

Assignment - Automation of sample android app using Espresso

Step 1: Picking up an Android native automation tool and quick learning

1. Gone through Espresso and UIAutomator documentation on the developer android portal
2. Picked up Espresso as this has a rich test library, basic web support, updated documents and community
3. Reference: <https://developer.android.com/training/testing/espresso> and a few YouTube videos

Step 2: Setting up the assignment project code, understanding the application, defining test cases, and automating the possible scenarios

a. Functional test cases (below cases are one-liner, can be elaborated as per need)

1. Launch the app and verify the home page content
2. Click on the bottom email icon and verify the behaviour
3. Click on the top menu icon and verify the behaviour
4. Click on the Next button and verify if it takes you to the next screen
5. Click on the Previous button and verify if takes you back to the first screen

b. Non-functional test cases:

1. Launch the app without a network and see if the features work as defined in the requirement
2. Send the app to the background on any screen and retrieve it after some time, verify the app after restore

c. What's automated:

1. Above mentioned 5 cases are automated
2. A well-written clean code (as per my newly gained skills)
3. 2 device parallel execution, data-driven setup, screenshots
4. Please check "UITests.kt" and "build.gradle - app scope" to review the work

d. Challenges while setup:

1. The assignment project code was written in mid-2019, it's a running project but the libraries are deprecated.
2. The conflict while setting up the latest test libraries (new AndroidX) - This took lots of time for me to understand the issues. It was difficult for me to create a balance between old project libraries and new test libraries - so I took the liberty and updated the test project

My Learning and takeaways:

1. It was an exciting time, setting up something new from scratch, finding ways from documentation and the internet, and learning new environments and tools
2. I could correlate this with a few tools I have worked with but overall it was new learning and I was able to complete the setup and automate the cases
3. With some more learning and time, I can definitely improve the setup - e.g. introduce device management, reusability of scripts, CI/CD, etc.