



PennState

Lab-scale Gas Monitor System

Final Project of GEOSCI 597-007

LONG FAN



Outline

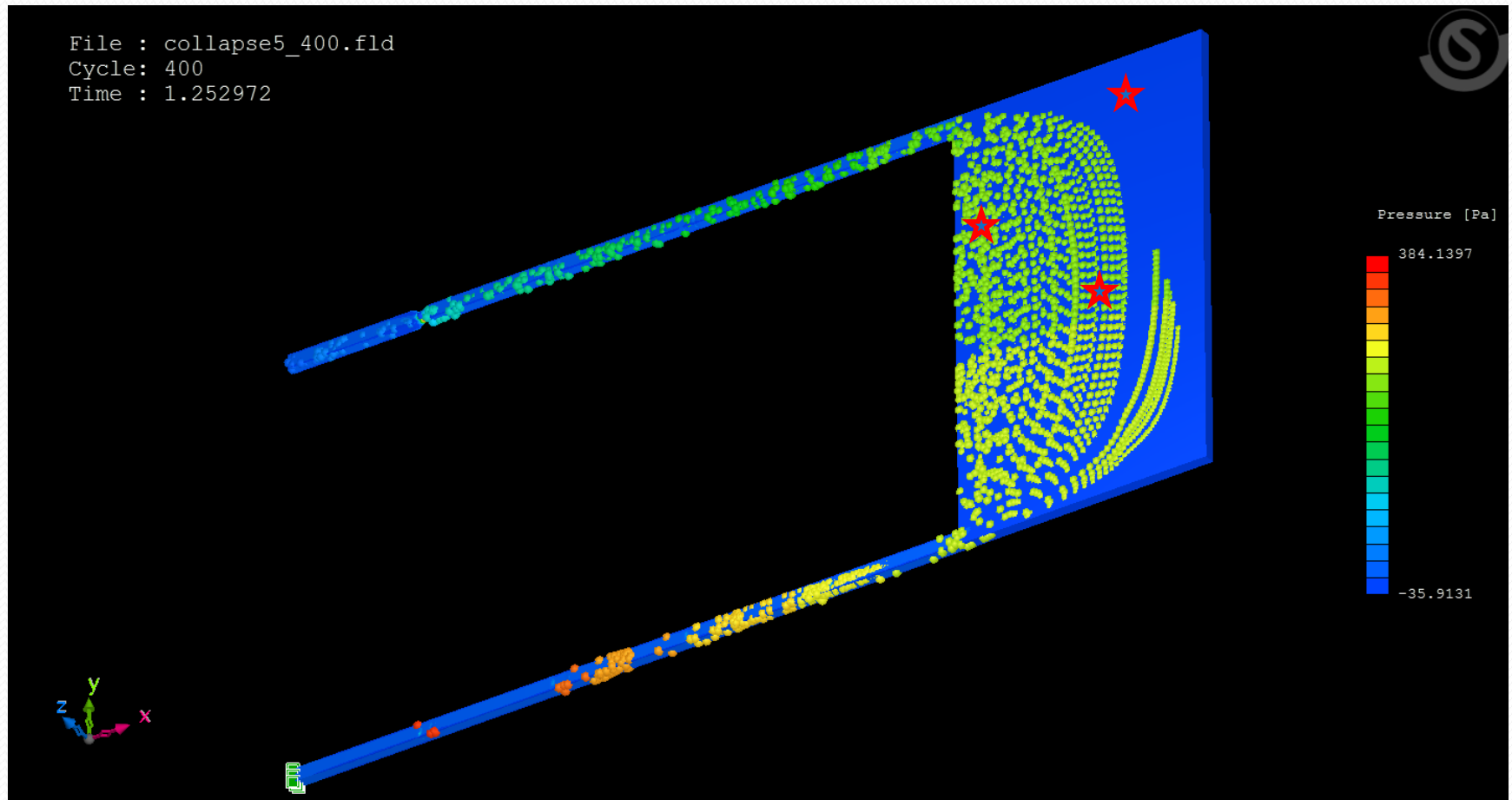
- ❖ **1. Background and Problem**
- ❖ **2. Lab-scale Gas Monitor System**
- ❖ **3. Assembling and Wiring**
- ❖ **4. Problem and Discussion**



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1. Background and Problem





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- ❖ 1. Background and Problem
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2. Lab-Scale Gas Monitor System

Quantity	Item
1	Sparkfun Redboard
1	Breadboard
1	Methane sensor
1	Gas Sensor Breakout Board
1	USB Battery Pack
1	SparkFun USB LiPoly Charger
1	JST Right-Angle Connector
2	Display
1	Potentiometer
2	LED
2	10k Ω resistor
1	300 Ω resistor
1	3D Printing Bracket



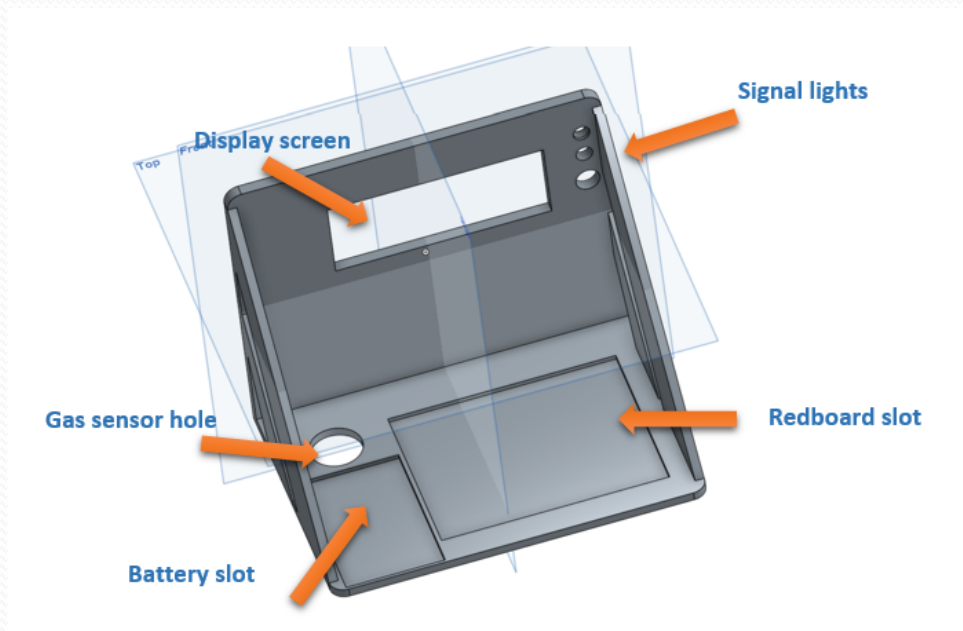
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3. Assembling and Wiring

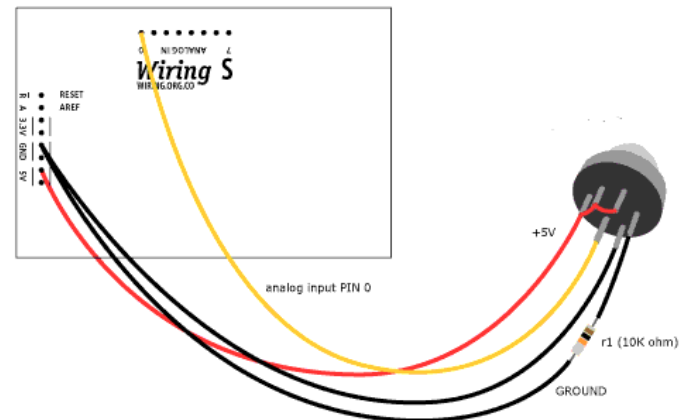
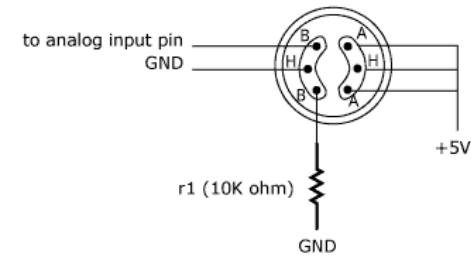
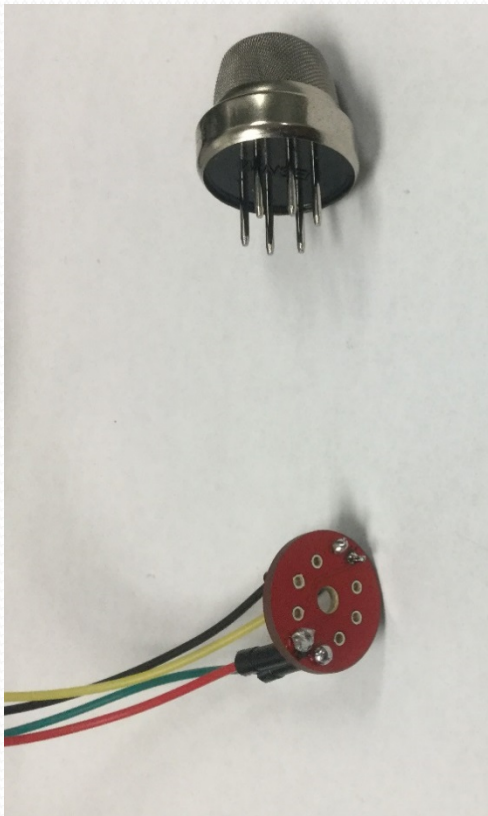
- Assembling





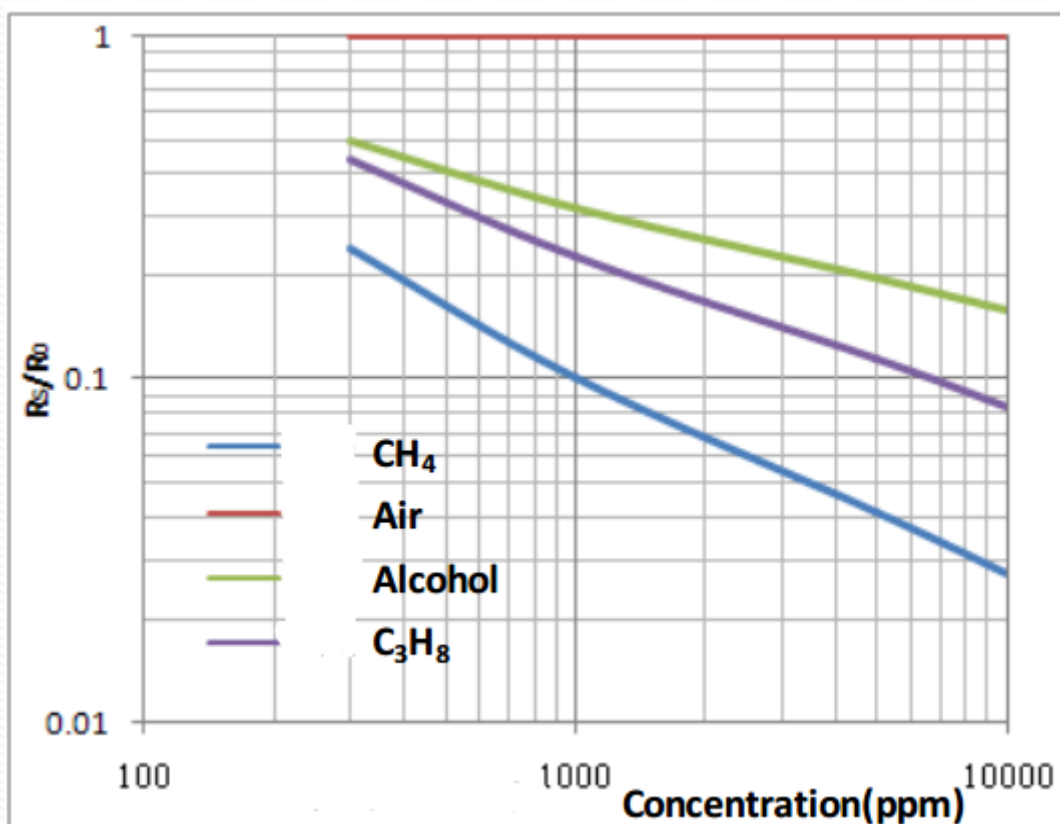
3. Assembling and Wiring

- Gas sensor wiring





3. Assembling and Wiring



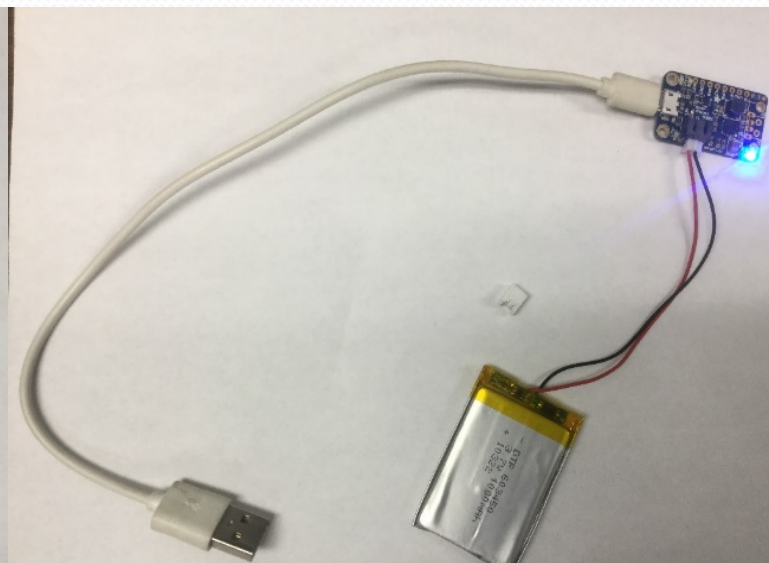
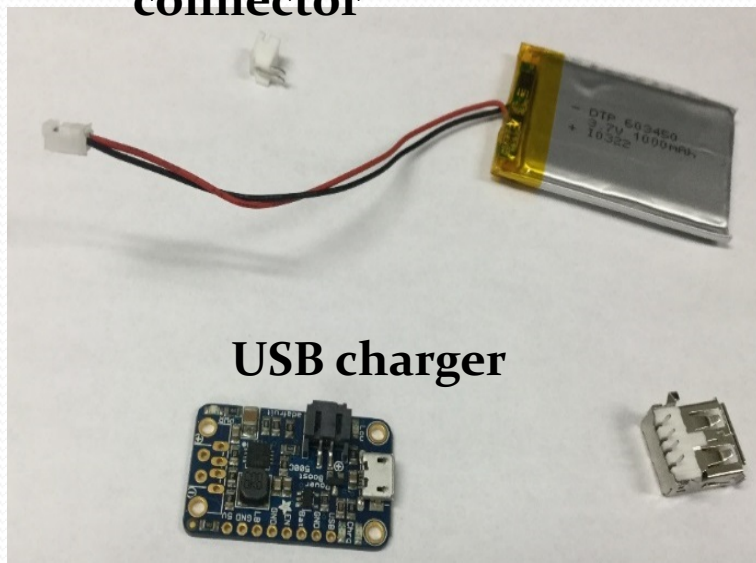
Typical sensitivity curve



3. Assembling and Wiring

- Battery wiring

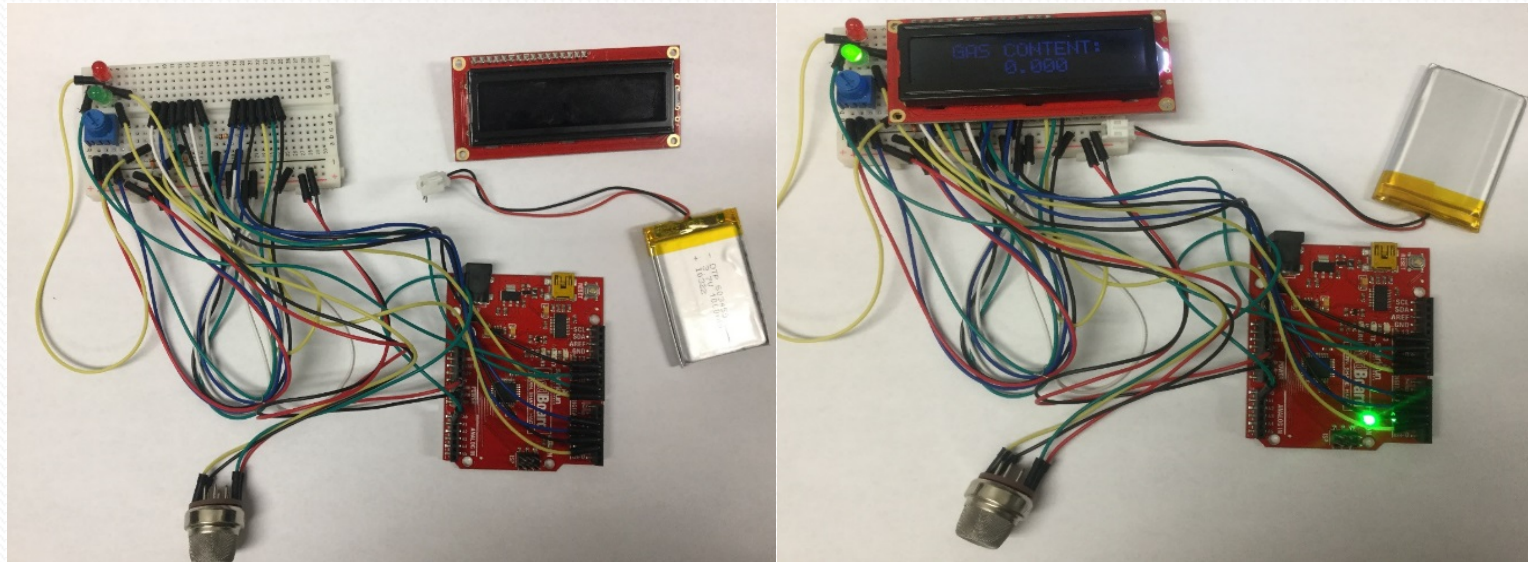
JST right-angel connector





3. Assembling and Wiring

- Testing

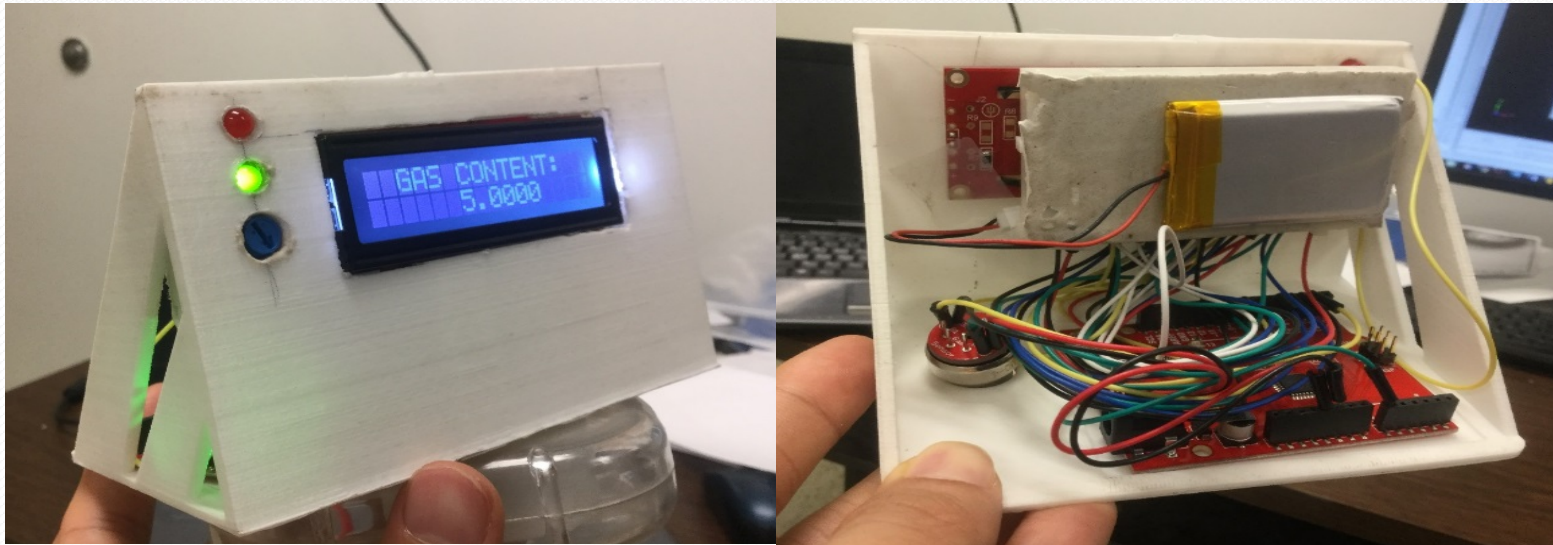


Physical wiring of all components



3. Assembling and Wiring

- Final project





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4. Problem and Discussion

- Long preheat time of gas sensor



Thank You!
Question?