Fish Egg Counter Test Plan 1 (Basic Operations):

Items Tested:

- Power System
- Wheel
- Camera
- Buttons
- Motor
- Raspberry Pi
- LCD Display

Test Objectives:

- Functionality
- Integration
- Acceptance

Necessary Testing Resources:

- Beads (fish eggs replacement)
- 18V battery
- External Hard Drive (USB-A)

Test Cases:

- Power Test
- Camera Test
- Button/Display Test
- Motor Integration Test
- Camera Integration Test
- Full Basic Integration Test

Fish Egg Counter Test Plan 2 (In Depth Testing):

Items Tested:

- Power System
- Wheel
- Camera
- Buttons
- Water System
- Motor
- Raspberry Pi
- LCD Display
- Stand
- Counter Code

Test Objectives:

- Functionality
- Integration
- Environmental
- Acceptance
- Use

Necessary Testing Resources:

- Beads (fish eggs replacement)
- 18V battery
- Active water hose
- External Hard Drive (USB-A)
- Computer

Test Cases:

- Power Test
- Camera Test
- Button/Display Test
- Counter Test
- Full Integration Test
- Motor Integration Test
- Camera Integration Test
- Full Basic Integration Test
- Water System Test
- Wet Environment Test

Test Author: Team 6						
	Test Case Name:	Power Test			**Test ID #:**	#001
	Description:	Supply correct voltage from battery to motor			**Type:**	□ white box □ black box □ _____
Tester Information						
	Name of Tester:				**Date:**	
	HW/SW Version:	Version 1.0			**Time:**	
	Setup:	Assemble the circuit connecting the battery slot to the voltage amplifier, then to the motor.				
STEP	**Action**	**Expected Result**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Ensure the circuit is securely assembled.	The wires will not have breaks nor be exposed outside of their connections at the terminals.				
2	Check the battery, battery slot, and motor for damage	These components should be free from cracks, water, and excess debris.				
3	Place battery into the battery slot	The battery should activate the motor automatically				
4	Observe motor speed	The motor should be rotating at a constant speed				
5	Unplug the battery	The motor should stop				
6	Adjust the motor speed using the small screw jetting from its side.	The screw should turn with constant resistance, and should drastically change the motor's speed on any rotational change.				
7	Repeat steps 3 through 6 until satisfied with motor speed	You can move to step 8 once the wheel speed is to a preferable speed.				
8	Remove battery	The device should be safe to be moved.				
	Overall test result:					

Test Author: Team 6						
	Test Case Name:	Full Basic Integration Test			**Test ID #:**	#002
	Description:	Test that the counter delivers expected and acceptable results when its separate component systems are integrated together.			**Type:**	□ white box □ black box □ _____
Tester Information						
	Name of Tester:				**Date:**	
	HW/SW Version:	Version 1.0			**Time:**	
	Setup:	Combine the Power system circuit, the motor, Raspberry Pi, LCD, buttons, and camera. Then mount the Wheel onto the motor.				

STEP	**Action**	**Expected Result**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Check circuit for irregularities.	The circuit should be firmly connected without any breaks. All components should be connected together as well.				
2	Place the fish eggs into the slots on the wheel.	The eggs should be unobscured once inserted to the wheel. The suggested method to secure them into the holes is with tape.				
3	Insert USB external hard drive into the USB-A Port on the Raspberry Pi					
4	Insert the battery into the Battery Slot	The Counter Should activate, indicated by the LCD lighting up. Full boot up takes 26 seconds				
5	Use the buttons and LCD screen to set the batch amount					
6	Activate the Counting process.	While the motor turns, the device will count the fish eggs it observes				
7	Wait for the Counter to stop.	The final count for the batch will be displayed on the screen.				
8	Deactivate the device	Stop the counter operation by switching to set up mode and unplugging the battery				

9	Remove the harddrive					
10	Connect the external harddrive to a computer	The pictures should be viewable within a folder.				
	Overall test result:					