

Sean O'Day

Preliminary Report 2

ECE 4220

15 May 2015

Progress

My project got very behind when the Beaglebone I was using had a hardware malfunction and had to be sent back to the manufacturer. Apparently this is a somewhat common occurrence due to a lack of fuses protecting the processor. Essentially, there is a transistor that is used in the process of measuring the rise time of the power supply to ensure it can fully operate. This transistor is likely shorted preventing the board from powering on. It took over a week and a half but I finally got a new board to experiment with which I will discuss below

Changes

The main change I will be making is the board I'm using. I got a new board called the Odroid C1. It runs slightly better specs than the new Raspberry Pi and has a real time clock onboard. It took me a while, but I believe I finally have a stable Ubuntu distribution on it and will begin the process of programming and debugging. I've toyed with the idea of testing a real time kernel, however most of those being built for this board are in their infancy.

Experiments

So far I have not been able to run very many experiments with this board. I have plugged in the I2C ADC and it recognizes it. I'm working out some bugs with reading values, but I believe these are software related and should be quickly overcome.

Things Left

I have quite a bit left to do. I need to make sure I can read values correctly from the ADC and then get them output after. I've done some reading into the interrupts, but the datasheet released for this processor is not at all straightforward, but I believe this should be doable. If not I will likely just use a polling scheme to read values from the buffer and push interrupts to future work.