Arduino project : Botanicalls

1.Introduction

Massimo Banzi said : “it’s really scary to see the capabily the kids have when you give them the tools”, for me this phrase pictures one essential thing about Arduino : a space for imagination. In fact this is what open-source can offers, a place to create, discover, upgrade, customize and share.
A lot of projects in this video are wonderful, the sign language glove, the ps3 controller... but one that caught my attention is “Botanicalls”.

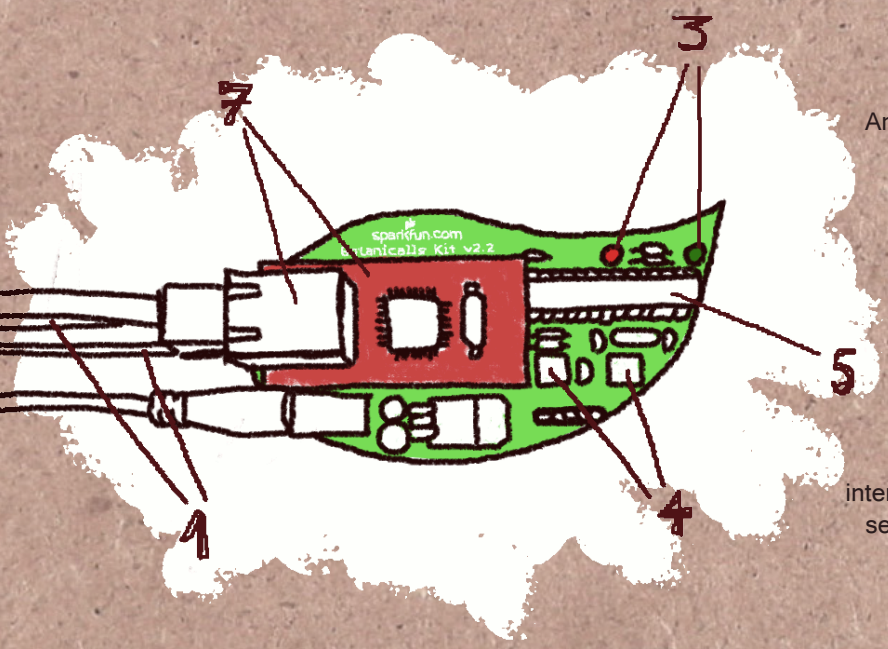
2.What it is?

Botanicalls helps to know when a plant needs water, with it you’re informed about the moisture percentage in the plant pot’s ground. It also sends alarms and informations on Twitter, this is very practical and quite fun to check-out in real-time how your plants goes. I love this project because it could become much more. For now the environement is talking for the plant, instead it will be interesting to understand how the plant itself respond to light, touch, sound, and why not to twitter messages too.

3.How it works?

1- So probes are putted in the soil not too close from each others or the plant pot bottom, and mesure the actual moisture.
2- A terminal block connect the sensor probes to a PCB (on its back). On it you can also find :
3- Light-emitting diodes to inform you about the plant “status”.
4- Switches buttons, one allows you to send test messages with preconfigured Twitter account, the other is a reset (usefull for any customization).
5- A microcontroler gathering essentials computer elements like CPU and data storage. Indeed it manage the communication with the outside world.
6- A socket to connect modules (can’t be seen).
7- Speaking of modules, we need Internet and a new circuit board carrying an ethernet port to connect it to a router. This one allows the plant to speak across the whole internet.

Of course there’s a power jack and some components in charge of the electricity managment like capacitors, resistors etc...



4.Personalization?

Arduino’s programming language consists of C and C++ and has is own library. The Botanicalls creators gave us useful customization exemples like :
- Change Twitter messages
/* Insert Little Shop of Horrors joke here */
- Change thresholds parameters, in order to fits the soil nature or the plant’s specie.

We can make a lot of new changes, even about the components, through new modules for exemple. What about light or temperature sensors? And instead using internet we can add a speaker and recorded characteristic sentences which making the plant “talk”. With some new lines of code possibilities seems to be infinite.