SMART PUBLIC RESTROOM USING INTERNET OF THINGS

SMART PUBLIC RESTROOM

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INTERNET OF THINGS

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DEFINITION

SMART RESTROOM ARE TECHNOLOGICALLY ADVANCED RESTROOM FACILITIESTHAT USE VARIOUS SENSORS,ATOMATION AND DATA ANALAYSIS TO IMPROVE HYGIENE,MAINTANACE AND USER EXPERIENCE

ABSTRACT

CREATE the smart toilets.n the cutting edge world, the advances are definitely grown, yet at the same time the cleanliness in our nation is under risk.The abstract of this paper is to deliver clean and hygiene toilets. All the public toilets should be clean and hygiene. In our country, our government has introduced the scheme called “Swachh Bharat” (Clean India). Keeping the toilets uncontaminated is the one of the objective of Clean India scheme. Thispaper can be helpful to encourage the clean India project. In future, it can show the major part in clean India scheme. In an Existing system, they are focused only on identifying the dirt in the toilets. In our proposed system, we have determined on keeping clean toilets, observing the sweeper’s working activities. It can dodge many syndromes. It may create the consciousnessamongst people about the toilet management. Therefore, our development is to use safe and hygienic toilets. This paper is based on IOT and image-processing concepts using different sensors like smell sensor, IR sensor, sonic sensor, RFID reader.

INTRODUCTION

In our country, people do not have enough knowledge of using toilets. This leads to several diseases, such as Malaria, Hepatitis, Flu, Cholera, Streptococcus, Typhoid, etc. Hence we introduce the concept in the IOT called "Swachh Shithouse" The term Swachh means ‘Clean’. Then the term Shithouse means ‘Toilet’. It is introduce to use and maintain the toilets in the clean and hygienic way. The project is based on IOT concepts using different sensors like smell sensor, dirt sensor, sonic sensor, RFID reader, Database. Using these materials we are trying to provide the clean toilets and create the awareness among the people

SCOPE OF THE PROJECT

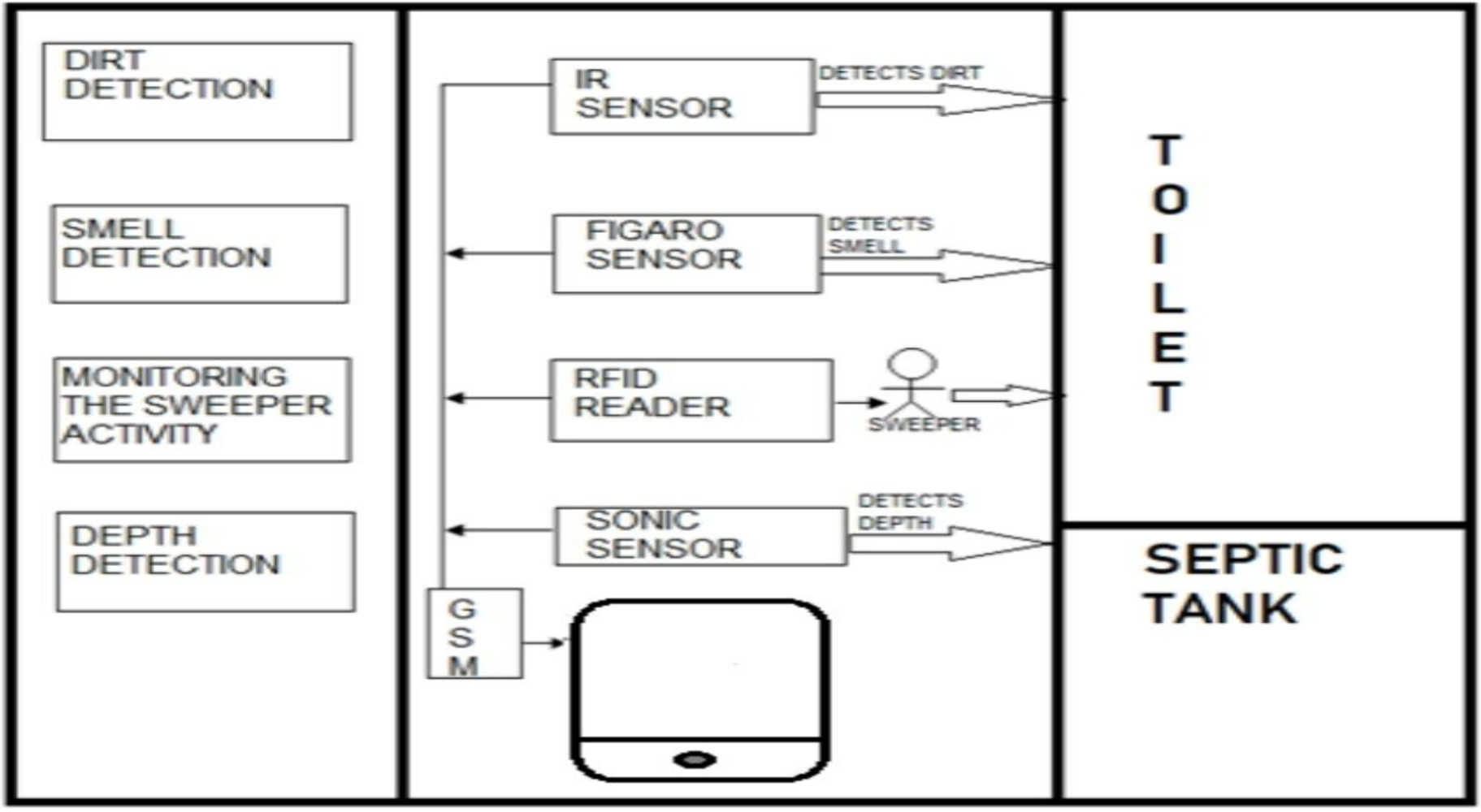
In this paper we are going to provide the clean toilet. This paper can create the awareness among the people about the clean and hygienic toilets. This paper can ensure the responsibilities of the sweeper. Finally, this concept is the one of the stepping stone to the “Clean and disease free India”.

ARCHITECTURE

OF

PROPOSED SYSTEM

SYSTEM


DIRT DETECTION
SMELL DETECTION
MONITORING THE SWEEPER ACTIVITY
DEPTH DETECTION
IR SENSOR
DETECTS DIRT
FIGARO SENSOR
DETECTS SMELL
RFID READER
SWEEPER
SONIC SENSOR
DETECTS DEPTH
G S M
TOILET
SEPTIC TANK

DESCRIPTION OF ARCHITECTURE

HARDWARE REQUIREMENTS:

Microcontroller , Power supply , LCD display , Buzzer,

Infrared sensor , Sonicsensor , Gassensor, RFID ,GSMmodem

SOFTWARE REQUIREMENT:

Embedded C

WORKING PRINCIPLES

In the first phase, IR sensor is used to discover the dirt present in the toilet. Here the set of sample images are given as input. After using the toilet, the sensor senses the basin of the toilet. Then it relates the sensed image with the input image. If the dirt present, it increases the alarm. Then the user wants to be clean the waste. Through this activity, people can get the awareness about the toilet management. In the second phase, Figaro sensor is used to perceive the unwanted gases present in the toilet. In the Figaro sensor, a particular range is to be stableearlier manner. If the range gets extended, it can send the alert message to the sweeper. Then they cleaned it by using proper fragrant. In the third phase, RFID reader (Radio Frequency Identification) is used to observe the sweeper's activities (absence and presence in the toilet cleaning). Initially, the sweeper wants to show his/her individuality tag in front of RFID reader. It can be shown before and after cleaning the toilet. Then the first phase gets initiated and senses for the dirt presence in the toilet. If the dirt gets noticed, it raises the alarm. Through this monitoring activity, the sweeper can realize their roles and responsibilities. Then they protect the people by disposing all the unwanted materials (dirt, unwanted gases) present in the toilet. In the final phase, the sonic sensor is used to detect the depth of the septic tank. Here, the range of septic tank is fixed prior manner. If the sewage reached with the range, then it directs message to an organization. All the message transfer can be done by the GSM (Global System for Communication).

CONCLUSION

Our proposed project will create awareness among the people about the proper sanitation. It makes use of Internet of things, which is a rapidly growing technology. Our proposed system will make everyone to strictly follow the cleanliness and proper sanitation in the toilets. It prevents the many new contagious diseases that spread due to improper sanitation of the toilets. Thus by using technologies in the smarter way, we can maintain the cleanliness which is next to the godliness. Keep Clean, Be Safe.