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Waste Management System Using Node MCU

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Abstract – Issue of waste management is not new to us. People are suffering from this problem from last many decades. Objective of this paper is to propose a solution which can completely put an end to this problem. Components used in the proposed system are simple components which are easily available, cost-effective and efficient. It includes node mcu, gps and sensors. Although the whole system which is proposed is not implemented, a small part is implemented to test its effectiveness. Result of the implemented system is satisfying what it is aimed at. Just to give a glimpse about its importance, if we don't manage waste by 2047 we will require an area of land equivalent to Delhi to dump the waste. Number of health problems which are happening due to this are endless. It's the need of the hour that we require a solution to this problem.

Key Words: node mcu, gps, sensors.

1.INTRODUCTION

Many systems and solutions have been proposed and implemented, but a simple and effective solution is yet to be found. In this paper we are trying to overcome the limitations of previously proposed solutions and to propose a solution which can eradicate this problem. Already existing systems are either complex, cost effective or not efficient. Our proposed solution includes used of node mcu, gps and sensors. It's and simple model which we implemented in our households to test the efficiency. Results came out to be great. Now we have implemented the base system, same thing can be done to implement it on a large scale such as Municipal Corporations. But it will require use of more components and systems which can be called as an actual solution. This will be discussed in the future scope of this paper.

2. Implementation

A node mcu is connected with an ultrasonic sensor and GPS is connected to show the exact location of the bin. Ultrasonic sensor will be used for determining whether the dustbin is fully filled, partially filled or empty. A web page is made using HTML for the purpose of implementation. This model s working perfectly fine and can be implemented with all the components attached to it in future on large scale. This can effectively solve the problem of waste management and its processing.

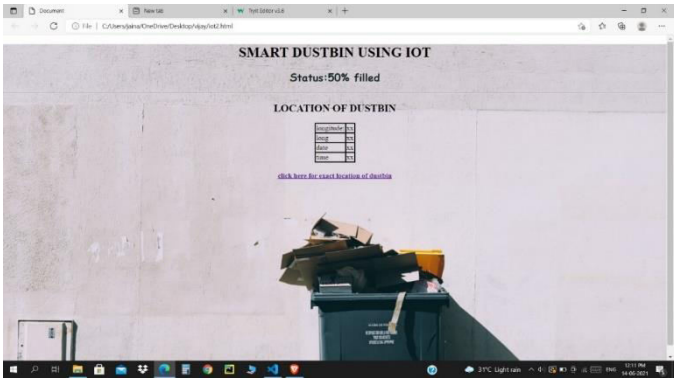

Figure: Status of the Bin

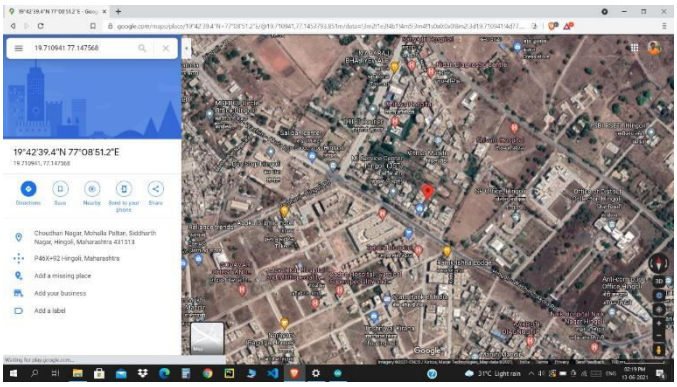

Figure: Exact Location of the Bin

Figure: Dustbin Setup

3. FUTURE SCOPE

1.Microcontroller and sensors can be attached to the system for waste segregation. Waste segregation is very effective and puts an end to the problem.

2.Managing the waste in the locality itself with the help of recycling.

3. CONCLUSION

The proposed solution aims at solving the problem efficiently and effectively. The results of the proposed system indicate that such a solution is necessary for waste management.

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