

Implementation of Mechanical Disposal of Sanitary Towels using IoT

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Abstract. *In the scientific world, skills are involved in all the fields and all the places. Now we are introducing our technical idea in the toilets. In our existing paper, we are trying to provide a clean and hygiene toilet and monitoring the sweeper activities by using the IR Sensor, Gas Sensor, RFID Reader, and Sonic Sensor. In this paper we are made simple enhancement in our project. The abstract of our project is to dispose a sanitary napkin automatically. This paper is made up of IOT concepts using IR sensor, Sonic Sensor, GPS and Lazer Burner.*

Keywords: *IR Sensor, Lazer Burner, GPS, Sonic Sensor*

1. INTRODUCTION

Hygiene in menstruation plays a vital role in women's health. Maintaining the menstrual waste is major problem in the society. Women are not able to dispose their menstrual waste in a hygienic manner. It leads to "Menstrual Pollution". Women are usually disposing their menstrual waste by dumping them in polythene bag and digging the Pit and buried the waste into the ground. It leads to Land Pollution. In other case, women's are burning their menstrual waste. It leads to Air Pollution. In other case, People spill their menstrual waste into drainage and also in municipality sewage vehicle. Due this issue, man power is needed to separate this waste. It leads to some disease. In other case, women's using public toilets, put the menstrual pads in the corner of the toilet. It leads to major problem and disease.

2. SCOPE OF THE PROJECT

- The Scope of the project to ensure the menstrual disposal in a hygienic manner
- To avoid the Menstrual Pollution

3. LITERTURE SURVEY

Mrs. K. Elavarasi et al [1] introduced the change of using smart toilets. The paper tells that changes of such toilets can move to more diseases [2][3][4][5]. It makes how to use the toilet among the people. It leads to non-toxic diseases. The paper deals with raising an alarm when it is dirty. So the cleaning process needs to be carried out physically.

Mr. M. Madhu et al [2] proposed the system by using the wiper box. The Wiper box is used

to clean the basin upto clear face. The wiper box is a small top within a box. The arm can use the sterilizer and cleaners. Once the user enters into the room the user can ensure the basin was clean or not.

The cleaning process was done by the user at any time. If it was shows the basin was dirt then it should be shown to be clean. In this paper cleaning process to be performed through the wiper box. The filling of chemical was influenced through the liquids.

Nidhi R Mishra et al [6] covered with the motivation of electromechanical & wireless technologies and Internet of Things area has flourished at the platform with the use of access in the Information and Communication Technology [7][8][9][10]. In real time location system, BLE have been used as one of the IoT devices for implementation.

Mobile application cannot be developed to clean the toilets effectively. In that case the usage of public toilets can be cleaned by BLE beacon. So the cleaning process of such toilets can leads to big symptoms.

Klaiwad Boonyakan et al [11] introduced the use of flushing with automatic level of water whenever it is required. This paper examines the water level to clean the basin bowl.[12][13] The amount of water to be collected from flushing and used to save water in future and also to clean the toilet bowl.

The timing for cleaning the toilet was about 3.8 seconds. The issue was created by this paper was regular usages of water and cleaning stages of the toilets.

4. EXISTING SYSTEM

In an existing system, we are trying to provide a clean and hygiene toilet and monitoring the Sweeper activities by using the IR Sensor, Gas Sensor, RFID Reader, and Sonic Sensor. In this paper we are made simple enhancement in our project.

Disadvantages

- Not advised to clean the toilets in regular manner.
- Dirty usages of toilets leads to unclean situation.
- The cleaning cycle is not mechanical.
- Not involved in the menstrual unused removal.

Working Module

Our Proposed system contains a laser burner, IR sensor, sonic sensor, GPS to ensure a menstrual waste disposal and proper hygiene.

In this system, the permanent dustbin is made up of cement is fixed in the toilet[14]. There we need to fix a automatic entry point, when the object shown in front of the entry point, it gets open, by using a IR sensor. Then the object is put into the dustbin.

Then the object gets burnt by using the laser burner fixed inside the dustbin. The object present in the dustbin is detects by IR sensor[15]. The smoke comes due to the burning of object, is sent to the ground via pipeline which is fixed at the bottom of the dustbin.

If the object is not get burnt or the laser doesn't works well, the object is getting filled. In this stage, the sonic sensor is compares depth of the empty dustbin with the object filled dustbin[16]. If the object present over a long period (ex: 2 hrs), it will send a message to the control room[17][18].

Work Flow Diagram

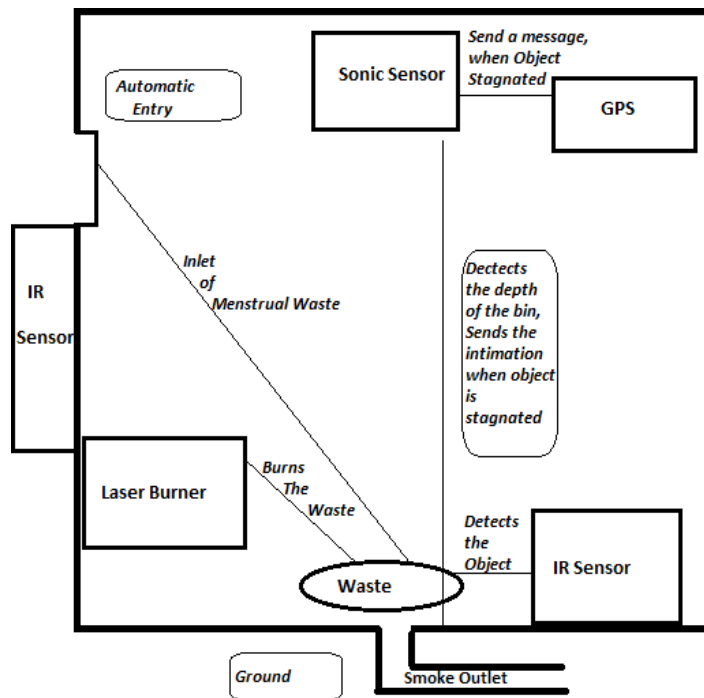


Fig. 1. Workflow Diagram

Ir Sensor

IR sensor is used to detect a object. Here we are used in inlet of the dustbin. Because it will automatically open, when the object is detects. Else it is in closed state. And it he objects presents in the bin and send a message to laser burner.



IR Sensor

Laser Burner

Lazer Burner is used to burn the menstrual waste in the bin. When the intimation get from the IR Sensor, It will send the laser rays into the object, Then the waste will get burnt.



Laser Emitter diode

Working Module Of Laser Burner

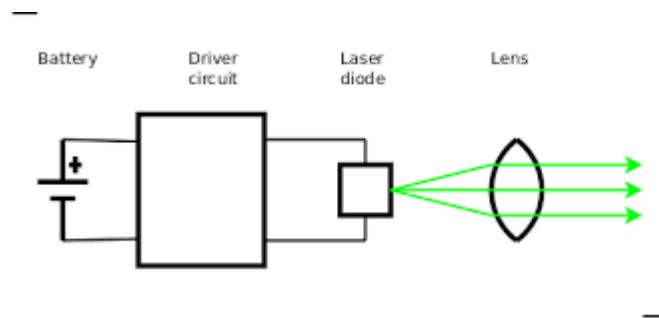


Fig. 2. Working module of Laser Burner

Sonic Sensor

It detects the depth of the dustbin. If the waste in the bin is stagnated, it will compare the actual depth with the stagnated depth, and then it sends the intimation to the GPS.

Gps

GPS- Global Positioning System

GPS is used to transmit the data automatically. Here we are used to transmit the data sent by the sonic sensor (when the object was stagnated) to the control room. It makes them to know about the stagnation.



GPS Module

5. CONCLUSION

This approach will improve the women sanitization. It will increase the hygiene of the women. It will work against the Menstrual Pollution. Our existing system will provide the clean toilets. Our Proposed system will ensure our life without the menstrual pollution. However it will promote the Swachh Bharat Scheme. We will ensure the Clean India will leads to be live India.

6. REFERENCES

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