Deliverables	
TEST AND EXPERIMENTS	
Course Code: CPE 103	**Program:** BSCPE
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1.Objective:

Documentation to demonstrate testing procedures and results to demonstrate the following:
1. Functionality of each subsystem (Success Rate)
2. Accuracy of Sensors

2.Discussion:

The importance of testing of systems and projects are crucial to following standards that must meet, for example is the ISO 5725-1: 2020- Accuracy of Measurement Methods and Results, where it is stated that the margin of error should be only 5%. Therefore, the result is considered accurate if the percentage accuracy is greater than or equal to 95%. This ensures that the devices we are making are reliable, and robust for the consumers to use.

3.Resources:

The document will require the following software,tools and equipment
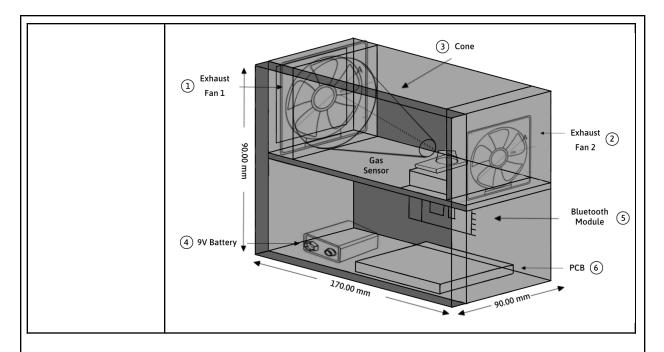
4.Procedures:

Document and accomplish the procedures
1. Experiment Setup
2. Equipment Required
3. Attachments (Showing Experiment)
4. Link to the video demonstration on requirement
5. Data Analysis of Testing

5.Experimental Setup:

The device will run for 1 minutes while we are going to leak some gasses from lighter and gas Canister with intervals of 10 minutes after this we document the results for

6.Results:

Project Details

Problem:	Fire outbreaks are pretty common and one of the main causes is gas leakage
Key Stakeholders:	Small samgyupsal restaurant
Solution Name:	Mr. SNIFF
Project Description:	The project aims to address safety concerns associated with portable gas stoves through an IoT-based device.Also for the safety of businesses and outdoor cooking activities, promoting peace of mind for users and advocating for fire prevention and safety awareness
Concept Art:	

Accuracy of Gas Sensor:

Test No.	Test Load	Duration	Remarks	Highest Value
1	Lighter	1 minutes	Alarm	89
2	Lighter	1 minutes	Alarm	94
3	Lighter	1 minutes	Alarm	89
4	Lighter	1 minutes	Alarm	97
5	Lighter	1 minutes	Didn't Alarm	60

Test No.	Test Load	Duration	Remarks	Highest Value
1	Butane Gas Scan	1 minutes	Alarm	150
2	Butane Gas Scan	1 minutes	Alarm	250
3	Butane Gas Scan	1 minutes	Alarm	104
4	Butane Gas Scan	1 minutes	Alarm	94
5	Butane Gas Scan	1 minutes	Alarm	97

Test No.	Test Load	Duration	Remarks	Highest Value
1	Direct to the sun	10 minutes	Didn't Alarm	49°c
2	Direct to the sun	10 minutes	Alarm	94°c
3	Direct to the sun	10 minutes	Didn't Alarm	55°c
4	Direct to the sun	10 minutes	Alarm	97°c
5	Direct to the sun	10 minutes	Alarm	80°c

Test No.	Test Load	Duration	Remarks	Highest Value
1	Not Direct to the sun	10 minutes	Didn't Alarm	40°c
2	Not Direct to the sun	10 minutes	Didn't Alarm	49°c
3	Not Direct to the sun	10 minutes	Didn't Alarm	45°c
4	Not Direct to the sun	10 minutes	Alarm	69°c
5	Not Direct to the sun	10 minutes	Didn't Alarm	47°c

7. Data Analysis of Testing:

Based on the results, the accuracy we achieved is quite high, indicating that both sensors are working properly and reading data accurately. However, the time intervals for gas detection increased because some gas from the canister splashed onto the fan. This caused the device to detect gas even when there was no leak in the air. Despite this, the accuracy remains high; it just needs time for all the gas in front of the device to dissipate.

8. Summary and Conclusion

After completing this activity, we have demonstrated that our project or product performs effectively in detecting gas leaks in the air. Despite variations in the data collected from sources such as lighters and gas canisters, our device reliably detects gas leaks and recognizes the presence of a gas leakage in the air. Additionally, the temperature sensor effectively detects high temperatures in the device's environment. In conclusion, we have confirmed that the two sensors in our project perform as expected, fulfilling the intended objectives of our design.