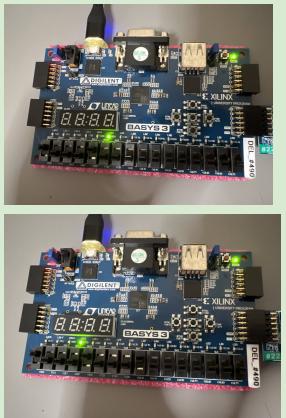
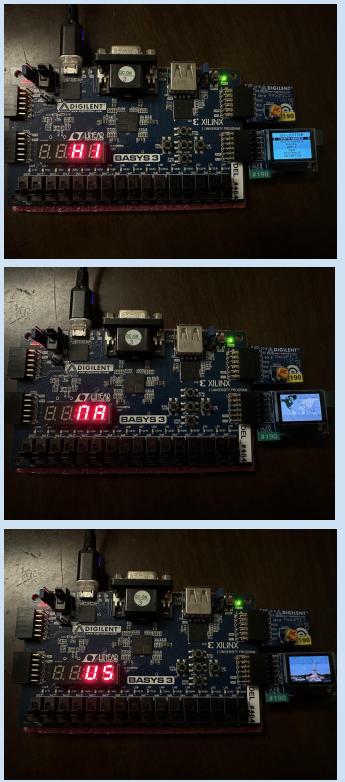


EE2026: USER MANUAL

**Student A: Leo Zheng Rui, Darren (A0237056E) || Student B: Tang ZeHou (A0222678X) || FRIDAY P.M
Session || Group ID: S1_12**

Feature Name	Feature Description	Images / Photos
Student A: Leo Zheng Rui, Darren OLED Basic Task A	<p>Leaving the FPGA in default mode initiates into this mode.</p> <ul style="list-style-type: none"> • Red and orange borders the OLED display • Pressing the PBU button once creates a green border enclosed within the red and orange borders • Once pressed, LED14 will turn on for 3 seconds and no inputs will be read • After 4 green borders are created, the next PBU read will reset the screen back to the red and orange borders 	
Student B: Tang ZeHou OLED Basic Task B	<p>Turning on sw[3] shows the default red & yellow rectangles on the OLED screen.</p> <p>Pressing the PDB will cause a green rectangle to appear & LED14 to light for 5 secs & no inputs will be read. After 3 green rectangles are created, pressing the down push-down button will reset the OLED back to the default red and yellow rectangles.</p>	
Team: OLED Basic Task Audio Volume Indicator	<p>Turning on only sw[0] will switch on the audio volume indicator. There are 5 distinct audio levels:</p> <ul style="list-style-type: none"> • The OLED screen displays borders and rectangles simultaneously • Number of rectangles and borders individually depict audio level (0-5) read in from mic input. (i.e. Level 0 is an black screen as there are no borders or rectangles) • LEDs reflect audio level (0-5) 	
Student B: Tang ZeHou Simple Timer	<p>Turning on sw[2] will start the timer. The seven-segment display will show the timer incrementing from a minimum of 0 to 9999.</p> <p>Pressing the up push down button will stop the timer. Pressing the centre pushdown button will reset the timer.</p>	
Student B: Tang ZeHou Simple Calculator	<p>This function is initiated by default.</p> <p>sw[15:12] and sw [11:8] represent a 4 bit input1 and input2 respectively.</p> <p>sw[7] and sw[6] set the modes of calculation</p> <p>Led[13:6] represent an 8 bit output</p> <p>sw[7] & sw[6] both off is addition, sw[7] off sw[6] on is subtraction</p> <p>sw[7] on sw[6] off is multiplication, sw[7]&sw[6] both on is division</p>	

<p>Student A: Leo Zheng Rui, Darren</p> <p>Geolocator</p>	<p>Upon flipping sw[1] only, the geolocator menu pops up on the OLED display.</p> <ul style="list-style-type: none"> • Contains all 7 continents • PBD or PBU to scroll contents, PBC to select continent • The 7-segment display greets the user. • Side arrows move! <p>If no continent is selected in the main menu:</p> <ul style="list-style-type: none"> • pressing PBC will enter “screensaver” mode. Landmarks of different continents will scroll the screen. • Press PBC twice more to produce coloured world map <p>If a continent is selected, the display shows the continent, highlighted with its unique colour, on the world map. The 7-segment display indicates its name.</p> <ul style="list-style-type: none"> - The user can press PBC to view a landmark of the continent. The 7-segment display shows the country it's located in. <p>At any time, pressing PBL will bring the user back to the previous view.</p>	
<p>Team:</p> <p>Continent Sizer</p>	<p>Team project is an improvement of the geolocator. Each continent will have a Sizing Mode. This mode is accessed by pressing PBC past the landmark page.</p> <ul style="list-style-type: none"> • The OLED screen shows a map and a red/yellow circle. • Circle changes in size based on mic input (Louder means larger) • When mic input is at maximum, the circle will turn green, and depicts the surface area of the selected continent. • When the user reaches the selected continent's surface area, the 7-segment display holds the real surface area of the continent in million kilometres squared. (XX MK on 7-segment display) - When the circle grows to a size equal to any of the 7 continents along the way, it will turn into that continent's unique colour (i.e. Australia is purple/magenta). <p>Press PBL to return to the previous page & reset the 7-segment display.</p>	