

Standard Lights

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Abstract- Automatic plant monitoring system farming has revolutionized the agricultural industry. In this type of farming, where the farm is enclosed with polycarbonate, environmental parameters must be regulated in order to increase cultivation and provide appropriate care for the crops. This technique is widely employed in a few industries, including nursery farms and agriculture. In this system, a method is built to determine the moisture content of the soil using a soil moisture sensor, and the water is managed based on the condition of the sensor. The purpose is to develop and build a rover capable of operating on farmland and caring for the field and crops. At the same time, it would be able to collect vital data about the farm area's climate and environment. The current researches related to the farming rovers are specifically designed to do particular jobs, but this rover provides us with a multifunctional option to do many things with the same rover using different technology at the same time. The purpose of the rover was to reduce the amount of human work required to maintain the cultivated area and care for the crops. The rover's main concept has been declared and is being developed. The prototyped version has been flawlessly functioning and in line with the rover simulation. The rover may be seen functioning normally, and it is prepared to take over the area if its owner directs it to. The rover clearly utilized the components to achieve the required results

Keywords- Arduino Uno R3, Infrared Sensor, IR Sensor.

I. INTRODUCTION

A traffic light system that responds to vehicle movement offers a dynamic approach to traffic management, departing from traditional fixed-time signal systems. This innovative system utilizes sensors to detect vehicle presence, triggering signal changes accordingly. By adapting in real-time to actual traffic conditions, it optimizes traffic flow, reduces congestion, and enhances safety. Integrated with smart city infrastructure, it contributes to a more efficient and sustainable urban transportation ecosystem. A vehicle-responsive traffic light system operates by utilizing sensors that detect the presence and movement of vehicles at Intersections. Instead of relying solely on fixed-time signal patterns, this system dynamically adjusts signal timings based

on realtime traffic conditions. When vehicles approach an intersection, the sensors trigger the traffic light to change, prioritizing the direction of travel with the most significant vehicle volume. This adaptive approach helps to minimize waiting times, reduce congestion, and improve overall traffic flow efficiency.

II. AIM & OBJECTIVE

Creating a Standard Lights for automatic plant monitoring and to help society grow sustainable

III. INFORMATION

This system as shown in figure 1 representing the block diagram, it depends on the detection of vehicle movement using IR sensors. The IR sensor is a proximity sensor which consists of an emitter LED and a receiver LED embedded in it. IR radiation is constantly emitted by the emitter LED. When this radiation is blocked by some metal or reflecting object at a distance, the IR radiation gets reflected by the object can be detected by observing the receiver LED. This principle can be used to detect vehicles on pedestrians or the on-street roads and accordingly switch on the successive streetlights, as long as the vehicle blocks the IR sensor radiation, fixed to the street light near to the ground.

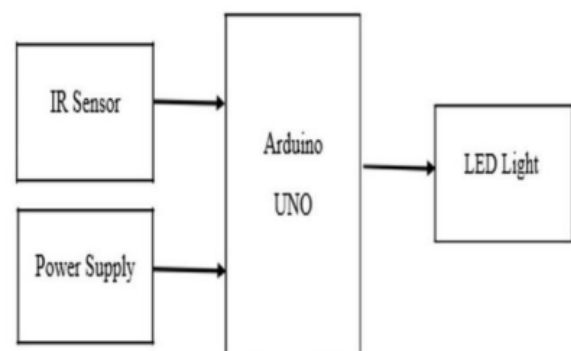


Fig1-circuit diagram

IV. COMPONENTS

Arduino Uno R3: -



Fig-Arduino Uno R3 Board

Arduino Uno R3 as shown in figure 2. The specifications are ATmega328 microcontroller, operating voltage at 5v, input voltage 7 to 12v, input voltage limit up to 20v, digital I/O pins 14, analog pins 6, DC current 40mA, flash memory 32KB including 0.5KB used by boot loader. SRAM of 2KB, EEPROM of 1KB and clock speed of 16 MHz some of the Features of Arduino UNO are power: can be USB connection or external power supply, with 7 to 12 volts recommended. The Arduino UNO provides power pins for other devices, the variants are 5V 3.3V and Vin I/O, REF pin for optional power

Infrared Sensor: -



Fig-LDR Sensor

Figure shown as the IR sensor and working principle of sensor. An infrared sensor is an electronic device that emits in order to sense some aspects of the surroundings. An IR sensor can measure the heat of an object as well as detects the

motion. These types of sensors measure only infrared radiation, rather than emitting it that is called as a passive IR sensor. Usually in the infrared spectrum, all the objects radiate some form of thermal radiations. These types of radiations are invisible to our eyes that can be detected by an infrared sensor. The emitter is simply an IR LED and the detector is simply an IR photodiode which is sensitive to IR light of the same wavelength as that emitted by the IR LED. When IR light falls on the photodiode. The resistances and these output voltages, change in proportion to the magnitude of the IR light received

V. CONCLUSION

Charging station for Battery operated vehicles. Moving with the new & renewable Energy sources, this system can be upgraded by replacing Ordinary LED modules with the solar based LED modules. With utilizing the latest technology and advance sensors, we Could serve the same purpose of automatically controlling the Streetlights much more effectively both by cost and manpower. Also makes the whole process of energy saving easier and Efficient. This provides a competent method for lighting systems.

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