**Testing Plan**

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| App Navigates Properly | The build in MyAppState was constructed through Boolean values to navigate and flow through pages. So no user who has not logged in will bypass the login as the value isLoggedIn will not change until the code returns from the Login class. |
| Settings Widget User Input | The validator settings in the TextFormField children of the Form on the Settings widget protect against some but not all possible issues. At the very least, the first Field checks for valid URL syntax, the second only allows numbers to be entered, and the third ensures that the String entered fits the correct syntax. The widget does not leave the screen until valid entries are in place. |
| Unauthorized vs. Authorized | This test was a bit trickier. The idea was an authorized movement of the door should not be logged for later reference, whereas an unauthorized usage should definitely be added to the log.     This code segment shows how the logic is handled, but it took a couple tries to determine the correct timing and placement of this chunk within the overall program. In the end it could not be after the dialog box is dismissed, as it would update the corresponding Boolean value too late and the wrong entry would get entered. There was a test case where exactly 5 entries existed, and the original code did not handle this edge case and didn’t display anything. Now it is handled in the loop. |
| HTTP Request to Auth0 | I did a network capture of the communication between the Application and the Auth0 server. It yielded a number of packets under the TLS protocol that explain the very secure and encrypted key exchange and handshakes that take place whenever a user logs in to the app. |
| HTTP Request to Sensor | Conversely, the communication between the Node-RED server and the application is very much in plaintext. Shown above is the GET request sent to the Node-RED server as well as the response which in plaintext shows the live distance measurement from the SR04 sensor to the door in front of it. I deemed this as acceptable because knowing the actually distance cannot truly benefit a home invader. |