

Because every life has a purpose...



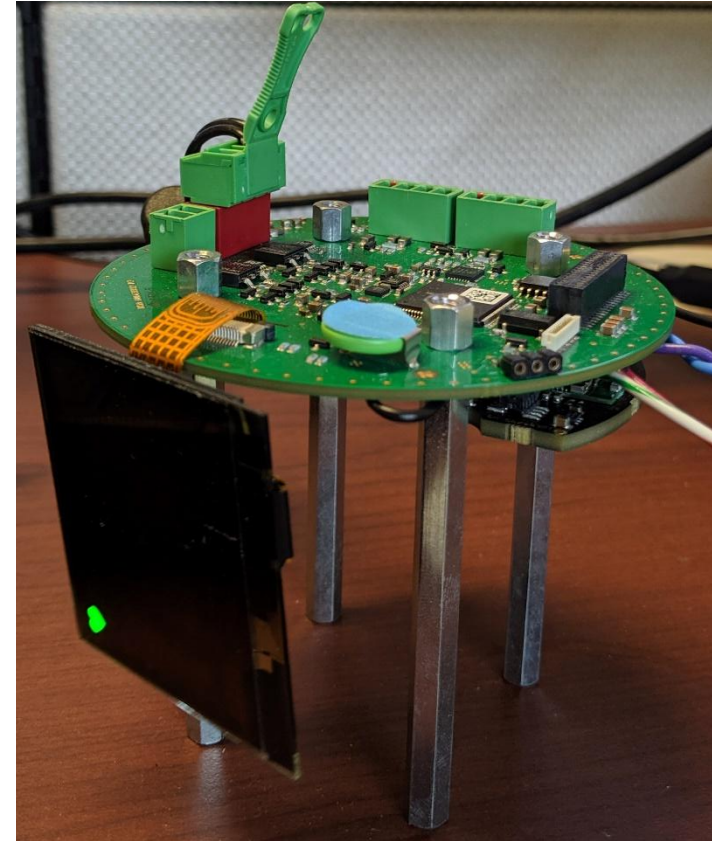
Co-op Showcase Fixed Gas Summer 2019

Ethan Cantor

RIT Computer Engineering

Overview of Projects

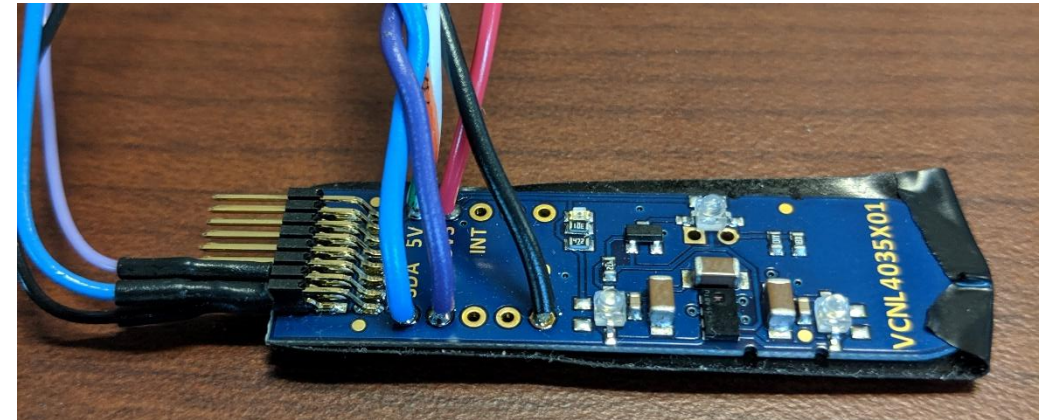
- Infrared Touch
 - Chip Selection
- 32 / 64 bit Selector Script
- Updating Bluetooth SDK
- Fan Control
 - Hardware and Software Interface



X5000 used for Bluetooth
and infrared testing

Infrared Touch

- Goal
 - To replace the obsoleted infrared parts on the S5000 and X5000 with new parts
- Obsoleted Part
 - Maxim
- Problematic Part (Heat)
 - Avago



VCNL4035X Evaluation Board

Infrared Touch

- New Parts To Test
 - Silicon Labs
 - Si115x
 - Vishay
 - VCNL4020
 - VCNL4030
 - VCNL4035
- Software for each part is ready to be tested with hardware



Si115x Evaluation Board

32 / 64 Bit Script Selector

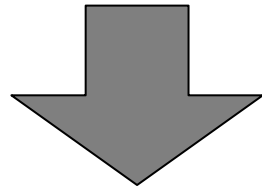
- Purpose
 - To generate a file based on the SVN version for 64 and 32 bit operating systems

```
26 cd "C:\Program Files(x86)\TortoiseSVN\bin
27
28 IF %ERRORLEVEL% == 0 (
29     echo 32 bit tortoise exists on this system
30     "%~dp0\SubWCR.exe" "%~1" "%~dp0\SvnVersion.h.tpl" "%~dp0\SvnVersion.h"
31 ) ELSE (
32     echo 64 bit tortoise exists on this system
33     rem "%~dp0\SubWCR.exe" "%~1" "%~dp0\SvnVersion.h.tpl" "%~dp0\SvnVersion.h"
34     "%~dp0\SubWCR64.exe" "%~1" "%~dp0\SvnVersion.h.tpl" "%~dp0\SvnVersion.h"
35 )
36
```

- Software has been successfully tested and is functional

- Goal

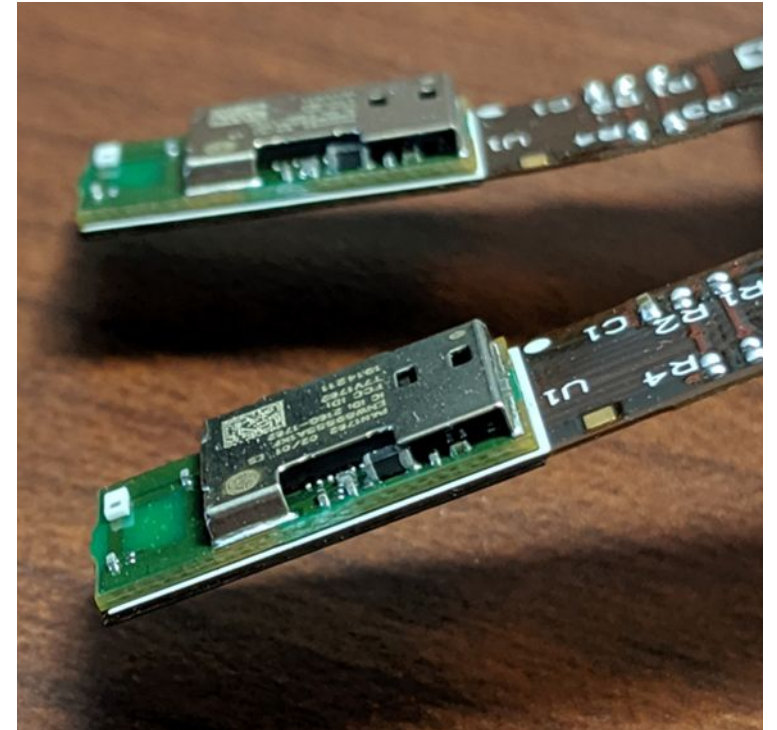
PAN1026 (Obsoleted Part)



PAN1762 (New Part)

- Current Status

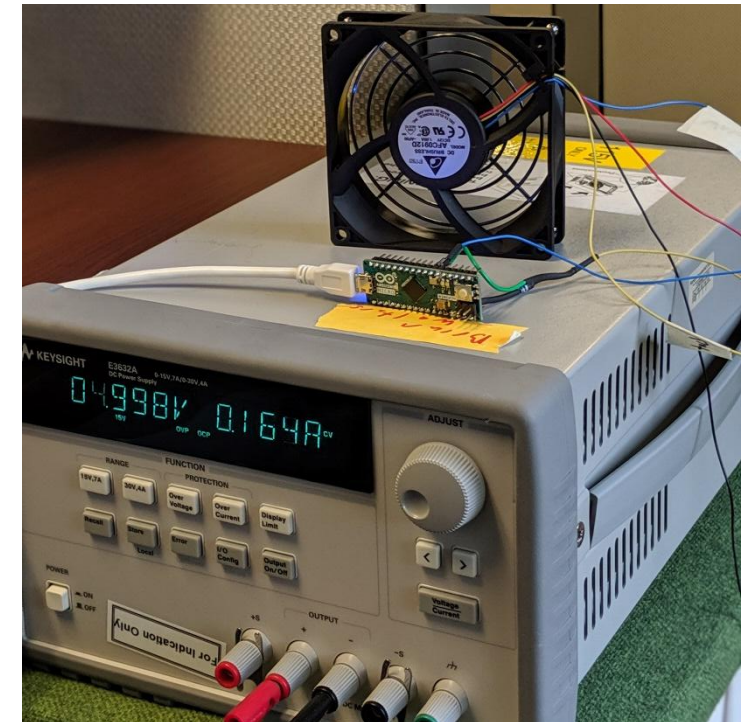
- The SDK change is unfinished and requires hardware testing



PAN1762 Chips

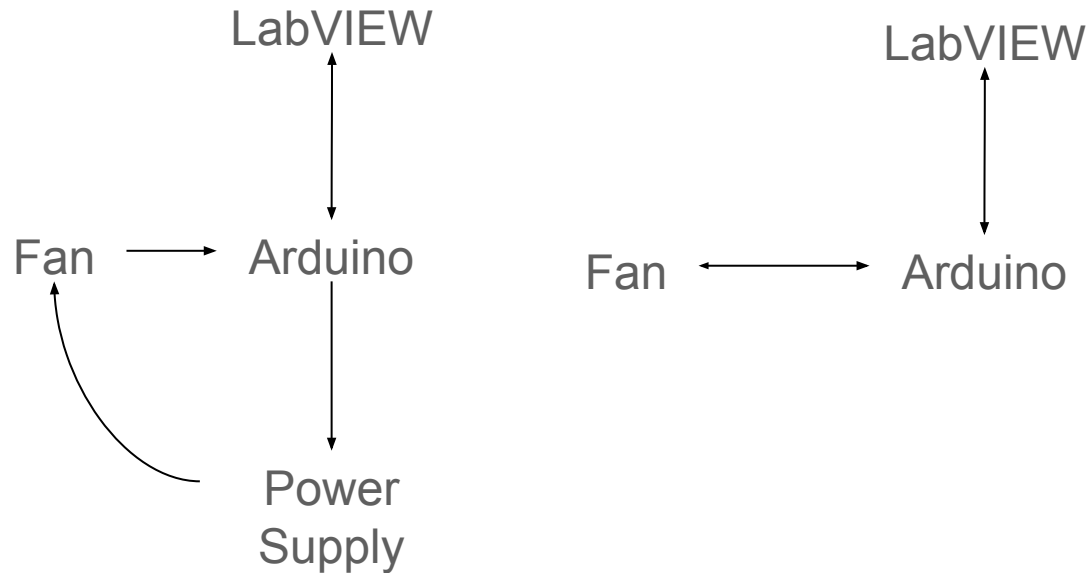
Fan Control

- Goal
 - Create a fan to be used in gas testing that can be easily controlled through LabVIEW
- Parts for the fan control
 - PWM fan
 - Arduino
 - LabVIEW
 - Power Supply



PWM Fan, Arduino, and
Power Supply

Fan Control



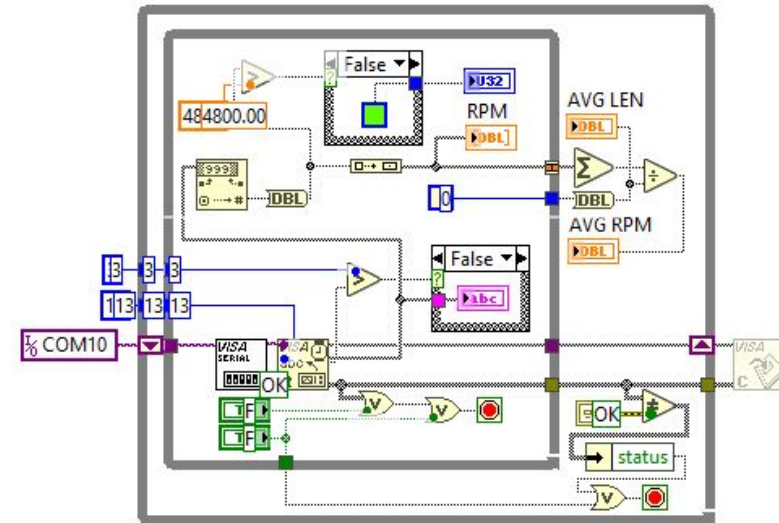
- Additional Goals
 - Fan PWM control

LabVIEW Interface



What I Learned

- SVN
- Data sheet information
- Collaboration with other engineers
- LabVIEW



LabVIEW program used for
fan control

Because every life has a purpose...



Questions?