



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 7, July 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.569



9940 572 462



6381 907 438



ijirset@gmail.com



www.ijirset.com

Raspberry Pi Based Weather Forecast

Alisha Ghimiray¹, Bhim Kumari Chettri², Priya Baraily³, Rita Chhetri⁴, Shubeal Prakash Khakha⁵

Polytechnic Student, Department of Electronic and Communication Engineering, Centre for Computer and Communication Technology, Chisopani South Sikkim, India

ABSTRACT: As we know weather is the day- day state of the atmosphere which is hard to predict which can be effect the daily life of mankind an has a great importance in many different way. The current weather base is the market is expensive and huge which can cause trouble. The aim of this project is to make a weather base with real time notifications for climatology monitoring alliances it to a cloud platform and analyse weather parameters. This is aim to create classic types system which employs an embedded using Raspberry pi to observe the weather changes. This classic type discusses a monitoring system which gives the information about the environment conditions on local areas this system will monitors surrounding weather conditions including humidity, temperature rainfall. This classic type system founded to be comfortable forthe farmers to monitor the farm anywhere at anytime. The classic type system developed by using opensourcehardware Raspberry pi and Wi-Fiwhich can prove effective causes and low powerconjunction.

KEYWORDS: Weather, Sensors, Pollution Monitors, Digital Data, Humidity, Temperature, Real Time.

I. INTRODUCTION

The system can be used to monitor and update weather conditions over the internet. The system monitors three parameters namely temperature, humidity, and Rainfall that valuearethen display on LCD and also updated over IOT. The system is powered by Raspberry pi including a raindrop sensor,temperature and humidity sensor, pollution level sensor, real time clock sensor, mq 135 and a LCD. Different sensors have been used and they gather data then transmit to the raspberry pi which act as a base station. Weather conditions played an important role in our daily life as weather and climate are the most popular factor for home and environment planning moreover, the huge development of internet nowadays made possible to monitor weather condition and collect the respective data in position.all the object, sensor and device can be linked through Internet to share and analyzethe data collected at various locations the Internet of things (IOT) can be most more extensive in predicting and knowing the weather stations to the Internet.

1.1LITERATURE REVIEW

S.D Shewale S.N Gaikwad.[1] Title of the project “An IOT Base Real Time Weather Monitoring System Using Raspberry pi. Publish -June 2017 This paper focus to monitor the environmental conditions on local areas.

Shubham R.Vilayatkar, Vaibhav R. Wankhada,Pranjali G. Wangekar Nikhil S. Mundane [2] Title of paper “IOT Base Weather Monitoring System using Raspberry pi” published date – 01 Jan 2019. This paperfocusnothe location of weather forecasting stations can determine the accuracy and reliability of the weather data collection.

Meetali VRasal,prof, Jaideep G Rana [3] Title of the paper “Raspberry pi Base weather Monitoring System “ published date -10 October 2016.This paper is focus on weather monitoring factors such as temperature, humidity and pressure are to be measured.

II. METHODOLOGY

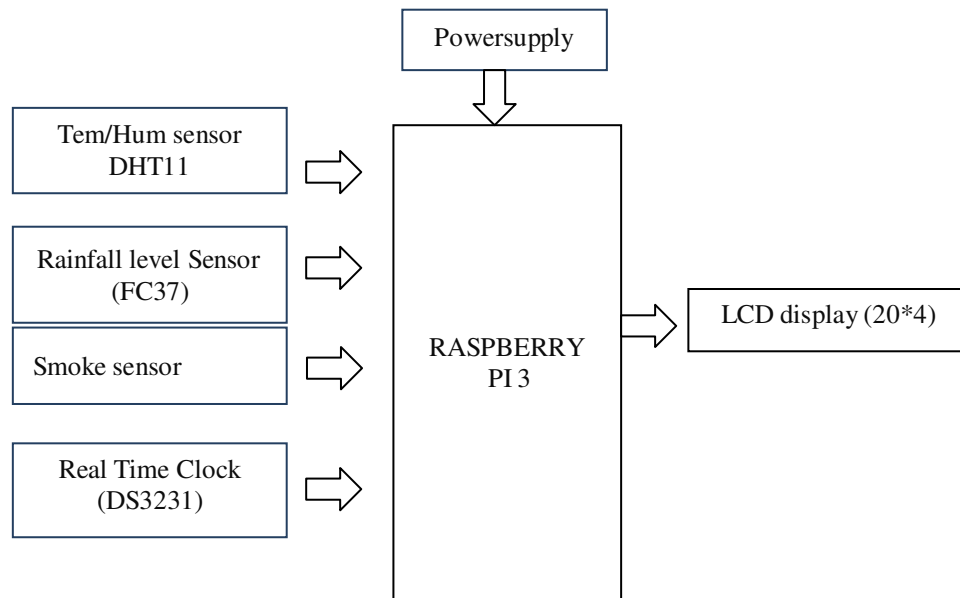


Fig- 1: Block diagram

2.0 The block diagram of the raspberry pi is based on IOT enabled weather monitoring project consist of 8 sub-blocks. The first block is Raspberry pi board it communicates with all the input and output devices in this project it collects data from the sensor which is stored in this data and processes this data then transmits it to the output tool. The second block is LCD which will display humidity, temperature and real time. Coming to the third sensor which is rain drop sensor it is basically a board looks like a small metallic black sticker. It measures the rain drops on the windshield. Another sensor we have is pollution sensor it is a device that monitor the presence of the pollution in the surrounding. this will be beneficial for both indoor and outdoor environments. These sensor can help in many purpose and help to know the situation which is beyond the human eye. Going for another sensor which is real timer sensor it is required to sense and transmit data to main data center. The work of main data is to give responses in the real time sensor which has been reciever. For another sensor which is power supply the supply unit provides a stable 5vdc power to the raspberry pi board and the LCD screen.

Component used:

Raspberry pi -3
 Rainfall level sensor
 Smoke sensor
 Real time clock sensor
 DHT11: Humidity and Temperature
 LCD display (20×4).

III. CONCLUSION

weather forecast are increasingly accurate and useful and benefit extend widely across the economy. The forecasting community is working closely with multiple stakeholders to ensure that forecast and warnings meet their specific needs. This predictions maybe very helpful for the weather forecasting centers as it predicts weather conditions of a place.



This will help for the following.

1. Transportation
2. Food production
3. Health and Medical
4. Energy supply.

IV. FUTURE SCOPE

The future scope of this system is very wide. This system will help the farmers to grow more crops and it can be helpful to be aware of wrong prediction of the weather. An IoTs application is used to monitor the environment that helps to monitor the environmental condition to the local areas.

REFERENCES

- [1] S.D. Shewale S.N. Gaikwad "An IOT Based Real Time Weather Monitoring System Using Raspberry pi" International Journal of Advance Research in Electrical, Electronic and Instrumentation Engineering Published by www.ijareeie.com Vol.6 issue of 06 June -2017.
- [2] Shubham R. Vilaytkar, Vaibhav R. Wankhade, Pranjali G. Wangekar, Nikhil S. Mundane "IOT Base Monitoring System using Raspberry pi" International Research Journal of Engineering and Technology (IRJET), publish by www.irjet.net vol. 06 issue 01 Jan 2019.
- [3] Meetali V. Rasal, Prof. Jaideep G. Rana. "Raspberry pi Base Weather Monitoring System. International Journal of Advanced Research In Computer and Communication Engineering. Vol.5 Issue 10 October 2016.



**Impact Factor:
7.569**



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 **9940 572 462**  **6381 907 438**  **ijirset@gmail.com**



www.ijirset.com

Scan to save the contact details