ECEN 220 – Fall 2017
<Lab 1: Introduction>
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<Section 2>

Preliminary
Active CAEDM Account
Headphones
Carefully read instructions

Exercise #1
My CAEDM User ID is Jack053.
I'm allowed to use the lab any time it is open, except for the time scheduled for another class.
No food is allowed in the lab, and only water bottles with a lid are allowed.
To request help from the TA I click on the Help Queue tab on the sidebar of the wiki.

Exercise #2
JP2 Jumper must be set in the up position allowing for programming with an SD card
On the seven-segment displays I see a red trail following each segment almost in a snake-like fashion.
When I flip the switches on the bottom of the board, the LEDs above the switches light up.
The two tri-color LEDs are constantly changing color.

Exercise #3

SW3	SW2	SW1	SW0	Digit
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	A
1	0	1	1	b
1	1	0	0	C
1	1	0	1	d
1	1	1	0	E
1	1	1	1	F

SW6	SW5	SW4	LED Color
0	0	0	Off
0	0	1	Blue
0	1	0	Green
0	1	1	Blue-green
1	0	0	Red
1	0	1	Purple
1	1	0	Yellow
1	1	1	White

SW9	SW8	SW7	LD4	LD3	LD2	LD1	LD0
0	0	0	ON	ON	OFF	OFF	OFF
0	0	1	ON	OFF	ON	ON	OFF
0	1	0	ON	OFF	ON	ON	OFF
0	1	1	ON	OFF	OFF	ON	OFF
1	0	0	ON	OFF	ON	ON	OFF
1	0	1	ON	OFF	OFF	ON	OFF
1	1	0	ON	OFF	OFF	ON	OFF
1	1	1	OFF	OFF	ON	ON	ON

LED	Function
0	AND
1	OR
2	NOT
3	NOR
4	NAND

Exercise #4

Layout of display via VGA cable:

BYU Seal logo on left, Accelerometer display in center, Temperature sensor readout on right hand side 0-80C, Microphone wave display on bottom all except for a set of 6 white capsule shaped dots against a black background on the bottom right hand side. Rainbow prisms rotating in background behind everything listed aobve.

Accelerometer:

The green square in the center of the accelerometer display moves in relation to how I tilt the board. If the square goes out of its boundary, it changes to a red color.

Audio:

The waveform in the microphone display section raises and lowers in intensity as I speak into the microphone.

Personal Exploration

For my own personal exploration for this lab I went ahead and did the first suggested option of comparing the VGA display with the configuration programming vs. the programming that's built in with the board. Upon switching the board off and back on again, I noticed that everything was in the same place, but instead of a BYU school logo there was a logo that read NEXYS4 Digilent "Beyond Theory" Analog

Devices. On the right hand side, instead of a black square with 6 white capsule-shaped dots, there's now a section of the screen that reads RGB Leads, with rows labelled LD16, LD17 and columns for Red, Green, and Blue.

How many hours did you work on the lab?
1.75 Hours, from 11am to 12:40 pm.

Please provide any suggestions for improving this lab in the future:
N/A