Group 10 - Sensor Society

- GNG1103D - Deliverable J

Empathize

Customer - JAMZ

→ Accurate data collection

→ Printing Statement

→ Cost Efficient

User - Drone Operator

→ Relay Speed

→ Flagging Code

Subuser - Customer of Package

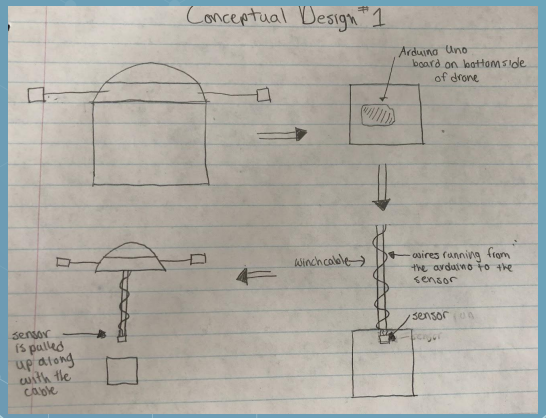
→ Accurate Statement

Continuous exchange of **accurate data** with the operator about the package's climate, ultimately determining the **good standing** of the buyer's package.

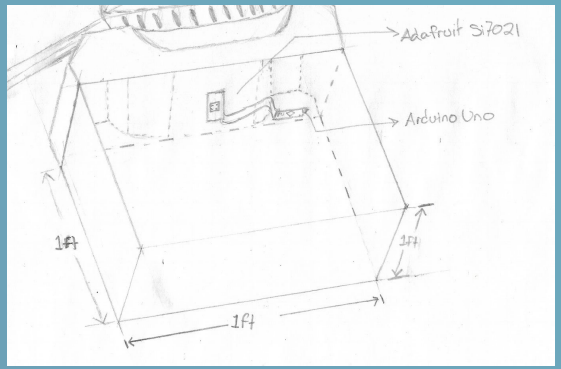
Define

- Relay accurate data
  (±0.5°C, ±3%RH)
- Relays package temperature and humidity
  (-10 to +85°C, 0-80%RH)
- Constant communication
  (Once per second)
- Compact and lightweight
  (<250 g)
- Affordable (<$50)

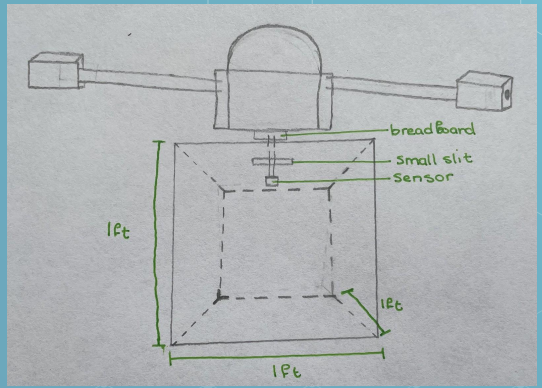
Ideate



Conceptual Design #1



Conceptual Design #2



Conceptual Design #3

Evaluation Criteria for Designs

→ Evaluated on scale 1-3

→ Design 2 was chosen as solution.

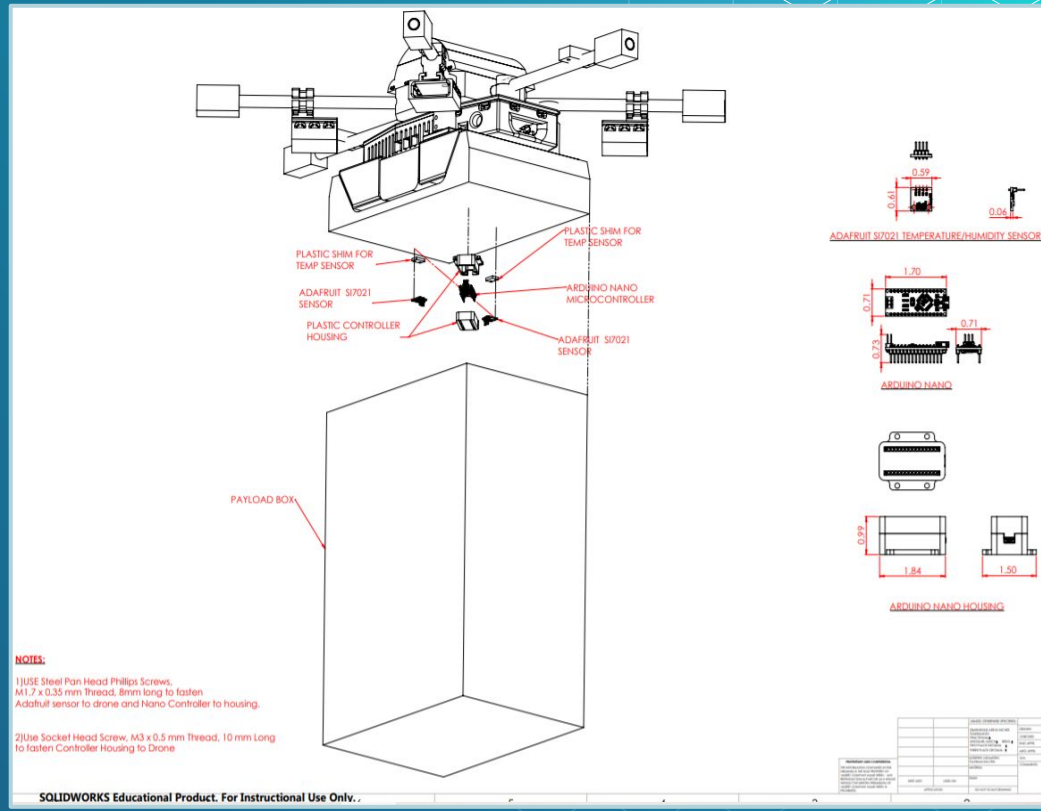
5.4. Comparison of selected conceptual designs

	Target Specification	Importance	Design 1	Design 2	Design 3
1	Constant data output	5	1	2	2
2	Sense package humidity	5	2	2	1
3	Sense package temperature	5	1	2	1
4	Power requirements	1	3	3	3
5	Device size	4	2	2	3
6	Operating conditions: temperature	2	3	3	3
7	Device weight	4	1	3	2
8	Cost	3	2	3	3
9	Safety	3	3	3	3
10	Aesthetics	1	3	2	3
	Total Score		61	79	70

Prototype 1

Consisted of:

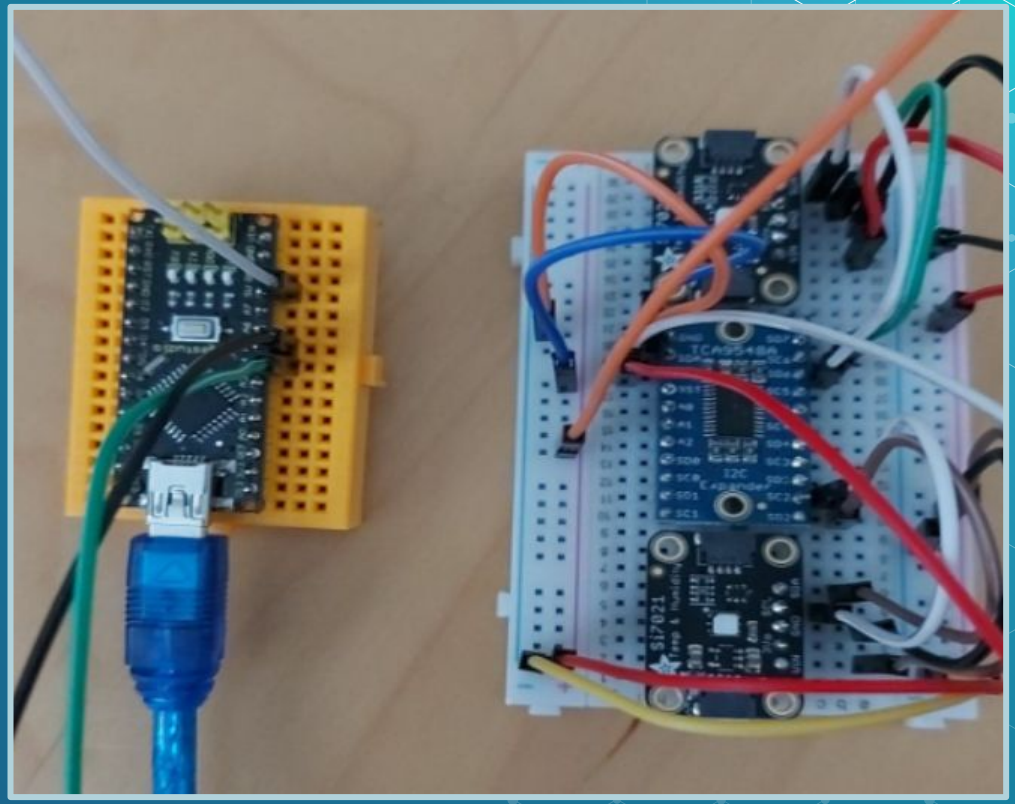
- Development of our code.
- Solidworks model of our system.



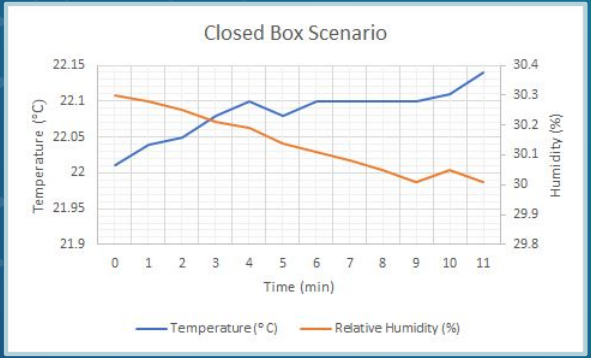
Prototype 2

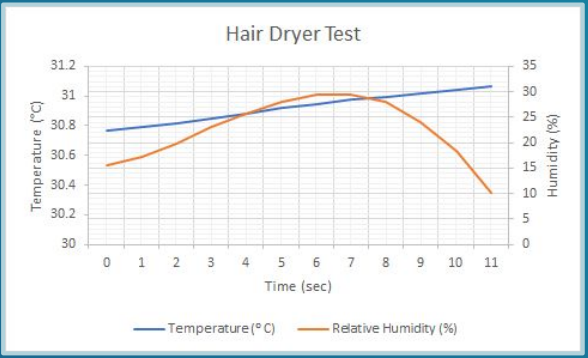
Consisted of:

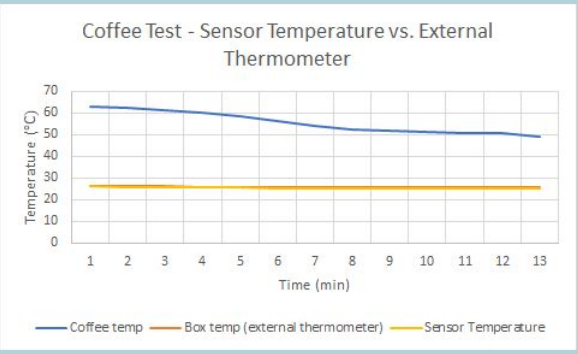
- Putting together our electrical components.
- Adding to the code.
- Further developed the casing.



Testing Process







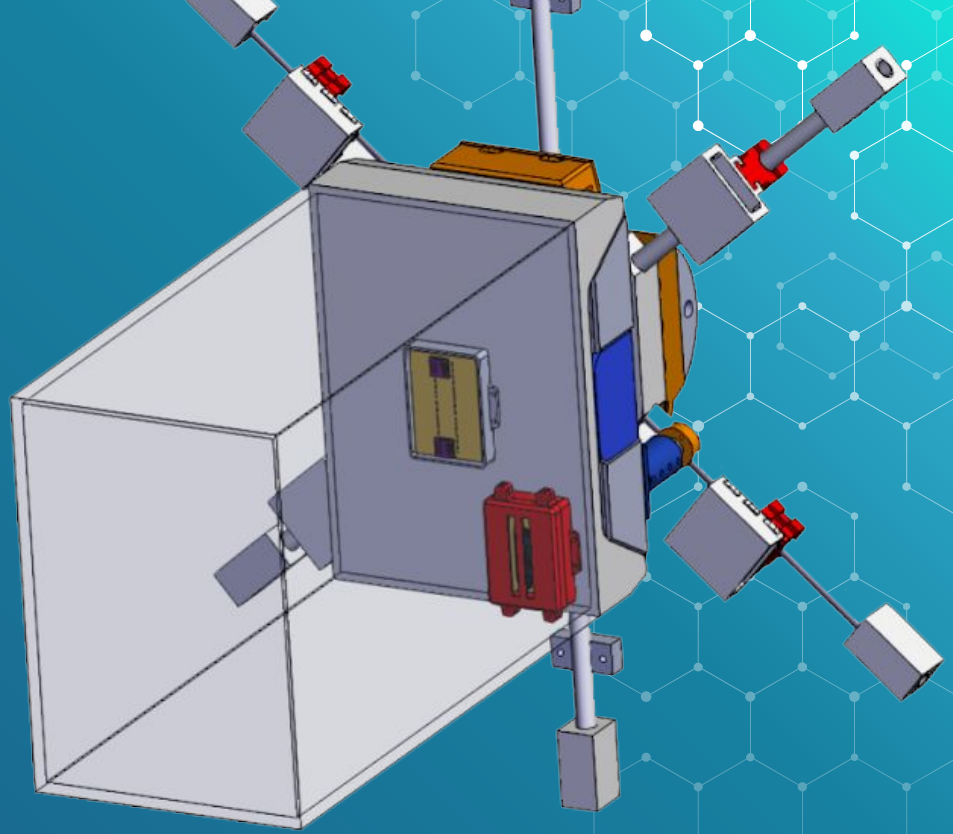
Prototype 3

Consisted of:

- Put together all the subsystems.
- Safety boxes
- Heater option
- Code change

Future Work

- Data on Food Temperature
- Delivery Simulation



THANKS!

ANY QUESTIONS?