Project Report
Topic:- Bluetooth Enabled Plant Watering System

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Introduction:

A plant watering system is an essential system for any plant lover. It ensures that the plant receives the right amount of water to grow optimally. In this report, we will discuss an HC05 and Arduino based plant watering system.

What is HC05 and Arduino?

HC05 is a Bluetooth module that allows wireless communication between devices. The module is easy to use and can be used with a variety of microcontrollers, including Arduino. The Arduino is an open-source microcontroller board that can be used for various electronic projects. It can be programmed to control different devices such as motors, sensors, and displays.

HC05 and Arduino Based Plant Watering System:

The HC05 and Arduino-based plant watering system use a soil moisture sensor to detect the moisture level of the soil. When the moisture level is low, the system activates a water pump to water the plant. The system can be controlled using a mobile application via Bluetooth.
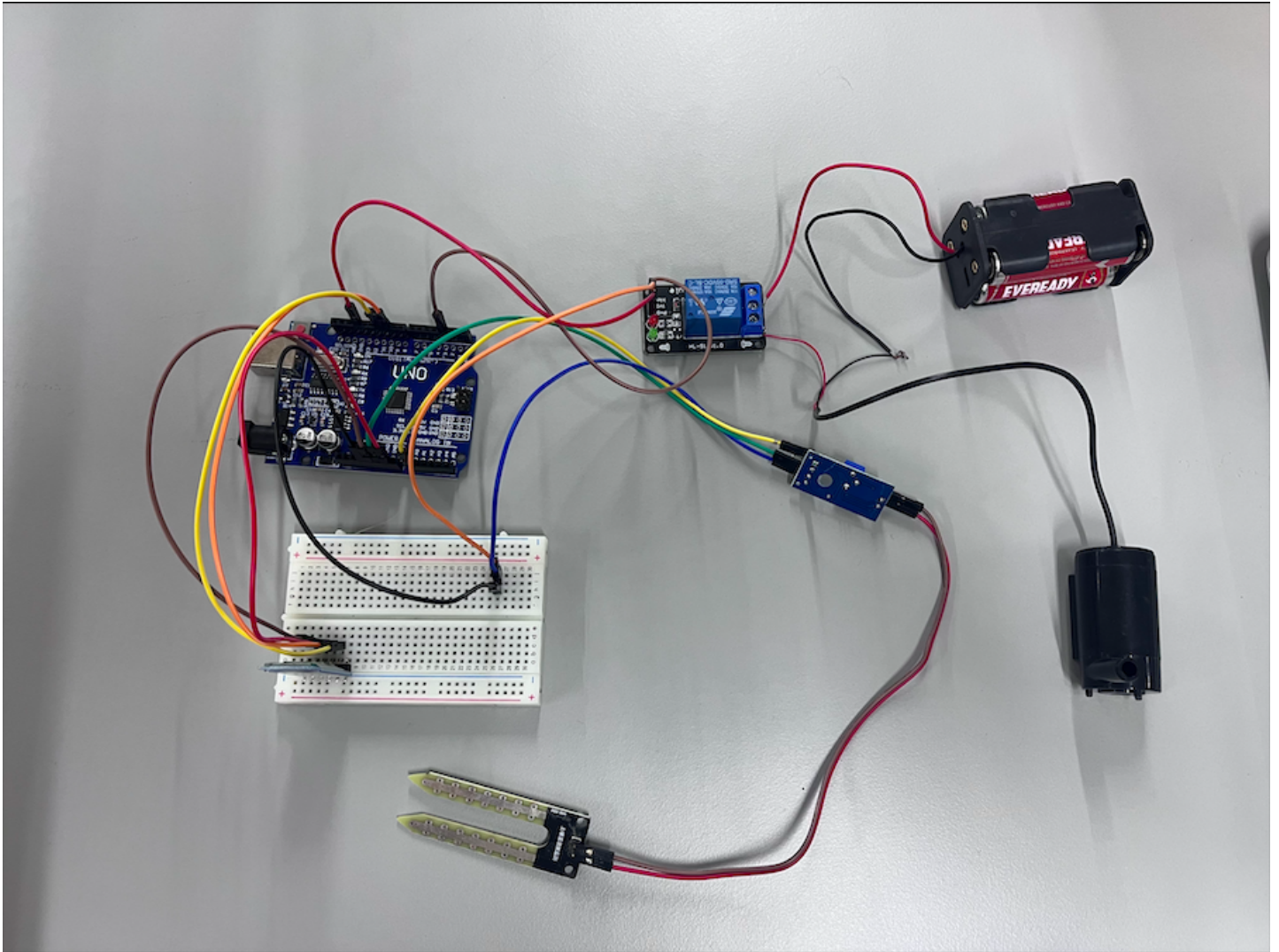
Components Required

Hardware Components:

1. Arduino Board
2. HC05 Bluetooth Module
3. Soil Moisture Sensor
4. Water Pump
5. Motor Driver
6. Battery
7. Wires

Software Components:

1. Arduino IDE
2. Android Studio
3. Bluetooth libraries

Circuit Design

Working Principle:

The system works on a simple principle of reading the output of the soil moisture sensor and turning on the water pump when the soil is dry. The Arduino board is programmed to read the analog output of the sensor and convert it into a range of values that correspond to the moisture level of the soil. When the moisture level falls below a certain threshold, the Arduino sends a command to the motor driver to turn on the water pump, which waters the plants until the moisture level returns to the desired level. The HC05 Bluetooth module enables users to monitor the soil moisture level and control the watering system using a mobile app.

Conclusion:

The HC-05 and Arduino-based plant watering system is a great example of how IoT can be used to automate tasks and improve efficiency. This system allows users to remotely monitor and control the watering of their plants using a mobile application, which saves time and ensures that the plants are always properly watered. With the increasing demand for smart homes and IoT devices, systems like this will become more popular in the future.

Source Code: https://github.com/Sakshampoply/Plant-Nurturing-System-2.0