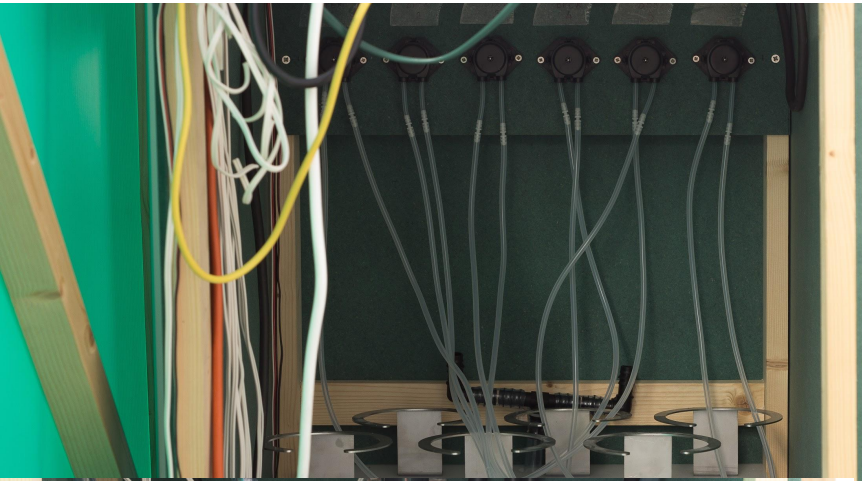
CultiMake 2018 - Habibi.Works, Ioannina, Greece

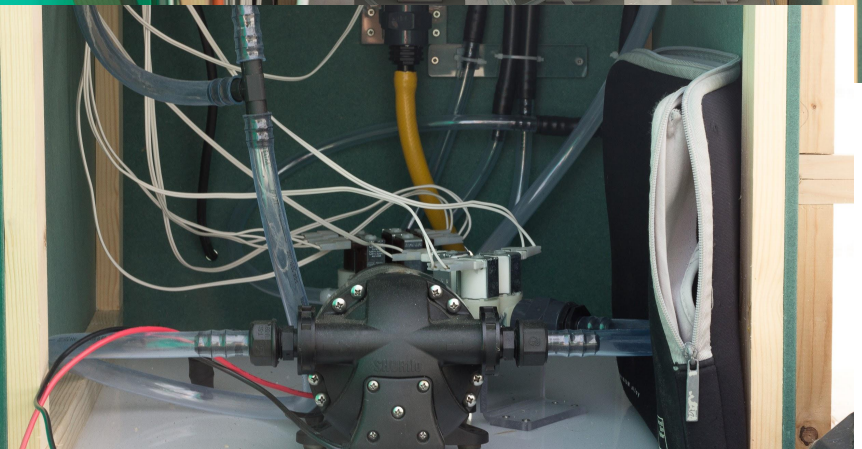
GROUU Workshop

What is GROUU?

1. What is GROUU?
2. (an absolute) Intro to Arduino + Getting to know the community content (flash user profiles)
3. Forming a Team!
4. Results
5. Next Steps

What is GROUU?





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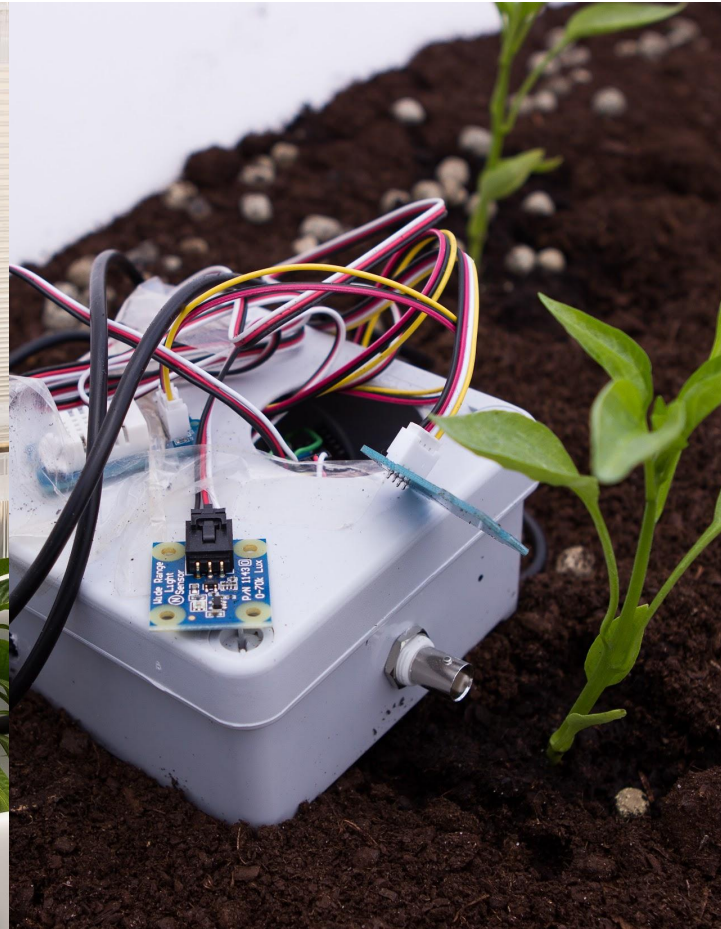

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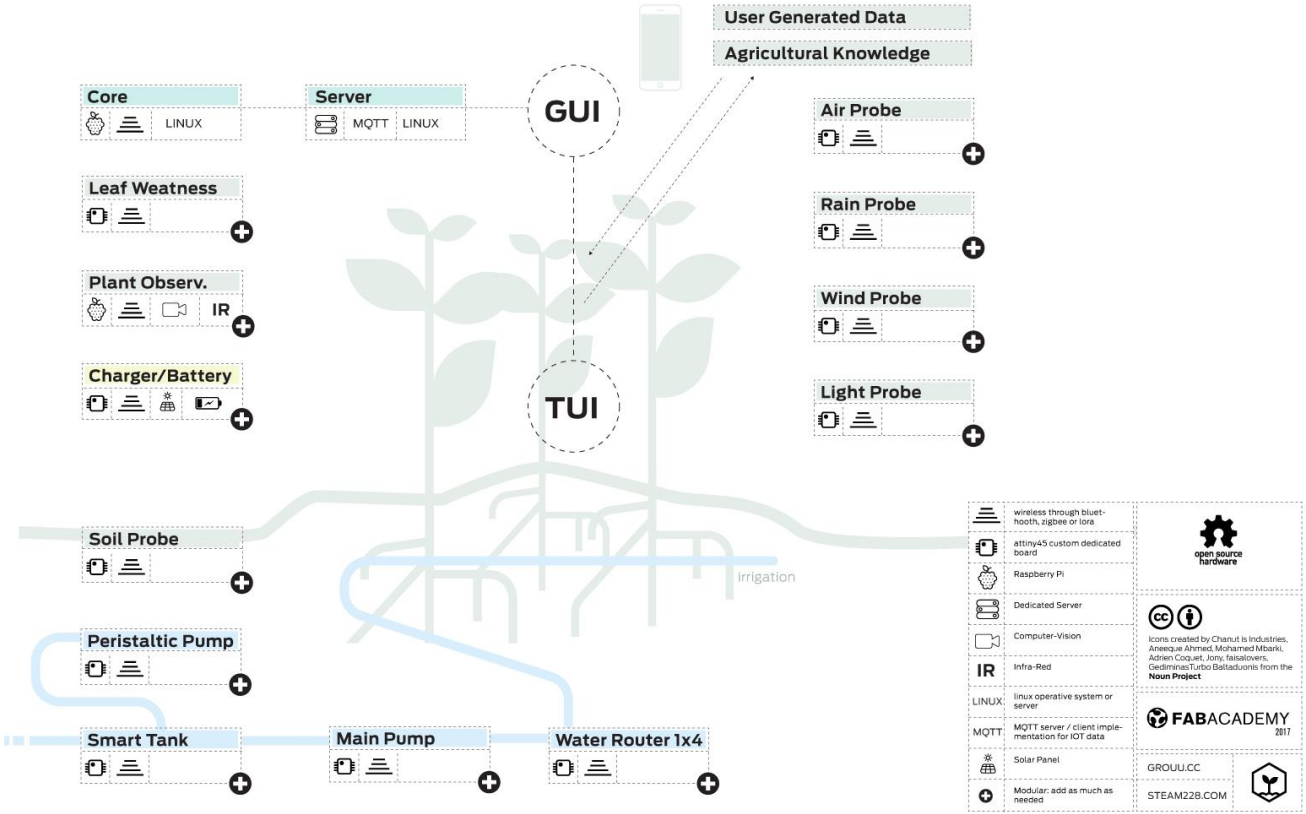

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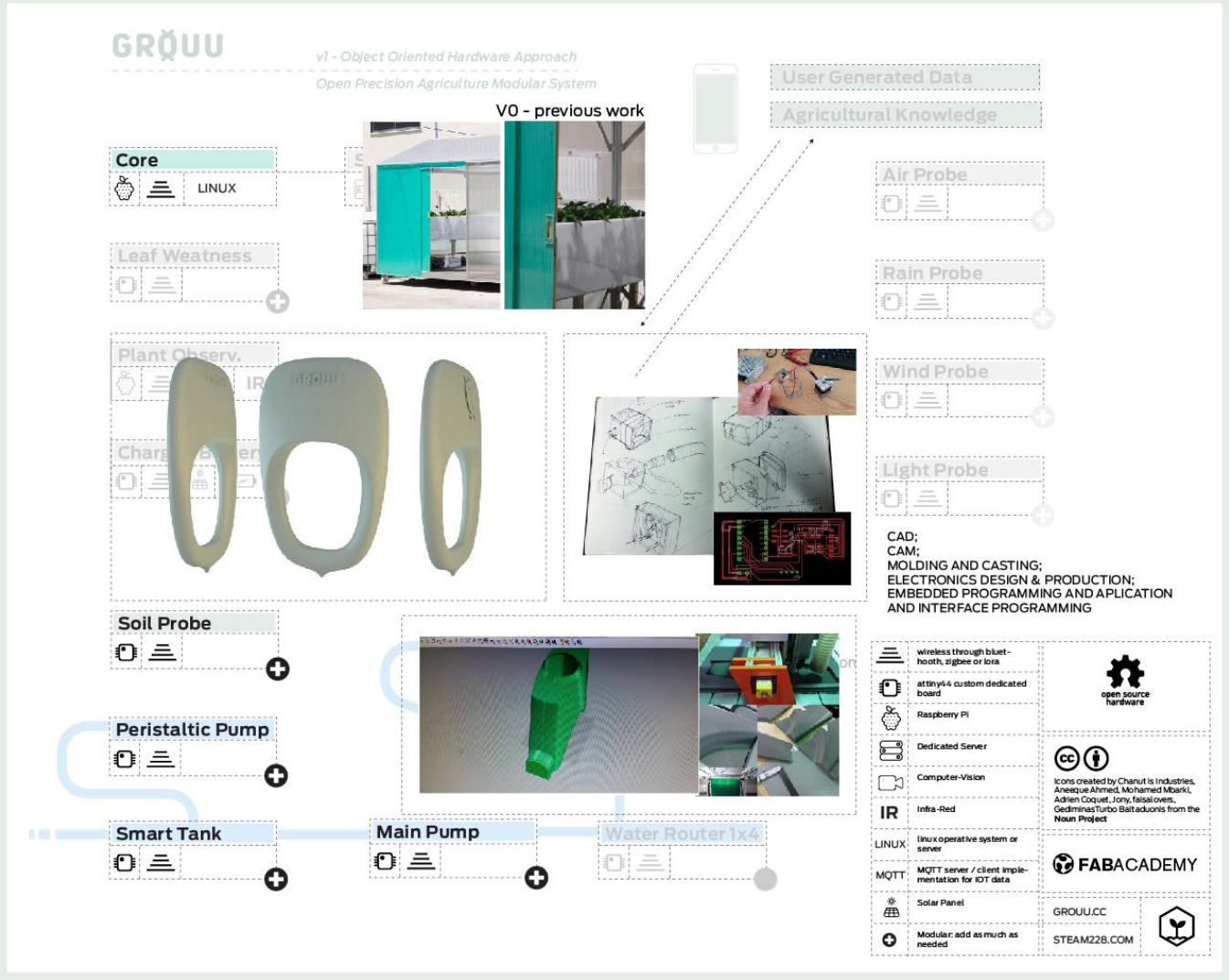

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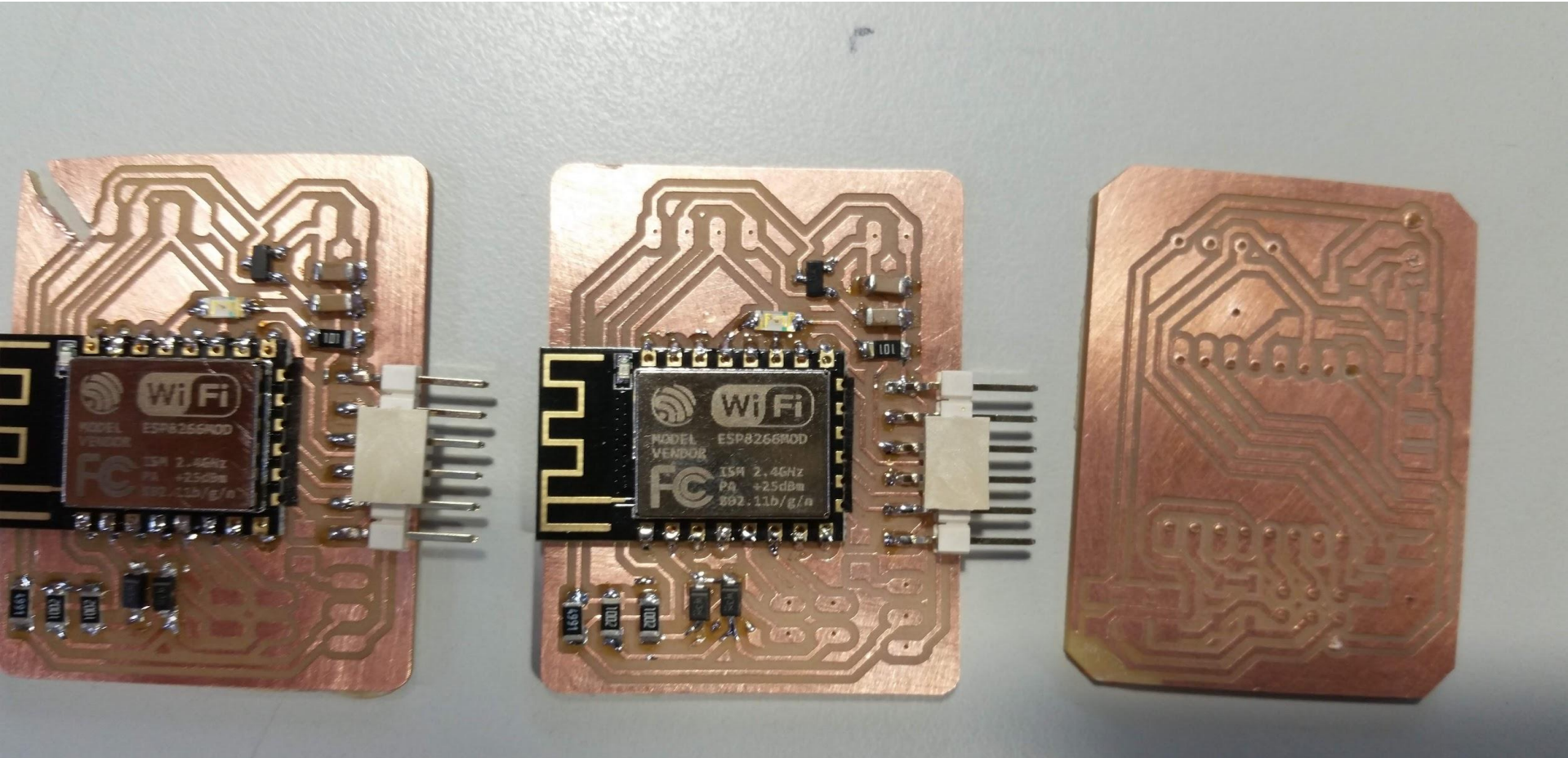
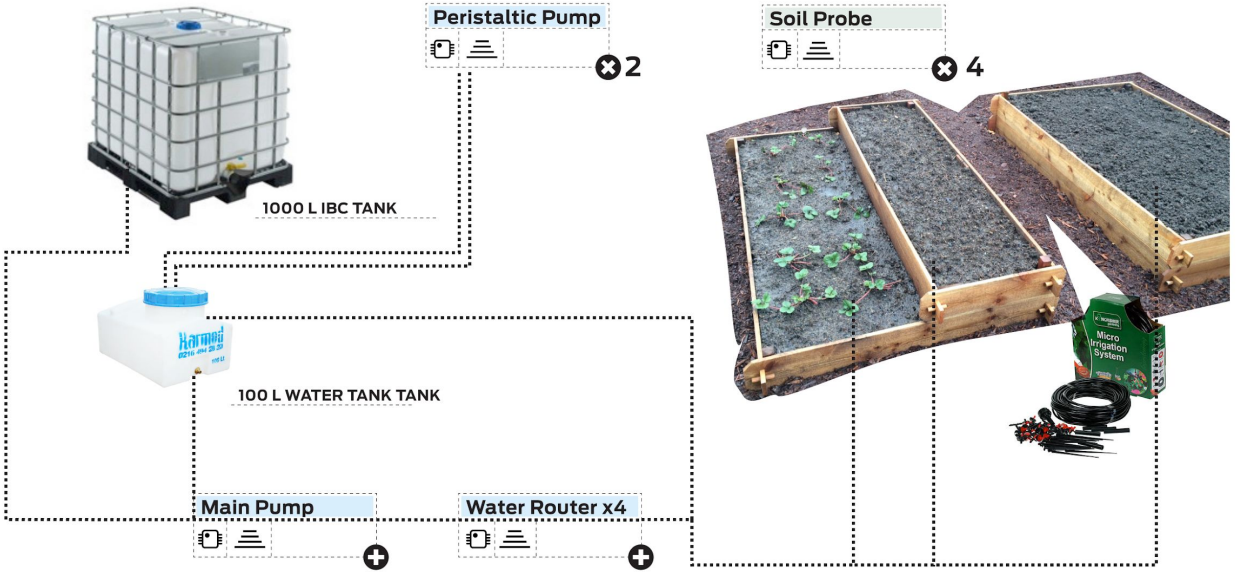


The Plan for Habibi.Works?



Bill of Materials (P2PLAB):

1000 L IBC Tank;
100L Plastic Tank (any);
Microdriping Irrigation kit for 3 areas (any);
12V Solar Water Pump;
12V 80 to 100 W small solar panel;
12 V Car battery.

	wireless through bluetooth, zigbee or lora
	attiny44 custom dedicated board
	Raspberry Pi
	Dedicated Server
	Solar Panel
LINUX	linux operative system or server
MQTT	MQTT server / client implementation for IOT data
	Modular: add as much as needed

open source hardware

Icons created by Chanut is Industries, Aneeque Ahmed, Mohamed Mbarki, Adrien Coquet, Jony, faisalovers, GediminasTurbo Baltaduonis from the **Noun Project**

FABACADEMY

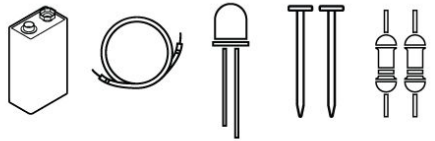
GROUU.CC

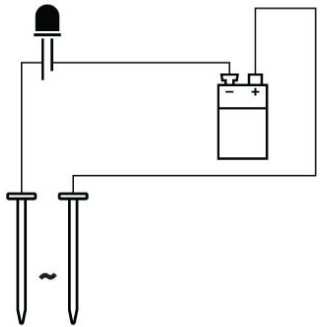
STEAM228.COM

Intro to Arduino at Habibi.Works - GROUU as Educational Resource

1. Electricity - OHM's Law

A Visual Moisture Sensor



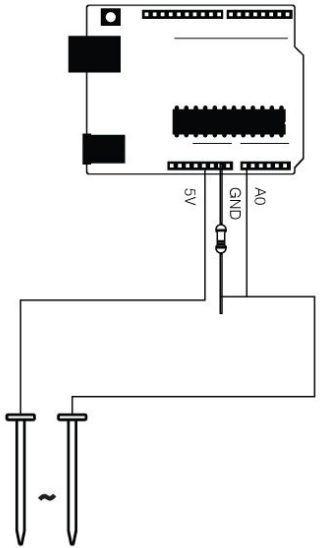


2. Arduino Analog Input

Extract values from the sensor by introducing Computation

Step by Step:

Wire like Scheme;
Open Arduino;
_Tools _Board - Arduino Uno
_Tools _Port - (new COMX or /dev/tty...)
_File _Examples _Basic _AnalogReadSerial

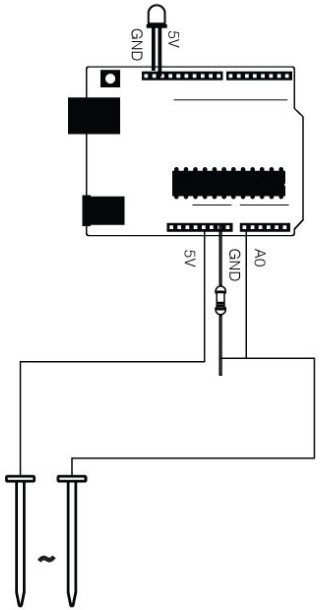


3. Act - Program a Logical Reaction

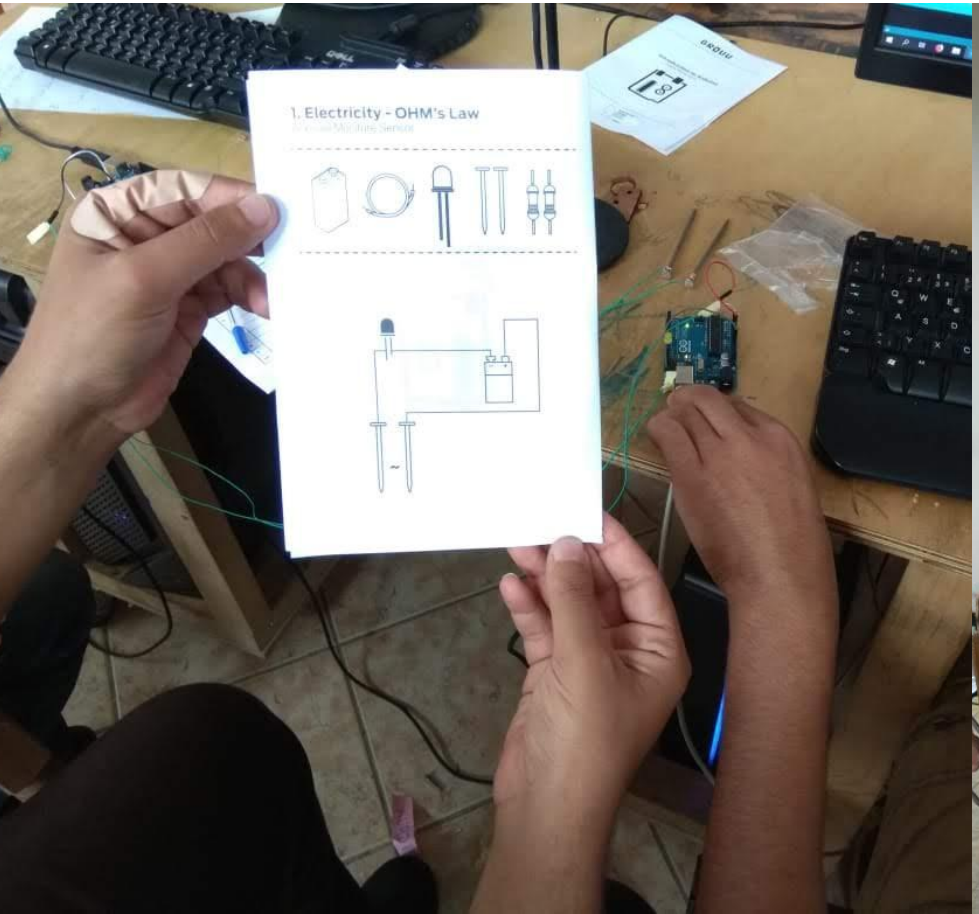
Make that information become Visual again on the form of an Alarm!

Add lines of Code:

If Value exceeds or is bellow a value turn on the LED!



Intro to Arduino at Habibi.Works - GROUU as Educational Resource

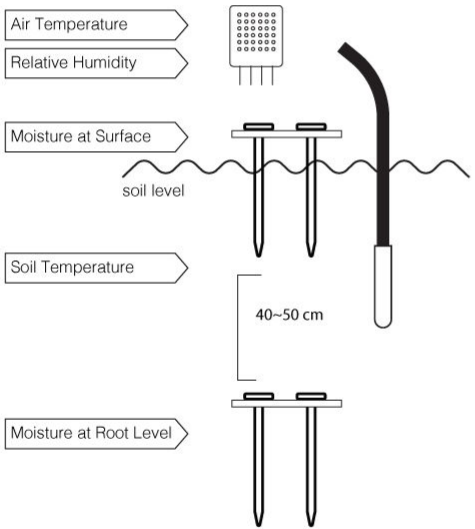


Intro to Arduino at Habibi.Works - GROUU as Educational Resource

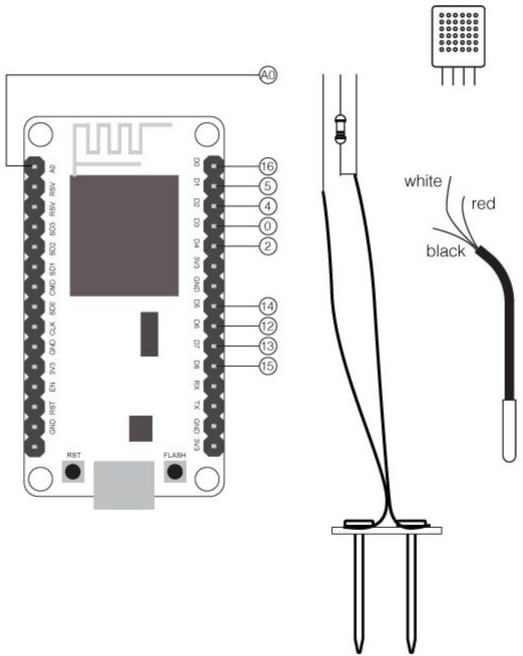
Changing the Plan - Using a Development Board (NodeMCU)

1. Probe Module Components

Moisture + Soil Temperature + Humidity and Temperature



2. How to wire to NodeMCU



3. Inject Firmware - Program with Arduino IDE

a) Copy paste Code from ____ ;
b) Change Probe Number _____ ;
c) Connect to your Node MCU as AP and help it connect to the wifi HABIBI.WORKS;

4. Test connection on the Dashboard, at http://192.168.1.66:1880/ui/

asdasdaadfa sdasd sa asd asd as das d a asd as asdasdakjl asdkaskjld jaslkdaksljd

The Team

The Solution

mainSoilProbe REV0 - Developed at the Habibi Works (Ioannina, Greece) CultiMake Workshop - P2PLab - Archived

design

eagleCAD:

https://github.com/steam228/GROUU

GROUU

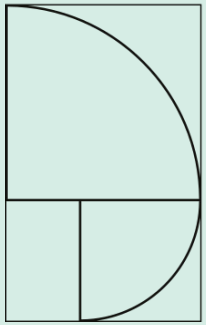
Modular Open Agriculture

Enabling the implementation of Precision agriculture / Automation in any context or scale of production:

- from indoor hydroponics to traditional agriculture;
- from a balcony vase implementation to a large exploration;
- in an urban or rural context; These modules can be useful for all, used together, adapted, remixed, distributed...

Your collaboration is precious! No onboarding needed, just start designing and developing!

Modules V1 - ESP12 based version (under dev - design (boards, enclosures), firmware(arduino))



Distributed Design Market Platform

Co-funded by the Creative Europe Programme of the European Union