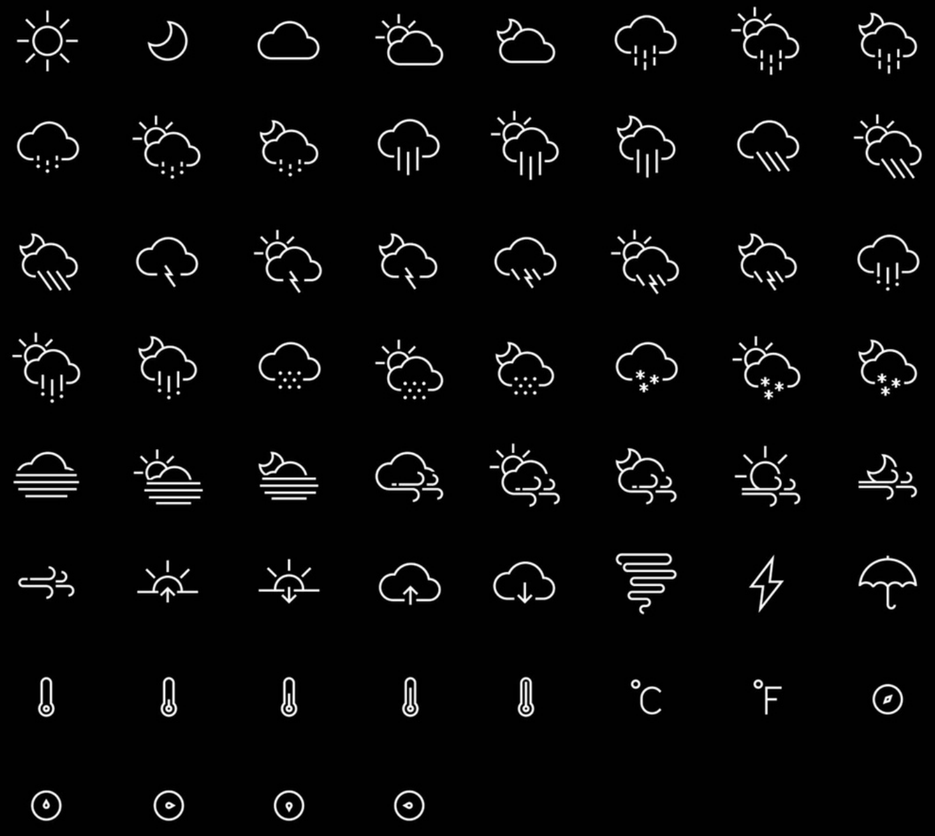
WEATHER MONITORING SYSTEM

using IoT and ESP 32



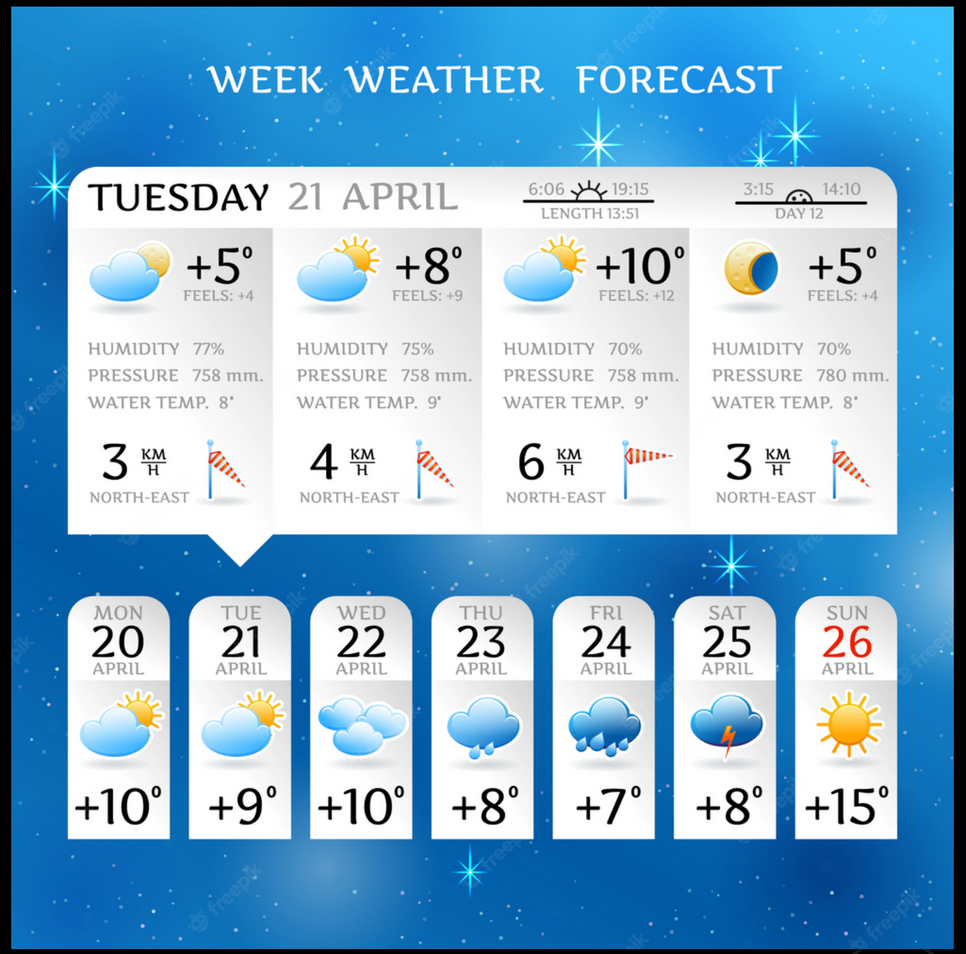
Presented by:

2001EE38-NAKKINA VENKATA ROHIT
2001EE36-DINESH MUDUMALA
2001EE12-SADVIK BODDU
2001EE23-PRAVEENYA KAMATAM
2001EE29-YASHASWINI MALLEMPADI

INTRODUCTION

The periodic or continuous surveillance or analysis of the state of the atmosphere and climate, including variables such as temperature, moisture, altitude ,rain intensity and barometric pressure is weather monitoring.

Let us grab some knowledge on the process of monitoring the weather using IOT system



SOFTWARE REQUIREMENTS

ARDUINO

Arduino is most commonly used software and hardware project used to build electronic devices which can detect and regulate objects.

This platform uses a wide range of micro controllers. The Arduino platform also developed an integrated development environment (IDE).

SOFTWARE REQUIREMENTS

BLYNK

Blynk is an IoT platform for iOS or Android smartphones that is used to control Arduino via internet.
This application is used to create a graphical interface or human machine interface (HMI).
It can control hardware remotely, it can display sensor data, it can store data, visualize it.
There are three major components in the platform:

- Blynk app
- Blynk Server
- Blynk Libraries

These components helps to do all its applications.

HARDWARE REQUIREMENTS

MICROCONTROLLER:

ESP 32

Microcontroller with integrated WiFi and Bluetooth

SENSORS

DHT 11

- Temperature and Humidity sensor

BMP180

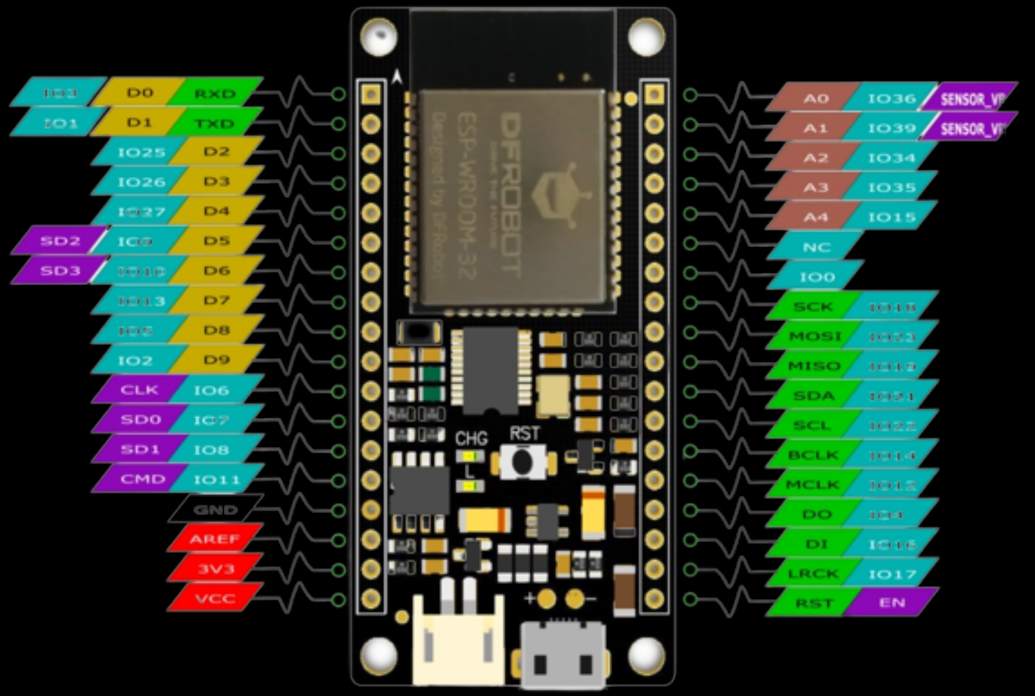
- Pressure and Altitude Sensor

LDR

- Light Intensity Sensor

SEN5

- Rain Drop Sensor

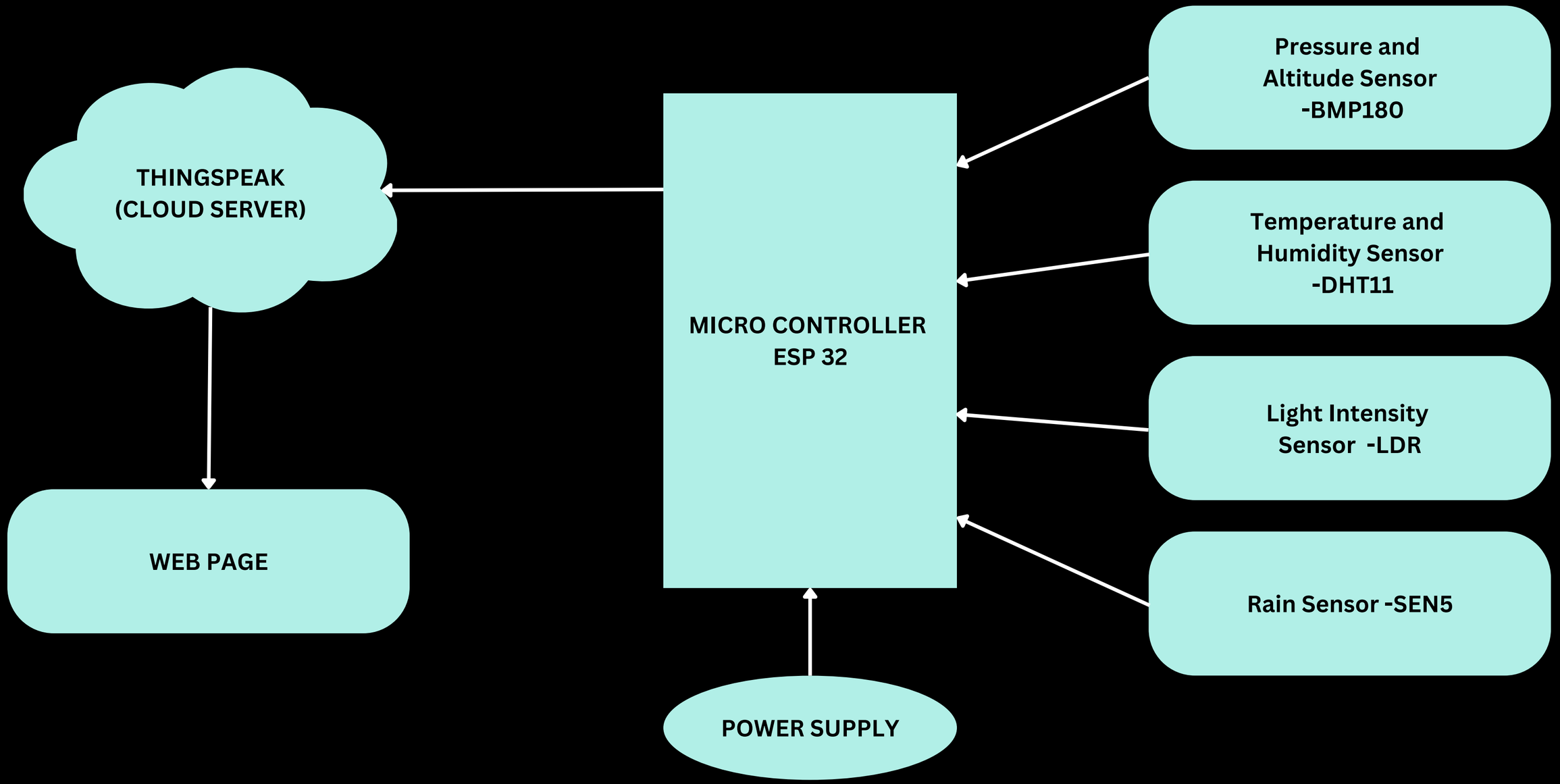


APPLICATIONS

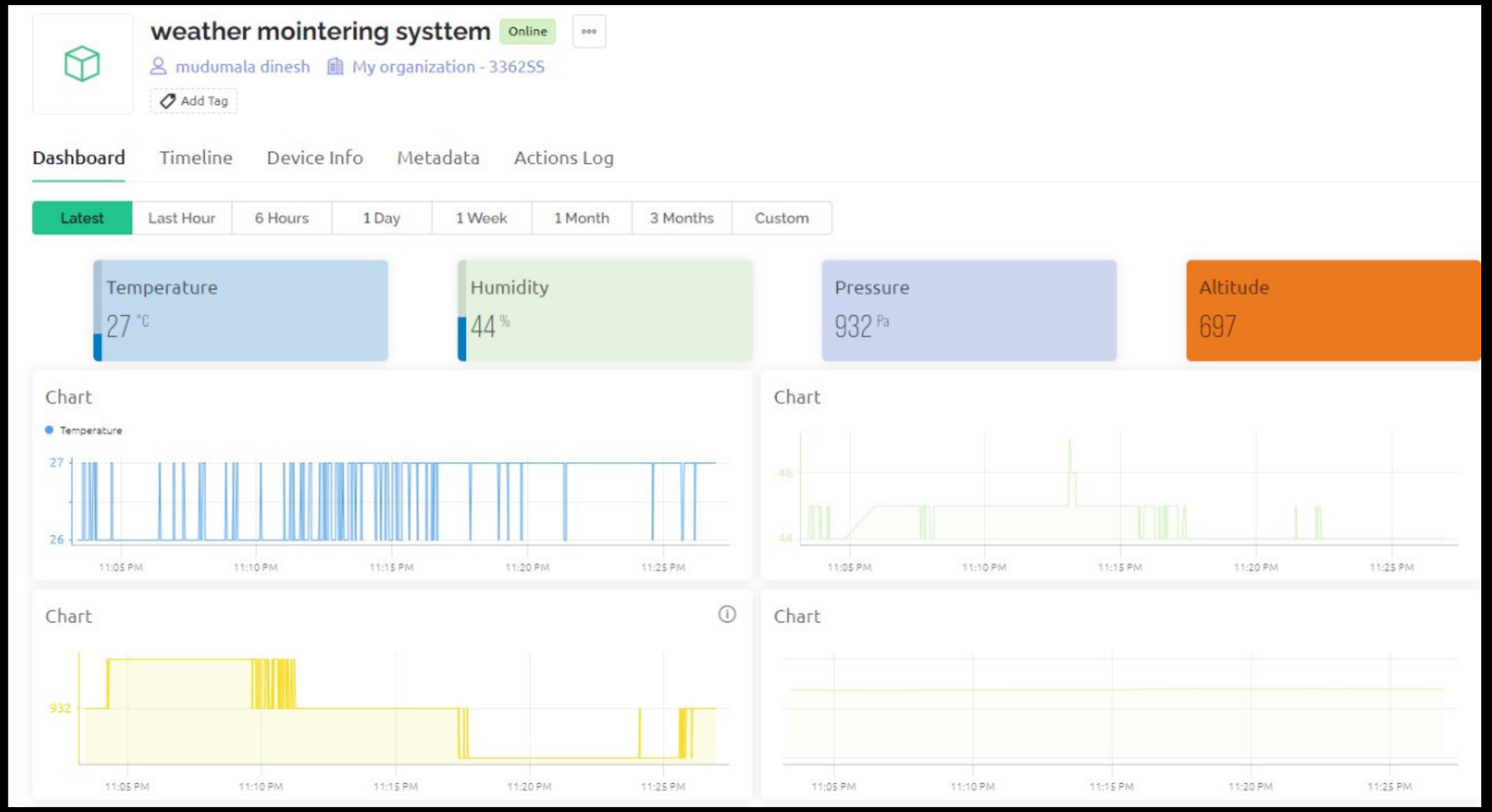
Being aware of real-time weather conditions is a necessary task to maintain quality working conditions and also needed for planning purposes.

Weather variables like humidity, temperature, pressure and rainfall are important factors of determining the course of wide range of events like agriculture.

CONTROL WORKFLOW



Simulation & Results



Conclusion

- IoT weather monitoring systems are entirely automated, requiring no human attention.
- Weather monitoring System using IoT is quite cost-effective, efficient, and the data collected can also be posted on the cloud as well.


Thank
you