Lab Group C9

Lab Section: Tues, Noon

ECE 266

Due: Nov 16, 2018

Lab Project Progress Report I

**Functionality:** Our project will operate as a standalone voltage controlled oscillator (VCO). This function is normally included in most commercial synthesizers with variable controls. We will also include a few modes of operation so that rotary dials can be used to control different waveform parameters.

**Interface:** User will manipulate the oscillator by means of the two rotary dials that will allow the user to change different parameters depending on the mode selected (which will be indicated by the color of the on-board LED).

* **Inputs:** two rotary dials for accurate manipulation of the oscillator parameters, 1 on-board pushbutton for changing modes of operation and another pushbutton for the selection of waveform shape.
* **Outputs:** buzzer (hopefully speaker) to play the modified waveform that the user has selected. 7-segment display to display the waveform type that the user has selected.

**Performance:** The oscillator should play the correct pitch range and whatever changes the user makes to the system should be reflected accurately.

**Component Cost:** The cost should by no means exceed that of the tiva c microcontroller and grove connector with peripherals. Everything needed to play the output waveform is dependent on the speakers of the user’s choice.

**CURRENT STATUS**

We currently have the rotary dial functions for configuration and use as well as the configuration functions for the 7-segment. We are now looking into writing the callback to play a continuous signal and writing the functions that will produce our different audio waveform shapes (square, triangle, sine). Once we have these finished we will focus on writing the modes of operation using the pushbuttons with pushbutton 1 allowing the user to select the waveform shape and pushbutton 2 for changing the different modes of operation.