I am part of two major teams of my company i.e uat and security team

In what form we get the mobile app [apk]

Mail/ goggle drive/app centre

**Test strategy**

test strategy defines guidelines for test approach to be followed in order to achieve the test objectives and execution of test types defined in the testing plan.

It deals with test objectives, approach, **test environment** (browser window, mac), automation strategy and tools, and **risk analysis** with a contingency plan.

**Test plan**

Basically, it deals with test coverage, **features to be tested, features not to be tested**, **build suspension criteria, Entry criteria and exit criteria, version(browser window, mac).**

**Test scenario**

A **TEST SCENARIO** is defined as any functionality that can be tested. It is also called Test Condition or TestPossibility.

**testcase**

Write detailed functionality of an application

**Bug/defect/error**

A **mistake** in code is called **Error**

**Error** found by tester is called **defect**

**Defect** accepted by development team is called **Bug**

**EPICS:**

* Epics are the large requirement.
* Epic may contains stories, bugs and tasks [epic is used for grouping]
* We can put 5-6 same category bugs in Epic.
* **Stories, bugs** and **tasks** are same level hierarchy

**Stories**

* **Stories** a piece of new functionality[Stories come after the client review the sprint]

**Task**

* Something needs to be done[like we add covid page when site open it called a task]

**Bug**

* Broken functionality which needs to be fix

TDD vs BDD

|  |  |  |
| --- | --- | --- |
| S.No | TDD | BDD |
| 1 | Stands for Test Driven Development | Stands for Behaviour Driven Development |
| 2 | The process starts by writing a test case | The process starts by writing a scenario in simple english so that product owner can understand it too. |
| 3 | Collaboration is required only between the developers | Collaboration is required between all the stakeholders. |
| 4 | Some of the tools which support TDD are: JUnit, TestNG, NUnit, etc. | Some of the tools which support BDD are SpecFlow, Cucumber, MSpec, etc. |
| 5 | Tests in TDD can only be understood by people with programming knowledge | Tests in BDD can be understood by any person including the ones without any programming knowledge. |
| 6 | Not much involvement of product owner. | Product owner centric, have concept of acceptance tesing. |
| 7 | Transparency factor is missing | Transparency between user expectations and developer tests. |

**Scenario:** Login check

**Given** I am on the login page

**And** I click on the "Login" button

**Then** I get an error to enter username

Software development life cycle

Requirement- design- development- testing – deployment – maintenance



Requirement:

Design:

“How will we get what we want?”

<https://www.softwaretestinghelp.com/software-development-life-cycle-sdlc/>

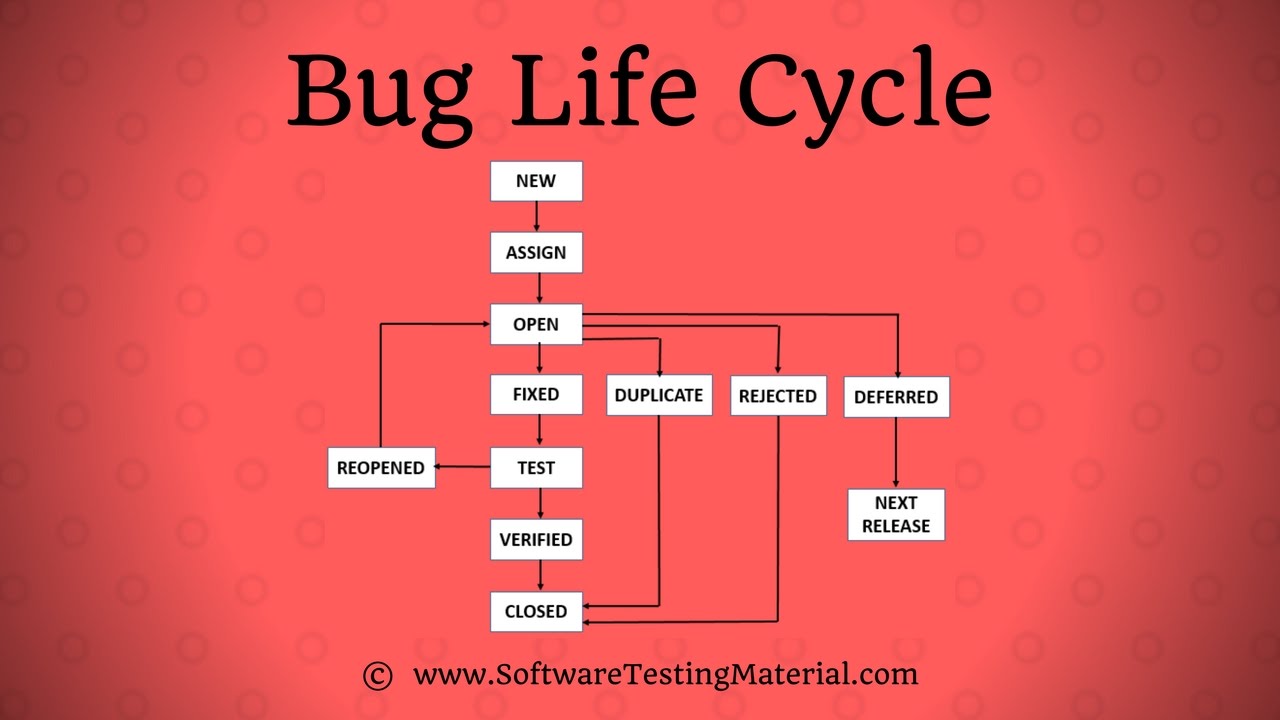
Software test life cycle

Requirement – test planning – test case development- environment setup-test execution – test closure



<https://www.guru99.com/software-testing-life-cycle.html>

**Bug life cycle:**



**Agile Vs Waterfall Method**

|  |  |
| --- | --- |
| Agile Model | Waterfall Model |
| Agile method proposes incremental and iterative approach to software design | Development of the software flows sequentially from start point to end point. |
| The agile process is broken into individual models that designers work on | The design process is not broken into an individual models |
| The customer has early and frequent opportunities to look at the product and make decision and changes to the project | The customer can only see the product at the end of the project |
| Agile model is considered unstructured compared to the waterfall model | Waterfall model are more secure because they are so plan oriented |
| Small projects can be implemented very quickly. For large projects, it is difficult to estimate the development time. | All sorts of project can be estimated and completed. |
| Error can be fixed in the middle of the project. | Only at the end, the whole product is tested. If the requirement error is found or any changes have to be made, the project has to start from the beginning |
| Documentation attends less priority than software development | Documentation is a top priority and can even use for training staff and upgrade the software with another team |
| Every iteration has its own testing phase. It allows implementing regression testing every time new functions or logic are released. | Only after the development phase, the testing phase is executed because separate parts are not fully functional. |
| Testers and developers work together | Testers work separately from developers |
| At the end of every sprint, user acceptance is performed | User acceptance is **performed** at the end of the project. |
|  |  |

What is Scrum?

Scrum is a simple agile framework for effective team collaboration on complex products.

### Scrum Artifacts

* [Product Backlog](https://www.scrum.org/resources/what-is-a-product-backlog)
* [Sprint Backlog](https://www.scrum.org/resources/what-is-a-sprint-backlog)
* [Increment](https://www.scrum.org/resources/what-is-an-increment)

**Product backlog**: contains all the requirement

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[Daily Scrum](https://www.scrum.org/resources/what-is-a-daily-scrum): Meeting to synchronize activities and create a plan for the next 24 hours.

**Product owner**: get the requirement from stackholder and make product backlog

**Scrum master**: manage the scrum meetup, helping people to achieve task.

**Scrum Team**: QA, devs etc.

### Different Types Of Software Testing

Given below is the list of some common types of Software Testing:

**Functional Testing types include:**

* Unit Testing

Testing of an individual software component or module is termed as [Unit Testing](https://www.softwaretestinghelp.com/unit-testing/).

* Integration Testing

Verify the combined functionality after integration of few modules

* System Testing

The entire system is tested as per the requirements.

* Smoke Testing

The result of this **testing** is used to decide if a build is stable enough to proceed with further **testing**.

* Interface Testing
* **Regression Testing**

It is done when changes to the program (e.g. new functionality) have been made.

**Retesting**

I test a build and same build is tested by my senior without any changes in build.

Verify a bug fix of sprint 1 in sprint 2

* Beta Testing

It is typically done by a small group of end-users.

* Acceptance Testing

It is usually performed by the customer; determine whether or not a system satisfies its acceptance criteria.

**Non-functional Testing types include:**

* Performance Testing
* Load Testing
* Stress Testing
* Volume Testing
* Security Testing
* Compatibility Testing
* Install Testing
* Recovery Testing
* Reliability Testing
* Usability Testing
* Compliance Testing
* Localization Testing

exhaustive testing

Integration testing:

**Integration testing** (sometimes called **integration and testing**, abbreviated **I&T**) is the phase in [software testing](https://en.wikipedia.org/wiki/Software_testing) in which individual software modules are combined and tested as a group.

Load and stress testing

**Load testing** is a type of non-functional testing. A load test is type of software testing which is conducted to understand the behaviour of the application **under a specific expected load.**

**Stress Testing:**

[Stress testing](https://en.wikipedia.org/wiki/Stress_testing) is normally used to understand the upper limits of capacity within the system

Performance testing:

**performance testing** is in general a [testing](https://en.wikipedia.org/wiki/Software_testing) practice performed to determine how a [system](https://en.wikipedia.org/wiki/System) performs in terms of responsiveness and stability under a particular workload.

**VOLUME TESTING**

It is a type of Software Testing, where the software is subjected to a huge volume of data. It is also referred to as **flood testing.** Volume testing is done to analyse the system performance by increasing the volume of data in the database.

|  |  |
| --- | --- |
| Verification | Validation |
| Are we building the product right? | Are we building the right product? |
| The verifying process includes checking documents, design. | It is a dynamic mechanism of testing and validating the actual product |
| It does not involve executing the code | It always involves executing the code |
| It comes before validation | It comes after verification |

**Bug leakage:**

A defect which exists during testing yet unfound by the tester which is eventually found by the tester/end-user is also called bug leakage.

**bug release:**

A **bug release** is when a particular version of s/w is **released** with a set of known **bug**(s)/**defect**(s). These **bugs** are usually low severity and/or low priority **bugs**.

**Testcase techniques**

Boundary Value Analysis (BVA)

Decision Table Testing

Static and dynamic testing

**Static testing** does the verification process while **Dynamic testing** does the validation process

**Static testing** is about the prevention of defects whereas **Dynamic testing** is about finding and fixing the defects.

Latent defect

**Latent Defect** is one which has been in the system for a long time; but is discovered now. i.e a **defect** which has been there for a long time and should have been detected earlier is known as **Latent Defect**

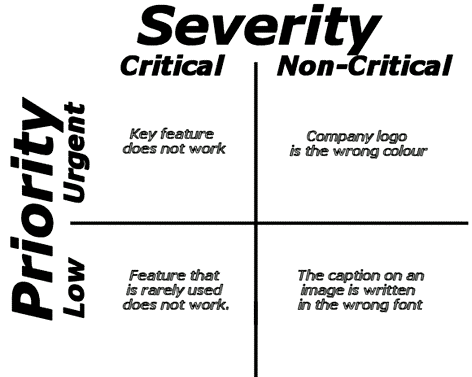
Move to a different elements after hover

Book a flight 100 times in 100 tabs using testing threads?

**Severity vs priority**

**Severity** means how severe defect is affecting the functionality.

**Priority** means how fast defect has to be fixed.



**High Priority, High Severity :-** An error which occurs on the basic functionality of the application and will not allow the user to use the system (E.g. user is not able to login to the application)

**High Priority, Low Severity bug:-** If the company name is misspelled in the home page of the website, then the priority is high and severity is low to fix it.

**High Severity, Low Priority :-** Web page not found when user clicks on a link (user&#39;s does not visit that page generally)

**Low Priority, Low Severity: -** Any cosmetic or spelling issues which is within a paragraph or in the report

**Logic behind amazon logo:**

The **Amazon logo** was created to represent the message that it sells everything from A to Z

## Apache POI?

**Apache POI** (Poor Obfuscation Implementation) is a Java API for reading and writing MS Office files using Java programs.

* **HSSF** (Horrible Spreadsheet Format) − It is used to read and write **xls** format of MS-Excel files.
* **XSSF** (XML Spreadsheet Format) − It is used for **xlsx** file format of MS-Excel.

**Smoke Testing:** It is the initial testing process exercised to check weather the software under test is ready/stable for further testing. It is also known as built acceptance testing.

In this we check whole system but not regressly/check app at high level.

Smoke testing is usually documented or scripted

**Sanity Testing:** check apart of an application.

It isthesubset of regression testing.

Check bug fixed working perfectly or not.

Check the main features of app at high level.

**Regression testing:** Repeated testing of an already tested program, after modification.

We do regression testing when:

* New functionalities added to the application
* Defect fixing

**Retesting:** To ensure that the defect which were found and posted in the earlier build was fixed or not in the current build.

Say, Build 1.0 is released.

Test team found some defects(say defect id 1.0.1, 1.0.2) and posted.

# Heaven Or Hell Puzzle

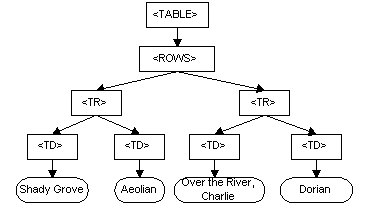
**Me saamne vale se puchta hu ki ‘bhai agr me saamne vale se puchunga to vo kisko heaven bolega’**

“If I ask the other guard about which side leads to heaven, what would he answer?”

**Testcases of lift:**

* Verify the dimensions of the lift
* Verify the capacity of the lift in terms of the total weight
* Verify the door open and close as number of button pressed.
* Verify that lift moves to the particular floor as the button of the floor is clicked
* Verify if there is an emergency button to contact officials in case of any mishap
* Verify the performance of the floor – the time is taken to go to a floor
* Verify that in case of power failure, lift doesn’t free-fall and get halted in the particular floor
* Verify lifts working in case button to open the door is pressed before reaching the destination floor
* Observe if door open back if we put obstacle after press close button.

Document Object Model (**DOM**):



### What is Entry and Exit Criteria?

**Entry Criteria:** Entry Criteria gives the prerequisite items that must be completed before testing can begin.

Ex:

* Appropriately defined and approved requirements
* Access to sufficient and desired test data
* Setting up of test environment with all the necessary resources like tools and devices

**Exit Criteria:** Exit Criteria defines the items that must be completed before testing can be concluded

Ex:

* Ensuring all critical Test Cases are passed
* Identifying and fixing all the high-priority defects

Mobile testing vs Web testing

|  |  |
| --- | --- |
| Mobile Testing | Web Testing |
| Run on smart devices | Web applications refer to computer programs that run in a web browser. |
| Use Charles or burp suite for debugging | Inspect elements for debugging |
| Check app during call, popup message | No such functionality required |
| Don’t have different tabs | Maintains the cookies(ex: different users are able to login in Different browser window) |
| No/very minimal logout(I haven’t see it) | Logout after no activity for a given amount of time |
| App is handy or not like user is able to use app using one hand |  |
| Low battery effects the app(like in low battery we are not able to open camera) | No such thing in web app |
| Installation/uninstallation testing | Such testing is not possible |
| No need of seo as the app is in his device | Need seo because user hit url again and again everytime he want to access the webapp |
| App can be open like whatsapp, flipkart, but we are not able to do any activity  **Few games can run without internet a well** | Internet is Must, you wont able to open the app |

**Components of Bug Report:**

* Project name
* Sprint version
* QA name who made the report
* How many bugs we found in each category(functional, UI, usability)
* Suggestions
* How many are **major, minor, trivial**
* How many bugs are open, close , reopen

**Components of test plan**

* Project name
* Copyright
* Type of testing
* Testable/non testable items
* Entry\exit criteria
* Build suspension criteria
* Tools utilize
* Test environment[set of data/server]
* Test deliverables

**Black box testing technique?**

Knowledge of internal code structure is not required

**Black box testing technique** is the way to pick the test cases in a systematic manner

Types of black box testing techniques:

* Equivalence partitioning
* Boundary value analysis
* Decision table
* State transition
* Exploratory testing

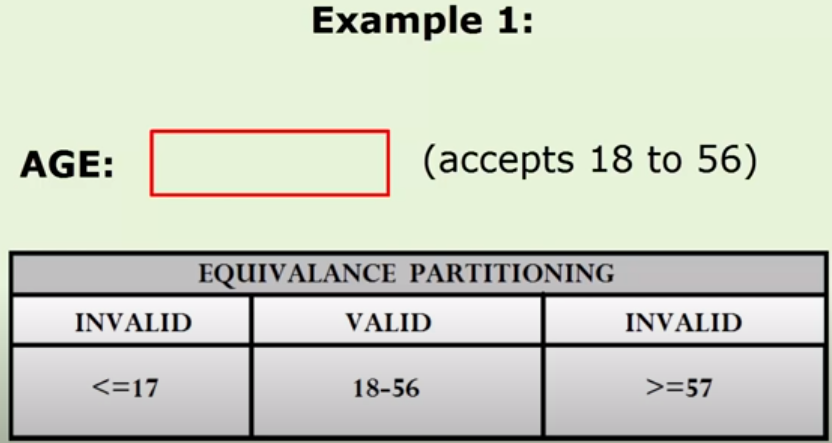
**Equivalence partitioning**

We want to test a text field with data range from 18-56 then we divide it in three groups

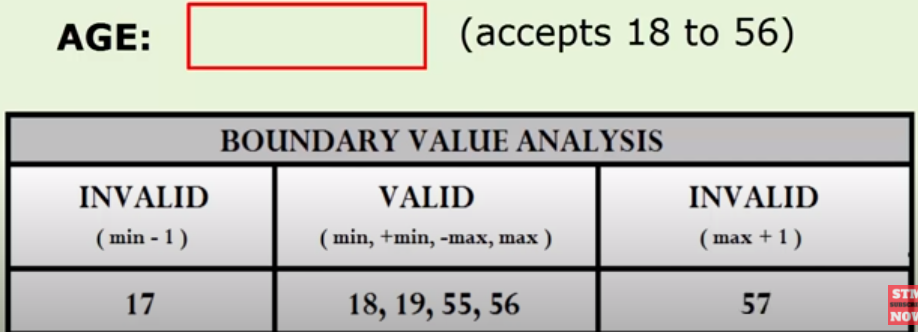
<=17 invalid

>=57 invalid

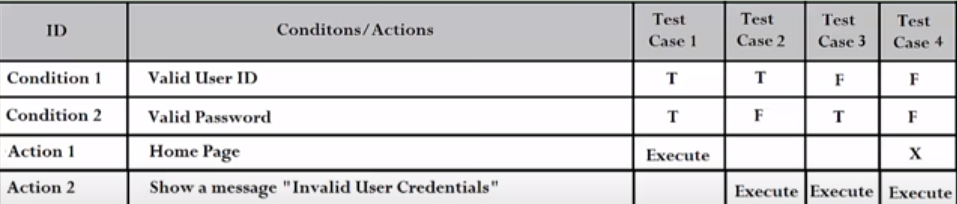
18-56 valid



**Boundary value analysis**

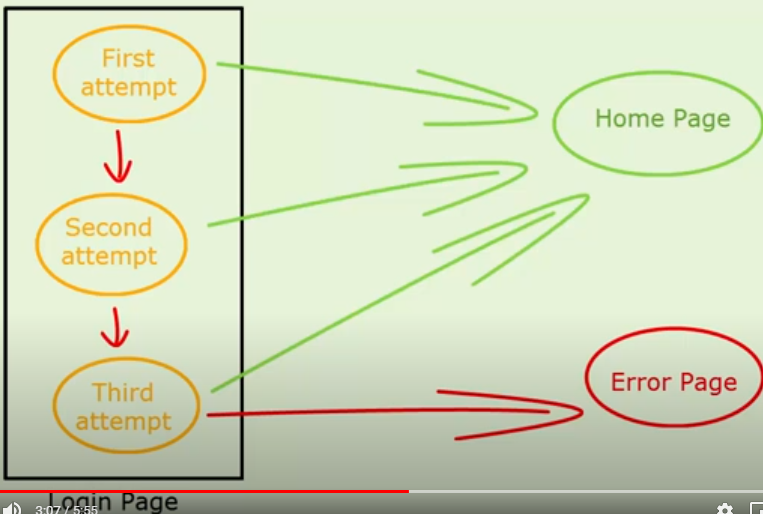


**Decision table**



**State transition**

Application gives different output for same input depending upon what is happen in earlier state



Application changes its state after the third wrong attempt

**Alpha and beta testing?**

| **ALPHA TESTING** | **BETA TESTING** |
| --- | --- |
| Alpha testing involves both the white box and black box testing. | Beta testing commonly uses black box testing. |
| Alpha testing is performed by testers who are usually internal employees of the organization. | Beta testing is performed by clients who are not part of the organization. |
| Alpha testing is performed at developer’s site. | Beta testing is performed at end-user of the product. |

**Black box vs white box testing technique**

| **BLACK BOX TESTING** | **WHITE BOX TESTING** |
| --- | --- |
| It is a way of software testing in which the internal structure or the program or the code is hidden and nothing is known about it. | It is a way of testing the software in which the tester has knowledge about the internal structure or the code or the program of the software. |
| It is mostly done by software testers. | It is mostly done by software developers. |
| No knowledge of implementation is needed. | Knowledge of implementation is required. |
| It can be referred as outer or external software testing. | It is the inner or the internal software testing. |
|  |  |

**Bug triage:**

**Bug triage** is the process of going through a list of **bugs** to find **bugs** that need assistance, escalation, or follow-up.

**How to test CPU usage on mobile devices?**

**Ans.** There are various tools available in the market like google play or app store from where you can install apps like CPU Monitor, Usemon, CPU Stats, CPU-Z etc these are an advanced tool which records historical information about processes running on your device.

**When performing sanity test on the mobile application what all criteria should be taken into consideration?**

**Ans.**

* Installation and uninstallation of the application
* Verify the device in different available networks like 2G, 3G, 4G or WIFI.
* Functional testing
* Interrupt testing- Able to receive the calls while running the application.
* [Compatibility testing](https://www.softwaretestinghelp.com/software-compatibility-testing/)– able to attach the photo in message from gallery
* Test application performance on a different handset.
* Make some negative testing by entering the invalid credentials and test the behaviour of the application.

**What is the latest version of IOS?**

iOS and **iPadOS** is 13.7 / 14(15 sept)

**macOS** is 10.15.6

**what is the latest version of android?**

Android 11(8sept 2020)

**What is the extension of Android/ IOS files?**

.apk(android application package)

.ipa(IOS appstore package)

exe – Executable Files

**What is the full form of MMS?**

**Ans.** Multimedia Messaging Services

**What is the latest version of Windows?**

**Ans.** Windows 10

**Agile**: Ability to adapt/respond to changes

**Agile model**:

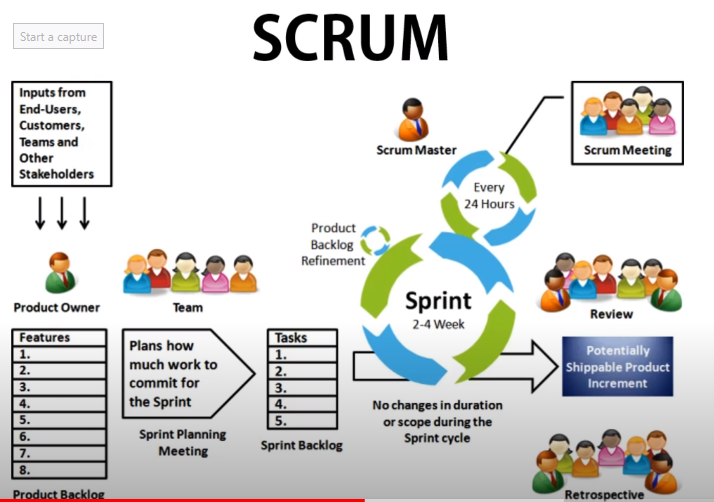
* Break the product into small incremental builds
* Able to make changes in the middle of development
* Error can be fixed in the middle of the project.
* At the end of every sprint, user acceptance is performed

**Types of agile methodologies**

* Agile **Scrum Methodology**.
* **Lean Software Development**.
* Kanban.
* **Extreme Programming (XP**)
* Crystal.
* **Dynamic Systems Development Method** (**DSDM**)
* **Feature Driven Development** (FDD)

What is Scrum?

Scrum is a agile framework for effective team collaboration.



### Scrum Artifacts

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**Hybrid apps vs native apps**

* It would run in both android and iPhone / Portable (one code, multiple platform)
* **Access to device hardware/software capabilities (through plugin)**
* React
* Cheaper organisation cost

**Examples of Hybrid apps**

Some of the popular hybrid apps are:

* Instagram
* Yelp
* Uber
* Amazon Store
* Native app is our pure mobile app like whatsapp, it would run in android or iPhone
* **Native applications have the best performance,**
* **highest security, and**
* **best user experience**
* Android **app** uses Java, while iOS **apps** use Objective – C or Swift

The most popular messaging app – WhatsApp is a native app.

the following are also native applications:

* Facebook
* Gmail
* Twitter

## Some Common Access Permissions in mobile app:

* Contacts
* Phone calls
* Photos, videos, and audios
* ID and device data
* Text Messaging
* Wi-Fi
* Accounts

Difference between android app and ios app:

|  |  |
| --- | --- |
| **Android** | **IOS** |
| Android is slower than IOS | **IOS simulator is much faster** |
| developer will build XML files onto Android interfaces | very similar to iOS’ XIB files. |
| **‘Back’ button included in Android** | doesn’t exist in iOS |
| Click back from bottom | Click back from top |
| Android devices are unlocked by sliding your finger up | iOS devices are unlocked by sliding your finger to the right |
| usually use Google Maps when creating apps for Android | Apple’s Maps or Google Maps when developing apps for iOS |
| Use Java or Kotlin as an alternative | Use Objective-C or Swift |

ADB in android:

Android Debug Bridge

It is use to show all the attached devices with our computer system (by wired/wireless mode)

**Explain what is the difference between emulator and simulator?**

**Emulator:** It is software to test mobile application/web application without a live handset

EX: Browserstack

**Simulator:** This term is more related to hardware simulators used in

vehicle, aircraft , or other complex system, used for training purposes.

**List out the types of mobile app testing?**

* [Usability Testing](https://www.guru99.com/usability-testing-tutorial.html)

**Usability Testing** also known as User Experience(UX) Testing, is a testing method for measuring how easy and user-friendly a software application is. A small set of target end-users, use software application to expose usability defects.

* [Compatibility Testing](https://www.guru99.com/compatibility-testing.html)

Compatibility is nothing but the capability of existing or living together. In normal life, Oil is not compatible with water, but milk can be easily combined with water.

### What is Compatibility Testing?

Compatibility Testing is a type of Software testing to check whether your software is capable of running on different hardware, operating systems, applications, network environments or[Mobile](https://www.guru99.com/mobile-testing.html)devices.

## Types of Compatibility TestsCompatibility Testing Tutorial: Forward & Backward Testing

* Interface testing
* [Performance Testing](https://www.guru99.com/performance-testing.html)
* Installation tests
* [Security Testing](https://www.guru99.com/what-is-security-testing.html)

**Explain how A/B testing is done for ios app?**

A/B testing for ios includes three steps

* **Configure a test:** It prepares two versions of your iOS app (A&B) and test metric
* **Test:** Tests two iOS versions above on devices simultaneously
* **Analyze:** It select and measure better version to release

**While performing end to end mobile testing what are the major criteria, you have to take in consideration?**

* Installation
* Application launching without having network
* Uninstallation of app
* Orientation of app if it supports
* Testing application performance on a different kind of devices and network scenarios
* Testing the application response how it is responding

**features does monkey tool provides?**

* Debugging options

**Mention what should be the selecting criteria for Test Automation Tool for mobile Testing?**

* **Multi-platform support:** Ensure that the tool does support your current and future target platform
* **Script Usability:** Object-based tools provides a high degree of the script usability
* **Lead time for New OS version:** How soon tool can support new iOS/android/other OS version

**When to choose automation testing and when manual testing?**

**Manual Testing**

* If the application has new functionality
* If the application requires testing once or twice

**Automate Testing**

* If the regression tests are repeated
* Testing app for complex scenarios

**Explain what does mobile security testing includes?**

* Checks for access to files stored in the app by any unintended users
* Decryption or Encryption method used for sensitive data communication
* Detect sensitive areas in tested application so that they do not receive any malicious content