INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDERABAD

IoT Project

Team - 4

Personalised Climate Control System

Creating Comfort Through Innovation

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MOTIVATION

- Personalization
- Improve comfort and energy efficiency
- Utilize real-time data for dynamic control

SOLUTION

Our solution integrates DHT11 and BMP280 sensors to collect real-time temperature, humidity, and air pressure data. This data is used to dynamically control fan speed, vent positions, and LED ambiance, ensuring a comfortable and energy-efficient environment.

SENSORS

- DHT11
- BMP280 Air Pressure

ACTUATORS

- Cooling Fan
- Servo Motor
- LEDs

CONTROL

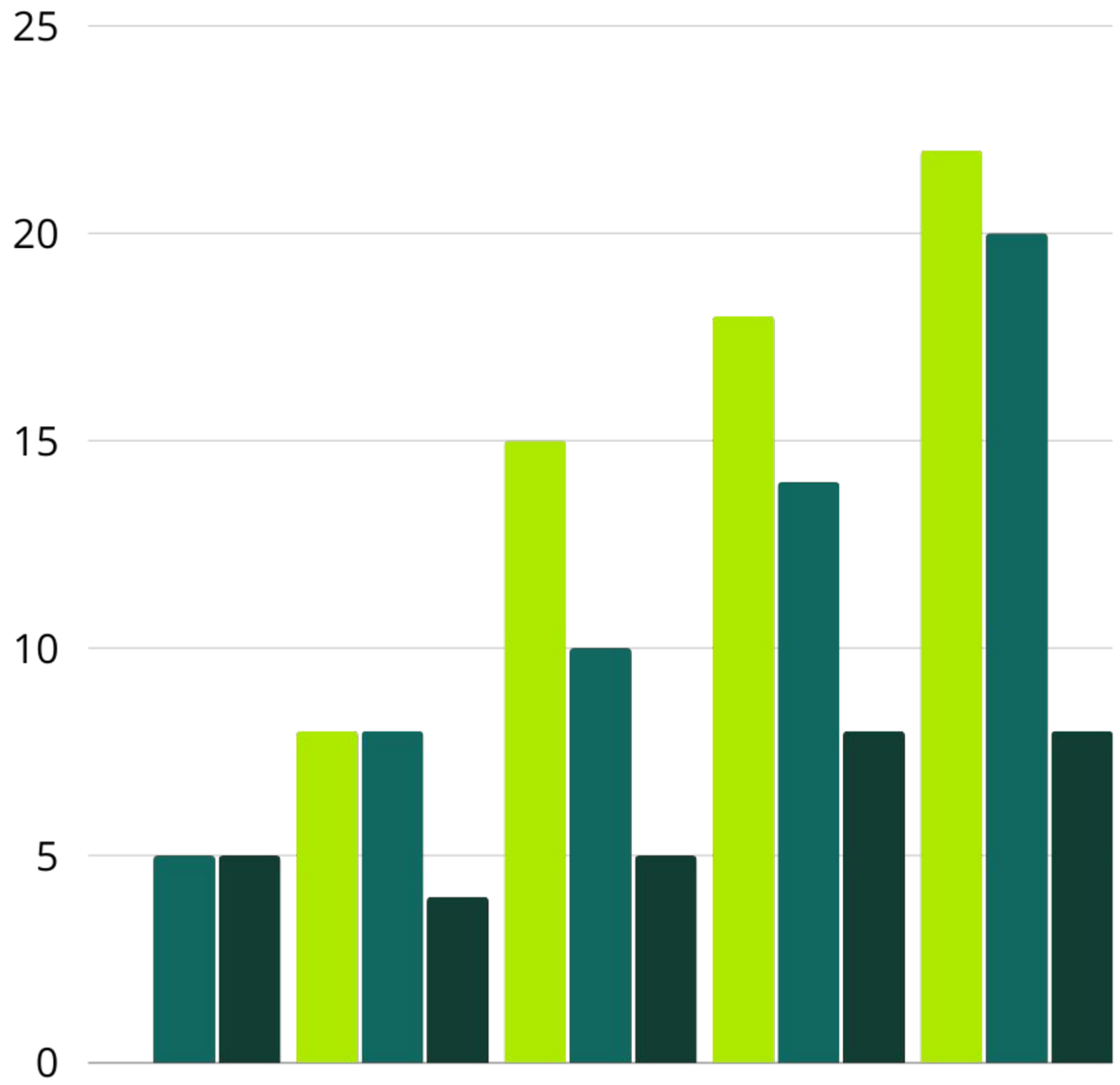
- Fan Speed
- Vent Position
- Light Ambience

DATA

Web Dashboard

DATA ANALYSIS

- Collected sensor data is used to control the fan, adjust vent positions, and set room ambiance.
- Two DHT11 sensors are employed to measure temperature and humidity.
- The values from the two DHT11 sensors are averaged to improve accuracy.
- Calculating the average of two temperatures from the DHT11 sensors enhances system stability and control precision.
- Threshold values for temperature, humidity, and air pressure are established based on the sensor data.



FAILURE ANALYSIS OF PROTOTYPE

- **Challenges:** Sensor Calibration and User Control
- **Solutions:** Apply Trial and Error Method and Continuous Testing in different rooms

FURTHER WORKS

01

Air Purification

02

Optimization based on Occupancy

03

User Control through Website

04

Window Blinds

THANK YOU

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