HAZARDOUS AREA MONITORING FOR INDUSTRIAL LITERATURE SURVEY

IoT Based Intelligent Industry Monitoring System

The Internet of Things (IoT) is a newly emerging field with a vision of connecting ‘things’, human and machines together making them an integral part of internet. The entire world is moving towards modernization and automation which may result in excessive pollution of environment. Determining the air quality is a prime need of the hour. This paper deals with the development of pollution monitoring system with deployment of intelligent sensors. Monitoring the gas leakage level from any part of the globe can be achieved by integration of big data to the Google Cloud via web servers. Analysis of the data is simplified thereby enabling ease of monitoring. Alerts can be triggered in case of drastic deterioration of air quality. The proposed method finds application in industry and also in monitoring of pollution caused by vehicles.

A Cloud-based architecture for the Internet of Things targeting industrial devices remote monitoring and control

The process of acquiring, analysing and managing data obtained by sensors and actuators in industrial environments can benefit from modern Cloud-based platforms towards a complete implementation of the Industries 4.0 concept. The analysis of huge data sets produced by these sensors (Big Data) could allow quick and accurate decision making. For example, productivity improvements can be achieved by analysing device performance and degradation for real-time feedback on configuration and optimization. This work proposes a Cloud-based architecture for Internet of Things (IoT) applications to improve the deployment of smart industrial systems based on remote monitoring and control. By using

specific technologies available as a service, we demonstrate the proposed architecture on an automated electric induction motor use case. This approach includes layers for sensor network data gathering, data transformation between standard protocols, message queuing, real-time data analysis, reporting for further analysis, and real-time control. Particularly, by using the proposed architecture, we remotely monitored, controlled and processed data produced by sensors and actuators coupled to the motor. Preliminary results indicate this foundation can support predictive methods and management of automated system in the industries 4.0 context.

Smart Sensor Network based Industrial Parameters Monitoring in IOT Environment using Virtual Instrumentation Server

A remote monitoring and control are one of the most important criteria for maximizing the production in any industry. With the development of modern industry the requirement for industrial monitoring system is getting higher. This project explains the real time scenario of monitoring temperature and humidity in industries. National Instruments my RIO is used and results are observed on LabVIEW front panel and VI Server. The server VI program and client VI program is developed in block diagram for the two sensor data. This proposed system develops a sensor interface device essential for sensor data acquisition of industrial Wireless Sensor Networks (WSN) in Internet of Things (IOT) environment. By detecting the values of sensors like temperature, humidity present in the industrial area. The results are displayed on the web page. The data can be accessed with admin name and password. After logging into the web page the index of files is displayed. After restarting the my RIO kit and initiate the deploying process the file the excel sheet will appear on the VI Server. This VI server is tested for its working, using a data acquisition web application using a

standard web browser. The critical situation can be avoided and preventive measures are successfully implemented.

Beacon-Based Individualized Hazard Alarm System for Construction Sites: An Experimental Study on Sensor Deployment

Researchers have proposed several forms of beacon sensor-based hazard alarm systems for increasing construction workers' awareness of site hazards, but research on how to deploy beacon sensors so that the system is adequate for achieving timely individualized hazard alarms is scarce. Against this background, this research investigates the impact of different beacon sensor locations in a construction site on how quickly a worker can receive the individualized hazard alarms. This research took an experimental study approach to address this objective. After a prototype of a beacon-based hazard alarm system was developed, the system was tested in a concrete structure building under construction. In the experiment, the locations where the experimenter received the first hazard alarm were recorded in repetitive trials while the beacon sensor was located in four different locations, such as (1) at the entrance of the room, (2) behind the front side wall, (3) on the internal wall facing the access point, and (4) on the internal wall not facing the access point and in a partially enclosed room in the concrete structure. The rate of successful alarm notification (i.e., the rate that the person received the hazard alarm before arriving at the target location) was 89%, 68%, 48%, and 19%, respectively, for the four locations of the beacon sensor. Meanwhile, the heat maps indicating where the hazard alarm notification was received show that the "behind the front side wall" setting yielded the most desired pattern of notification reception, wherein the person received the hazard alarm just before arriving at the room. These results show that the hazard alarm function of the system could be severely affected by the beacon sensor's location

and implies that the locations of beacon sensors should be decided carefully based on the type of hazard involved and the workers targeted for receiving the alarms.

A ThingSpeak IoT on Real Time Room Condition Monitoring System

This paper presents the development of a ThingSpeak IoT on Real Time Room Condition Monitoring System with temperature and humidity measured for room condition. Many conditions like temperature and humidity monitoring systems have been designed previously but some lack systems are identified where it does not provide adaptively connections and alert to webpages on logging data collections. Thus, understanding the previous system model is important to compare the importance of new build parameters in designing the new system. An evaluation of the current model, hardware and software are important before a new architecture is developed. This research has developed a prototype system to monitor remotely a room temperature and humidity condition. The designed system assisted with an internet monitoring system for the room. Research methods consist of two parts involved hardware and software development. The hardware development covers the connections of temperature sensor and the software involved constructed coding using the C language program. The program then is compiled and uploaded into the Arduino MEGA 2560 to display the temperature of the room. An open-source Internet of Things called ThingSpeak is used as a platform to retrieve and display the collected data. Real-time monitoring can be accessed through smartphones and web applications. A room is analysed in data gathering on time and daily basis conditions. This study has been considered successfully implemented and it is a significant study that performs on new IoT platforms and adaptively ready to monitor a room remotely.