

Firestore Test Lab

We conducted firestore testing by using Firestore Test Lab, which is a cloud based application testing infrastructure that lets you test your application on various devices and configurations. It's indeed a useful tool as it allowed us to see how users would be able to interact with the application that we created.

We created an APK package from our expo build by typing `expo build:android` into the terminal. This generated an APK package of our project. We decided to use Test Lab as it would allow us to see how compatible our application would be on a wide range of devices which we felt would be really beneficial especially during a pandemic as we would get to see just how compatible it would be on a wide range of Android devices to ensure it works for each user despite their device and configuration.

We ran Robo tests in a test lab, which is an automated intelligent test that crawls the app to discover and try out the different features that are available. Test code to perform a robo test is not mandatory. The results that are given from doing a Robo test include a detailed report for the devices that were selected, screenshots, device logs, and crashes that may have happened during the Robo test.

We ran a test lab daily from the beginning of our development to ensure that our compatibility with Android was succeeding. This ultimately allowed us to see any errors that may exist in the application early on in the development process.

The screenshots below show that our application was compatible with a wide range of devices and API levels which were successfully installed on the devices.

One of our first tests using firestore Test Lab was done using the Sign Up, Login and Forgot Password screen. The results of those tests are shown below.

The screenshots below show the performance time of the activities done during the tests.

dcuhub1

Go to docs

Test Lab > dcuhub > matrix-iinzcw421kiqa

Robo test, COR-L29, API level 27

Passed09/03/2021, 00:521 min 25 secPortraitEnglish (United States)

Test results

Robo

Logs

Screenshots

Videos

Performance

Accessibility

Crawl duration

Timed out

1 min 20 s

Crawl stats

Actions

60

Activities

1

Screens

12

Crawl graph

dcuhub1

Go to docs

Test Lab > dcuhub > matrix-3fg8xk682b0u6

Robo test, G8142, API level 26

Passed09/03/2021, 00:371 min 8 secPortraitEnglish (United States)

Test results

Robo

Logs

Screenshots

Videos

Performance

Accessibility

Crawl duration

Timed out

1 min 3 s

Crawl stats

Actions

47

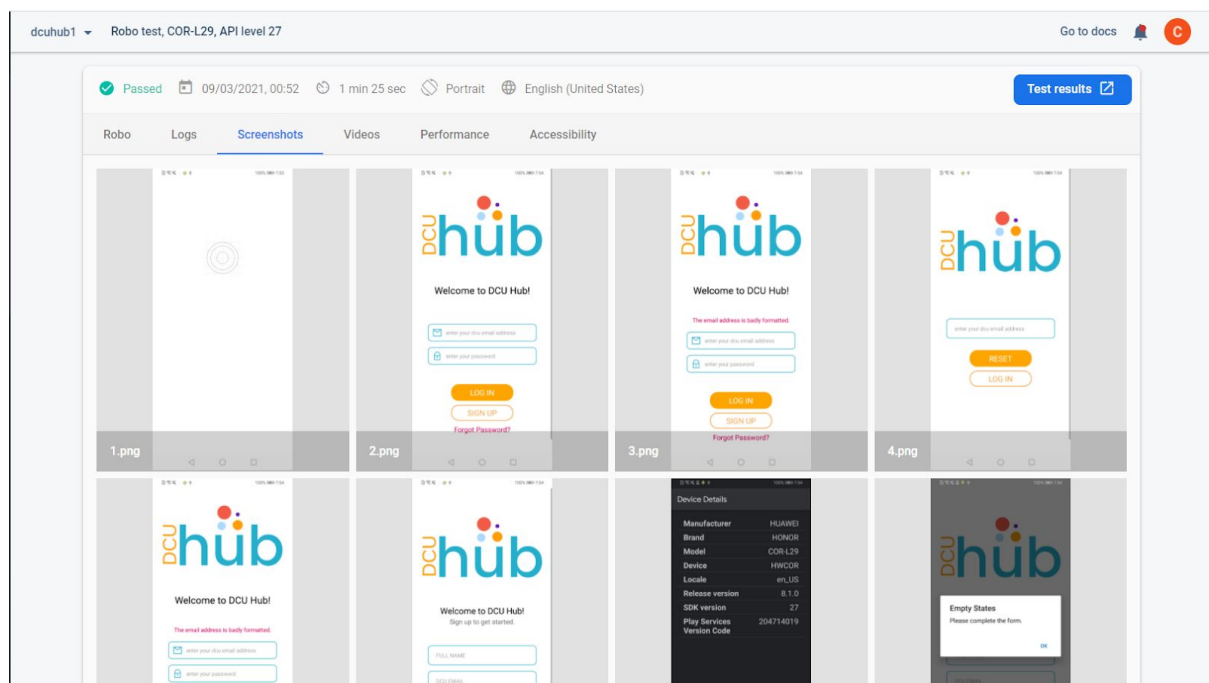
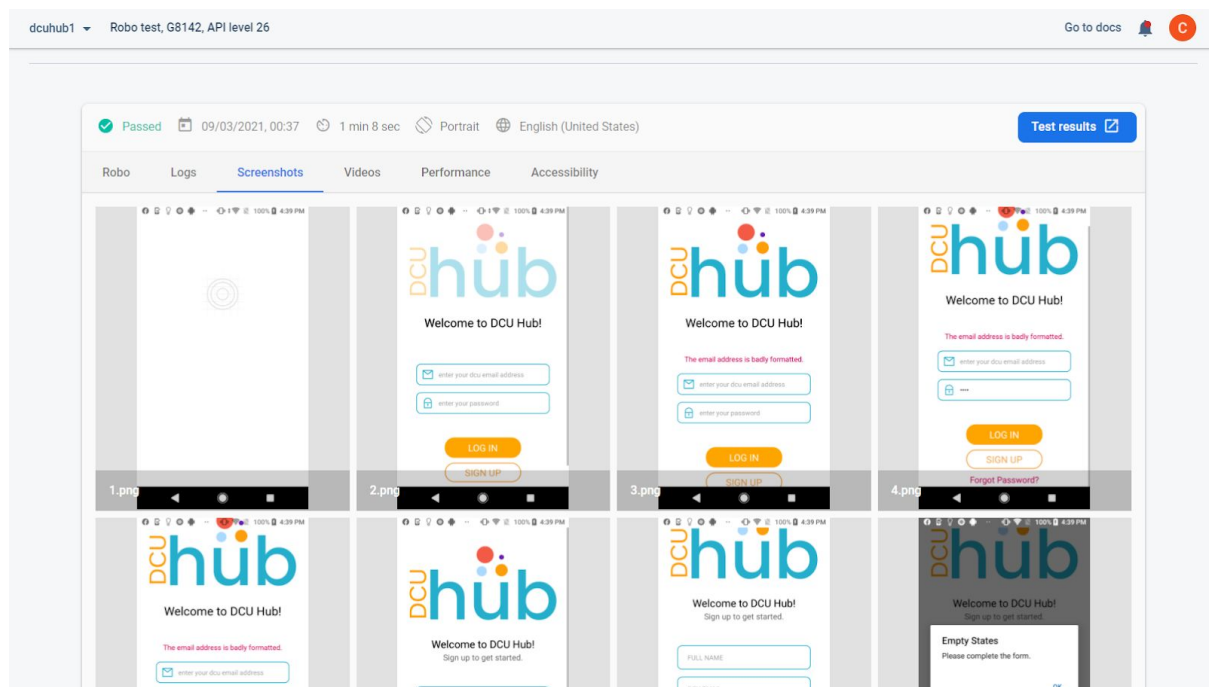
Activities

1

Screens

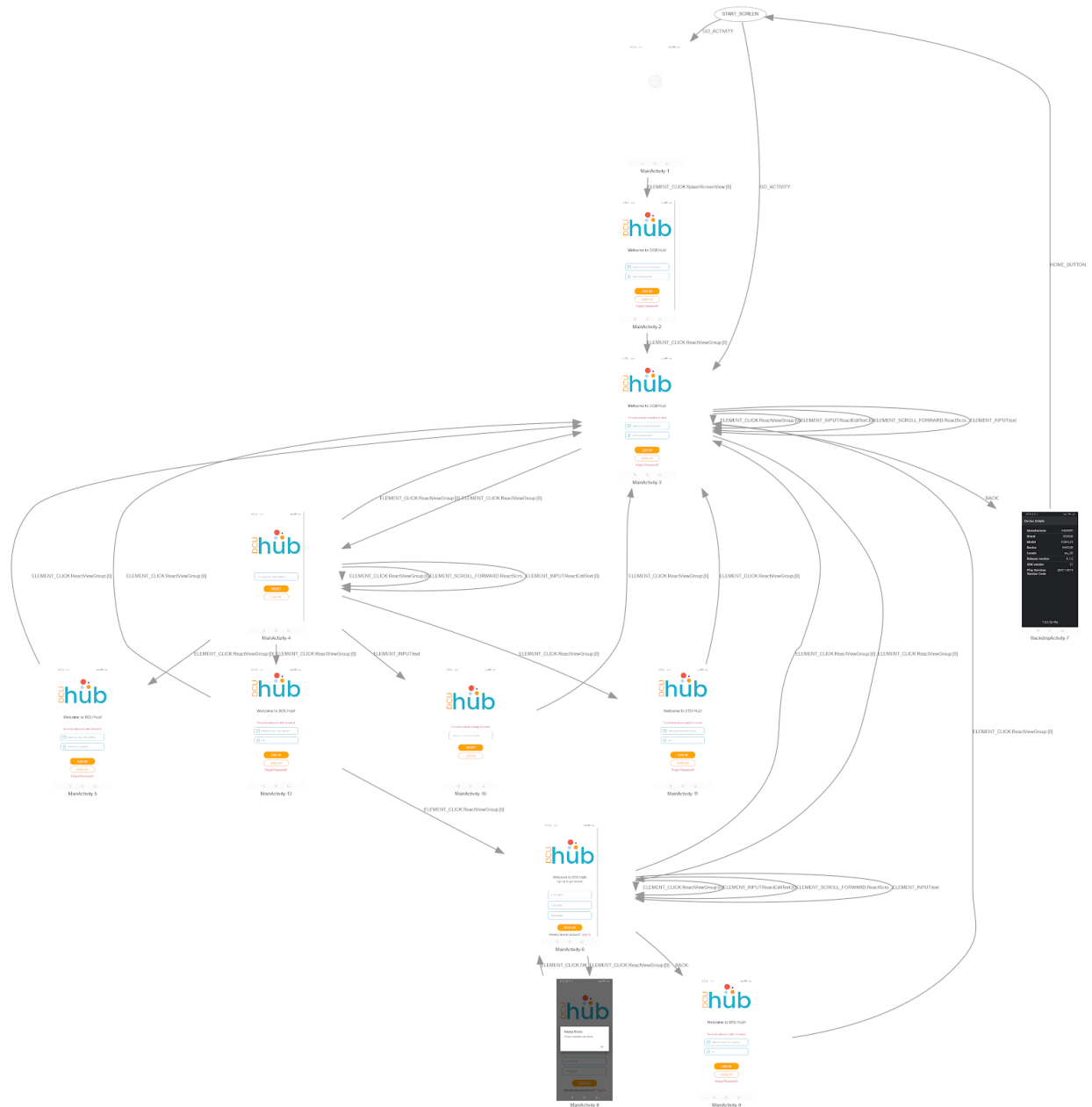
16

Some of the screens that the devices explored were:

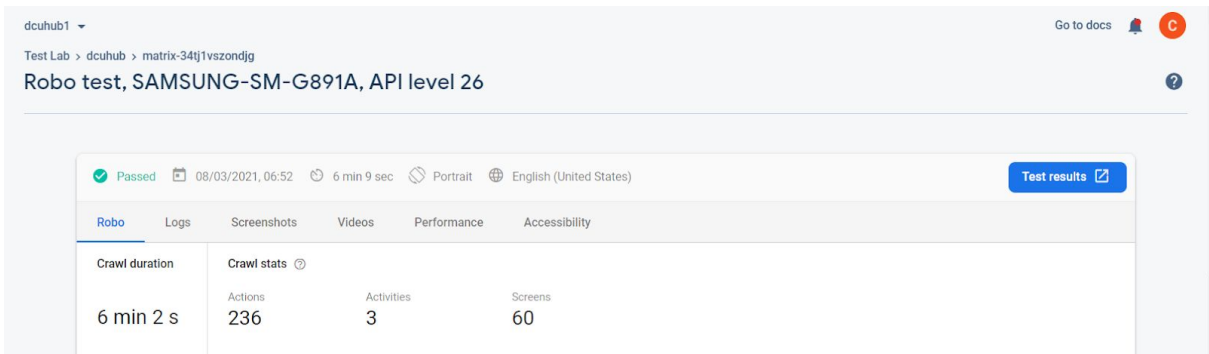
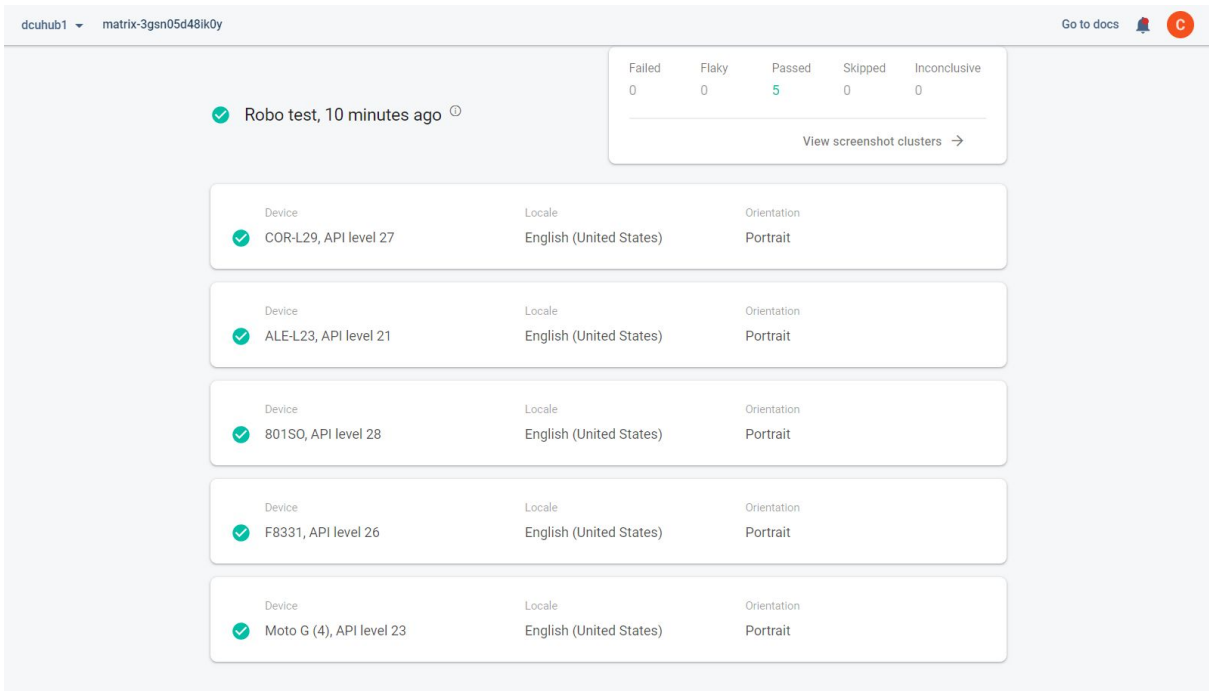




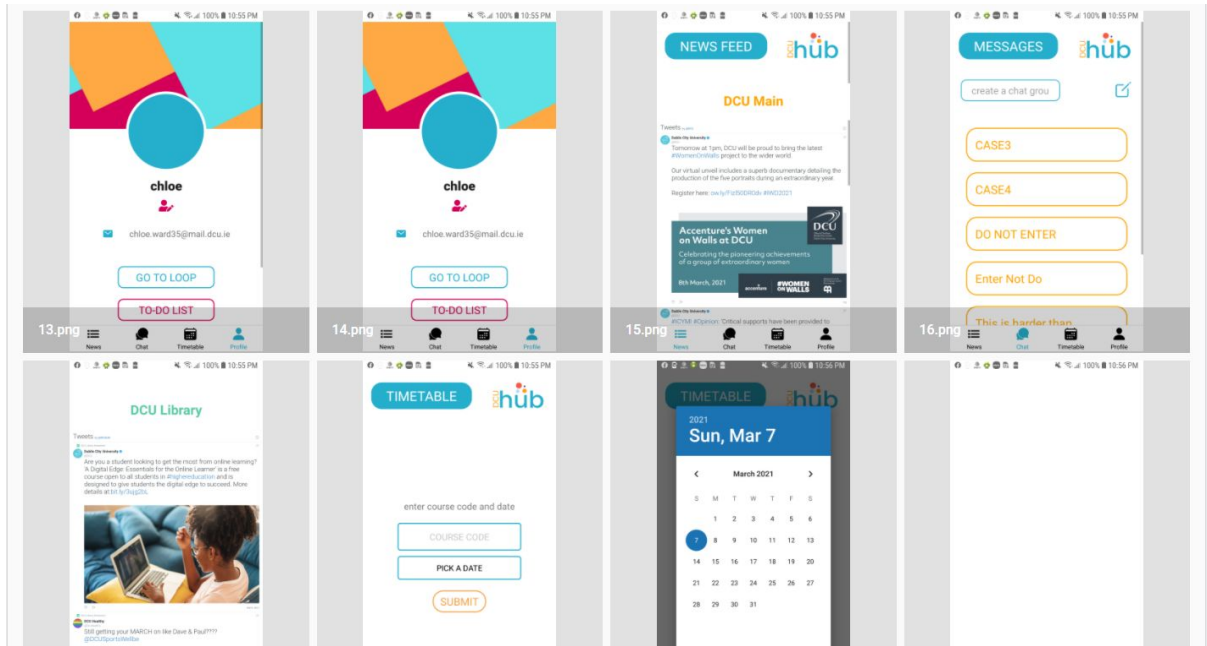
Below is a crawl graph that the Robo test performed on the Login, Sign Up and Forgot Password screens.



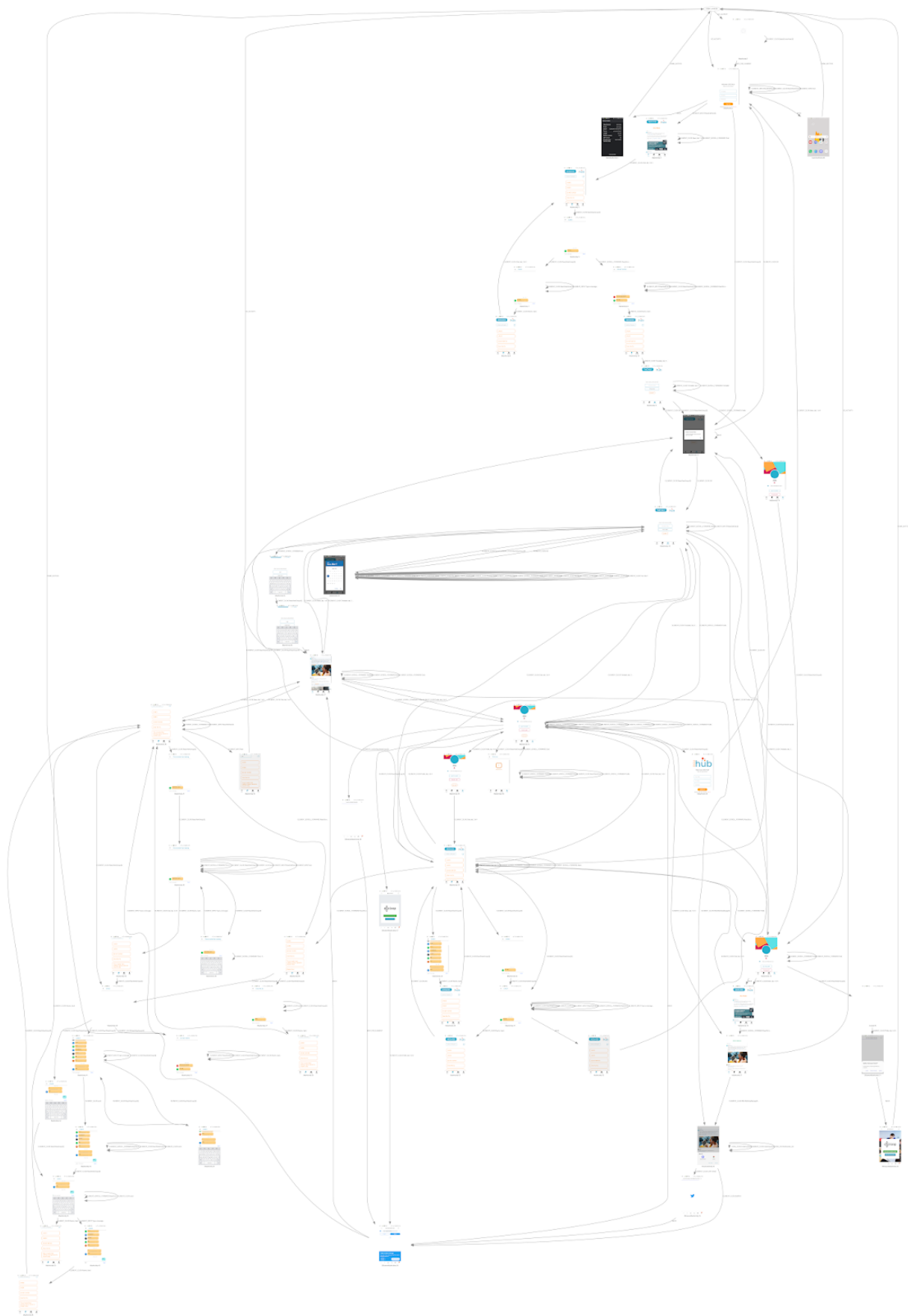
We also performed a Robo Test on our finished application. This also passed the Robo Tests.



This allowed us to see that our application was fully compatible with the many Android devices we ran the tests on.



Below is the crawl graph for our finished application. This proved that our application was compatible among many Android devices and API levels.



We unfortunately could not run Robo Tests on iOS devices on Firebase due to needing a developer Certificate to generate IPA packages from expo which requires payment. Both students developing the application are both iPhone users so the application was developed and tested fully on iPhone 7, iPhone XR and even a family member's iPhone 11. These 3 iPhones have various different screen sizes and configurations so the application is fully compatible with both iOS and Android devices.