IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY
STUDY & SURVEY ON TRASH BIN USING WI-FI TECHNOLOGY

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ABSTRACT
India is a country where people love to break the rules, We see it on the roads where no one is driving in their lane. We see it in the way people disrespect public spaces by throwing garbage anywhere that they want to.So the people from THINKSCREAM came up with this idea and invented a trash can that rewards people with 15 minutes of free Wi-Fi every time they throw something away.

KEYWORDS: Wi-Fi, LED, Wi-Fi Router, Aluminum Rods, Fluorescent Light, Acrylic Sheet, IR Sensor, Data service provider.

INTRODUCTION
The Wi-Fi trash bin is a device which is use to generates a code that provides 15 minutes of free Wi-Fi connectivity to the users who throw trash into it. This device uses different technologies. First WiFi technology which we have to optimise to make sure that all the generated codes work properly. The second is the technology used for motion sensing and figuring out how the trash comes in and its movement. And the third one is the entire bridge between the motion sensor and the WiFi network to ensure that they connect at the right time. So it is a mix of hardware and software technologies.

LITERATURE SURVEY
Wi-Fi:Wi-Fi or WiFi is a technology that allows electronic devices to connect to a wireless LAN (WLAN), mainly by using radio waves. Wireless Lan is generally password protected, but may be open sometimes, which allows any device within its range to access the resources of that network.

Motion Detection:
Motion detection is the process of detecting a change in the position of an object relative to its surroundings or a change in the surroundings relative to an object. Motion detection can be achieved by different methods. When motion detection is accomplished by natural organisms, it is called motion perception.

Infrared Sensor (IR SENSOR):
An infrared sensor is a device, that sense some aspects of the surroundings. These sensors are use to measures only infrared radiation, instead of emitting it that is called as a passive IR sensor.

Data Service Provider: The persons which are responsible for providing the network services are known as Data Service Provider or Internet Service Provider

Wifi Router: It can be defines as a hardware device which provides the basic platform for a home or office network. By combining different network components in same box, wireless routers offer an easy way to connect with the large amount of wireless devices to each other for access to the Internet as well as for file sharing and for sharing the printer on different system.It likely has multiple Ethernet ports, too, allowing you to connect from different devices.

LED: This project work is the implementation of smart garbage management system using IR sensor, microcontroller and Wi-Fi module

It stands for Light Emitting Diode. It can be use as an indicator in router, LED is a diode that emits light. It is long lasting, reliable and flexible.

PROBLEM DEFINATION
India is a country where people love to break the rules. We see it on the roads where no one is driving in their lane. We see it in the way people disrespect public spaces by throwing garbage anywhere that they want to. In order to rectify this problem, the people from THINKSCREAM designed the aforementioned solution.

PROPOSED SOLUTION
People that throw trash into the trash bin will receive a unique code, which can then be used on devices to be able to gain access to a free Wi-Fi connection. They then realized that for a cleaner environment, what was needed was not just a change in structure but also an adjustment on the attitudes of people.
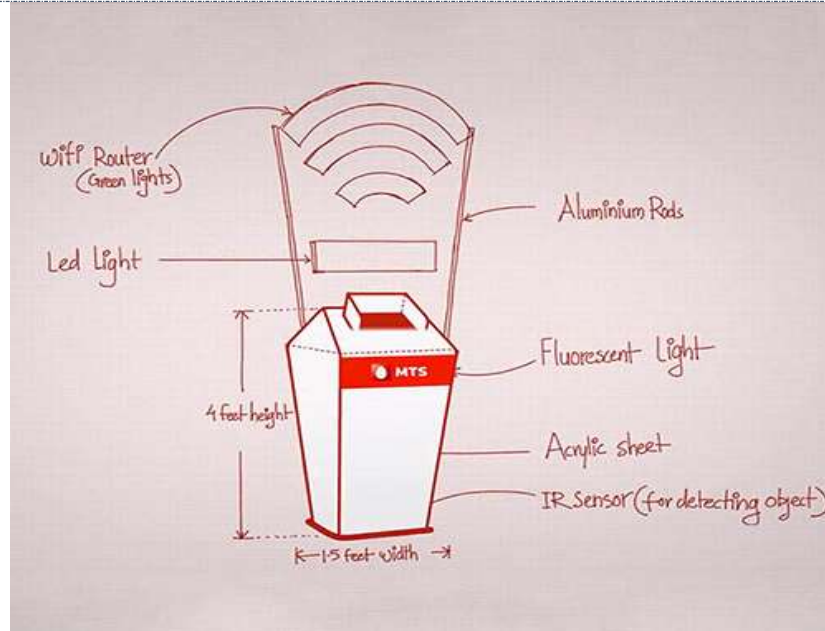

Figure1.1:Wifi trash bin

The trash bin works as follows. When you throw garbage in the dustbin, an access code will be displayed in front of that trashbin. You can then use that access code to connect to the WiFi network of the dustbin.

The dustbin uses multiple technologies. The first is the WiFi technology which we have to optimise to make sure that all the generated codes work properly. The second is the technology used for motion sensing and figuring out how the trash comes in and its movement. And the third is the entire bridge between the motion sensor and the WiFi network to ensure that they connect at the right time. So it is a mix of hardware and software technologies. The WiFi network can be designed as desired. So the range can vary from a few metres to an entire campus or office. The dustbin either uses the connection set up by a connection from a nearby location, which is done with the help of their servers.

One device costs between Rs. 50,000 and 1 lakh in development. The development of the dustbins is usually done in partnership with different organizations.

They are expanding the entire concept of design thinking. We want to start taking design to multiple levels. So, in places where WiFi will not be as useful, it could be something as simple as the dustbin smiling at you when you throw garbage in it. The idea is to acknowledge the efforts of people with basic incentives which need not be monetary or materialistic.

Figure1.2: Basic Structure of Wifi trash bin

CONCLUSION

This project work is the implementation of smart garbage management system using IR sensor, microcontroller and Wi-Fi module. This is a technology which allows the people to use free wifi by throwing garbage in that particular trash bin by generating a unique code or a onetime password. This is a smart way to use the wifi technology. This is a great way to reduce pollution and to promote SWACH BHARAT ABHIYAN and to create awareness among youth.

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