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Highway Watering System Using IoT

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ABSTRACT: Our project can be used to make highway watering smarter and more effective. Environment is important, so in this project we focused on building system that allowsfor automating highway watering process and it is controlled by the software application, augmenting in maintaining biodiversity.

KEYWORDS: Automation, Energy Efficient, Less Manpower, Save Water.

I. INTRODUCTION

The project is aim to design a highway watering system where the plants grown near highway are very useful. It reduces soil erosion, control Flooding near highway and also result in cleaning water supplies for roadside landscaping. The plants which give this much type of Advantages there is no proper watering supply. So, our main motto is to save those plants and create machine which will give the plants proper water supply and also save the extra watt he sensor nodes are then deployed in the irrigation field for sensing moisture value of soil and this sensed data is sent to the controller node, which then operate the water supply. We are also developing the application which shows status of application and we also can operate our hardware device using software application.er which is not required, which flows on road an get wasted.

II. LITERATURE SURVEY

(2014) The water level Monitoring System was developed for agricultural field and motor controlling and it was based on GSM(PIC16F877A). It very simple to use and at low cost. In future we can design a system based on 3g camera for visual identification of agriculture very easily from remote level.
(2015)The use of cloud computing was done because IOT is closely related to could computing and IOT has powerful Computing tools. Through cloud computing the agriculture will go on next level. The agricultural information can be stored through could computing and can be monitored very easily.
(2015) The System was found which was feasible and cost effective for optimizing water resource for agriculture Production. These System can be used in variety of crop and it will improve the maintenance of crop. The is feasible for all type of crop. This system can be used in large scale for green house and open crop

III. METHODOLOGY

1.Our device will work on moisture of the soil. Firstly, soil sensor senses the moisture of the soil and send data or command to the 1st relay module which is inbuilt in moisture sensor. Here, relay module works as a switch which open and close the circuit electronically and pass the command or data to Micro-controller Node MCU Microcontroller works on the function or principle we have given to it and send data to another relay module which is working as a motordriver. The 2nd relay module is use to switch on/off the motor (current supply) accordingto the commands of the microcontroller. The temperature sensor is directly connected to Microcontroller with first relay module.

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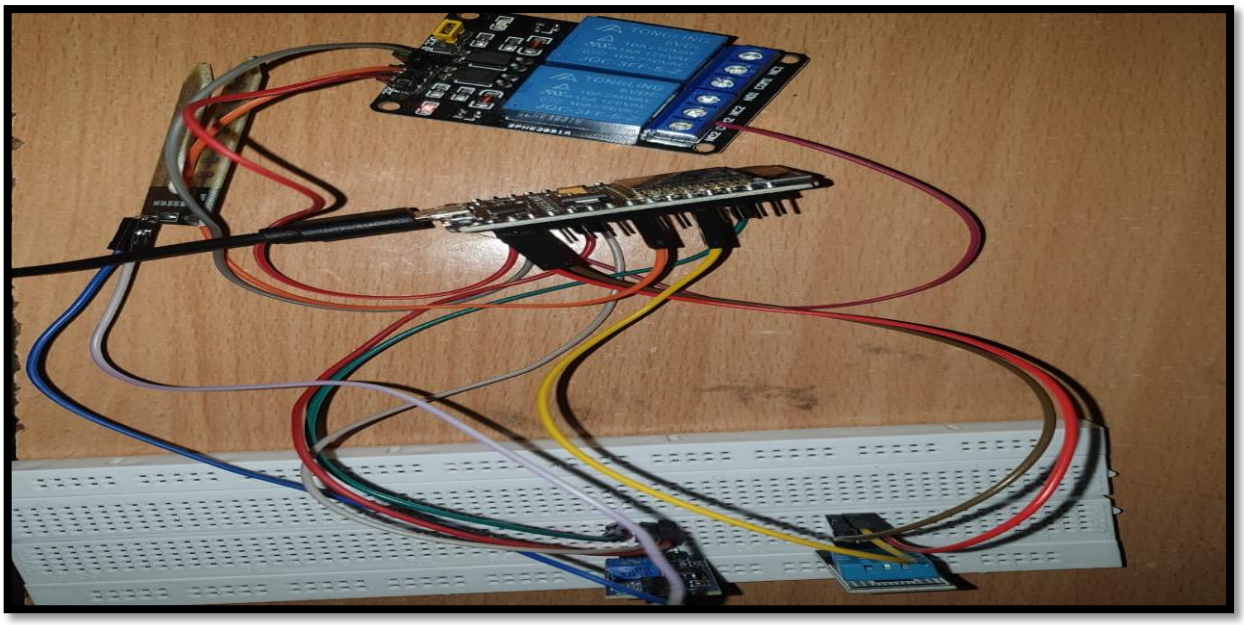

Figure - 1

2.For software application we are using Java programming language. Application is basically use for switch on or off the circuit. It will show device connection status on user interface. After that we can manually operate device, such as switching it on or off.

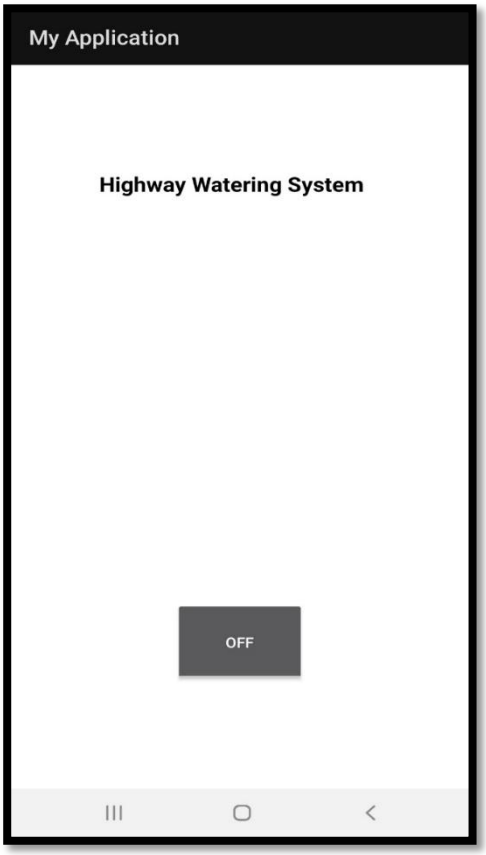

Figure – 2

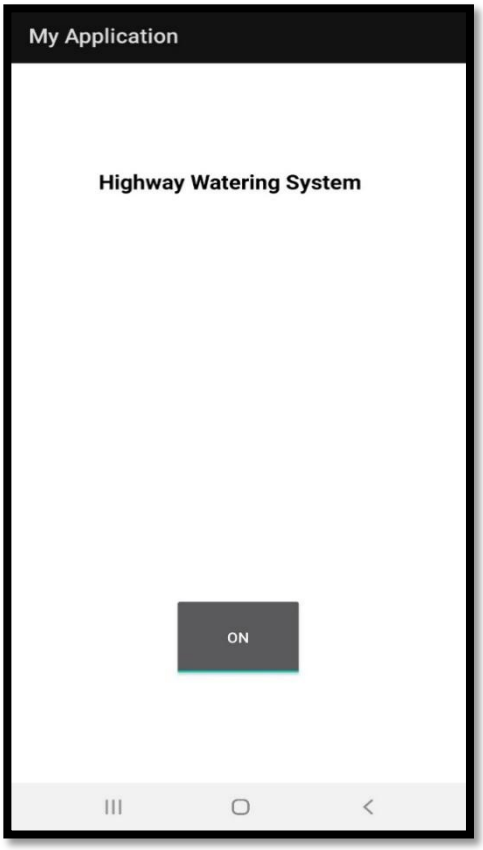

Figure - 3

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SOFTWARE AND TECHNOLOGY USED

The list of software's and technology that we have used for our development purpose are

1. Android Studio – Application Coding
2. Arduino IDE – Microcontroller Coding
3. Think Speak - Wireless Monitoring
4. Chrome – Web Browser

FEATURES

1. Low cost
2. Easy to use
3. Less requirement of resources

ADVANTAGES:

This project will help highway agencies in development and management of highway corridor. The watering systemcan be effectively used to water the plants when they need it. It will also replace manual activities and gardeners workeasier we have created automatic plant watering system. By using drip emitters and sprinklers, we can design a system that is useful for every plant. Our project can be used in small scale as well as in large scale

IV. CONCLUSION

The automatic highway watering system is using a microcontroller, moisture sensor and other electronic tools were been developed it Was observed that the proposed methodology controls the moisture content of the soil the motor will automatically start pumping water if the soil is dry and need water and stops when the moisture content of the soil is maintained as required. We have also created a app by which we can ON/OFF the microcontroller

V. ACKNOWLEDGEMENT

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