Supreme Internect: Testing Policy Document

Testing purpose

Unit testing is done to verify service contracts and keep track of the progress of the project. Adopt a TDD approach and write code to make failing tests pass.

Automated integration testing is performed using Travis CI.

Testing method

*Note: No Google Cloud Platform API keys are to be hosted on Git at any time. The Git Repo we are using is public and can be viewed by anyone. Thus, API keys hosted on Git pose a serious security threat. Google Cloud Platform detects when API keys are hosted on public repositories and will send an email to the Service Account associated with the project. When an email is received, immediately remove that API key from Git. Compromised API keys has led to Crypto being mined on Google Cloud Platform, which has resulted in our Service Account being banned from Google Cloud Platform. Avoid this at all costs because it freezes the whole project, including the database.

Google Cloud Functions API (GCPFA): Unit tests are to be run locally on an emulated firebase instance using the firebase testing framework which uses the JavaScript Mocha testing framework and @firebase/testing module to make and verify assertions. No integration testing is to be performed on the GCPFA because it requires API keys to be hosted on Git.

Flutter Driver App: Unit tests are to be run locally at first. Tests are run using the flutter test command of the Flutter CLI. Integration testing is to be run on a dedicated testing branch. This is because every time a Flutter app is run, it makes a lot of changes to certain files in the Flutter app directory. If these changes are committed to working branches, it results in a lot of merge conflicts which places a lot of strain on the speed and ease of development. Integration testing is automated using Travis CI.

Angular Monitor view: No unit testing is currently performed on this view, verify that code is working manually.

USSD Reporting: No unit testing is currently performed on this view, verify that code is working manually.

Web Reporting: No unit testing is currently performed on this view, verify that code is working manually.

Superuser Web view: No unit testing is currently performed on this view, verify that code is working manually

Testing Frequency

Testing is to be performed on completion of any implemented artefact. Ensure tests succeed on an implemented artefact before moving on to implementing another artefact.

Testing Scope

First perform positive testing in which correct data is verified. Because of the nature of the project, first implement positively working artefacts. Defensive testing is done based on necessity. As the project needs refinement over time, defensive testing will be done.