



SMART CITY MANAGEMENT USING INTERNET OF EVERYTHING

Manjula.R¹, Jayakumar.D², Vidhyapriya.V³

UG Student¹, Dept. of CSE, IFET College of Engineering, Villupuram

Senior Assistant Professor², Dept. of CSE, IFET College of Engineering, Villupuram

UG Student³, Dept. of CSE, IFET College of Engineering, Villupuram,

manjula11696@gmail.com, jayakumarifetd@gmail.com, meeranand1030@gmail.com

Abstract:

The proposal describes the smart city management using Internet Of Everything. One of a city's most important asset is its water bodies and drinking water. Water consumption in urban areas is growing and most cities will find it difficult to meet growing water demand. The "Smart City Management Using Internet of Everything" solutions for smart cities help you monitor and manage water and waste water. This ensures that these precious water bodies are not polluted and water is not wasted. The previous methods for liquid level sensing have either been applied over a relative small measurement range or else it requires effective scientific equipment's of high cost, or they are not convenient for long term maintenance in multiple large scale water storage tanks of distribution networks in cities, communities, transportation and installation, etc. The Sustainability ensures that you have real time data and insights into water quality, pollutant levels, water usage and leakages so that you can manage and conserve this valuable resource effectively.

Keyword: IOE, liquid level sensing, sustainability, water quality.

1. Introduction:

The smart city management system covers all the things which include the internet and also the objects that is Internet of Everything. Particularly Watermanagement plays a vital role in environment. This proposal describes the weather detection and water level detection principles and working methodology with the use of digital board in smart cities. This system will helpful for the municipality to monitor the system easily with the help of webcam which is inter linked to the digital board. It will display the water level should be covered, leakage level of water, weather report and the alternative route to divert the traffic due to the wastage of water.

2. Objectives:

The Main objective is to obtain the effective low cost and flexible solution for condition monitoring and infrastructure management in city And also to convert the ordinary city management into smart city management by connecting everything that is internet

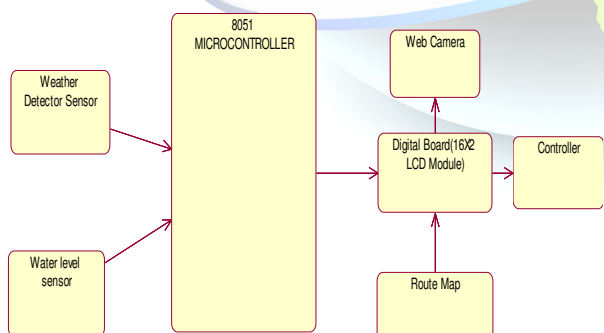


and every objects related to the environment. The real time monitoring of water resources information will benefit the water resource management department and the public Sensors provide real time monitoring of hydraulic data with automated control and notification in case of events such as weather report.

3. Methodology:

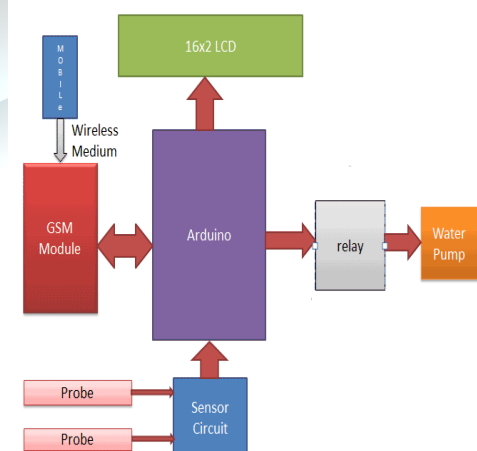
This system includes the components like Weather detection sensor, Digital board, Webcam, Microcontroller, Water level sensor. The weather detector sensor will sense the weather condition of the area and the water level sensor will sense the accurate level of the water. These sensors are interconnected to the micro controller and it is connected to the digital board. The digital board displays the water level, alternative to travel, weather condition. The RF signal passed by the water level sensor to the micro controller to display the water level.

4. Block Diagram:



Weather Detection:

The weather detection process will be carried out by the weather detection sensor and this weather report will be displayed by the digital board in which the weather conditions of the area has been displayed. The weather condition of the particular area is frequently monitored because of the nature i.e. the climate is changing in day to day life. Hence the weather detection sensor monitors the weather condition of the area daily and also it is easy to obtain information about the weather report like cool, hot, etc., These days, fluid level observing framework assumes a crucial part in water, oil, car and furthermore gas businesses. This article examines spill discovery in the fluid level checking framework to identify and furthermore keep away from the loss of fluid. Keeping in mind the end goal to maintain a strategic distance from the spillage of the fluid in the capacity tank sensors are put in the tank. For example, directing oil into a capacity tank needs fluid level checking to keep away from leakage. Difficult fluid out of a storehouse into bottles likewise needs fluid level observing for volume control.





For the most part, the term web of things alluded to as the Internet of Objects that will change everything including ourselves. This may resemble a striking articulation, yet consider the result the Internet before has had in various fields like instruction, correspondences, science, business, government. Humanity. Unmistakably, the Internet is a standout amongst the most critical and controlling manifestations in the relic of humankind. Presently think about that, it determines the extra improvement of the Internet, taking an enormous jump in its capacity to accumulate, dissect, and disseminate information that we can go into learning, data, insight, and so on. The noteworthy highlights of IoT (Internet of Things) include availability, dynamic engagement, manmade brainpower, sensors and the utilization of minor gadgets. The equipment of the web of things includes IoT-sensors, standard gadgets, and IoT-wearable hardware. proposed the framework in light of IoT for ecological condition checking in homes. The proposed framework utilize distinctive sensors light, temperature, level and mugginess to gather the information to screen the natural conditions and furthermore to recognize any blame in gadgets. PIC microcontroller is utilized to control and screen every one of the sensors associated with it. Diverse sensors are put against various gadgets to check the usefulness of the gadgets. When gadget turn on sensor will detect the usefulness of the gadget on the off chance that it isn't working appropriately then consequently email or SMS will send to the specialist co-op and additionally client. Likewise one greater usefulness is included that gadget can turn and off through wireless and in addition to get full usefulness points of interest of gadget through SMS.

This framework has effectively exhibited another IoT engineering that gives existing implanted frameworks a chance to be coordinated into the IoT arrange. "Web of Things" is extremely viable for home robotization and compelling usage of home machines. Utilizing this Low-cost framework gadget can be associated effectively and comparing data can be comprehensively available. [4] Kondamudi Siva Sai Ram et al. have proposed the framework is a propelled answer for checking the climate conditions at a specific place and make the data obvious anyplace on the planet. Web of Things (IoT) innovation is utilized for this. This framework is intended for observing and controlling the natural conditions like temperature, relative stickiness, light force and CO₂ level with sensors and sends the data to the site page and after that sensor information is plot in graphical shape.

Water Level Detection:

The water level sensor sense the maximum water level should be covered and it will give notification to the digital board if the water level reached the fixed level. The digital board will display the water level have been covered in the particular area. One important thing is the water level sensor will get turn off when there is no water and also it will not notified by the digital board to the municipality through webcam if the water level doesn't reach the pre-defined level or the maximum level. On the other hand it will notify only reaches the unconditioned level.

Introduce advancements in innovation primarily center around controlling and checking of various exercises. These are progressively rising to achieve the human needs. A large portion of this



innovation is centered around proficient observing and controlling diverse exercises. A productive ecological observing framework is required to screen and survey the conditions if there should arise an occurrence of surpassing the recommended level of parameters (e.g., clamor, CO and radiation levels). At the point when the articles like condition outfitted with sensor gadgets, microcontroller and different programming applications turns into a self-ensuring and self-observing condition and it is additionally called as brilliant condition. In such condition when some occasion happens the caution or LED alarms naturally. The impacts because of the ecological changes on creatures, plants and people can be observed and controlled by brilliant natural checking framework. By utilizing implanted knowledge into nature makes the earth intuitive with different goals, this is one of the application that savvy condition targets. Human needs requests distinctive kinds of checking frameworks these are relies upon the sort of information assembled by the sensor gadgets. Occasion Detection based and Spatial Process Estimation are the two classifications to which applications are arranged. At first the sensor gadgets are sent in condition to recognize the parameters (e.g., Temperature, Humidity, Pressure, LDR, commotion, CO and radiation levels and so on.) while the information obtaining, calculation and controlling activity (e.g., the varieties in the clamor and CO levels concerning the predetermined levels). Sensor gadgets are put at various areas to gather the information to anticipate the conduct of a specific zone of intrigue. The principle point of the this paper is to outline and actualize a proficient observing framework through which the required parameters

are checked remotely utilizing web and the information accumulated from the sensors are put away in the cloud and to extend the assessed incline on the web program. An answer for checking the commotion and CO levels i.e., any parameter esteem crossing its edge esteem ranges, for instance CO levels in air in a specific zone surpassing the ordinary levels and so forth.in the earth utilizing remote installed registering framework is proposed in this paper. The arrangement likewise gives a wise remote observing to a specific zone of intrigue. In this paper we additionally show inclining consequences of gathered or detected information concerning the ordinary or determined scopes of specific parameters. The inserted framework is a reconciliation of sensor gadgets, remote correspondence which empowers the client to remotely get to the different parameters and store the information in cloud. Programmed water level observing framework venture disclosed here will gauge the water level of a water tank utilizing ultrasonic sensor. The venture will computerize the water filling in a tank i.e when the water level reaches up to the overflow of the tank, the water pump will stop consequently and when the water level in the tank stays up to couple of centimeters, the pump will begin naturally to top off the tank till the water comes to again up to the overflow.

Digital Board:

The digital board gives information about the following terms,

- ☐ Weather condition
- ☐ Alternative way to travel (If the overflow of water has been occurred)
- ☐ Water level have been covered



Set of Processes

- ☐ Water level Detection
- ☐ Gives alternative way to travel due to water overflow
- ☐ Weather detection
- ☐ Display the weather report and water level in digital board
- ☐ Informing the above details to municipality to take actions through webcam

Disadvantages

- ☐ Water level and weather has been monitored
- ☐ Low cost and efficient
- ☐ Real time
- ☐ Low power consumption
- ☐ Low maintenance cost
- ☐ Easy to use and monitor

Applications

- ☐ Weather detection
- ☐ Weather reporting
- ☐ Water level reporting
- ☐ Monitoring the city

5. Conclusion:

This project proposal is to help the municipality to take over the actions easily which is caused by the floods and weather condition of the particular area. In this project also the officers can easily monitor the surrounding through the webcam, the webcam gives information via the digital board. And also the digital will displays the alternative way

to travel if there is any causes occurred due to water overflow. This project has been proposed mainly for flood monitoring like sembarampakkam flood in the year of 2015. Because due to this flood there are lots of deaths, important documents about the business projects, mark sheets of of students, rationcard, voter identity card, aadharcard, passport visa has been lost. To overcome these problems “**Smart City Management Using Internet Of Everything**” have to be developed.

Future Work

- ☐ Electricity level to consume
- ☐ Traffic sensing and analyzing
- ☐ Smart parking for Light and Heavy vehicles
- ☐ Disaster management

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