

## Story board / white board

It contains a list of stories or tasks which is in progress, & completed.

## Spill over:

There are certain features (or) stories which you are not able to build in current sprint and planning to postpone it to next sprint that is called as spill over.

## Chicken:

Chicken is one who observes how sprint is going on and will not be involved in any of the task.

example: Customer, Investors, Shareholders, management team (Director, Vice President)

Here literally in Agile they use three clones. That is Developer says BBT is done. Test Engineers says BBT is done. Customer says acceptance testing is done.

- 1) Developer says BBT is done.
- 2) Test Engineers says BBT is done.
- 3) Customer says acceptance testing is done.

## Interview Question:

What are the principles of Agile  
Our highest priority is customer satisfaction through quick delivery of working piece of software

- \* Customer can change the requirement at any stage of development process
- \* Releases should be very short
- \* It is a flexible model.
- \* There will be very good communication b/w Customer, BA, DE, TE
- \* There will be lot of meeting b/w Dev development team & Testing team in order to improve the process.

## What is Agile Testing?

Software Testing process done by following the principle of agile is called agile Testing

Q) What do you mean by Scrum Ceremonies in agile?

- Scrum Ceremonies is nothing but meeting in agile that is
- Sprint planning meeting
  - Daily Standup meeting

- Sprint review meeting
- Sprint retrospective meeting

slipk be written here

A) What is Agile methodology / Process / Approach?

Iterative and incremental process

Iterative :-

Doing the same process Again & Again

Incremental :-

Adding new features in existing feature

Principle

- Customer no need to wait till the complete software is developed
- Develop, Test and Release piece of Software with few number of features
- We can accept and accomodate the new, existing requirement changes
- There will be good communication b/w customer, BA, Dev. and Testers

Advantages of Agile

- Requirement changes is allowed in any stage
- Releases will be very fast in weekly
- Customer no need to wait for long time
- It is easy to adopt it

## Github

Projects

Your projects Starred projects Explore project E.T.

## Disadvantages of Agile

No Documentation and Design but more meetings to discuss the requirement.

Agile is defined process to follow some principle it consist of few frameworks.

- 1) Scrum
- 2) Kanban
- 3) XP - Extreme programming
- 4) FDD - Feature Driven Development
- 5) DSDM - Dynamic Systems Development method
- 6) Crystal
- 7) Lean

## Scrum process

Scrum helps to implement the process to develop the software and the software by following Agile principles.

## Roles - Scrum Team

- 1) Product owner
- 2) Scrum master
- 3) Development team
- 4) QA Team

## Product Owner:-

To Deliver the Quality of the product to the Customer

Defines the features of the product by sitting with customer and get the requirement

- Prioritize features according to the market value
- Works on the iterations as needed based on the priority
- Accept and Reject the works results done by the Scrum Team

Customer - Gets the Requirement

Attendance Software

- 1) HR Login
- 2) Employee Login
- 3) HR Registration
- 4) Employee Registrations

## Scrum master :-

Scrum master is not the tester or Developer he is role to play facilitate and drive the agile process in the team.

HCL - Development

TY - QA Team

SM -

Make the Awareness of the process  
He act as a leader for the entire process.

Time lines and based on that he creates the burndown & burnup chart

(such as 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 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## Developer :

Develop the product and he also interact with Designers and UI developers.

## QA:

Test the Application and make there no defect leakage into product.

## Scrum Terminologies

- 1) User Story
- 2) Epic
- 3) Product Backlog
- 4) Sprint
- 5) Sprint planning meeting
- 6) Sprint Backlog
- 7) Scrum meeting
- 8) Sprint Retrospective
- 9) Story points

User Story: Feature or a module in the software in classic model we call this has functionality

Epic: Collection of user stories we call it has Epic (product owner is responsible to create the above things)

Product Backlog: List of user stories prepared by the product owner It is a document defined by the product owner in the beginning of the project

Sprint: Sprint is a span of time to complete the user stories defined by the product owner and team and duration of 1 Sprint = 2-4 weeks (10-20 days)

Sprint planning meeting :- Meeting conducted with the team on what can be delivered in the Sprint duration.

Sprint Backlog :- It is the committed stories which can be taken in the Sprint duration which will be decided in the Sprint planning meeting.

(Sub set of product Backlog) Everyday

Scrum meeting :- Everyday meeting conducted by the Scrum master we can call this as Scrum Call or Daily Stand up & where S.M, Dev. and QA team will be involved 1) What did you do yesterday 2) What you going to do today 3) Any impediments

Sprint Retrospective :- Meeting conducted after Sprint release where we discuss on.

- 1) What went well
- 2) What went wrong
- 3) How to improve.

Story Points :-

Product Backlog :- We were having list of user stories

Sprint planning meeting :- with Dev and QA and estimate what can be covered in the Sprint duration

FIBONACCI series to Estimate the Stories

0 1 1 2 3 5 8 13 21 34.

- 1 = 1 Hour / 1 Day depends on the Company and Scrum master

Registration page

2 Days -

1 Day

= 3 Days.

# Mobile Testing

## Types of mobile Apps

- 1) Native Apps
- 2) web Apps
- 3) Hybrid Apps
- 4) Cross platform Apps
- 5) PWA - progressive web Apps.

## Native Apps:

Operating System	Programming Language used	IDE (Integrated Development Environment)	Extension and Expansion
Android	Java and Kotlin	Android Studio	.APK (Android package kit)
iOS	Objective-C & Swift since iOS 8	Xcode	.IPA (iOS App store package)
Windows	.NET XAML, Visual Basic & C# (windows phone apps that use XAML for the UI + C# or Visual Basic for the logic)	Visual Studio	.APPX (Application package ready for distribution and installation)

## Benefits of Native Apps

- \* Fast and Responsive
- \* Efficient
- \* Provides rich user experience
- \* provides Access to full feature set of Devices
- \* works offline

## Drawbacks of Native Apps

- \* Development Cost
- \* Code Reuse
- \* Takes more time

## Web Apps

Mobile web Apps are device - neutral and it is mobile - friendly website, which are built using HTML, CSS, Java Script. These website can be reached by typing a specific URL into your mobile browsers.

### Benefits

- \* Development Cost
- \* Easy Access.

### Drawbacks

- \* Offline
- \* Less Access

## Hybrid Apps

### Benefits of Hybrid Apps

- \* Development Cost is less
- \* Code Reuse.
- \* Device feature Access.

### Drawbacks of Hybrid Apps

- \* Performance
- \* User Experience.

# Cross Platform Apps (WORA) Write once Run Anywhere

- 20-40% native code (only UI)
- 60-80% shared code JS/C# (main logics)

## Benefits of cross platform

- Code Reusability
- Cost-effectiveness
- Shorter time to market

(:)) Action over flow button  
 (d) And button push  
 semicolon

## Drawbacks of cross platform

- User Experience
- Security issue
- Integration

## PWA - Progressive Web App

### Experience of the Native app users

- Lead to App Store
- Find in App Store
- Download and wait
- Install
- Accept permission
- use App

### Experience of the PWA users

- Enter the URL in Browser
- use App

- Progressive
- Responsive
- Fresh
- App-like
- Installable
- Linkable
- Fast

# Benefits of PWA

- 1) Low on Data
- 2) No installation
- 3) Sharing
- 4) Push notifications

## Drawbacks of PWA

- 1) Support
- 2) Hardware
- 3) Security

## Web Designs

There are 4 types of web design layout

- 1) Static
- 2) Liquid
- 3) Adaptive
- 4) Responsive.

## MSDLC

### Mobile Software Development life cycle

The lifecycle of mobile development is largely no different than the SDLC for web or desktop application. As with those there are usually 5 major portions of the process

Inception = Requirement / System Analysis

Design = UX & UI

Development = Coding / UI coding

Stabilization = Testing

Deployment / Distribution / Maintenance

# UX Design and UI Design

User Experience (UX) Design

## Development phase

In this phase application is coded

Development process can be in 2 stages

- 1) Coding for functionality requirement (without UI, databases) section
  - 2) Coding for UI requirement (databases) in loops, etc., and parallel development can be done
  - \* First core functionalities are coded and parallel development can be done for multiple modules and then modules are integrated

## Prototyping

- Prototyping

  - 1) The app is in proof of concept (POC) and only core functionality or specific parts are working.
  - 2) The prototypes are tested and sent to the client for feedback and changes are implemented.
  - 3) The development, prototyping and testing the prototypes are repeated until final product is ready.

## Stabilization phase (Testing)

Stabilization is the process of working out the bugs in your app

Typically applications go into prototype, Alpha, Beta and Release Candidate / Production Stages

- 1) Prototype :- The app is still in proof-of-concept phase and only core functionality or specific parts of the application are working. Major bugs are present.
- 2) Alpha :- Core functionality is generally code-complete (built, but not fully tested). Major bugs are still present. Outlying functionality may still not be present.
- 3) Beta :- Most functionality is now complete and has had at least light testing and bug fixing. Major known issues may still be present.
- 4) Release Candidate / Production :- All functionality is complete and tested. Barring new bugs, the app is a candidate for release to the wild.

Barring new bugs, the app is a candidate for release to the wild.

After releasing the app, it's important to monitor user feedback and fix any bugs that arise.

## Interview Questions

- 1) What are different types of mobile Apps?
- 2) How can you tell that the application is native or hybrid or cross platform?
- 3) What do mean by PWA?
- 4) What is cross platform app?
- 5) What are different types of web design?
- 6) Difference b/w Native, web & Hybrid?
- 7) What is MSILC? what are the different phases?
- 8) How were you getting the requirements?  
A I was getting requirement based on wireframes where we need write the Test

Scenarios by looking into user features

- 1) I was getting requirement through UI design
- 2) UI Interactive design

## Mobile specific Testing

### Installation Testing

Stand by Testing

### Interception Testing

### Orientation Testing

### UI Testing

### Gestures Testing

### Compatibility Testing

### Cross platform Testing

### Geo location Testing

### Network Testing

Installation Testing :- Installation testing is a process to verify the app

Installation goes smoothly without any errors

### Installation 3 Phases

1) Install

2) Update

3) Uninstall

### Install phase

4 ways we can install the application

1) App store installation

2) Distribution channel

3) Cloud Drives (Google Drive, Drop Box, One Drive, mega Drive)

4) ADB Commands.

Stand by testing: Here we verify the application UI by putting the device like in stand by mode (which means) minimizing the app. Switching of the screen for different duration and wake the device and verify behaviour of the application.

## Interception Testing

Checking the application stability by interrupting with other application and hardware devices.

## Orientation Testing:

Testing the ~~app~~ different orientations like portrait and landscape mode.

Verify the UI of the application by changing the screen from portrait to landscape and vice versa.

## Geotesting

Compatibility Testing:- Devices, OS versions, RAM Size, SOC

(System on chip) Battery Capacity, Screen density, Screen size.

## Cross platforms

## Network Testing

## UI Testing :-

The menu ← Carol banner, poster.

banner / card.

Left side menu.

Navigational menu.

→ Add Over flow button.

Ant Button / more

- What is installation  
 What is interruption and what are the ways you can interrupt  
 If I provide you an app for testing, what is your approach?  
 Tell how you start the testing
- 1) Installation
  - 2) Exploratory
  - 3) Functional
  - 4) Smoke Testing

### Scenarios on Install phase

No	Scenario description	Expected Result	Comments
1	Verify whether application is in production if it is in production make sure the application is searchable.	Application should be available in the play store or the app store	Pass / Fail
2	Verify install button is present for the application	Install button should be present if the application is not installed	Pass / Fail
3	Verify install button is working or not	Install button should work and install button should start	Pass / Fail
4	Search of the mobile data or wi-fi while installing the application	Installation should get paused	Pass / Fail
5	Verify the installation process by turning on the mobile data or wi-fi	Installation should resume	Pass / Fail
6	Verify open and uninstall button should be present after successful installation	Open and uninstall button should be present	Pass / Fail
7	Verify the open button is working or not	Application should get launched by tapping on open button	Pass / Fail

S.No	Scenario description	Expected Result	Comments
8	Verify application is displayed under application drawer after successful installation.	Application should be displayed under application drawer	Pass/Fail
9.	Verify the user interface of the application after successful installation.	The icon should be same as play store icon when the user searches the application	Pass/Fail
10.	Verify application is getting launched by tapping on application icon under application drawer.	Application should be launched successfully.	Pass/Fail
11.	Verify the installation process in different network speeds like 2G, 3G, 4G, wi-Fi	Application should be successfully installed in all the networks	Pass/Fail
12.	Verify the installation process when the internal memory is free and external memory is free.	Application should be installed successfully in internal memory	Pass/Fail
13	Verify the installation process when internal memory is full and external memory is free	It should ask the permission to install the application in external memory	Pass/Fail
14	Verify the installation process when the internal memory is free and external memory is full	Application should be installed successfully in internal memory	Pass/Fail
15	Verify the installation process when internal memory is full & external memory is full	out of storage message should be displayed	Pass/Fail
16	Verify by installing the application in internal memory and move the application to external memory and verify the behaviour of the application	Application should work properly	Pass/Fail
17	Verify by installing the application in internal memory and move the application to external memory and remove the external memory from the device.	Application icon should display but the application should not work	Pass/Fail

18	Verify the installation process when the phone battery is low	Application should install successfully.	pass / Fail
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## 1) Update Testing

update testing is a process to verify the fundamental of application's behaviour after every update. Here we verify whether the application is working properly after the new update or not.

- During the update process lot of things go wrong so it should have tested for any kind of crashes or error message.
- \* Here we need to verify there is no data loss of the application after the new update and we need to ensure it should not ask for login credentials after each update.

SL NO	Scenarios description	Expected Result	Comments
1	Verify the notification is displayed for the new update	notification should appear whenever there is a new update for the application	pass / Fail
2.	Verify update button should display in the play store whenever the user receives the update notification	update button should be present in the play store	pass / Fail
3.	Verify whether application is in production if it is in production make sure the application is searchable	Application should be available in the play store or the app store	pass / Fail
4.	Verify install button is present for the application	Install button should be present if the application is not installed	pass / Fail
5.	Verify install button is working or not	Install button should work & install button should start	pass / Fail
6	Switch off the mobile data or wi-fi while installing the application	Installation should get paused	pass / Fail
7.	Verify the installation process by turning on the mobile data or wi-fi	Installation should resume	pass / Fail
8.	Verify open & uninstall button should be present after successful installation	Open and uninstall button should be present	pass / Fail
9.	Verify the open button is working or not	Application should get launched by tapping on open button	pass / Fail
10	Verify application is displayed under application drawer after successful installation	Application should be displayed under application drawer.	pass / Fail

### 3) Uninstallation Testing

It is a process to verify whether all the data are removed completely after uninstalation. This kind of process is known as uninstallation testing. Here we verify there is no errors while Uninstalling the application.

After the process of installation and update user should ensure that removing an application must remove all files and that removal does not affect work of the application on the device.

SL No	Scenario description	Expected Result	Comments
1	Verify the application is getting uninstalled without any error.	Application should be successfully uninstalled.	pass/fail
2	Verify the application is removed from the app drawer after uninstalation.	Install button Application should not be displayed in app drawer.	pass/fail
3	Verify install button should be present under play store after uninstalation.	Install button should be displayed in play store.	pass/fail
4.	After successful uninstalation reinstall the application & verify the application is asking for authentication.	It should ask for authentication after reinstallation of the application.	pass/fail
5.	After successful uninstalation reinstall the application & verify the application is asking for permissions.	It should ask for permission after reinstallation of the application.	pass/fail

## Interruption Testing

Interruption testing is a procedure where we purposefully disturb the application by some predefined techniques or methods. It is used to validate if mobile application performs as expected after the interruption or during interruption provided by the end user.

We can also verify the stability of an application by interrupting through call, message alarms, by connecting charger and by connecting to networks by receiving notifications by putting device to flight mode and so on.

Some of the interruption testing are:

- 1) Call or miss call interrupt
- 2) Charger Connect / Disconnect
- 3) Head phone Connect / Disconnect
- 4) USB cable Connect / Disconnect
- 5) Home Button Interrupt
- 6) Lock and unlock interrupt
- 7) other Application notification interrupt
- 8) Battery Removal
- 9) No Internet Connection

Example for interruption testing

- 1) Calls and messages are not displaying as usual after application is closed
- 2) Streaming getting paused when interruption through message
- 3) App crash when user activates airplane mode and keep the application in background.
- 4) Video and audio of both applications plays parallel.
- 5) Request could not be completed while getting call.

- 6) Beatification feature was not working  
 7) Recorded video should be present after the call interruption is occurred  
 8) Recorded video should be present after the call interruption is occurred  
 9) App Crashes after interrupting with calls and messages.

SL NO	Scenario description	Expected Result	Comments
1)	Verify the stability of the application by interrupting through phone call	Application should not be interrupted	pass / fail
2)	Verify the stability of the application by interrupting through whatsapp call	Application should not be interrupted	pass / fail
3)	Verify the stability of the application by interrupting through like call Say a call etc.	Application should not be interrupted	pass / fail
4)	Verify the stability of the application by interrupting through SOS	Application should not be interrupted	pass / fail
5)	Verify the stability of the application by interrupting through like message, shopping message, whatsapp message etc.	Application should not be interrupted	pass / fail
6)	Verify the stability of the application by interrupting through in app notification	Application should not be interrupted	pass / fail
7)	Verify the stability of the application by interrupting through Broadcast notification	Application should not be interrupted	pass / fail
8)	Verify the stability of the application by interrupting through Reminders,	Application should not be interrupted	pass / fail
9)	Verify the stability of the application by interrupting through alarms	Application should not be interrupted	pass / fail
10)	Verify the stability of the application by interrupting through currency message.	Application should not be interrupted	pass / fail
11)	Verify the stability of the application by interrupting through change of networks	Application should not be interrupted	pass / fail

## Standby Testing

Here we verify the application user interface by putting the device in stand by mode and verify the application by waking up the screen after 5 minutes, 10 minutes and 30 minutes and we also verify the application in online and offline mode.

Here we verify crashes and UI getting glitches within the application when the device is woken up.

2:19:05

Test cases -

Q no	Scenario description	Expected Result	Comments
1)	Verify the application behaviour by putting the device into stand-by by waking up the device after couple of seconds, minutes & hours	Application should be launched successfully with the last page	pass/Fail
2)	Verify the application behaviour by putting the device into stand-by by disconnecting internet to wake up after couple of seconds, minutes & hours then run on the internet	Application should be launched successfully with the last page	pass/Fail
3)	Verify the application by launching from the Recent apps	Application should be relaunched successfully with the last page	pass/Fail
4)	Verify the application by launching	Application should be launched successfully	pass/Fail

## Orientation Testing

Testing the application in different orientation like portrait and landscape is known as orientation testing.

Here we verify the UI by rotating the device into landscape and portrait mode. As some application supports only landscape or only portrait both.

2:22

and developer will handle it accordingly so that border is visible.

some

Dimension

Portrait Mode

Landscape Mode

Width

Horizontal and black with logo  
copy that all other application.

and rotated with logo at first  
left-right side, so that nothing  
is aligned with each other  
second is alternative form

Height

Horizontal and black with logo  
copy that all other application.

and rotated with logo at first  
left-right side, so that nothing  
is aligned with each other  
third is alternative form

Width

Horizontal and black with logo  
copy that all other application.

horizontal and with logo at first  
left-right side, so that nothing  
is aligned with each other

Height

Horizontal and black with logo  
copy that all other application.

horizontal and with logo at first  
left-right side, so that nothing  
is aligned with each other

## 1) User Interface (UI) Testing

Here we verify whether all the UI elements like Radio button, check box, drop downs, widgets, text boxes, text field are working properly or not and we also verify the UI colours of the.

It is nothing but how the user interacts with an application

2:30

- ~~Product analysis~~ ~~Business analysis~~

functionality, styling and another point for each step can be predicted  
other steps are based on what has been said, said, yet added, yet

getting the required input from user

and if user is not asked about all the required information

then the testing of UI is not over as there is more need to

## Compatibility Testing

Compatibility Testing is a non-functional testing to ensure customer satisfaction it is to determine whether your software application or product is proficient enough to run in different browsers, database, hardware operating systems, mobile devices and networks

Here we verify the application in different OS version in different screen resolution in different API and in different RAM size in different screen resolution in different API and in different battery capacity is known as compatibility testing report based.

Gestures (UI) application

is a set of hand gestures which can be used to interact with the application. It is a common feature of mobile phones, tablets, and other touch screen devices. Gestures are typically used to perform certain actions without having to use the keyboard or mouse.

### a) Gesture Testing :-

Verifying the application by using gestures like pinch-in, pinch-out, tap, double tap, swipe, slide, and shake is known as gesture testing.

Top:- Briefly touch surface with fingertip

Double tap:- Rapidly touch surface twice with fingertip

Drag:- move fingertip over surface without losing contact

Flick:- Quickly brush surface with fingertip

Pinch:- Touch surface with two fingers and bring them closer together

Spread:- Touch surface with two fingers and move them apart

Press:- Touch surface for extended period of time

Press and tap:- Press surface with one finger and briefly touch surface with second finger.

Press and drag:- Press surface with one finger and move second finger over surface without losing contact

Rotate:- Touch surface with two fingers and move them in a clockwise or counter-clockwise direction

## Network testing

5) Network Testing  
verifying the application Quality of Experience on 2G, 3G, 4G, LTE and CDMA mobile networks. Every app should be tested on a range of networks and speeds it is also important to monitor how your app's behave when switching networks.

## Geo Location based testing

Geo-location testing is performed on apps that are location-aware, which means it has to display and collect information based on the real-time location of the device, to provide real time services to it user's proximity. Here we need to ensure that location-based functionalities work fine.

Sl.No	Scenario description	Expected result	Comments
1	Verify the location is displaying accurately	Location should display accurately to current location	Pass / Fail
2	Verify the location features by keeping your device in airplane mode showing message "location disabled" and then turn off airplane mode and check if location is displayed correctly	Location should display the location features	Pass / Fail

If I provide an app for testing what is your Testing approach?

How do you test the app?

If the application is installed already and if requirement is not provided I will do exploratory testing based on domain knowledge.

If the application is installed already and if requirement is provided based on the requirement I will test all the functionalities

If the application is not installed if the requirement is given or not given I will test the application from installation stage

Install part scenario. Then continue with functional testing, integration testing, End to End Testing, compatibility testing, interruption testing, stand by testing.

Testing, Network testing, Adhoc testing, update testing, orientation testing, battery testing, location based testing, UI Testing.

If the new build is given if I am aware of the application I will do smoke testing

If any defect is fixed which I have logged I will retesting

Finally I will uninstall and check whether all the data has been removed or not

✓

✓

✓

## ADB - Android Debug Bridge

Versatile command tool to work on Android devices for debugging purpose.

Three Components

- 1) Client
- 2) Server
- 3) Daemon

ADB is used only on Android not on iOS. ADB runs on TCP port number 5037 and communicates with developer tools like DDMS, LogCat, and others. It is powerful to use. ADB is tool kit included in SDK package it is ~~not only~~ powerful to use. debug purpose it is used by both Developers and Testers. It is client server architecture where we can use ADB to communicate with a device or emulator where we can use adb for installing the build (App). Recording the screen, taking logs, monitoring all the processes. It is a client server architecture where it includes.

3 Components

- 1) Client
- 2) Server
- 3) Daemon

Client: Send Commands (User)

Client configuration will be done development system

Server: Receive the Command and manages the Commands b/w client and daemon

Server configuration will be done on Development system

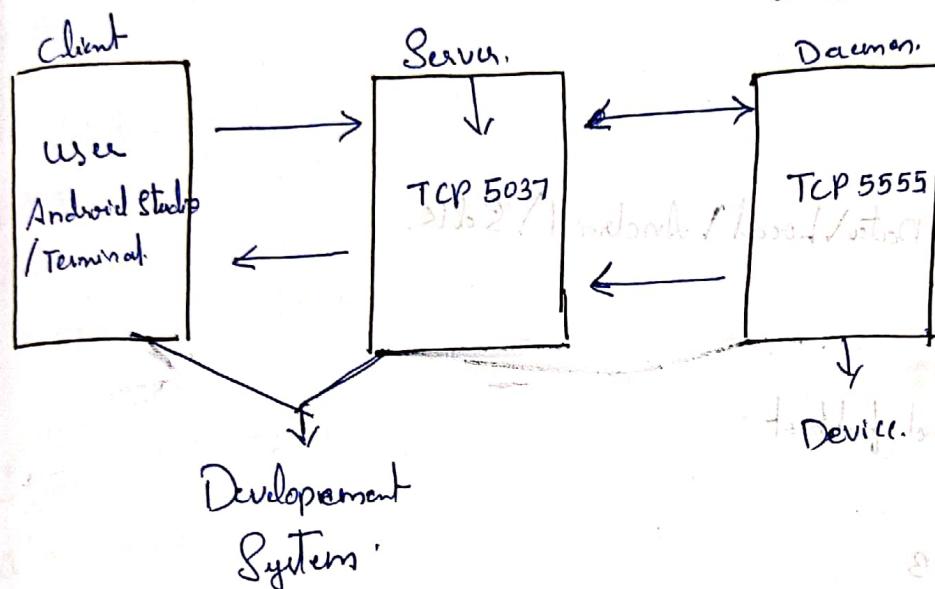
Daemon: Commands runs in the device known as Daemon.

Daemon will be configured in Device.

To run the daemon in emulator no need of configuration.

ADB Architecture

Client & Server → Manages the Command; Runs the Command in the Device.



ADB Client and Server Configuration

Two way we can configure

1) Android Studio

2) Minimal ADB

3) Android Studio

Google type - Android Studio then download SDK manager.

4) Android SDK Build-tools

5) Android Emulator with emulator with latest version

6) Android SDK platform-tools

7) Android SDK tools

8) Google USB Driver

9) Google Web Driver (optional for manual)

10) Intel x86

Set the Environmental Variable.

## System variable

### Path folder

C:\Users\Jithesh\AppData\Local\Android\Sdk\Tools

C:\Users\Jithesh\AppData\Local\Android\Sdk\platform-tools

C:\Users\Jithesh\AppData\Local\Android\Sdk\emulator

## New variable

### Android Home

C:\Users\Jithesh\AppData\Local\Android\Sdk

## 2) Minimal ADB

Google - Minimal ADB and fastboot

### Android MTK

### Click on the latest ADB

### Start now

Zip folder - File folder - exec file

Next - Next - Next - Short cut in desktop - Next - finish

Install hardware

Install hardware

Install hardware

Install hardware

## Daemon - ADB Debugging

1st Step: Developer option should be enable in your device.

for enable developer option in your device go to setting → About phone

→ Version → Tap 7 times on it.

2nd Step: Once you enable the developer option

Just come back to screen - Developer option menu

Oppo, vivo, xiaomi - Advanced settings - Developer option

3rd Step: Open the Developer option

3.1 Stay Awake or Enable Awake screen when it is on charging - E

3.2 - ADB Debugging | USB Debugging | Android Debugging  
only Xiaomi users

3.2.1 → Install Via USB and Security Configuration

3.3 - Input (Header) - Show Taps / Touches or Enable Taps

If you're using Android Studio - Security key mobile Home Screen - check  
box click on Allow

To Configure Device to interact with the device of system

Google - PDA Net +

Samsung Universal ADB Driver.

Google USB Driver.

### ADB Commands

adb version

adb devices

adb kill-server

adb start-server

Package Name can be found under:

File Manager - Internal Storage - Data - Android.

Using 3rd party app like App manager you can find the package name.

### Pull and pull:

Push a file system to device.

pull a file device to system

adb shell screenCap /sdcard /filename.ext

adb shell screenRecord /sdcard /filename.mp4

adb shell dumpsys > filename.txt

< steps at for file > - taken off

< steps at for file > - taken off

< steps at for file > - taken off

How to take the logs for the ANR (App not Responding) and Crashes

Test on Application - App stopped working. how to do with developer

Image - { developer will not accept}

Screen Recording { developer will demand additional bandwidth from developer}

Logs - Accepts

Note: Testing the application at this instant of time developer will accept logs before we start.

Commands

adb devices → To show

adb devices -l → adb devices -l < more spending logcat -dbs

Clearing the previous logs all for logs instant of time

adb install < path of the apk > < name of the apk >

adb devices -l

list all devices model connected through adb server or system

→ adb -s < device serial no > install < path of the apk >

Suppose i have connected Emulator and Device to perform any action

user can use a command

adb -d for device

adb -e for emulator

→ Suppose multiple devices has been connected to perform any action

Can use a command adb -m . adb -m

To replace the new apk with the existing application the command is

adb install -r < path of the apk >

uninstall but i need to keep the data and cache of that application in the device.

adb uninstall < package name >

adb uninstall -k < package name >

adb shell input keyevent 25 -> down volume

adb shell input keyevent 24 - volume up

adb shell input keyevent 26 screen off/on.

adb shell input keyevent 3 for home screen.

## How to log defect in jira

Jira is a defect tracking tool used to log defects. Jira belongs to company called atlassian.

Agile - Scrum, Kanban - SDLC.

## Mobile game testing

Mobile game testing is one of the obligatory stages of any development.

Process that is performed to ensure a perfect user experience to the maximum number of user across different devices.

## Game Development life cycle (GDLC)

The game is the one kind of Software or program with a goal to provide entertainment when we plan to start and developing the any games. Simply adopting the Software development life cycle (SDLC) is not enough for any game. developer as the developer face several challenges during the making any game development life cycle (Challenges like : Graphics, Animations, physics, collisions, AI, Gestures & touch inputs etc).

GnDLC process

## 1) Story / idea

- 2) Conceptual analysis
- 3) Frame planning
- 4) Team building
- 5) Concept design
- 6) Development
- 7) Testing
- 8) Pre-production (Alpha/Beta)
- 9) Main production
- 10) Sales and marketing

Common approach > Waterfall

Waterfall approach > iterative

iterative approach > incremental

incremental approach > spiral model

spiral model > hybrid approach

hybrid approach > incremental

incremental approach > iterative

iterative approach > spiral model

spiral model > hybrid approach

hybrid approach > iterative

iterative approach > spiral model

## Story / Idea

\* Story / Idea is the actual game concept and requirement of the project. Those all should well mentioned in the requirement document. Ideas represents first bits and pieces of your game. It's actual prototype of the game which have covered all the ideas. The group of ideas are called Game Concept / Frame Story.

## Conceptual Analysis

- \* As per the story or concepts need to analyze the requirements in depth.
- \* The feasibility study should be made before the game development starts. So we should have to analyzed the some areas.
- \* Actual Requirements
- \* Pricing
- \* Technical Capabilities
- \* Organizational, cultural or legal issues & solutions
- \* Skills & scope of the project

## Planning:-

- \* After the grabbing all the requirements & studies data need to planning of the game development.
- \* Need to create project plan or blue print of the game. List out all the features & tasks & ideas on the document or make chart.
- \* Make list of task
- \* Time scheduling & estimation of each task
- \* Create document / chart of the flow of task
- \* Decide the work flow & test cases & test plans.
- \* Decide flow of work. Submission of task
- \* Decide flow of work. Submission of task
- \* Taken care about rework & submit final bug free product.

## Team Building

To start the design and development need a team of people our concept is true. So need team members as per the game's requirements like designers, programmers, testers etc.

## Concept design:-

Concept design means design prototype of actual requirement / idea (story, it's also called Game design). It's a most art form (art) then. Game Design is the proof of the mastery of the craft to bring an idea to a reality.

It's a most innovative creative & complex process of a game. It's requires a critical thinking understanding implementing executing best behavior UI of the design.

Following the steps needed to do a game development

## GDD - Game design document

GDD describe all the virtual ideas and design as a blueprint of the game product. This document gives a detailed explanation of all of the game characters, the stages or levels, the game mechanics, the views and scenarios, the storyline, various menus & options, implemented etc. for the game.

### 1) Game design elements

- 1) UI interface
- 2) Game Data
- 3) Player Data & characteristics
- 4) Level design
- 5) Game play & mechanism.

### 7) 3D/2D Game Area

- 8) Game objects | powers | properties
- a) Artificial Intelligence
- b) VFX | Animations
- c) Sound music.
- d) Support & future Enhancements

## Development

After completing the GDD, now the time to start development of the actual game concept / idea as per described in the Game design.

## Testing:

⇒ Testing is the most important part of the GDD. Testing and game design have the same weight in the any game / concept development architecture.

⇒ Testing is not just playing the game at your workplace / arena. It's actual user experience with the respect to our product. It is repetitive and interactive process of the same action flow input & expecting the output from the user for quality of game.

## Pre-production & Production Testing (Beta Testing).

- \* Before the final production / release the any product make here make it for pre-production must release that game product for alpha / beta release for find out of touching the final time bugs / user experience.
- \* Production testing is done once the app is released to the market. Based on the user feedback & device specific issues the defects will be fixed.

## Sales & marketing

- \* Marketing team also keep watch on the our competitor's activity & new releases. For to keep product on top position it's needed to known who are our competitor & how's it's product? How we can improve our product than other & keep it always on top position.

## Interview Question

Q) How Requirement will be provided?

- 1) GDD Document
- 2) UX Story Board
- 3) UI Story Board
- 4) UX

Q) Story Board?

A) 1) A Story board is a graphic representation of how your video will unfold shot by shot.

2) It's made up of a number of squares with illustrations or pictures representing each shot. with notes about what's going on in the scene & what's being said in the script during that shot. Think of it as sort of a comic book version of your script.

3) How the build will be given.

- 1) Distribution channel using fireball
- 2) Google Drive / One drive or drop box

Test case format

Requirement platform scenario :- Scenario id Scenario description  
1) Required platform Game frame level.

Test Steps	Expected Result	Actual Result
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## Builds provided for testing

\* Locked Build = Level by level, others you also get  
\* unlocked build = Level 1 to Level 20 without any level completed.

## Document Verify

### 1) SRS (Software Requirement Document)

- \* Architecture of the project
- \* CR - Change Request
- \* FR - functional requirement
- \* Work flow
- \* Business requirement.

### 2) FRS (Functional Requirement Document)

Functionality based on module & work flow.

### 3) User Stories

All user cases based on module.

### 4) UX Designs

Design document of the application on how the application looks.

The app is going to get release tomorrow you need to execute 1000 test cases what is your approach.

While writing the test cases based on the priority we will execute the test cases practically it's impossible to execute all 1000 test cases but we can ensure critical & high Priority test cases can be covered & execute based on requirement & business flow we were prioritizing the test cases.

<u>Functional</u>	<u>Scenario</u>
<u>Module</u>	<u>Type of Scenario</u>
Search	Functional

- 1) way - Search product based on keywords under search field in the Home page.
- 2) way - check whether user is able to search the product using keyword in Home page.
- 3) way - Verify user is able to search the product based on keywords.
- 4) way - Search products based on keyword.