TestPRO
Software Testing Services

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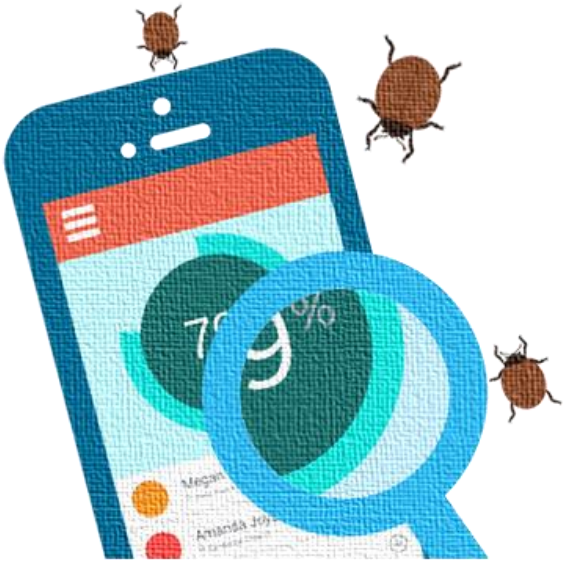
International Software Testing Qualifications Board



ADFT

Application Device Functional Test

TestPRO for Software Testing Services – Samer Desouky

It's important to understand how an application will interact with a device or set of devices and how differences in those devices may affect the application.

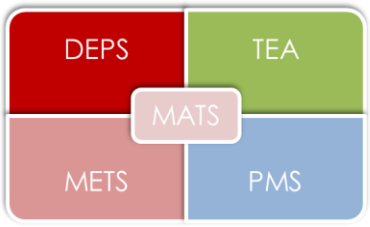
ADFT

Application Device Functional Test

Mobile app testing is time consuming and expensive, and very critical to ensuring your customer have a positive experience when they use your mobile applications.

Mobile app testing presents unique challenges. There are tradeoffs that you need to consider and choices that you need to make regarding the mix of different techniques and methods that will be used in mobile app testing.

MATS Quadrant … Mobile App Test Strategy is an innovative collection of best practices based on multiple standards and our consultant experience to solve many challenges to a good extend and help in reduce the risk of failure.



MATS Mobile App Test Strategy
DEPS Device Equivalence Partitioning Strategy
METS Minimal Essential Test Strategy
TEA Test Execution Approach
PMS Production Metrics

ADFT is a part of your Test Execution Approach.

Designing tests for a mobile application requires considering both the features of the application to be tested as well as the application behaviors within the device context.

A vital part of your tests is to know how an application will interact with a device or set of devices and how differences in those devices may affect the application.

ADFT focus on application behavior within the device context.

ADFT

It's important to understand how an application will interact with a device or set of devices and how differences in those devices may affect the application.

ADTF Test designs objective is to cover, determine test conditions, cases , data and decide what the test scope is.

ADFT

While working on your application you get interrupted by a phone call or notification pushed out, so how the app should handle?

First tests in ADFT covers device functionality which used by the app, it can be defined by published specification, experimenting the device or talking with others to uncover the operating system capabilities with the device. The capabilities and features of the target device must be understood, particularly if those capabilities will be utilized by the application, for example:

- Display: Screen size and resolution for display.
- Geolocation: Ability to detect device's geographic location.
- Telephony: Ability to act as a telephone.
- Sensors: Accelerometer , Gyroscope, Magnetometer.

Second tests in ADFT related to interruptions. Interruption testing is one of the most critical types of testing for mobile applications, but because this type of testing is unique to the mobile market, it's an area in which testing skills and accompanying tools are still evolving. There are a variety of interrupts that can occur while using an application.

Hence any tests must have an objective, interrupt testing should ensure that applications are able to suspend and resume without disrupting the intended functionality.

Depending on the nature of the application and the platform, different things may happen. The action an application takes during an interruption needs to be decided as a requirement up-front so that proper validation can occur.

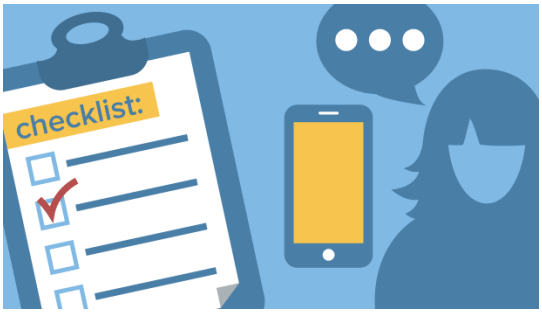
There are many automation framework and tools helps in interruption testing.

When to run:

Its recommended to consider and run interruption testing as separate test level, and also it's better to be conducting after running the functional tests of the app itself.

Areas to be covered during interruption testing such like:

- Installation
- Launching
- Running
- Exit
- Upgrade
- Uninstallation
- Deletion



Examples of interruption tests:

- Incoming and Outgoing SMS, MM, Calls
- Notifications / Alarm
- Battery Removal
- Cable Insertion and Removal
- Network outage and recovery
- Media Player / Camera on/off
- Lose Network
- Device Power cycle and notifications

Third tests in ADFT related to installation. Installation testing scope here is different from the scope within the desktop apps.

Some factors needs to be considered:

- The method in installation.
- The installation process.
- Device settings effect.

Installation method can be OTA, through cables, internal storage movement, etc….

The installation process can be Installation / Re-installation / Upgrades / De-installation.

ADFT

An over-the-air update is the wireless delivery of new software or data to mobile phones and tablets.

ADFT

Ensure that access is limited to only the functions and data that the user should be able to access.

Also we need to test device setting effects on installation such as: Reset Factory Settings / Auto Update over Wifi / Move from/to SD and/or internal storage / Clear cash / Clear data.

Forth tests in ADFT related to local settings. The requirements up-front must define which local settings will dominate.

Some areas of consideration:

- Language
- Date / Time
- Screen Capturing shortcut button
- Keypad
- Lock / Unlock
- Modes
- True Buttons
- Volume

Fifth tests in ADFT related to access permissions, which most properly covered in functional security tests and you must ensure that your app doesn't take unwanted permissions, Camera, Media, Identity, etc....

The last test in ADFT related to the payment methods that the user will use to get your app such as Credit or Debit Cards, Direct Carrier Billing, Gift cards and Promotional Codes, PayPal, etc....

Base Reference: ASTQB - Certified Mobile Tester Syllabus

About the Author:

Samer is an Agile Coach, Software Quality & Testing Consultant / Mentor with more than 14 years of extensive experience in managing development, quality and testing teams in Banking, HR, Oil & Gas, Social Networking domains with extensive experience in testing web, desktop and mobile apps.

He provides training, consulting, coaching and mentoring services in software development and testing.

As a holder of the ISTQB Certified Tester Certificates, Samer provides the use of best practices for all software testing practitioners. He regularly conducts foundation and advanced training in Egypt & ME, for more than 4000+ Hours of professional training and 350+ Certified Testers.

Samer is TestPRO Co-founder / Chief Quality Officer.

TestPRO is an Egyptian Independent Testing Provider founded in 2012 and headquartered in Nasr City, Cairo.

TestPRO is an Accredited Training Provider from the Egyptian Software Testing Board to provide ISTQB – Foundation Level.

TestPRO is an ISTQB Silver Partner and joined the partnership program as the first company in MENA.

TestPRO offers Testing outsourcing and personnel outsourcing services, Our services includes requirements testing, functional testing, performance testing, usability testing, security testing, acceptance testing and specialized mobile test lab.

TestPRO projects take over 10,000+ hours. TestPRO performed more that 7,000+ hours of professional training and 350+ Certified Testers.

TestPRO offers test process management service by highly experienced consultants.