

Team Members
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Abstract

Our final project will be a digital oscilloscope implemented on the Labkit's Field Programmable Gate Array with a computer monitor as the display. In order to accomplish this, we will use an analog-to-digital converter to sample analog user input(s). We will store these samples in the FPGA BRAM, then extract information about the input signal from them, such as period, peak-to-peak voltage, and offset. This information will be used to scale the waveform vertically and horizontally such that it can be stored in a separate BRAM array that represents the pixels on the monitor. The scale of the waveform on the monitor will be set when the user presses an auto-adjust button. Also added to this BRAM will be images of numbers that will provide the user with numeric measurements from the waveform, as well as grid-lines to provide scale.