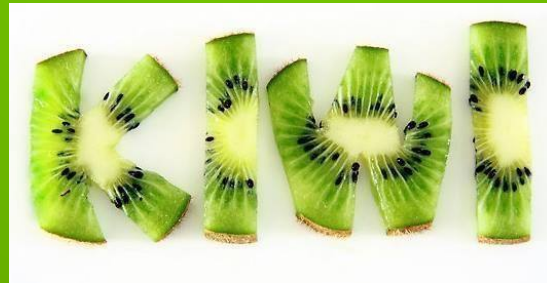


# Preliminary Design (Weatherbox)

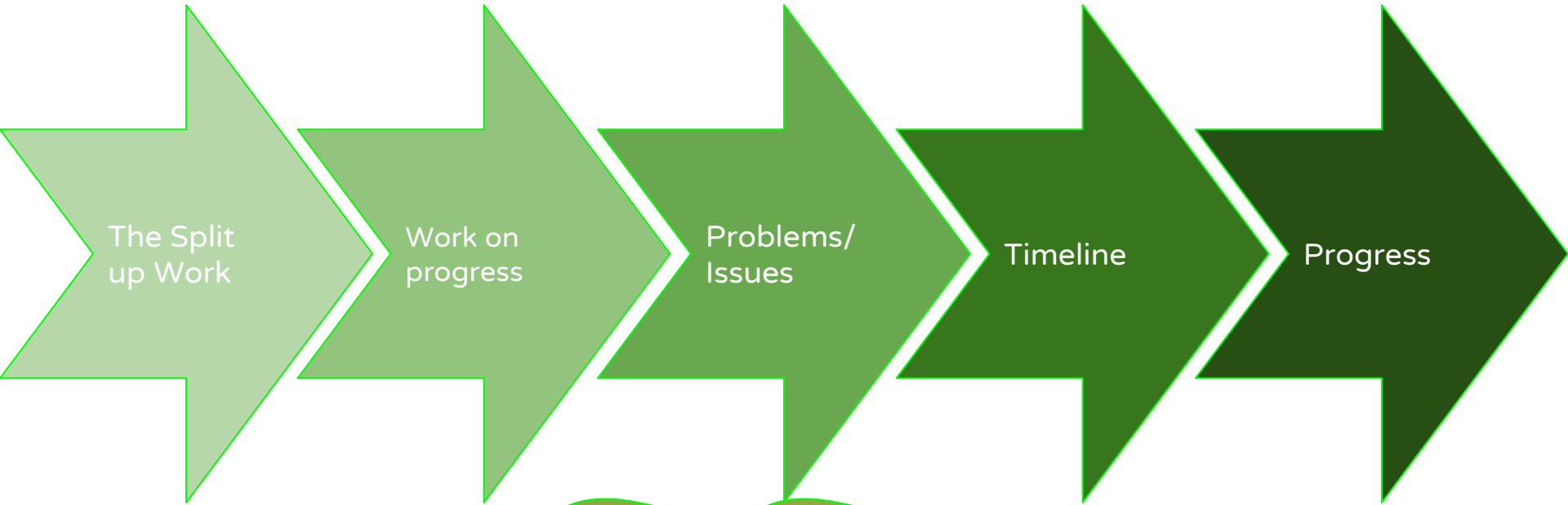
Advisor: Dr. Kuh

Team





# Overview



Extra: What's Next?



Hello!

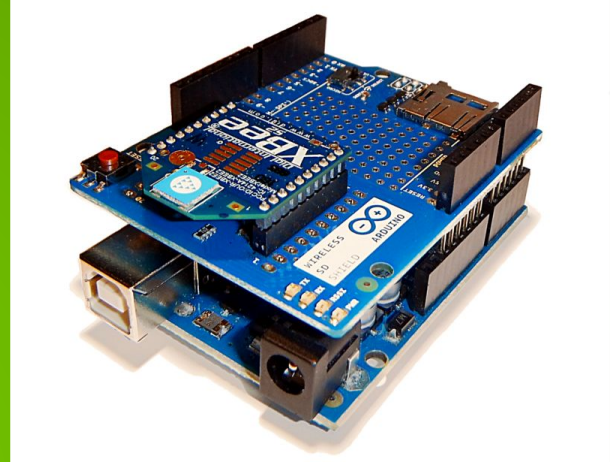
# I am Alex Chen

- Worked on half of the schematics for Reis 296 Weatherbox
- Being Xbee tutorial router





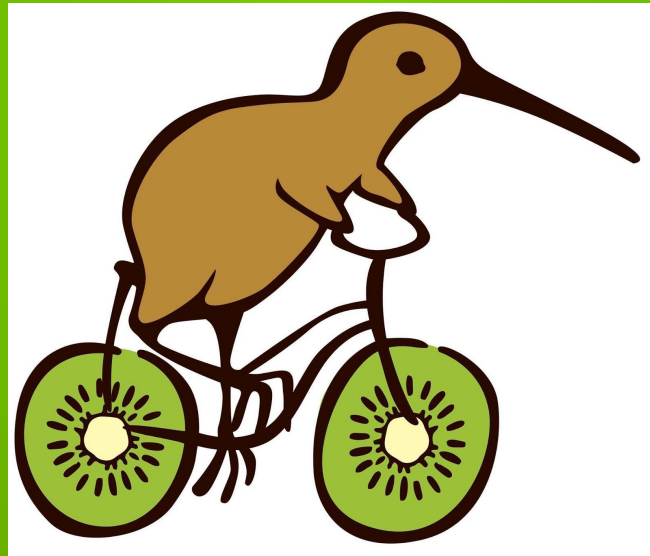
Hello!



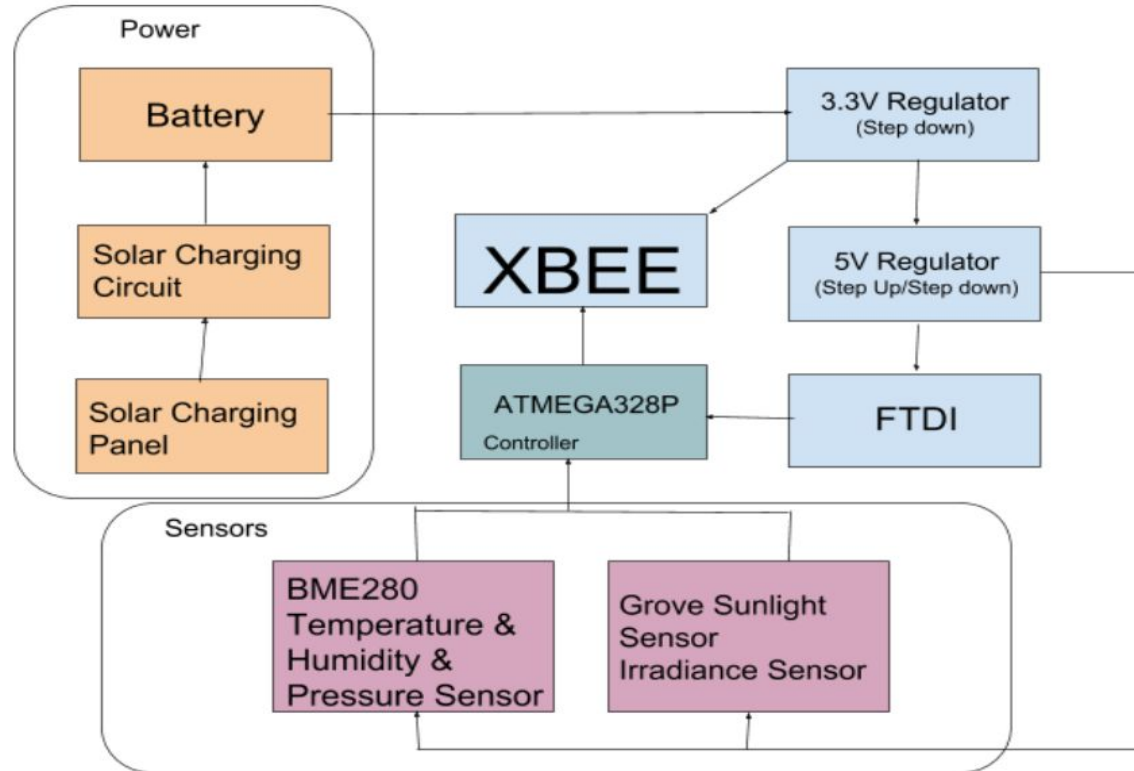
# I am Jason Chen

- Worked on half of the schematics for Reis 296 Weatherbox
- Being Xbee coordinator

# What's Kiwi working on?



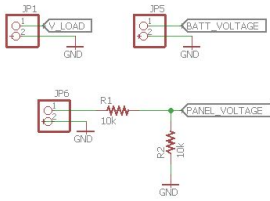
# Block Diagram



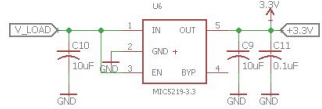


# Schematic

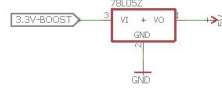
## Power



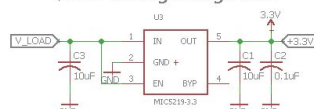
## 3.3V Voltage Regulator



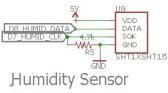
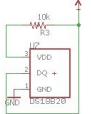
## 5V Boost Converter



## 3.3V Voltage Regulator



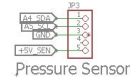
## Temperature Sensor



## Humidity Sensor

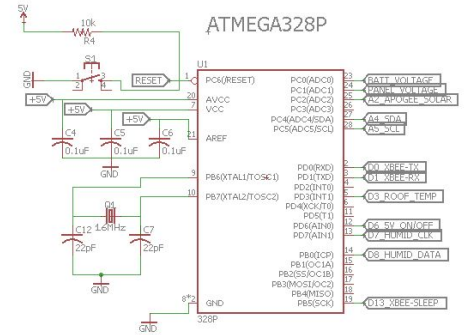
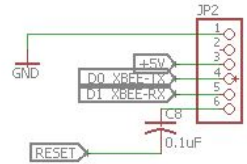


## Irradiance Sensor

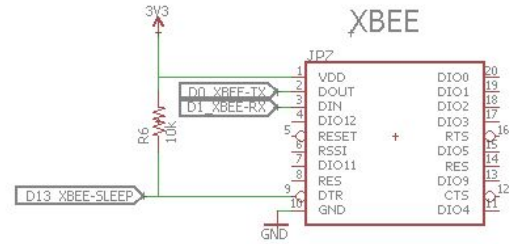


## Pressure Sensor

## FTDI



## XBEE





# Kiwi's Future Goals

## Yet to work on:

- × Making the parts
- × Soldering
- × Making our housing
- × Breadboarding  
Weatherbox
- × Code & PCB skills
- × Debugging

## Overall Goal:

Our goal is to create an environmental sensor that can detect weather patterns in an area.





# Kiwi's Problems/ Issues

- 🌐 Unable to get router attached to Xbee shield on the Arduino to send a message to the Xbee coordinator
- 🌐 Encountered issues with detecting the Xbee Pro S2B on our computers
- 🌐 Couldn't find the "button" for the ATMEGA328P in Eagle





# Kiwi's Timeline



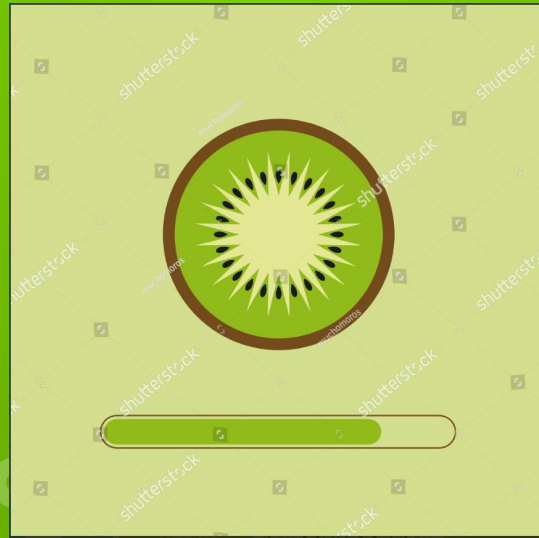


Date	1/19/2018	1/26/2018	2/2/2018	2/9/2018	2/16/2018	2/23/2018	3/2/2018	3/9/2018	3/16/2018	3/23/2018	Week 11	4/6/2018	4/13/2018	4/20/2018	4/27/2018	5/4/2018
<b>Presentations</b>																
Proposal																
Design																
Final																
Demonstration																
<b>Training</b>																
Git/GitHub																
Arduino/Bare Arduino																
Eagle																
<b>Modules</b>																
Microprocessor																
Sensors																
Charging Circuit																
Xbee																
<b>Build</b>																
System Integration																
Overall System Firmware																
Design/Print PCB																
Housing																
<b>Test</b>																
Debug																
<b>Reports</b>																
Final Report																

Finish  
Weather-box  
es by the end  
of this week



# Kiwi's Progress



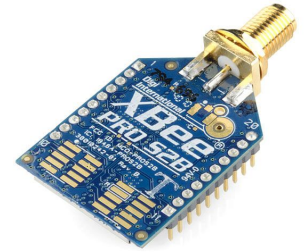


# Kiwi's Progress

## Xbee Pro S2B

Completed the Xbee tutorial.

Successfully sent messages from the Xbee router to the Xbee coordinator.



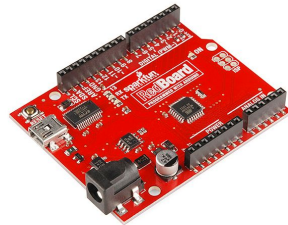
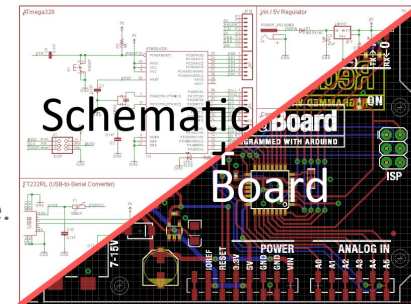
## Eagle

Completed Eagle tutorials: Watching the Youtube videos(3) and making the 296.lbr.

Finished creating the all of the schematics for REIS 296 Weatherbox

## Parts

All the of the parts (4/4) came in and picked up through the EE office.



# What's Next, Kiwi?

## Eagle Library

Remaking the schematics to personalize into our own unique parts

(One of us will be working on it next week)



**EAGLE**

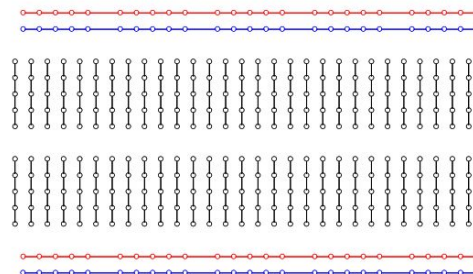
## Breadboard schematics and Debugging

After making the new schematics, we'll be implementing the parts on the breadboard and test it out

## Google Sketchup

Housing our weatherbox

Google  
SketchUp





Thanks!

Any questions?