**Personal Impressions about Arduino Course**

**Introduction**

The first time I have heard about Arduino was at Esdi, when I was taking a course on Physical Computing with professors Denise and Reiszel, in the summer of 2014. There we learned about programming with Processing and integrating it with Kinect. At the end of this course we received the news that next semester we would have a workshop with Bo Peterson, a Swedish professor from Mälmo University. He would come to teach us Arduino.

Soon I started to search for informations about this technology and found that it was an open source hardware, programmed in a language similar to Processing. Unfortunatelly I couldn’t go deep inside Arduino because, like many others of my class, we were delivering many works for all disciplines at the Doctorate Course.

During the CSCW classes on the next semester, we were presented to Makey Makey, an open hardware that could transform any organic (and sometimes inorganic) thing in a button. That could control a computer and be used to turn ordinary things into very funny controls. But it had a limitation it should always be connected to a computer.

So, on January we started the classes in a very heterogeneous environment. Some of us knew a bit of Processing from the previous classes and the other didn’t. And, I think this was a very good experience, because we were able to integrate students with no experience at all in programming and students with some.

Bo is a very astucious teacher and was able to transmit the concepts behind that little blue board to both group of students, showing the potential of such hardware. Who could imagine a person with no experience in programming and Electronics would be able to control sensors and devices in just 5 classes? For me this is the magic behind his classes and behind Arduino.

The very first thing differing Arduino from Makey Makey was the possibility of having it controlling without a computer controlling it. So we could just upload our code and plug it into an external energy source and voilá. It is controlling the external sensors.

I am an Electronic Technician and I understand the concepts behind all the physics and mathematics behind resistors, leds, LDRs and other components. But most students in this class were not and Bo managed to show how these components work in a very easy way. He just presented how they function and connect with each other to have a circuit working. What really mattered was the functionality of every one of them to produce a useful device

Sometimes I thought the classes would be more productive if every students have learned Processing before. Arduino is not hard to learn and the first lessons were a bridge to the next ones, building the knowledge on basic analog and digital electronics.

But in my opinion the last class about bluetooth communication were the most useful. Bo taught us concepts about IP, connection between Arduinos, how it works and the tricks on the commands we needed to use to have an answer from all devices.

I hope professors Denise and Reiszel manage to bring him to Brazil again to teach us in deep how arduino works and to make a project together. It was a very good experience about Arduino and also about the Swedish culture.