Daily Report

Monday, September 27th

Today we focussed on getting the fundamentals of our project going, which are required for being able to use the multiple components of the project (the raspberry pi and the de-1 SoC) with each other. For doing this we first wanted to get the communication going between the raspberry pi and the de-1 SoC over the I2C protocol. For this the I2C protocol has been implemented on the FPGA, and on the raspberry Pi we found some built-in hardware support, and after enabling this we tried out the implementation. Unfortunately we ran into some problems getting this communication to work, and we worked with an oscilloscope to debug what was happening at the gpio pins of the breadboard, delivered with the protobox. Although we haven't yet come to a conclusion as to how to solve our communication problems, we found that the labels didn't match the actual use for the pin. We finally, after changing the wires on the breadboard, and some re-configuring, had gotten to the point where it would actually send data over the gpio pins.

There were some more discrete advancements on the to-be server side of the software running on the Raspberry Pi. It now has some basic setup which supports Channels with frequency, volume and waveform properties, and also an Envelope, which is a basic ADSR-envelope for controlling the produced sound. The web-client has made some advancements in that it now sends key-up and key-down events following a protocol (XML based). These events are to be caught in the web-server and processed further with the other server-side code, and eventually be send to the FPGA when the I2C communication works.

Although we did make some advancements today, the biggest setback is probably that there's still a lot of work to do on the communication itself, before we can finally get to creating the actual project specific elements we are planning on building.