Final Project Checklist

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Our project has two major components to be tested: waveform generation and display. These components are comprised of the various major modules, which are listed in each section.

Waveform generation:
Labkit inputs, Waveform FSM, DAC

Using the our controls on the labkit (buttons and switches) and an oscilloscope connected to the outputs of our 8-bit DAC, we will demonstrate that our function generator is capable of producing the specified waveforms and controlling them.

- Generation of square, triangle, ramp, sine waves
- Control of amplitude with labkit, between 0V and 5V
- Control of frequency with labkit, between 100 Hz and 100 kHz
- Control of waveform type with labkit

Waveform display:
RAM Image, Video module (display and outputs to Waveform FSM), Mouse Control

We will demonstrate our on-screen display changing appropriately to reflect the waveform being produced, including its current measurements as reported by the Waveform FSM. We will also demonstrate control over the waveform from the on-screen display through a PS/2 mouse.

- Display bitmap images of square, triangle, ramp, sine waves for on-screen buttons
- Display correct measurements for amplitude, frequency, and duty cycle of waveform (verified with oscilloscope)
- Display "real-time" images of waveforms, which change to reflect appropriate amplitude, frequency, and duty cycle (verified with oscilloscope)
- Mouse control to change type of waveform *time permitting*
- Mouse control to change amplitude and frequency *time permitting*