**Daily Report**

# Tuesday, September 28th

Today we worked on finalizing the I2C connection between the Raspberry Pi and the FPGA. We couldn’t start first because one of our team members forgot to bring his Pi with him and the other Pi wouldn’t work. We lost a lot of time trying to get the other Pi to work and getting the Pi we normally use. But the code we wrote yesterday evening for the pi seemed to work, so most of the I2C part on the Pi worked.

After we tested this code and analyzed the send data we fixed some small issues with the interpreting of the I2C protocol in the program of the FPGA. After fixing this the Raspberry Pi started a correct connection with the FPGA. After testing and a lot of debugging we could finally fix the C for the Raspberry Pi. The program seems to write bytes in a very strange format, if we send the value 0x123456 the FPGA reads 0x563412 after debugging the wires again we found out this is a problem with the C library.

We also set up the python backend. It has some scripts to process the api calls. We also defined how the server has to handle the api calls and how the clients should receive an answer. Every event will get an ID so clients can easily request changes. We also made a xlsx document containing the protocol we used to let the Raspberry Pi communicate with the De1soc. We are planning to develop a C library for our python program to let it communicate with the FPGA and already made a header file for this.

We can now work on actually playing the notes on the FPGA, and executing the api calls made from the web front end and the frontend also needs to correctly interpret the answers from the backend