Electronics Project Plans

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ESP8266 based IoT Plant Irrigation Controller

Features:

1. Manual hardware control via hardware pushbutton - Press the button to switch the pump on for a user-adjustable amount of time.
2. Control over the WLAN - set irrigation intervals and manually trigger irrigation on the web interface
3. Control over the internet - set irrigation intervals and manually trigger irrigation over an IoT platform.
4. Have LED indicators to indicate power and pump relay status
5. Have an indicator on the web interface to indicate pump relay status.
6. Utilize an AC submersible pump to pump water from a reservoir.
7. Run from mains electricity, but implement all power saving and deep sleep functions available and appropriate.

6. Splashproofed enclosure

9. Be able to sense the wetness or dryness of the soil to automatically irrigate the soil when it becomes too dry. (optional)

10. Be able to set the irrigation duration anywhere from a minimum of 1 second to a maximum of 60 seconds.

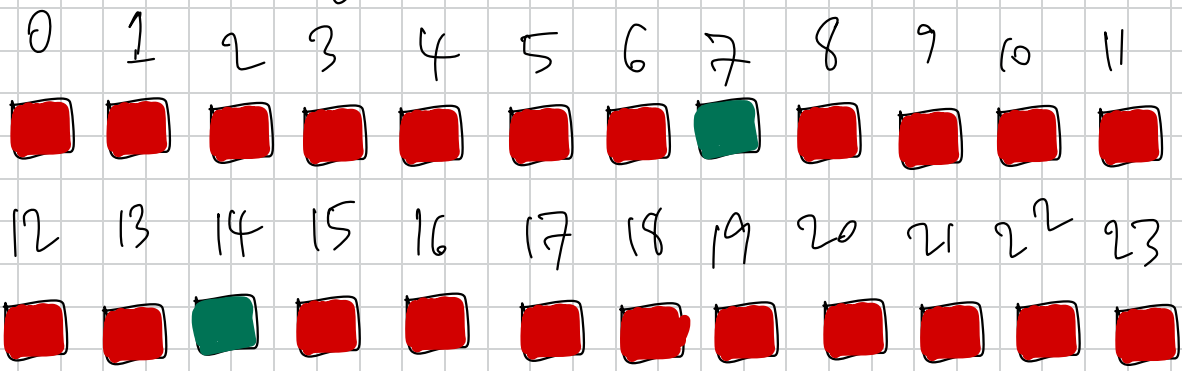
Hardware required:

1. ESP8266 or ESP32 microcontroller
2. 3.3V compatible relay
3. 3W AC submersible pump
4. LEDs with current limiting resistors
5. Momentary pushbutton
6. Soil moisture sensor (optional)

ESP8266 IoT Watering Controller

Irrigation status:

Daily watering schedule



Watering interval length

1s 60s