

Alpha Test Plan

Introduction

This document will explain how UVis will design and test the UV Shield component over the course of the semester. We will provide the expected behaviors for the component when it is being used, as well as some testing procedures to make sure these behaviors are performing as designed.

Specification

Expected Behaviors

1. Power button allows a user to turn the device on and off.
2. When the device is powered on, it will automatically boot up to our logo design (the UVShield), and then to the application.
3. The application consists of the camera feed displayed in full screen on the LCD screen.
4. A tactile switch will allow the user to power low radiation UV LEDs.
5. Device should run for a usable amount of time (more than 1 hour) off battery power.

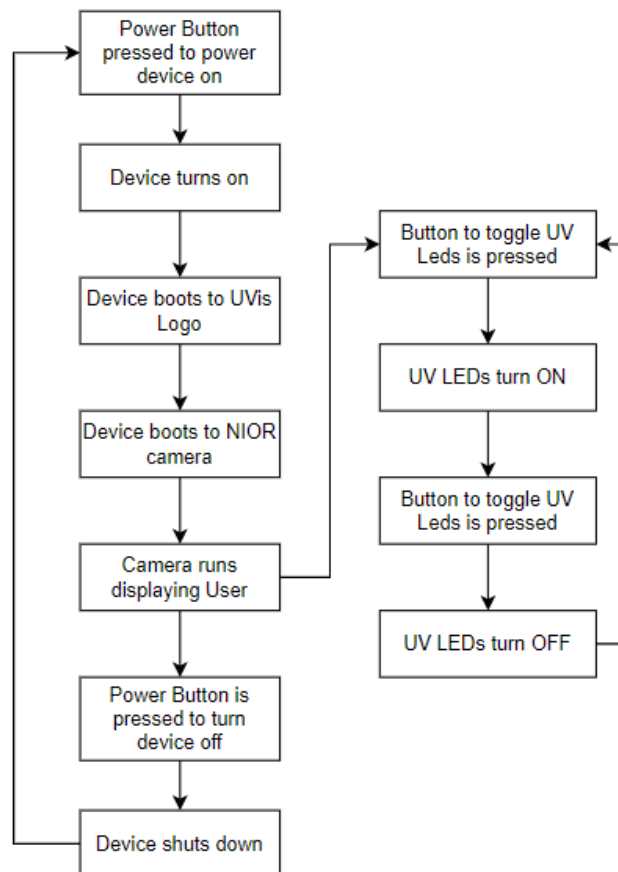


Figure 1: Flowchart explaining the device's expected behaviors

Test Procedures

Hardware	Software
<ul style="list-style-type: none">- Verify device turns on when power button is pressed.- Measure power draw of the device to make sure the battery life is sufficient (more than 1 hour)- Verify the LED toggle button provides the correct signal back to the GPIO headers when pressed.- Verify the GPIO headers send the correct outputs to the UV LEDs based on the button input.- Use libcam to verify the camera turns on- Verify that the device turns back off properly when the power button is again pressed.	<ul style="list-style-type: none">- Display the UVis logo upon bootup.- After the logo is displayed, verify the component boots into the camera application.- Verify the shutdown process occurs when the power button is pressed to allow for safe shutdown.

Conclusion

Overall, the UV Shield component is straightforward and easy to use. Based on this document any user should be able understand how the device operates by reading the expected behaviors section and looking at the flowchart. In addition, outside testers should be able to look through the test procedures the assist them with verifying that the device performs as intended.