

AUTOMATED IRRIGATION AND HOME SECURITY SYSTEM USING ARDUINO

ABSTRACT

The need for home security alarm systems nowadays is a serious demand. As the number of crimes are increasing every day, there has to be something that will keep us safe. We are all aware of the high end security systems present in the market but they are not easily available to everyone. We therefore intend to provide a solution by constructing a cost efficient electronic system that has the capability of sensing the motion of the intruders and setting off the alarm. The basic idea behind this project is that all the bodies generate some heat energy in the form of infrared which is invisible to human eyes. But, it can be detected by electronic IR sensor. And In this project an automation of farm irrigation and soil moisture control by Arduino using soil moisture sensor and L293D module. This automatic irrigation system senses the moisture content of the soil and automatically switches the pump when the power is on. A proper usage of irrigation system is very necessary because the main reason is the shortage of land reserved water due to lack of rain, spontaneous use of water as a result large amounts of water goes waste. For this reason, we use this automatic plant watering and soil moisture monitoring system and this system is very useful in all climatic conditions. India is the agriculture based country. Our most of peoples are completely depended on the agricultural harvesting. Agriculture is a source of employment of majority Indians and has great impact on the economy of the country. In dry areas or in case of lacking rainfall, irrigation becomes difficult. So, it needs to be automated for proper watering a plant and handled remotely by farmer. When soil goes dry pump will start watering. The aim of the implementation is to reduce water use and automatic irrigation can be used for save time and low power monitor device.

The aim of the implementation this project was to demonstrate that the automatic plant irrigation can be used to reduce water use, and save your time.

INTRODUCTION

We have designed an interesting and cheap home security alarm. This Gadget helps you to protect your house from thieves. In this project we are going to use an Arduino Uno R3 Board, P.I.R Sensor module, LCD and some other components. This Project can either powered with 9V Battery or with U.S.B of your computer.

This is a basic motion-sensing alarm that detects when someone enters the area. When an intruder is detected, it activates a siren. Our body generates heat energy in the form of infrared which is invisible to human eyes. But it can be detected by electronic sensor. This type of sensor is made up of crystalline material that is Pyroelectric. In this project, we are using P.I.R. Motion Sensor Module as an infrared sensor that generates electric charge when exposed in heat and sends a signal to Arduino. According to level of the infrared in front of sensor, Arduino displays the status on L.C.D and start buzzing speaker and glows the