

BubblinO2



Arduino programming
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for Hothouse IWG

Overview

The BubblinO2 is a tank of water that bubbles when it detects a tweet with the hashtag #teambubbles.

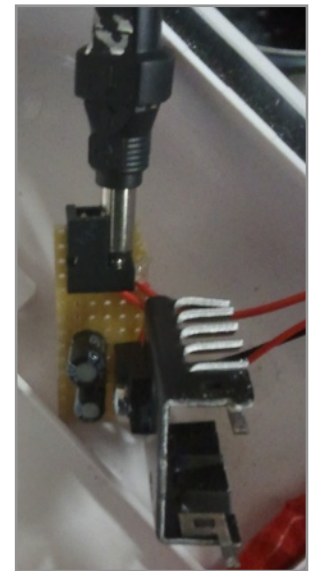
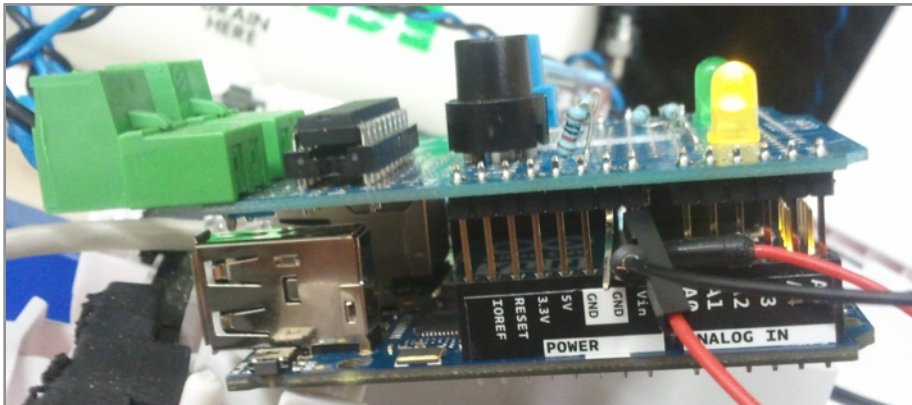
An Arduino with an internet connection controls an air compressor to create air bubbles in a tank of water.



How to Use

1. Plug into mains
2. Wait about 5 minutes for everything to start up. The BubblinO2 should release a bubble during start up.
3. Tweet the hashtag '#teambubbles' to trigger bubbles. Bubbles will always have at least a 5 second pause between bubbles.
4. If no tweets with the hashtag have been tweeted in 15 minutes, the BubblinO2 will bubble once.

Voltage Regulator



The BubblinO2 was originally built with an Arduino Uno, but it was exchanged for an Arduino Yún to take advantage of its network and processing capabilities.

The Yún is not tolerant of voltages above 5V, but the relay and solenoid need 12V to operate. Previously with the Uno, 12V could be passed via barrel jack, regulated by the Arduino and routed to Vin. This wasn't possible with the Yún, so an external splitter and voltage regulator were constructed.

To hook up Arduino circuitry:

1. Plug the black header pin from the voltage regulator into the exposed GND pin on the Arduino (where one of the pins on the shield is bent).
2. Plug the red head pin into the exposed Vin pin on the Arduino (where the other pin on the shield is bent).
3. Place the shield on the Arduino.
4. Attach the red header socket onto the Vin pin on the shield.
5. Plug in the 12V power supply into the voltage regulator.

Status LEDs

There are two LEDs on the shield. The yellow LED shows that the Arduino is running and waiting for a tweet. The green LED flashes when bubbles are triggered.

It will take around 5 seconds for the compressor to reset between bubbles.

