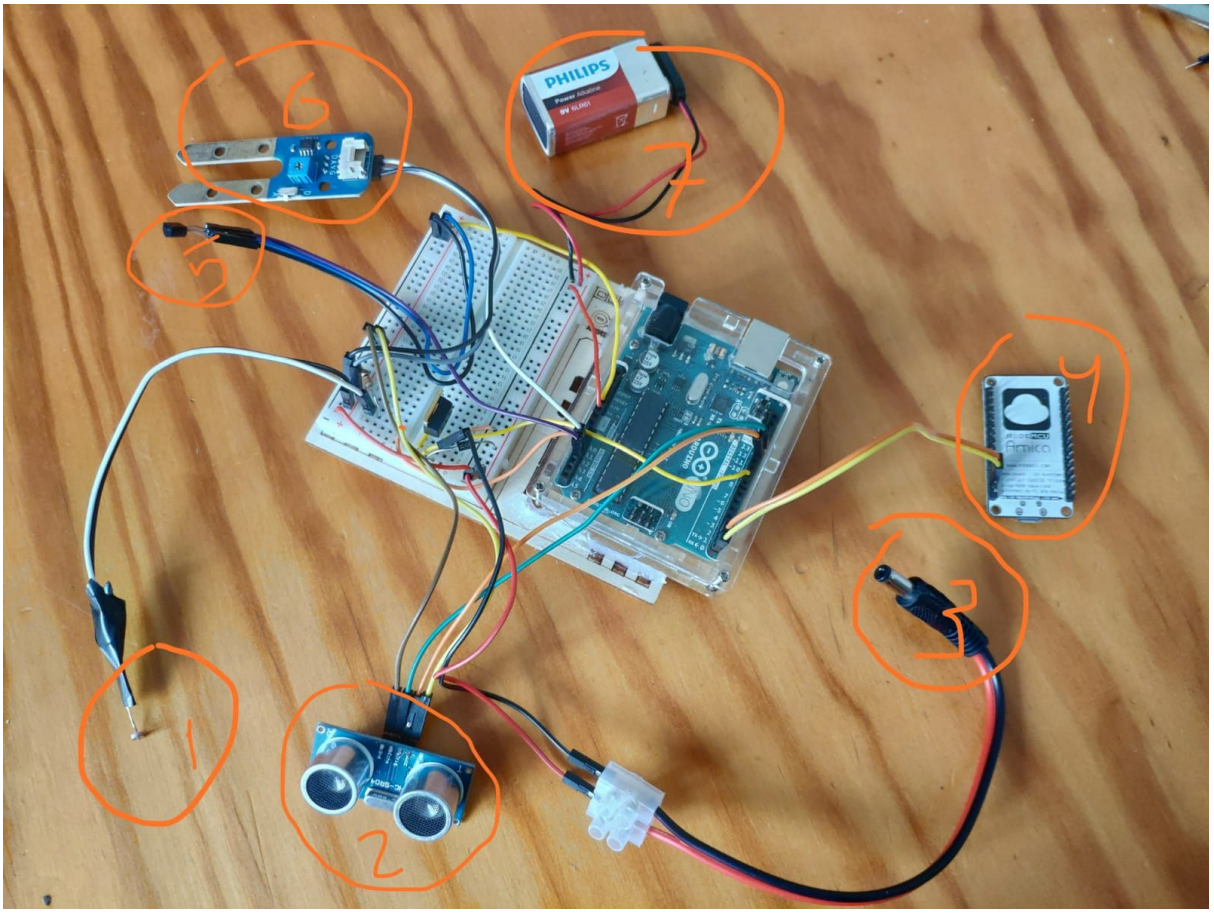
Hardware specifications:



1. **Temperature Sensor (TEMP36):** Measures the plant's surrounding environment's temperature as an analog signal, later converted to Celsius.
2. **Ultrasound Sensor (HC-SR04):** By calculating the difference of distances between two different measurements, this sensor detects movement in front of the plant.
3. **Water pump (VMA420VMA421):** The Arduino sends a digital signal to the pump, turning it on and off and the it pulls water out of the deposit to water the plant.
4. **Wi-Fi Module (Node MCU):** After collecting data from the sensors, the Wi-Fi module sends this data to a database online. The communication between the Arduino and the module is made via Serial Communication connecting the Arduino RX pin with the TX pin of the wifi module and the Arduino TX pin with the RX of the wifi module.
5. **Light Sensor (HW5P-1):** Measures the luminosity of the plant's environment on a 0 to 1000 scale, 0 being the lowest and 1000 being the highest.
6. **Moisture Sensor (IM121017001)**: Measures the moisture of the soil on a 0 to 1000 scale, 0 being the highest moisture (soaked) and 1000 being the lowest (dry).
7. **Battery 9V:** Since the Arduino's 5V is not enough to power the water pump, half of the breadboard is powered by a battery and the other half by the Arduino.

TINHA FEITO ISSO, CASO QUEIRA APROVEITAR. MAS ACRESCENTEI ALGO NO TOPICO 4

The connection to the intenet and the sending of the readings made by the sensors to the online database were made using the wifi module. However, since we had only one analog input in the module, the readings are performed by the Arduino and sent via serial communication to the wifi module and only then sent to the online database. All the reading are sent as string and treated to be sent properly to the database.
The serial communication is done through the connection of the Arduino RX pin with the TX pin of the wifi module and the Arduino TX pin with the RX of the wifi module, as shown in the image below.