Testing document

1. **Definition of Testing**
   The purpose of this testing document is to show potential users and clients that the necessary steps have been taken in order to show that the mobile application as well as the portal admin side. The main reason is ensuring the software fulfills its requirements. The testing techniques used include comparison testing to expected output. Using firebase's built-in apk integration testing.

2. **Description of the test process**
   The test process will be done is the following manner. Each function will be perform as intended and the result of each function will be compared to what the expected output should be. Then a counter will count each correct and incorrect evaluations and display the results.
3. **Test Evaluation:**
   For evaluation we will store the results chosen in their own fields for comparisons later.
4. **Quality Level to be achieved:**
   The level of quality to be achieved has to be 100% at all times as no system can be used with failing functions. The quality criteria will the results of the evaluations done.
5. **Approach to Test Process Improvement**
   project review meetings to be held after project completion inorder to see what can be improved and what functions and processes can be fixed.

The following tests all test CRUD operations provided by the API. The intention of the tests is not to test the communication between the API and the database (whose functioning is implicit with the success of these tests), but the communication from user applications (the admin portal) and the API itself.

Unit Testing

Test 1: (User CRUD with correct data)

This test ensures that the CRUD operations for users correctly execute when fed correct data.

Test 2: (User CRUD with false data)

This test ensures that the same operations from test 1 fail when fed incorrect data. This was achieved by passing an incorrectly formatted request to the API.

Test 3:(Employee CRUD with correct data)

This test shows that the CRUD operations for employees are correct when given valid data.

Test 4:(Employee CRUD with false data)

This test shows that the test 3 functions will fail when given incorrectly formatted request data.

Test 5:(Geyser CRUD with correct data)

This test is meant to demonstrate that CRUD operations for geysers with correctly formatted requests will execute correctly.

Test 6:(Geyser CRUD with false data)

This test demonstrates that the same operations from the previous test will fail when given invalid data.

Test 7:(Case CRUD with correct data)

This test is meant to show that the CRUD operations for cases will execute properly if given correctly formatted data.

Test 8:(Case CRUD with false data)

This test will show that the case CRUD operations will fail when given incorrectly formatted data.

Test 9:(Caller CRUD with correct data)1

This specific test shows that the CRUD operations for callers will succeed when the request is of the correct format.

Test 10:(Caller CRUD with incorrect data)

This test shows that the operations test previously will fail if the request's format is incorrect.

Test 11:(Agent CRUD with correct data)

This test will show that the CRUD operations for agents will succeed when correct requests are sent to the API.

Test 12:(Agent CRUD with incorrect data)

This test will show that the operations tested in 11 will fail when send incorrect requests instead

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.