

Testing document

Unit Testing

For each of the test below I have explain how each of the performed tests worked and why they were performed.

Part 1 Uploading details

All the tests below test the uploading section of the app functionality.

Test 1 (upload of details test)

The purpose of this test is to demonstrate that a valid filled in form of details can successfully be uploaded to the Firebase. It was done by choosing values that were valid and running them through the upload function that its used with the api.

Test 2 and 3 (upload of incorrect details error/missing details error)

The reason for this test is to demonstrate in the upload function that all information to upload is first check for valid format, as well as if it is filled in to ensure no wrong or malicious input is uploaded to the firebase that may cause it to crash on request. It was done by specifically entering a wrong format value for a certain field, as well leaving out a field value and passing it through the upload functions where it performs needed checks and returns the error based on reason to notify user.

Part 2 Retrieving specific entry details

All test below perform the retrieve of a specific user each with unique barcodes.

Test 1 (retrieving a valid entry)

This test will retrieve a document from the firebase that was previously uploaded in part 1 test 1 to demonstrate that the correct calls are made to the database and can retrieve the correct info. Its simply done by matching the barcode with that of the one in the firebase.

Test 2(incorrect barcode enter)

This test shows that when trying to retrieve and entry in the firebase that doesn't exist and error is returned to notify there is no information stored. Its performed by iterating through the barcode document values and comparing the values and if none is found it by default will return that none exist.

Test 3(Incorrect Format of barcode entered)

This specific test is meant to demonstrate the efficiency of the function by automatically return and error when an incorrect format was detected and is done so by passing every barcode value entered through a validation function. This saves time from having to connect to the data base and searching everything.

Part 3 Retrieving all entries based on certain field

The test performed below is to show a search functionality that allows the admin to bring up all the entries that have a specific value that matches theirs

Test 1 (retrieving all valid entries)

This test will retrieve all documents from the firebase that match a certain field value to demonstrate that the correct calls are made to the database and can retrieve the correct info. Its simply done by matching the manufacturer value with all of those in the firebase.

Test 2(Incorrect value enter)

This test shows that when trying to retrieve any entries in the firebase that doesn't match the field value an error is returned to notify there is no information found matching. Its performed by iterating through the document values and comparing the values and if none is found it by default will return that none exist.

Test 3(Empty field passed in)

This specific test is meant to demonstrate the efficiency of the function by automatically return and error when a blank value was detected and is done so by passing every value entered through a validation function. This saves time from having to connect to the data base and searching everything for no reason.

Integration testing

Below are the explanations of the integration tests ran and why they were performed and why.

Test 1 (full Request)

What this test does in the mocha file it that it runs the creation and retrieval of the newest entry in the firebase to show how the two functions can work in conjunction with each other as well as their imbedded check functions. This is done by calling the function that runs both the upload and get function after each other and displaying the output.

Test 2(apk integration test)

This test is performed using firebases built in tester lab. This is done to show how the apk create is able to integrate and work and with multiple simulated phones to show range. This is done by passing the apk to the lab which runs the needed tests and showing the results at the end.