Test Automation for Mobile Applications using SeeTest Automation Frameworks

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Abstract:

This document describes the Test Automation Architecture for mobile applications using SeeTest automation tool from Experitest. This framework is designed using Eclipse IDE of Java. It is a modular framework and follows Java project creation structure. This framework enables to run the automated scripts on different devices. Enhanced test coverage and reduction in the regression test cycles can be accomplished by running these automated scripts on different devices in parallel.Increased coverage reduces cost. Test teams can find defects earlier and avoid costly production problems. Some of the challenges faced in mobile testing like device, Operating system fragmentation and carrier connectivity are addressed in SeeTest frameworks.

Keywords: ExperiTest,Eclipse,IDE

Introduction

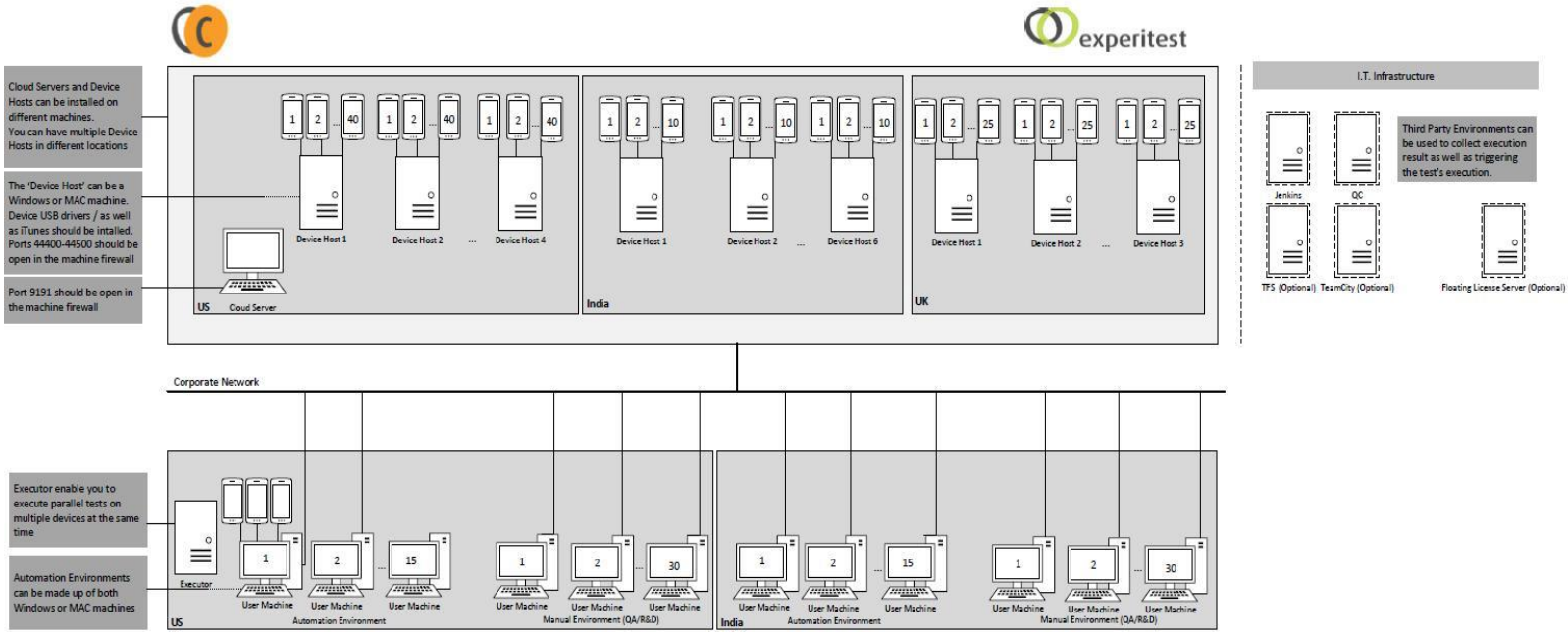
Experitest SeeTest Tool will be used for automation and SeeTest Cloud Server and Host will be used for running scripts on device wall. The scope of Automation includes

Test cases identification for automation, Framework design, Development of automation scripts, Script Execution, Generation of the test results and automation test status reporting, Automation metrics and test script maintenance.

Once build come for testing in particular sprint:

Product testing team should sit together and identify all devices on which required build needs to be tested. Manual and automation will run their test cases on all required devices and share common results say for example 5 devices that are identified. So automation will run on 3 or 4 devices nightly or in day time based on device availability and Manual will run on one or two based on bandwidth and availability

SeeTest Architecture



1.**SeeTest Server**

The Cloud Server Machine is a station in which the SeeTest Cloud Server will be installed on.

On this station the administrator can manage the Devices/Host Machines/Users in the organization.

A server can host as many host machines as we need.

Server machines will be connected two ways, one with the host machines and other with the user machines, both connections via LAN.

It will be a centralized hub for all mobile devices.

Server should have high bandwidth and high network speed.

2.**SeeTest Host Machine**

Also called as “Agents”

Host machines or agents are connected to your physical devices from one end while other end is connected to cloud server machines via LAN.

In SeeTest, we have a limitation of up to 10 devices on one host machine. Similarly for server, host machine should have high bandwidth and high network speed.

Since devices are physically connected to host machines, transfer rate from emulator to device depends on usb speed as well. Preferably use usb 2.0 ports.

You cannot run SeeTest Manual or SeeTest Automation on the same machine used as the devices host.

3.**SeeTest Automation Tester**

Install SeeTest Automation tool on physical machines or user machines.

Connect to SeeTest cloud, make reservation and start using the device.

Automation tester needs to have a multiplier add-on license to access multiple devices simultaneously. 1 multiplier = +1 device accessibility.

Once devices are connected, tester can use devise to run the automated scripts.

Components in the Framework

Projects Folder: Framework is designed for a project and can be customized and utilized for automation of any applications. For we will be having file projects like

Apps

a. Scripts. Android Smartphones

b. Scripts. Android Tab

c. Scripts. iPhone

d. Scripts. iPad

Configuration Folder: This folder will contains Properties files which contains generic data for each application or projects

Config.properties file contain all generic information like login details and common application URL, .apk or ipa files paths.

OR. properties file contains Xpath repository of all required elements of AUT

Test Data: As name stated this folder contain test data for scripts. Each project will have its own test data like:

Test Data App

These files are in form of excel and contains information of list of devices, Port which will used by scripts to execute, version of application on which test is running and overall SeeTest execution status on particular device

Execution Result: Execution result will be generated in form of excel sheet which contain two sheets

1. Summary sheet: this will say list of test cases is passed and failed. This will give over all execution status to management team.

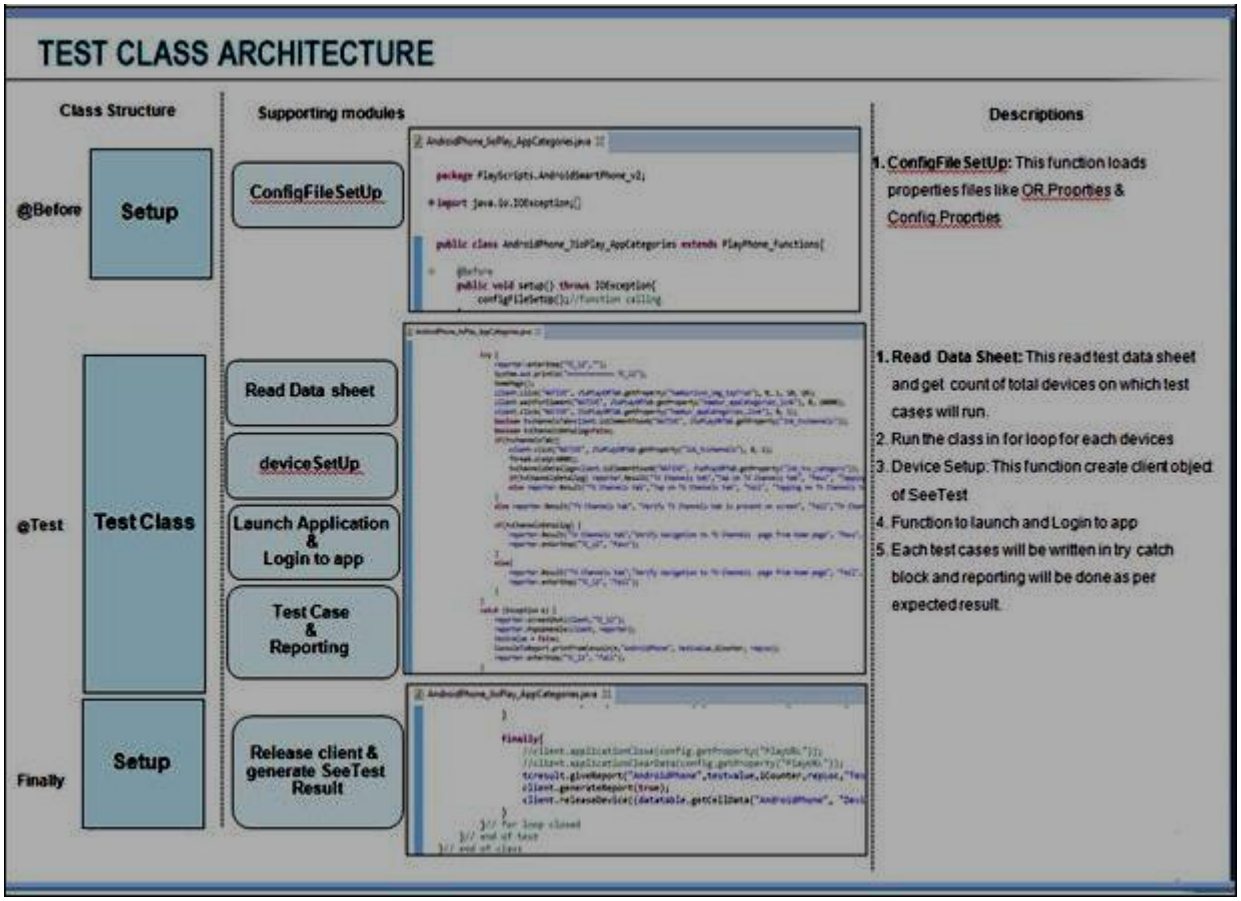
S.No	Test Case Name	Result
1	TC042	Pass

2.Details: This sheet contains details of execution reports which will be helpful in test script debugging and for functional tester.

S.No	Step Name	Step Details	Result	Expected Result	Actual Result
1	TC040				
	Discover Screen	Verify all 6 tiles displayed in discover screen	Pass	Weekly top20, Playlist, Albums, My Zone, Song of the day, Popular Songs is displayed	TRUE

Framework Utility: These are java library files contains generic java functions to read/ write data and for reporting.

Test Cases Class library*:* These are files java class file where set of classified manual test cases are automated. The size of class file is decided by sized of manual test cases. Each class file contains approximately 5-6 test cases.



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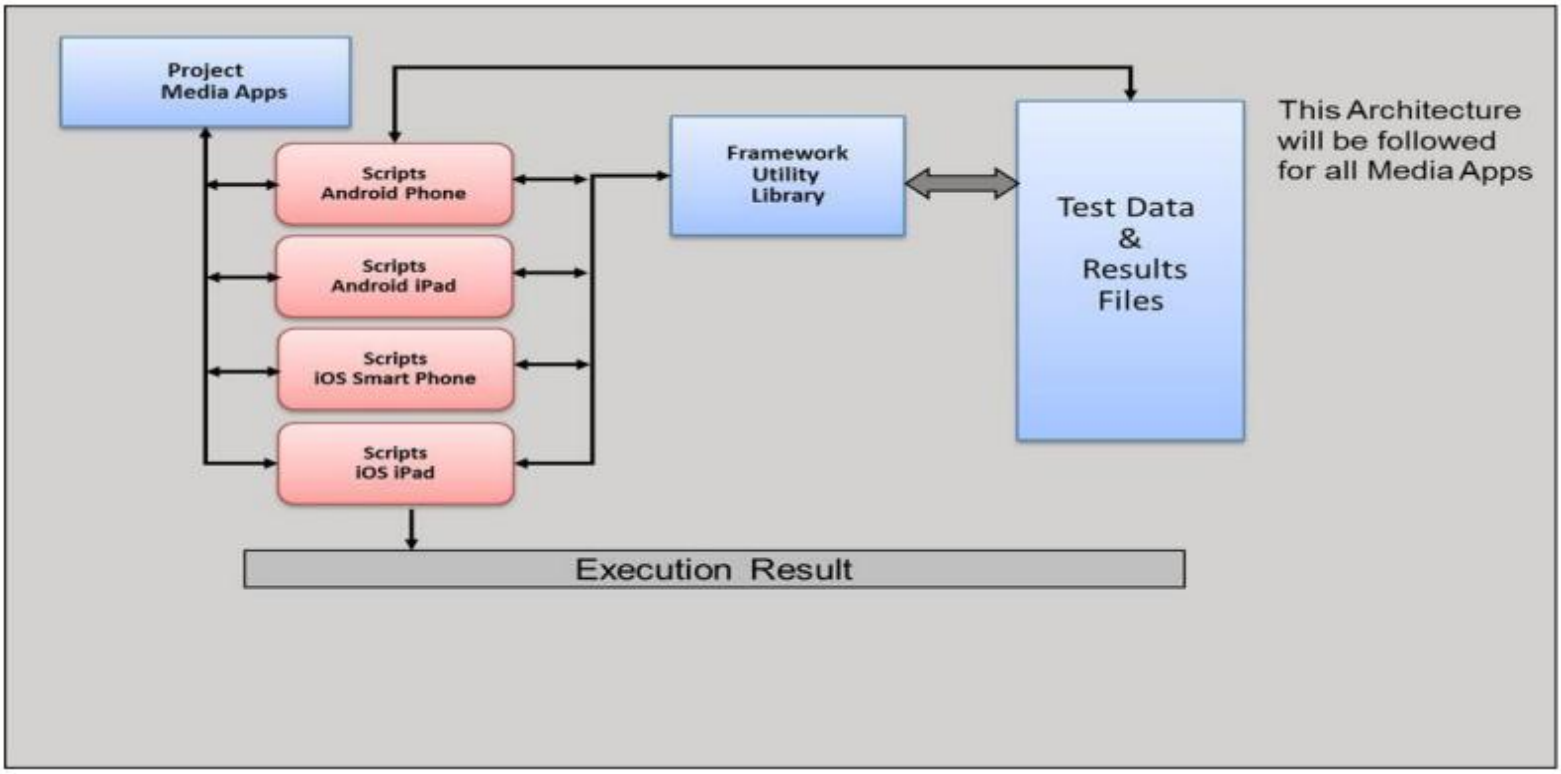
Flow of framework is stated in below diagram



Conclusion

It is of enormous benefit to use SeeTest tool and SeeTest frameworks for mobile application test automation. Challenges pertaining to mobile testing are addressed using SeeTest frameworks. The device coverage and the test coverage are also achieved as per the Service level agreements. As the regression test cycles are reduced, multiple builds can be tested on a daily basis and these frameworks are seamlessly integrated with Continuous integration servers.

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References

1.Optimizing B2E Mobile Applications, Productivity, and Customer Service-Erez Ronen

2.Put More People on Your Mobile Testing Projects at No Extra Cost - Guy Arieli

3.Prevent a Disregard for Excellence-NavotDako

4.So You Want to Test an iOS Application… by Tom Benshimon

5.Mobile Testing as the Ugly Duckling- Unattractive to Start with but will be sure to Surprise. By Dana Natan

6.Top 10 Benefits of Mobile Cloud Testing by Tom Benshimon

7. https://Experitest.com