ECE 411
Homework 6
Test Plan: Outline and Test Cases
Dr. Mark Faust

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T03 – Tic Tac Toe
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Revision: 2

Test Writer:							
Test Case Name	Voltage Regulator Function Test			Type:		White Box	
Description:	Verify conversion of 9V to 5V, where output to the system should be 5V.				✓	Black Box	
Tester Information:							
Name of Tester:					Date:		
Hardware Version:	1.0				Time:		
Setup:	Connect function generator to voltage regulator independent of rest of the system, monitor output voltage via Multimeter.						
Test:	V_{in}	Expected Result	Pass	Fail	N/A	Comments	
1	9V	5V					
2	7V	5V					
3	5V	$5V - V_{drop}$					
4	3V	$3V - V_{drop}$					
Overall Test Result:							

Test Writer:							
Test Case Name	Integration test: Check Win Function.			Type:		White Box	
Description:	Simulate all possible winning combinations, as well as a no-win situation. Verify the correct output LED response and assure matrix is reset.				✓	Black Box	
Tester Information:							
Name of Tester:					Date:		
Hardware Version:	1.0				Time:		
Setup:	Make sure the system does not have any lit LEDS within the 3 x 3 LED matrix display.						
Test:	Action	Expected Result	Pass	Fail	N/A	Comments	
1	Column 1	Win function					
2	Column 2	Win function					
3	Column 3	Win function					
4	Row 1	Win function					
5	Row 2	Win function					
6	Row 3	Win function					
7	Diagonal Right	Win function					
8	Diagonal Left	Win function					
9	Cat's Game	Reset function					
Overall Test Result							

Test Writer: Edgard Musafiri & Sarmad Butti					
Test Case Name	Push Button	Type:		White Box	
Description:	Testing the functionality of the push button and making sure it is doing the assigned task.			✓ Black Box	
Tester Information:					
Name of Tester:			Date:		
Hardware Ver:			Time:		
Setup:	Connecting a battery to the device and start testing				
Test:	Action	Expected Result	Pass	Fail	Comments
Turn on device	Not pushing the button	Player select LED is on one color			
Using push button	Pushing the button	Player select LED is on a different color indicating a different players turn			
Overall Test Result					

Test Writer: Edgard Musafiri and Sarmad Butti						
Test Case Name			Type:		White Box	
Description:	Ensuring all LEDs in the LED matrix are functioning. Observing how the LED matrix responds.			✓	Black Box	
Tester Information:						
Name of Tester:			Date:			
Hardware Ver:			Time:			
Setup:	Connecting the device to a battery and begin testing the LED response.					
Test:	Action	Expected Result	Pass	Fail	Comments	
LED 1	Put the battery and turn on the device	LED 1 turn ON				
LED 2	Turn the pot to the right once	LED 2 turn ON				
LED 3	Turn the pot to the right once	LED 3 turn ON				
LED 4	Turn the pot to the right once	LED 4 turn ON				
LED 5	Turn the pot to the right once	LED 5 turn ON				
LED 6	Turn the pot to the right once	LED 6 turn ON				
LED 7	Turn the pot to the right once	LED 7 turn ON				
LED 8	Turn the pot to the right once	LED 8 turn ON				
LED 9	Turn the pot to the right once	LED 9 turn ON				
Overall Test Result						