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IoT BASED REAL TIME INDUSTRIAL AUTOMATION

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Abstract: Internet of Things (IoT) is rapidly increasing technology. IOT is the network of physical objects or things embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. In this paper, we are developing a system which will automatically monitor the industrial applications and generate Alerts/Alarms or take intelligent decisions using concept of IOT. IOT has given us a promising way to build powerful industrial systems and applications by using wireless devices, Android, and sensors. A main contribution of this review paper is that it summarizes uses of IOT in industries with Artificial Intelligence to monitor and control the Industry.

Keywords: *Internet of Things (IOT), Server, Sensors, Arduino, Cloud*

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I INTRODUCTION

IOT or internet of things is a technology that deals with bringing control of physical devices over the internet. Here we propose efficient industry automation system that allows user to efficiently control industry appliances/machines over the internet.

Different sensors like DHT11 and LDR will collect the data of Industry parameters .and give it to Arduino. A wifi modem is used to connect to the internet. On sending commands through the microcontroller they are first received by our wifi modem and then transmitted to server where it is in continuous monitoring. Status of the system parameters is send to server with IOT along with alerts of hazards.

II GOALS AND OBJECTIVES

Using IoT to develop a system in which automatically monitor the industrial applications and generate Alerts/Alarms and take intelligent decision.

III LITERATURE SURVEY

IoT is achieved by using local networking standards and remotely controlling and monitoring industrial device parameters by using Raspberry Pi and Embedded web server Technology. Raspberry Pi module consists of ARM11 processor and Real Time Operating system whereas embedded web server technology is the combination of embedded device and Internet technology .Using embedded web server along with raspberry pi it is possible to monitor and control industrial devices remotely by using local internet browser. [1]

They have developed new technologies that have allowed us to move from the First generation of the Internet into the current transition into the Fourth generation. This generation has been propelled by the concept of the Internet of Things (IOT). [2]

We conclude that by implementing this system we can access the live data and also control the device interfaced with our system. [3]

Internet of Things (IOT) has provided an opportunity to build powerful industrial system and applications by leveraging the growing ubiquity of RFID, wireless, mobile and sensor devices. Many industrial IOT applications have been increasingly developed and deployed in recent years. In this project we access fully automated Site from anywhere in the world that the power of internet. [4]

Internet of Things (IoT) is rapidly increasing technology. IOT is the network of physical objects or things embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. In this paper, we are developing a system which will automatically monitor the industrial applications and generate Alerts/Alarms or take intelligent decisions using concept of IOT. IOT has given us a promising way to build powerful industrial systems and applications by using

wireless devices, Android, and sensors. A main contribution of this review paper is that it summarizes uses of IOT in industries with Artificial Intelligence to monitor and control the Industry. [5]

This paper describes how the present automation system comes in to existence through its various stages. In the past, system is done through relays and contactor logics. Since the human intervention is more, the scope of errors was also more. But with the advent of microprocessors several new tools as PLCs, SCADA, and DCS come in to use. These have reduced human intervention, which in turn has increased accuracy, precision and efficiency. A comparative study has been shown to justify why we have to switch to present technologies. [6]

Automation or automatic control is the use of various control systems for operating equipment such as machinery, processes in factories, boilers, and heat treating ovens, switching in telephone networks, steering and stabilization of ships, aircraft and other applications with minimal or reduced human intervention. The biggest benefit of automation is that it saves labour, save energy, materials and to improve quality, accuracy and precision. The outcome of the review was in the form of various findings, found under various key issues. The findings included algorithms and methodologies used to solve particular research problem, along with their strengths and weaknesses and the scope for the future work in the area. [7]

IV PROPOSED SYSTEM

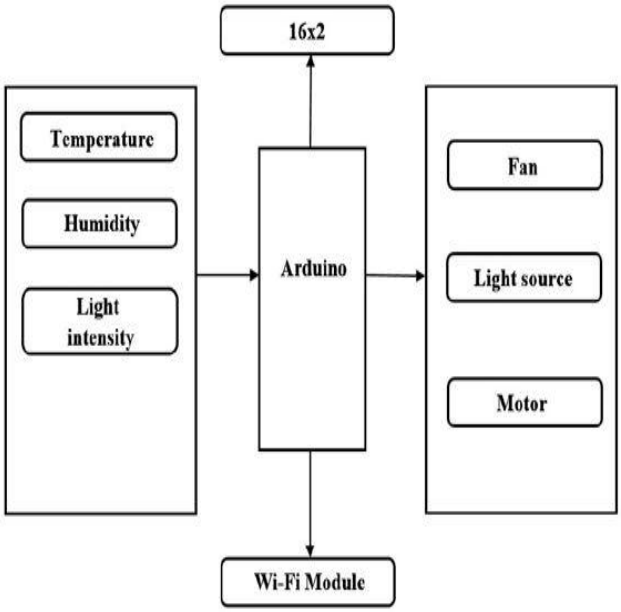

Figure 1 : Block diagram of Industrial automation

Internet of Things (IOT) based Real Time Industrial Automation, in this paper, developing a system which will automatically monitor the industrial applications and generate Alerts/Alarms or take intelligent decisions using concept of IOT.

In proposed system DTH11 sensor is used to sense humidity and temperature of Industry. One cooling fan is used to control perfect temperature inside the Industry by sensing DTH11 sensor. LDR sensor is used to sense light according to which light can switch. Status of the system can be displayed on LCD or send to server with IOT

V SYSTEM ARCHITECTURE

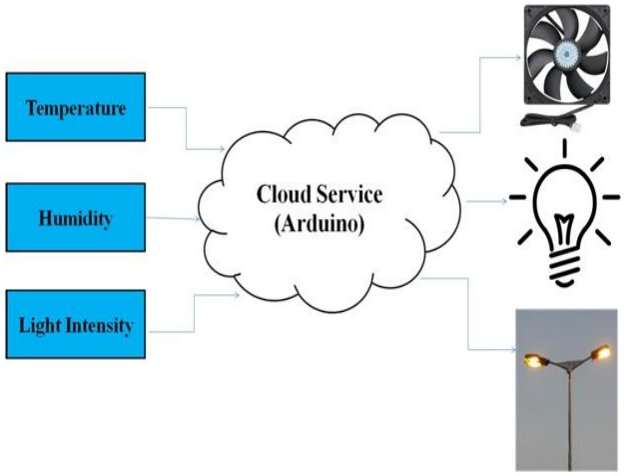

Figure 2: System Architecture of Industrial Automation

VI ADVANTAGES

- Industrial Real time monitoring and parameters controlling can be done.
- Danger alerts like exceed temperature can be generated for labors.
- Different parameters can also be embedding in system as required.

VII APPLICATIONS

- Industry and office
- Home application
- Hospital and Labs

VIII CONCLSION

IoT is a rising field which encourages us to create numerous add-on highlights to the current framework with ease. The objective of limiting the cost is accomplished through power administration by effectively dealing with the power supply to maintain a strategic distance from undesirable control wastage. We have actualized the ecological administration framework which screens the dirt dampness, light power and mugginess in air.

IX FUTURE SCOPE

Automation through IOT can help to get rid of the short distance communication. Thus, introducing internet in industries can help to have control over the application from all over world.

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