# **CROPMON**

|  |  |
| --- | --- |
| Student Name | **Tadhg Ó Conghaile** |
| Student ID | **20091418** |

This project is a plant monitoring and watering system. It will use sensors to collect data and pump/valve devices. A web application will also allow a user to read soil moisture levels and trigger the delivery of water to a plant. It will also allow a user to set up rules for automatic watering based on soil moisture levels.

# **Tools, Technologies and Equipment**

## **Hardware**

A Raspberry Pi powered by socket. This device will take Soil Moisture readings from a sensor and will control a dive pump, both via GPIO. The water source will be suspended allowing gravity-watering when the valve is open. The Raspberry Pi will transfer data via WiFi using the built-in adapter.

## **Front End**

The web application will be a NodeJS application, with the front end built using React. This will allow a user to set parameters for the soil moisture sensor and pump, controlling the moisture level at which the water is delivered and the volume of water that is delivered.

## **Data & Communication**

The data for this system will be stored in a Firebase database. The Raspberry Pi will communicate with the database via a NodeJS API encompassed in the Web Application.

# **Project Repository**

https://github.com/Tadhg-io/cropmon