

An Unfinished Final Report. By Buddy Bernhard

- Complete a **final report** that details what you did for your application (include and problems you encountered, how you resolved them, anything clever you found, describe any reusable classes you wrote, stuff like that).
- Give me 2 things for a **summary**: an screen capture that you think shows the best of your application, and a few sentences that summarize what you application does.
- Turn in a ZIP file of **everything** (project tree, report, summary text and summary screen capture) no later than ONE week after the last class.

The IOIO (pronounced yo-yo) micro-controller has allowed me to partially realize an idea I've had in my head for years. Using the android compatible device, I hoped that I could measure quantities of energy used by people on a day-to-day basis. The problem I hoped to solve is the cost of fossil fuels most everyone in developed countries pay today. These costs stem more from the bureaucratic and monopolistic system than by the actual price of fuel. Studies conducted by the UN have shown that people are willing to switch to renewables as long as the cost remains the same as the fossil fuels that are creating climate change.

My plan has always been to create a currency based on energy costs rather than superficial market costs. I built upon that idea until I came up with the solar box. A solar powered charger for your phone that keeps track of the total Watts produced. Using this information, users could eventually sell their Watts of renewable energy back to the large fossil fuel companies who are required to produce set amounts of renewables by the government.

It turns out that the process was a little more complicated than I had originally planned for. Other class work and fieldwork took up far more time this semester than ever before so I adapted my goals to create an app aimed at getting kids to use renewables at an early age. I started to build the app for iOS, which was foolish because I just assumed I could somehow connect the IOIO to an iOS device. I spent many hours trying to do just that, but nothing I found made financial sense and I was quickly running out of time. I went back to Android and started the process of understanding the provided APIs and implementing them into a useable interface. I had to learn about pins, resistors and Ohms law just to get the thing to blink on and off. My first and most arduous task was to get the android device to recognize the IOIO. After I figured that out the coding came easier. I am certainly not proficient in the Java language, which made small things like creating equal sized buttons and changing texts a challenge. I am looking forward to continuing work on my project past this semester. I would appreciate your feedback next semester and beyond as well.

Summary

The SolarBox app utilizes a IOIO (pronounced yo-yo) microcontroller to create an interactive experience for Android users. Box owners collect solar rays through the solar panel attached to the IOIO. The more rays collected, the more in app options become available. Available today is the SolarPet first edition.

