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ijirset@gmail.com

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The LPG Detection Using Internet of Things

Diksha Solim¹, Sharvari Manmode², Smital More³, Aparna Patil⁴

Department of Computer Engineering, Genba Sopanrao Moze Institute of Technology Engineering College, Balewadi,
Pune, Maharashtra, India

ABSTRACT: Industrial automation has been quite prevalent these days due to its unique significant advantages. This is done by utilizing local communication protocols and remote control and tracking of industrial system constraints utilization node MCU & Integrated Web Server Technologies. In this paper, we suggest wireless data gathering frameworks that enable each detector node to track the variability in its atmosphere whilst at the same time minimizing its power consumption. In the proposed device, the temperature detector and the gas detector are used to determine the environment and the same time minimizing its power consumption. In the proposed device the temperature detector and the gas detector are used to determine environment and the undesirable gas within the manufacturing plant. The scope of the industrial Web incorporates several opportunities throughout the processing industry, including oil and natural gas processing, biological, speciality, radiological, petroleum, manufacturing, medical, food and beverages, fuel, concrete, water and sewage paper and metal. For many of these business sectors, a transition in Reliability or efficiency of 1% to 2% can offer substantial benefits by conserving energy.

KEYWORDS: IOT, node-MCU, Gas Leakage.

I. INTRODUCTION

The Internet of Things (IOT) could also be a quickly developing innovation in Ventures. IOT is reason for industry turn of events. The improvement of home computerization has gotten obligatory in places where individuals are processing themselves are processing themselves to keen home ideas. Gas spillages in open or shut territories can support be deadly. Locator frameworks for gas spillage didn't caution the individuals when the gas gets spilled [1]. IOT innovation will absolutely will advise the proprietor by sending instant messages and emails. It can even caution them by phone. It is the ability to anticipate unsafe circumstance so individuals might be made mindful before by performing information examination on sensor readings [2].

II. RELATED WORK

When the world moves the more technologically sophisticated we notice that emerging technologies is advancing further into our work and personal life. A variety of different of industrial IOT applicable has been established in the past couple of the years. This was introduced by RFID technologies where computer chips relay identified information to the reader via wireless transmission. So more development goes wireless sensor networking (WSNs), which primarily used integrated cognitive sensor for sensing so tracking purposed. Internet of Thinking is concept of recognize ubiquitous presence in the world of a number of things that can communicate with each other using wireless ad wired communication and special communicating schemes and collaborate with other things to build new apps facilities and accomplished shared objectives.

III. METHODOLOGY

System methodology V-Model technique was used to acquire the project. This technique is very easy to apprehend and utilize. The simplicity of the technique also makes it similar to accomplished. The V-Model is based on relationship of testing stage for corresponding improvement level. This means that for every single segment in the improvement brief, there is a directly correlated testing phase. This is a highly restricted model and the next stage start only after the end of the previous stage.



IV. EXPERIMENTAL RESULTS

Figures show the results of Gas Leakage Detection System and Alert System. Which includes the temperature majored by system. And all other output are described in following fig. On the web page. The system shows the important index values and result of analysing the sensor values .In web page real time gas percentage, heat, humidity, smoke, presence and temperature .Temperature values are display on dashboard. For the gas detect unacceptable values of any sensor then directly send alert message to the user and user also can enquire about the status of all sensor values.

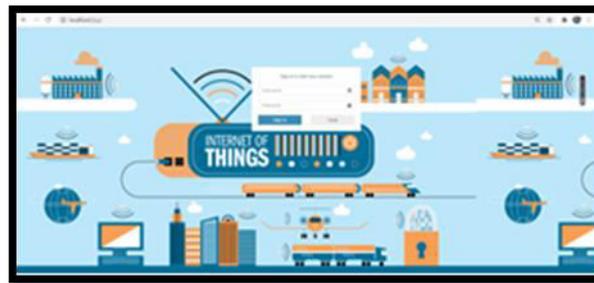


Fig 1: Login



Fig 2: Sensor Data

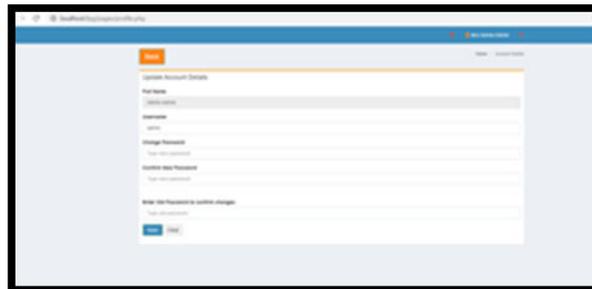


Fig 3: Profile

HARDWARE IMPLEMENTATION:

MQ-5 Gas Sensor:

This Gas sensor can detect LPG, Natural, Town Gas with higher accuracy.

MQ-6 Gas Sensor:

This sensor is suitable for detecting the presence of LPG and analog resistance based sensor.



DHT11-TEMPERATURE AND HUMIDITY SENSOR:

This sensor is low cost digital sensor for majoring temperature and humidity values in nature .

NODE-MCU DEVKIT1.0:

This device is used for uploading data to a web server .Node MCU is used for controller unit.

LCD: LIQUID CRYSTAL DISPLAY.

This device is connected with NODE MCU through I2C communication protocol and display sensor data .

BUZZER ALARM:

A buzzer alarm is also integrated with system for alarming purpose.

WEB SERVER:

A server is developed for continuous monitoring of the sensor values.

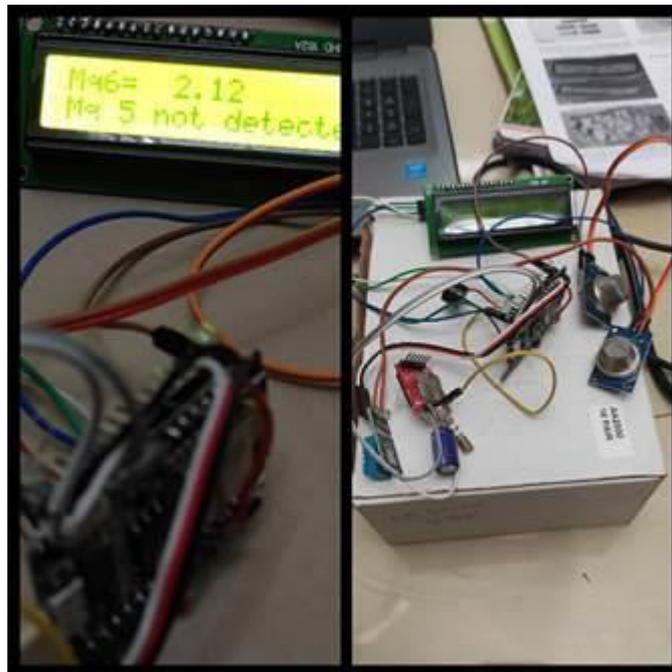


Fig 4: Hardware Implementation & Output.

V .CONCLUSION

CCM is a crucial and complex method for tracking the safety condition of device on continuous basis on large scale industries. This paper provide a full framework architecture for transmitting the collected computer monitoring metrics to the cloud for review and outcome making using a standardized information driven method. Primarily the suggested framework architecture efficiently in co-operate current technology and newly designed modules to manage network data processing. This then sends the monitoring metrics of the received system to the server.



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