1.IOT BASED DISASTER MONITORING AND MANAGEMENT SYSTEM FOR DAMS(IDMMDS

DESCRIPTION:

Thing Speak is an application platform for the Internet of Things. Thing Speak allows you to build an application around data collected by sensors. At the heart of Thing Speak is a Thing Speak Channel. A channel is where you send your data to be stored. Each channel includes 8 fields for any type of data, 3 location fields, and 1 status field. Once you have a Thing Speak Channel you can publish data to the channel, have Thing Speak process the data, and then have your application retrieve the data. Dams are of major importance, primarily because of their use for generating hydroelectricity and irrigation purposes. This has resulted in the construction of a number of dams in potential areas over the years. As there are a lot of risk factors associated with the existence of these dams, it has become the need of the hour to develop a proper monitoring and regarding the opening of the shutters thereby management system for maintaining a safe water level in dams. Mismanagement of dams can lead to manmade disasters. Currently dams in our state are being monitored and controlled manually. This manual intervention can increase the probability of error and also results in time lag in decision making. The aim of this project is to design and implement an IoT based Disaster Monitoring and Management System for Dams (IDMMSD). The proposed system involves real-time monitoring of water levels of a group of dams under study. Water levels may vary due to drastic changes in water levels of connected rivers or lakes, or due to excessive rainfall in the catchment area. The proposed project includes a mechatronics system to open the shutters at the heights pre calculated. The system comprises of sensor nodes, smart controller and communication system. The proposed system is an app based IoT system which will monitor and send real time parameters related to Dam (gate position, water discharge, water level) and weather conditions (rain fall, temperature, humidity). There will be two modes for operating the software i.e. Autopilot mode and Manual data mode. The system also includes features like SMS alert to the people of the locality and SOS to rescue operations in case of adverse weather condition

2.IOT BASED WEATHER MONITORING SYSTEM USING RASPERRY PI

DESCRIPTION:

Internet of Things (IoT) has provided a promising opportunity to build powerful industrial systems and applications by leveraging the growing ubiquity of RFID, wireless, mobile and sensor devices. A wide range of industrial IoT applications have been developed and deployed in recent years. In an effort to understand the development of IoT in industries, this paper reviews the current research of IoT, key enabling technologies, major IoT applications in industries and identifies research trends and challenges. A main contribution of this review paper is that it summarizes the current state-of-the-art of IoT in industries systematically. The advancement of Automation technology, life is getting simpler and easier in all aspects. In today's world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part and parcel of life, and IoT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities. This paper proposes that the industrial monitoring by using Gas sensor,

Temperature sensor, Dems, Piezoelectric Sensor values to read the value and monitoring using Thing speak system via Raspberry pi.

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3.IOT ENABLED SMART LIGHTING SYSTEM FOR SMART CITIES

DESCRIPTION:

Over the past few decades, the rate of urbanization has increased enormously. More enhanced services and applications are needed in urban areas to provide a better lifestyle. Smart city, which is a concept of interconnecting modern digital technologies in the context of a city, is a potential solution to enhance the quality and performance of urban services. With the introduction of Internet-of-Things (IoT) in the smart city, new opportunities have emerged to develop new services and integrate different application domains with each other using Information and Communication Technologies. However, to ensure seamless services in an IoT-enabled smart city environment, all the applications have to be maintained with limited energy resources. One of the core sectors that can be improved significantly by implementing IoT is the lighting system of a city since it consumes more energy than other parts of a city. In a smart city, the lighting system is integrated with advanced sensors and communication channels to obtain a Smart Lighting System (SLS). The goal of an SLS is to obtain an autonomous and more efficient lighting management system. In this paper, we provide an overview of the SLS and review different IoT-enabled communication protocols, which can be used to realize the SLS in the context of a smart city. Moreover, we analyzed different usage scenarios for IoT-enabled indoor and outdoor SLS and provide an analysis of the power consumption. Our results reveal that IoT-enabled smart lighting systems can reduce power consumption up to 33.33% in both indoor and outdoor settings. Finally, we discussed the future research directions in SLS in the smart city.