

Project Purpose

- The primary purpose of this project is to measure three parameters viz. Temperature, Humidity and Heat Index using the DHT11 sensor which is interfaced with a Nodemcu.
- Also, to have a better visualization and data points, we would also be transmitting the data to Thing Speak Server.

Experiments

Experiment 1: Effect of Air Conditioner in Room:

- In this experiment, the pattern of variation in the room parameters due to the AC is observed and the inference about the efficacy of the AC is estimated.
- Firstly, AC was switched on for a while to reach 25 degrees and later turned off until it reaches a certain equilibrium.

Test Environment Conditions

- The room windows and doors are closed. Both have shades on them to avoid direct sunlight into the room. The fans are OFF for entire test duration.

Conclusion:

- The Data points from **S.NO 203 to 241** are related to this experimentation.
- **It took about 16 minutes for the room temperature to raise by 6 degrees when the outside temperature was 34 degrees.**

Experiment 2: Outside vs Inside the Room:

- In this experiment, the pattern of variation in the parameters outside and inside the room is understood.

Test Environment Conditions

Inside the Room:

- The room windows and doors are closed. Both have shades on them to avoid direct sunlight into the room. The fans are OFF for entire test duration.

Outside (Open Environment):

- The device is suspended in air to avoid surface temperature affecting the parameters. It is also placed in a shady area to avoid direct sunlight.

Observations:

Conclusion:

- The data points 695 to 777 correspond to this.
- **There was a difference of around 3 degrees when the sensor was placed inside and outside the room in around 44 minutes observation.**

Experiment 3: Temperature Near a Stove:

- In this experiment, the parameters are observed near a Stove and compared to the ones in a normal room.

Test Environment Conditions

- The room windows and doors are closed. Both have shades on them to avoid direct sunlight into the room. The fans are OFF for entire test duration and also sensor was placed around 30 cm away from the burner.

Conclusion

- The data points 1106 to 1112 correspond to this.
- **It was observed that there was a peak of around 59 degrees when the sensor was around 30 cm away from the burner. And also, the humidity was cut in half from 40 to 20 points which was not the case in the former experiments.**
- **Also, the heat index was also doubled.**

Link:

GitHub upload: [GitHub - sriharshakns/IIITH-Research-Internship-2021-K-N-S-Sri-Harsha](https://github.com/sriharshakns/IIITH-Research-Internship-2021-K-N-S-Sri-Harsha)

This contains my data from ThingSpeak, Video Implementation & Code.

Screen Grab of the Implementation

