

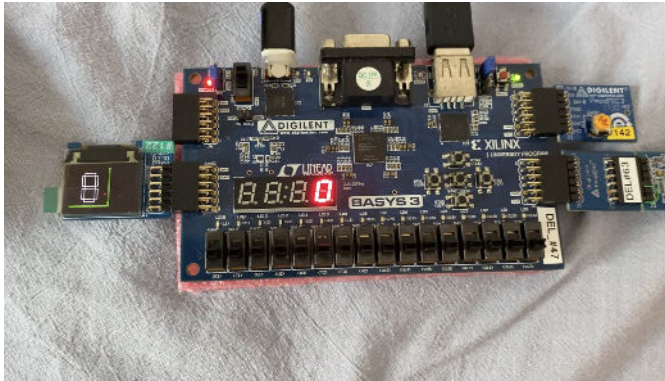
Student A: Vu Van Dung A0243323R
Student B: Wang Silang A0242210A
Student C: Bui Phuong Nam A0244121X
Student D: Bian Rui A0239073A

EE2026 Report

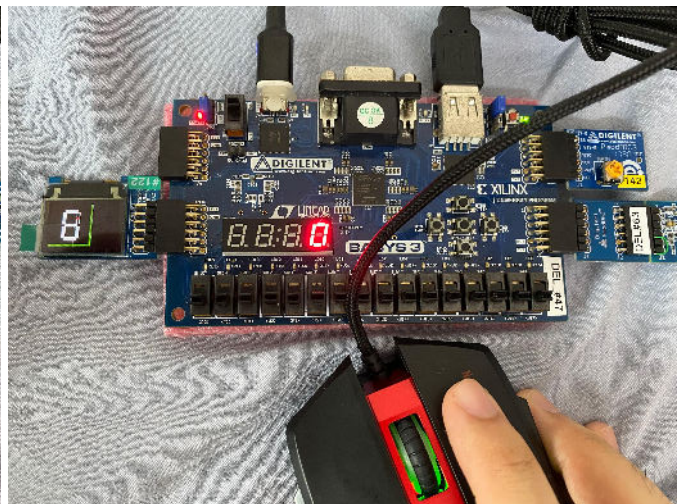
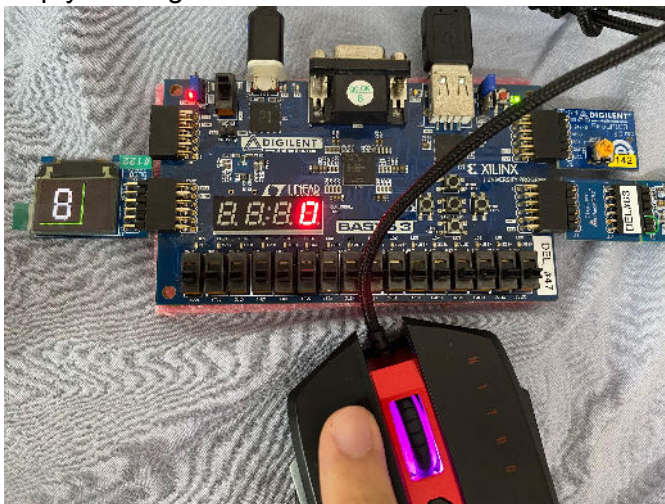
Quick start & User guide

Group integration (Section 4.E)

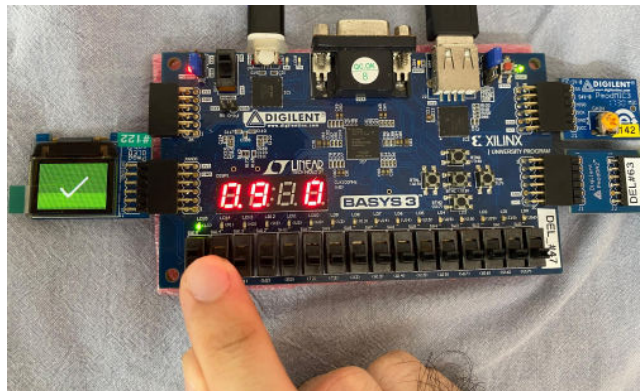
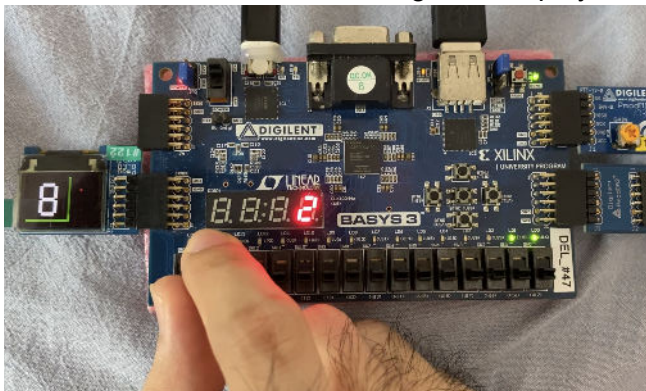
Default empty digit display:



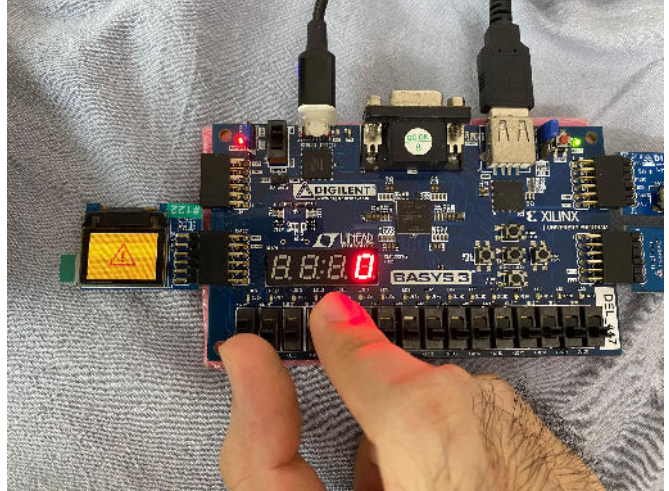
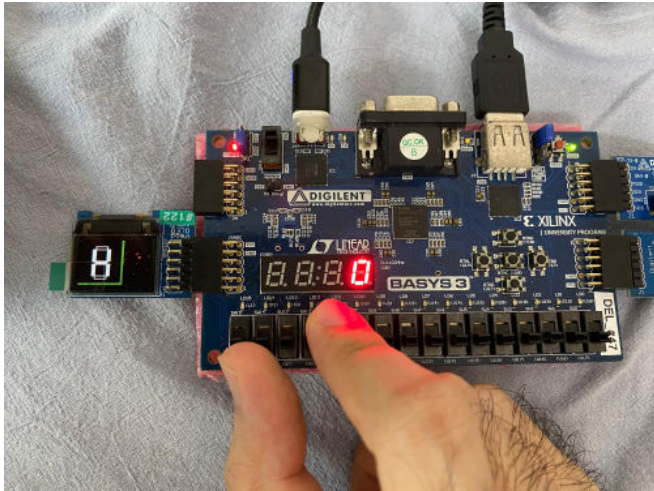
Filling up the digit by left clicking on its empty segments with mouse, and right click the filled segments to empty the segment:



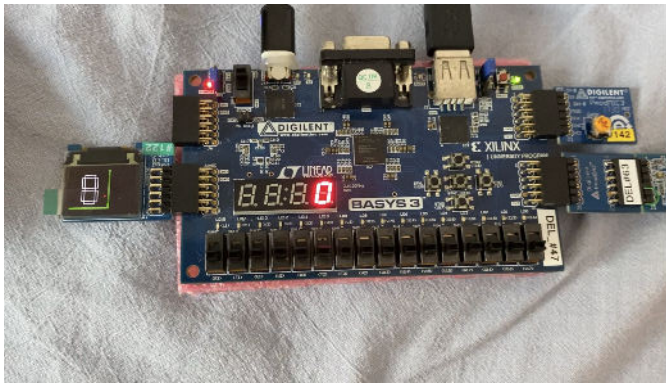
When the digit displayed is valid, in this case valid digit 8, turning on sw15 will produce the corresponding sound for 0.9 seconds and 7-segment display "0.9". led15 will also be on:



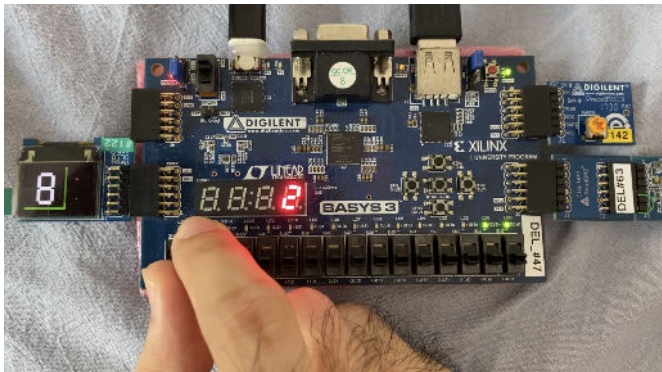
When the digit displayed is invalid, in this case “X”, turning on sw15 will produce no sound nor any 7-segment display, neither will led15 be on:



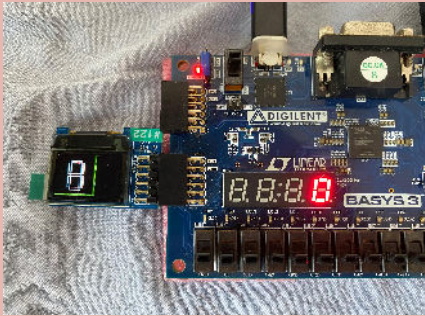
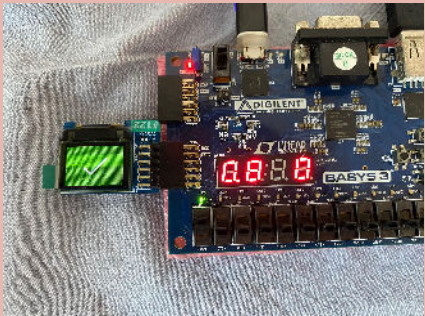
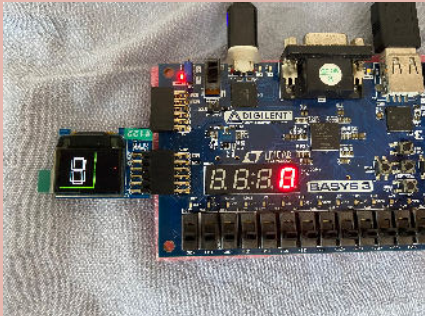
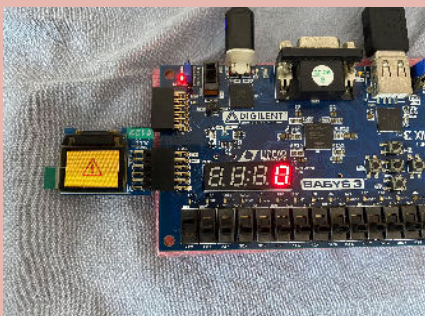
After either a correct or incorrect digit validation by turning on sw15, the OLED display will return to the initial empty digit display when sw15 is switched off, system will be ready for the next digit validation:



Note that for the entire task in this section, the audio detection segment, including LED display to 7-segment display, works as per normal:

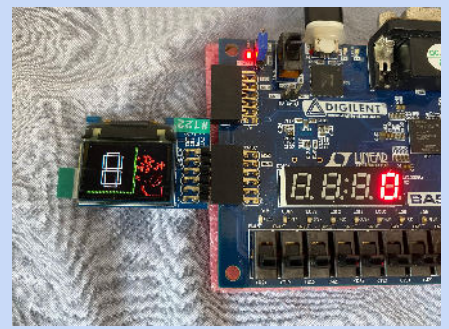


Personal and team improvements

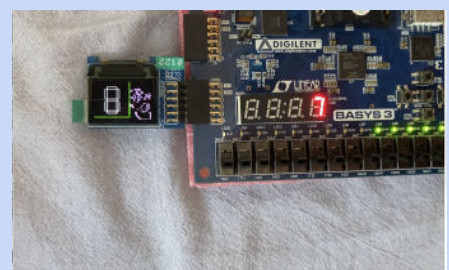
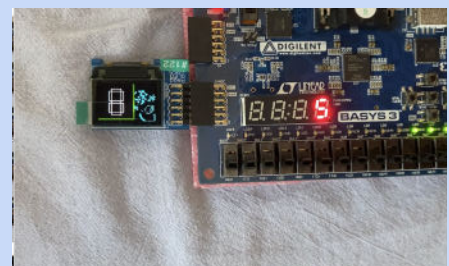
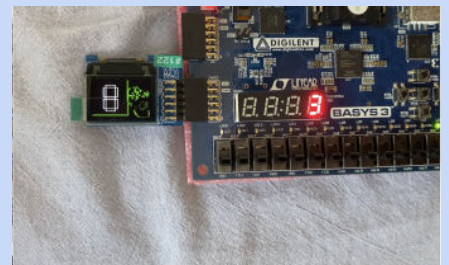
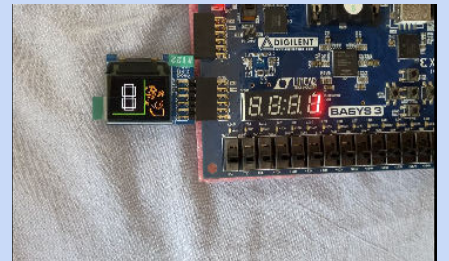
Name	Description	Photos
<p>Student A: Vu Van Dung</p> <p>Response screen for valid digit during validation</p>	<p>When sw[15] is switched on, number validation takes place as in 4.E. However, on the screen, a “success” or “error” screen is displayed depending on whether the digit is valid or not.</p>	 <p>User keyed in valid number, 7</p>  <p>Display of “success” screen when sw[15] is switched on</p>  <p>User keyed in invalid digit</p>  <p>Display of “error” screen when sw[15] is switched on</p>
<p>Student B: Wang Silang</p> <p>Changing the color of the drawings based on sound level,</p>	<p>When there is any drawing created, which is default red, the color of the drawing will change based on the</p>	<p>Default color of drawing: red</p>

and adding the animation for the disco mode

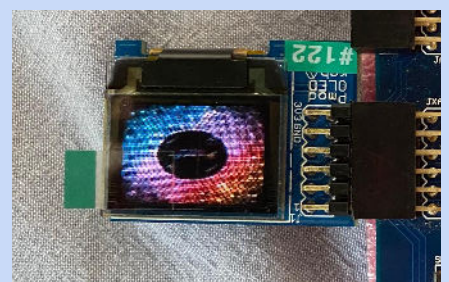
surrounding sound's levels.
Also the disco mode now displays a **disco animation** instead of a static disco image, when the audio level is above 9 for 2 seconds..

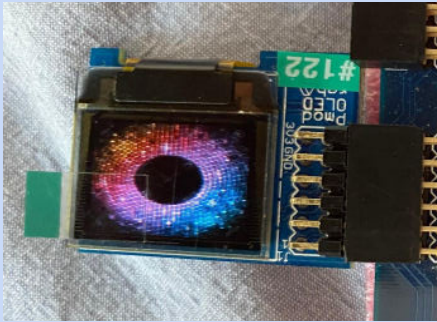
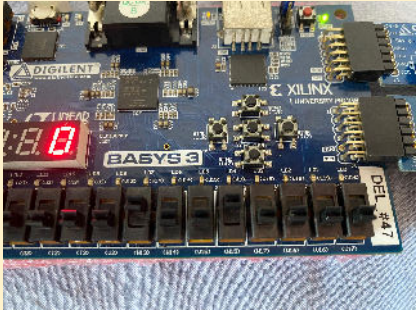
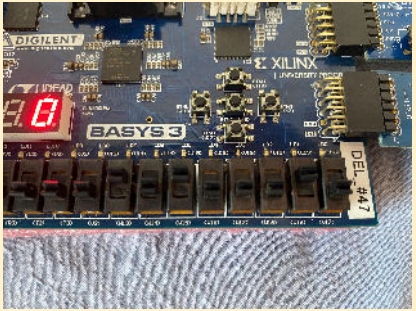
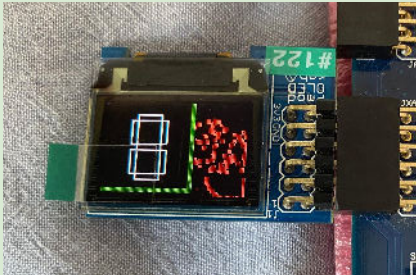
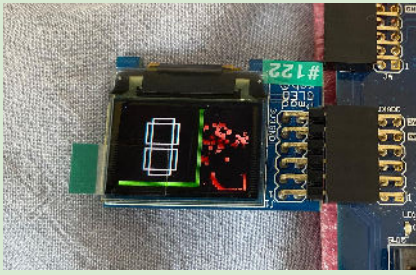


Changing colors of drawings based on different sound level:

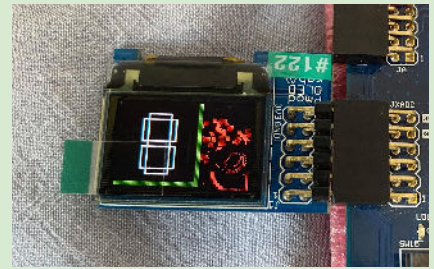


Frames of new disco animation:

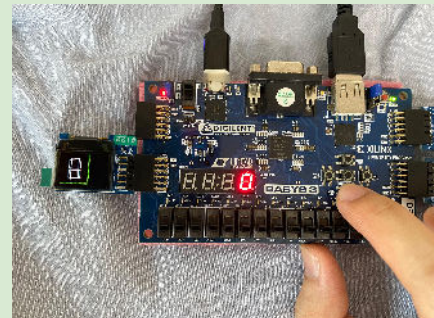


		
<p>Student C: Bui Phuong Nam</p> <p>Simulate a 11-note music keyboard to generate single sound</p>	<p>When sw[1] is switched on, any switches between sw[13] and sw[2] could generate a sound if we turn on that switch. Each sound represents a different music note, from C (Do) to B (Si). The sw which is turned on after another one will have a smaller volume and acts as a support sound for the main note.</p>	 <p>When sw[1] is not on, turning any of the switches on produces no sounds.</p>  <p>When sw[1] is on, turning any of the switches from sw[13] to sw[2] produces sounds.</p>
<p>Student D: Bian Rui</p>	<p>On the area left of the green line, left click and drag mouse will allow the user to draw on the screen, right click and drag to erase drawings. Paint brush's size is the same as the cursor size. Pressing the button down will erase all drawings.</p>	 <p>Drawing with 3x3 brush</p> 

Erasing the drawing with 3x3 eraser



Drawing with 1x1 brush

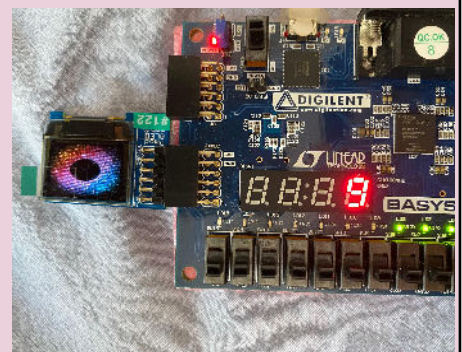


Pressing btnd to clear all drawings

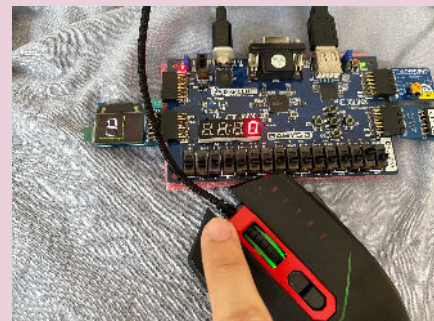
Team:

Disco mode initiated when the sound level becomes too high

When a loud sound, with sound intensity equal to 9 on the 7-segment display, is detected for 2 seconds continuously, **there will be a static disco image displayed.** The disco mode can be disabled by clicking the left button of the mouse.



Static disco image displayed when sound level is at 9 for 2 seconds.



Left click on mouse will exit the disco display