Test Author: Team 11						
	Test Case Name:	Battery Functionality Test			**Test ID #:**	BAT-FT-01
	Description:	*Test whether the li-po battery charges via the micro USB port without physical removal, and test whether it can power the system portably.*			**Type:**	□ black box ☑ white box □ _____
Tester Information						
	Name of Tester:				**Date:**	
	HW/SW Version:	1.0			**Time:**	
	Setup:	*Requires a fully assembled system. Disassemble the enclosure so that the battery is accessible.*				
STEP	**Action**	**Expected Result**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Measure initial battery voltage	Expected voltage between 3.2 and 4.2 V				
2	Plug 3.3+ V battery into system (With power switch off)	There should be no noticeable change				
3	Turn on system power switch	The display and the “on/off” LED should turn on				
4	Run hardware for 3 hours of runtime	The display and the “on/off” LED should turn off				
5	Measure battery voltage	Expected voltage will be lower than the initial voltage				
6	Plug in USB power cable to charge battery to full	The “power in”, and “charging” LEDs should turn on Expected voltage should be around 4.2 V				
7	Repeat steps 1-6	Results should be similar at each step				
	Overall test result:					

Test Author: Team 11						
	Test Case Name:	Hardware Test			**Test ID #:**	HW-FT-01
	Description:	*Test that both the hardware inputs / outputs function as expected. Also tests additional hardware components like the voltage regulator.*			**Type:**	□ black box ☑white box □ _____
Tester Information						
	Name of Tester:				**Date:**	
	HW/SW Version:	1.0			**Time:**	
	Setup:	*Requires a fully assembled system with enclosure disassembled, and the battery disconnected. Should include test software to verify the display and button functionality. The power switch should initially be turned off.*				
STEP	**Action**	**Expected Result**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Power the system with 5.0 V power supply, current limited to 50 mA into TP2, and GND into TP1.	Only the “power in” LED should turn on.				
2	Measure voltage regulator TP6	Should read 3.3 V (+3.3V DC)				
3	Turn on system power switch	The display and the “on/off” LED should turn on. Display Main Menu.				
4	Unplug power supply, and use USB power.					
5	Open Arduino IDE and upload the test software	The software should upload with no errors, and the display will read “Nerd Box v1.0 Test”				
6	Open the serial monitor and press each button	Serial monitor and display show name of each button pressed sequentially.				
	Overall test result:					

Test Author: Team 11						
	Test Case Name:	Software Programmability Test			**Test ID #:**	SW-FT-01
	Description:	*Tests the user interface functionality, and the ability to upload custom game software to the device.*			**Type:**	☑ black box □ white box
Tester Information						
	Name of Tester:				**Date:**	
	HW/SW Version:	1.0			**Time:**	
	Setup:	*Requires a fully assembled system powered via battery or USB power.*				

STEP	**Action**	**Expected Result**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Turn on system power switch.	The display and the “on/off” LED should turn on. Display Main Menu. Highlight Main Menu option 1: “Floppy Derp”				
2	Press the D-direction button.	The display highlights Main Menu option 2: “Insert your game here!”				
3	Press L-direction, R-direction, D-direction, and B buttons any number of times in random order.	No change after any key press.				
4	Press the U-direction button.	Highlight Main Menu option 1: “Floppy Derp”				
5	Press A button.	The display reads “Plug in the Nerd Box and upload game code to select here! (Press B to return to Main Menu)”				
6	Press B button.	Return to Main Menu.				
7	Upload Floppy Derp game code.	The code should compile with no errors. Display Main Menu.				
8	Press L-direction, R-direction, U-direction, and B buttons any number of times in random order.	No change after any key press.				
9	Press A button.	Execute the Floppy Derp programmable software.				
	Overall test result:					