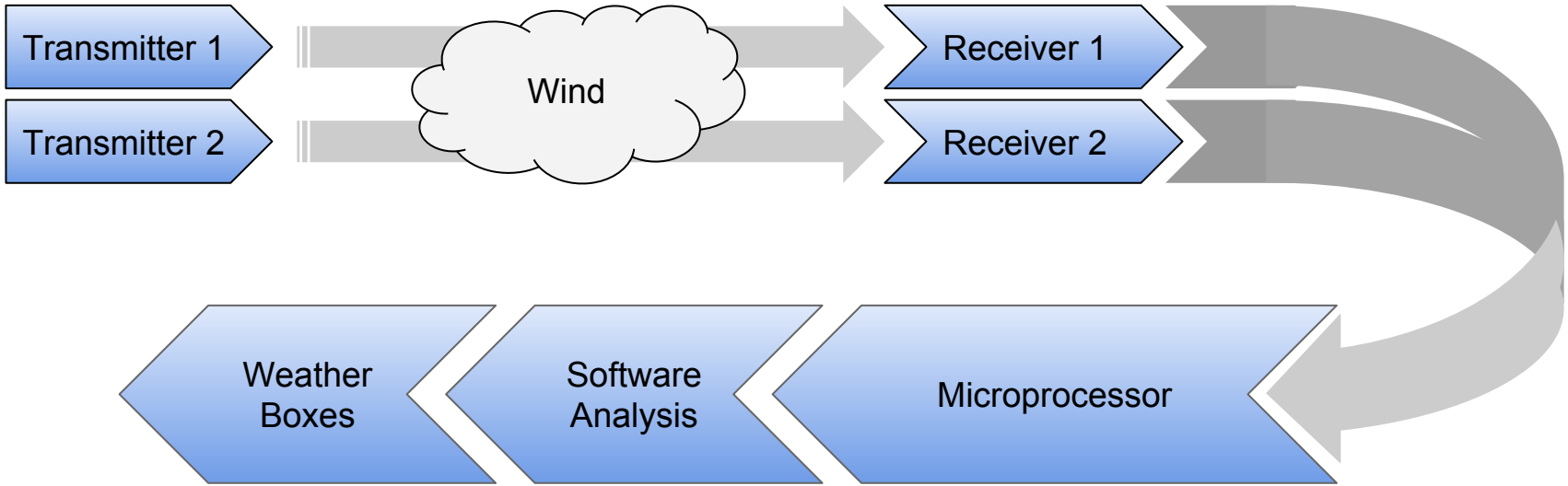
No major difference from ambient noise

No constant and controllable wind speed

Solution: Create our own wind tunnel



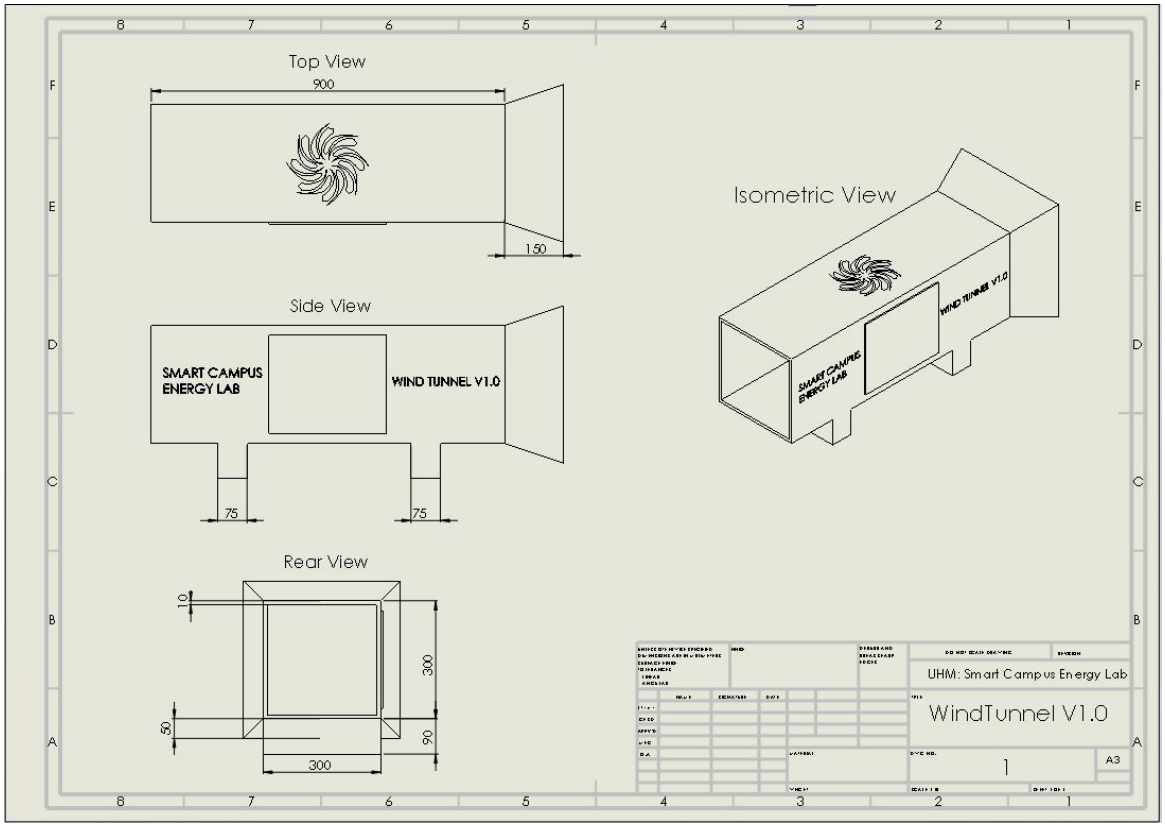
# Block Diagram | Ultrasonic Sensor



# Problems | Ultrasonic Sensor

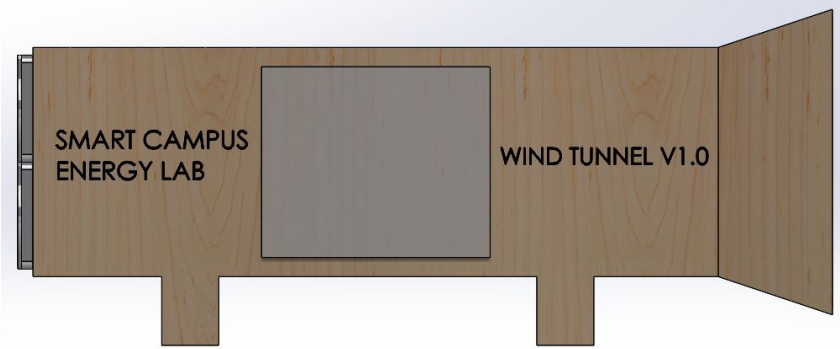
- Only sensed changes in propagation time in the microseconds scale
- May require own dedicated microprocessor
  - Optimal clock speed of 72 MHz
  - Most weatherboxes run at 16 MHz or lower
- More Complicated
  - Requires more additional components to work

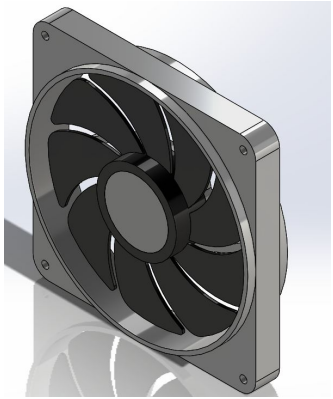
# Technical Drawing | Wind Tunnel

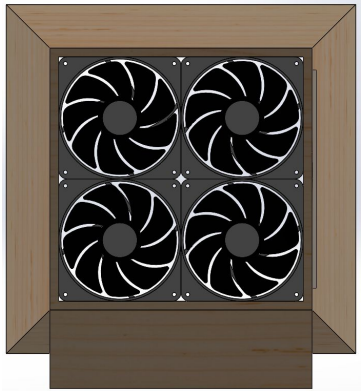


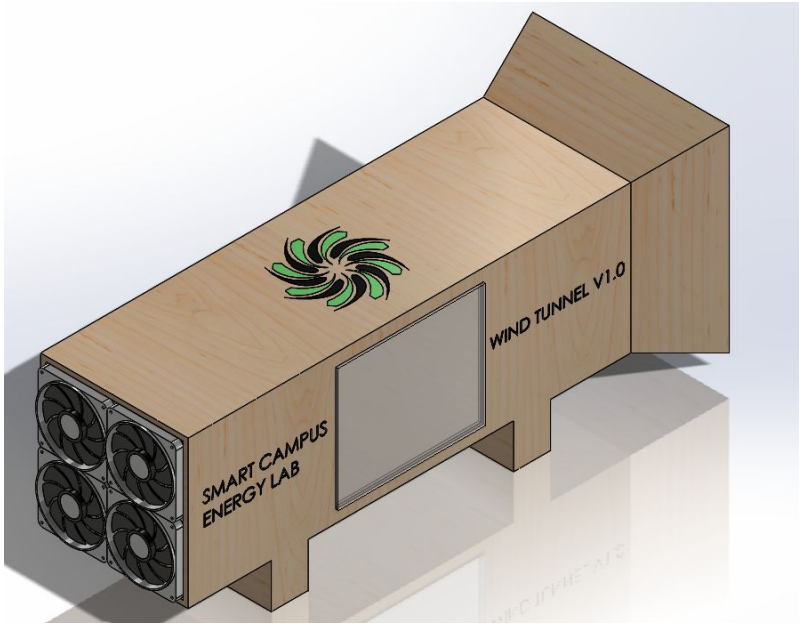

- All dimensions are in mm unless otherwise stated
- Materials:
  - Body - Cardboard
  - Window - Plexiglass
  - Stands - Wood

# 3D Rendering | Wind Tunnel Assembly



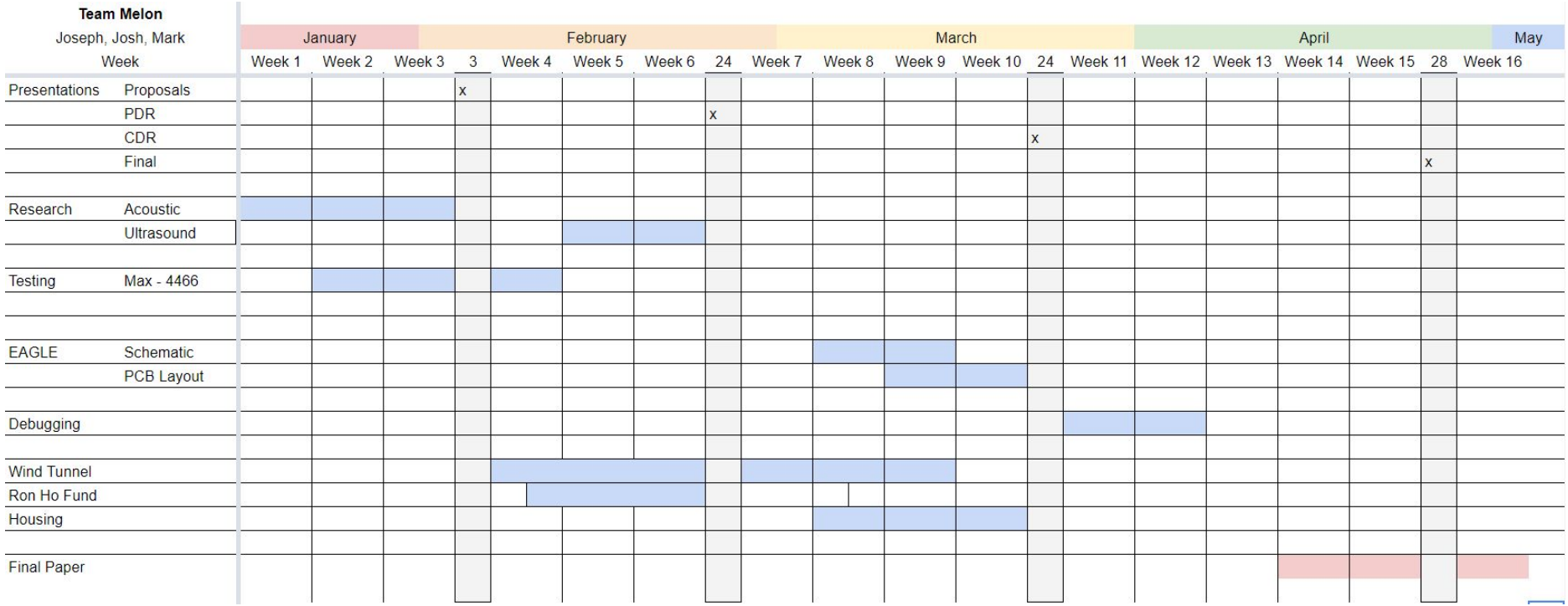




# Future Tasks

- Order parts for wind tunnel + sensor parts
- Build wind tunnel
- Testing existing acoustic sensor
- Altering code with new data from wind tunnel

# Gantt Chart


Team Melon
Joseph, Josh, Mark
Week
January
February
March
April
May
Week 1
Week 2
Week 3
3
Week 4
Week 5
Week 6
24
Week 7
Week 8
Week 9
Week 10
24
Week 11
Week 12
Week 13
Week 14
Week 15
28
Week 16
Presentations
Proposals
PDR
CDR
Final
Research
Acoustic
Ultrasound
Testing
Max - 4466
EAGLE
Schematic
PCB Layout
Debugging
Wind Tunnel
Ron Ho Fund
Housing
Final Paper

# Questions?