ABSTRACT

OF

SMART GARDENING, PARKING AND WATER MANAGEMENT USING ARDUINO

In this system we are trying to automate the things which we are using in daily life. Manual watering system and parking system as well as the street lights are now automatically work by this system using Arduino.

Automatic Plant Monitoring and Watering System

- An automated gardening system refers to a garden where all aspects of gardening are automated. Here the information regarding garden (Temperature, Humidity and Moisture) is processed through Arduino.
- In this system, soil moisture sensor senses the moisture level of the soil. If soil will get dry then sensor senses low moisture level and automatically switches on the water pump to supply water to the plant.
- As plant get sufficient water and soil get wet then sensor senses enough moisture in soil. After which the water pump will automatically get stopped.

Water Tank Management System

- In this module, an automated water tank filling system will be proposed. The system is designed by applying water-level sensor and Arduino microcontroller in order to automatically switch the water filling.

- The sensor will automatically turn on the machine when the water tank is empty and it will be turned off automatically after the water tank is fully filled by the water. The SMS Notification will be sent to the owner according to the water level in the tank.

Smart Parking And Automatic Street Light Control System

- In this module, the gate of parking area will automatically open and close for authenticate car using Arduino Uno R3 and RFID.
- Automatic Street Light Control System is a simple yet powerful concept. By using this system manual works are 100% removed. It automatically switches ON lights when the sunlight goes below the visible region of our eyes.
- This is done by a sensor called Light Dependant Resistor (LDR) which senses the light actually like our eyes. It automatically switches OFF lights whenever the sunlight comes, visible to our eyes.
- In this system, no need to ON and OFF light manually. The system itself will detect the light intensity and then ON or OFF the light accordingly.
- When darkness rises to a certain value then automatically streetlight is switched ON and when there is other source of light, the street light gets OFF. By using this system energy consumption is also reduced.

List of Components

- Arduino Uno R3
- Water Level Sensor
- LDR Sensor
- DC Motor
- Servo Motor
- GSM Module
- LED
- Soil Moisture Sensor
- Temperature and Humidity Sensor
- Resistor
- Jumper Wires
- Breadboard
- RFID Reader