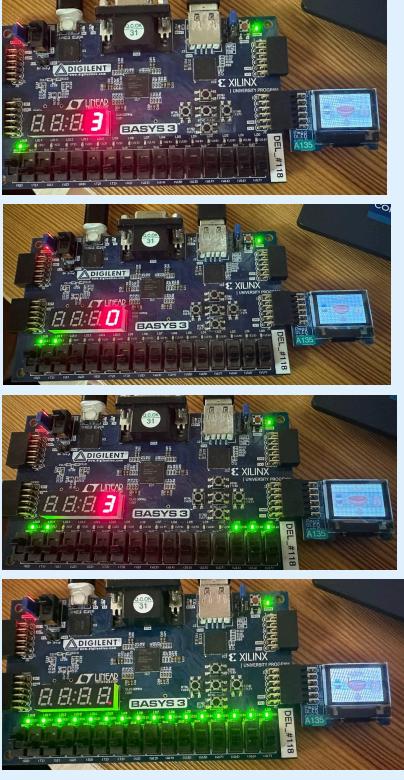
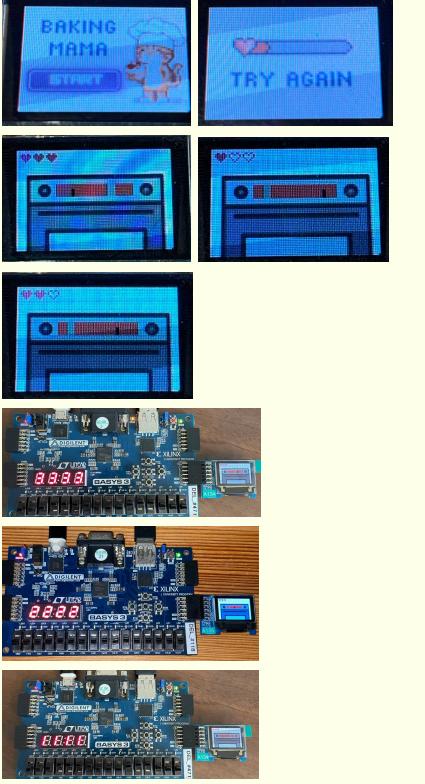


PERSONAL AND TEAM IMPROVEMENTS		
Student and Improvement Name	Improvement Description	Images/ Photos
<b>Team "BakingMama"</b>	Baking game inspired by CookingMama where players have to collect ingredients, mix ingredients, set oven temperature and decorate the cake through minigames. There is a 3 second transition screen between every stage.	
<b>Student A: Ng Ding Hui, Jermaine</b> "Collection of ingredients"	<p>Users will move the mouse to collect ingredients that fall from the top of the OLED screen. The cursor is represented by a basket that can only move horizontally. The number of ingredients users need to collect is indicated at the top right side of the OLED screen, and the number will update accordingly whenever the relevant ingredient is collected.</p> <p>However, bombs will also be dropped. Users would lose lives if the bomb is collected. If all 3 lives are lost, a screen saying "TRY AGAIN" will be shown. The number of ingredients collected will reset, and users then have to re-collect all the ingredients again.</p>	
<b>Student B: Zhang Xiaohan</b> "Mixing of ingredients"	<ol style="list-style-type: none"> <li>Switch on sw15 (led15 will light up) to start the game: ingredients will light up in a specific sequence. Each step of the sequence shown will correspond to a value on the anode.</li> <li>Led14 will light up once the automatic sequence has finished displaying. The first anode will display the value 0.</li> <li>The user has to press the buttons, btnL,btnU,btnR or btnD in the sequence shown previously. Each step the user has completed will be displayed on the segments and corresponding leds will light up. If pressed wrongly, the game will reset to 0 (including the segments and leds).</li> <li>After completing manual input, the bowl will be filled with the cake batter and a spoon will appear in the bowl. All the leds will also light up and the anode display will disappear. Using the mouse, hold the left click button down and mix the batter in the bowl for 4 seconds, if left click released before 4 seconds, counter will restart. The mouse movement has a boundary set which is within the bowl.</li> <li>Transition slide to the next game will appear</li> </ol>	

	<p>after 4 seconds of mixing.</p> <p>Others: Implemented BRAM for storage of excess memory for all the images, from my mini game and for the start, transition and try again slides in the whole game.</p>	
<b>Student C: Wong Xin Hui</b> “Setting oven temperature”	<p>Levels 1, 2 and 3 will be represented with 1, 2 and 3 on the anode and segments screen respectively.</p> <p>This feature displays a background of an oven with a temperature bar, black pointer and lives (represented by hearts at the top left). When the feature starts, the black pointer will move horizontally within the temperature bar (red and green areas).</p> <p>If btnC is pressed within the green area: user will move on to the next level with a faster pointer speed and smaller green area.</p> <p>If btnC is pressed within the red area: user will lose a life. When all 3 lives are lost, a screen saying “Too Hot! Try Again” will appear. When btnC is pressed, the user will go back to the first level with all 3 lives restored.</p> <p>Once user completes all 3 levels, user will move on to the next feature</p>	
<b>Student D: Neo Yin Qi</b> “Cake decoration”	<p>Colour selection:  Scroll to choose between 4 different cream colours, as indicated by the colour on the piping bag. Left-click to choose and go to the topping selection.</p> <p>Topping selection:  The cream on top of the cake should be the colour chosen. Scroll through to select between 3 toppings, as shown on the top of the screen. Left-click to choose the topping. Right-click to go back to colour selection.  After selecting a topping, final cake is shown. Within 3 seconds, the user can right click to return to topping selection. If not, the words “BETTER THAN MAMA!” appears, with a 0.5 seconds interval between each word. Game is complete.</p> <p>Other: Implemented transition between games</p>	

Group ID: Group 09 Members: Ng Ding Hui, Jermaine A0283250L; Zhang Xiaohan A0282416E; Wong Xin Hui A0281926W; Neo Yin Qi A0281279U

**References:**

1. Tutorial. Picture2Pixel. (n.d.).  
<https://www.comp.nus.edu.sg/~guoyi/project/picture2pixel/>

Used to convert pictures into pixels that can be programmed in Verilog
2. Leong, A., & Ong, Z. H. (n.d.-b). *EE2026-digital-design-project/sources/menu.v at main · Alfred-Leong/EE2026-digital-design-project*. GitHub.  
<https://github.com/alfred-leong/EE2026-Digital-Design-Project/blob/main/Sources/menu.v>

Used as reference for implementation of BRAM

**Feedback:**

We felt that the hands-on portion of the course was quite fulfilling and fun, but wished that the final quiz could be held during finals week, instead of the week right after the project submission.

Felt that we did not use much of the theory we learnt after completing lab assignment 3 (around week 7).