

Alan Medina
Rumen Hristov

FPGA Telephone

We propose building a two-way telephone system. We will utilize two FPGAs, which will be connected with a wire to transmit data and simulate a phone call. One person will be able to dial one FPGA from the other and the other person can pick up and start a conversation. If the call does not succeed then the caller will hear the pre-recorded greeting message of the person who he is calling. After that he will have the option to leave a message. Later the other person can listen to this message and decide whether to save or delete it.

Our project closely follows the systems used in the traditional land line telephones and our design will face similar challenges. We will use two labkits, which will be connected with a single bidirectional data transmitting wire. This connection needs to tolerate noise, because otherwise the quality of the audio will be impacted in a negative way. The other challenging component of the project is the voice message recording. We need to store and read from the flash memory for the labkit and send the data that we read either to the headphones or to the other FPGA.