DAY\_1

Software

Software is collection of computer program It will perform certain task

What is testing?

Testing is process of checking whether given software or application generating desired output or not

What is software testing?

Process of checking completeness and correctness of software with respect to client expectations.

Types of software

What is project and product?

Project: software is designed for specific customer called as project

Ex. Bank, sbiyono

Product:

Software is developed based on market requirement called as product

Software quality Assurance

Software quality Assurance means monitoring software engineering process and method used in project to ensure proper quality of the software

Factors involve in SQA

1. To meet Customer requirement

Which types of application customer wants ie

1. Banking domain
2. Telecom domain
3. To meet customer expectations

Privacy: privacy includes security, any software like banking gather customer data which is very sensitive so client want privacy to all customer data

Performance : It should have to work properly under heavy load

1. Costing of project

Project costing for MNC is based on hours required to complete the project (hourly basis) and customer have to pay it .This payment depends on resource utilization and time require to complete the project

1. Timing Delivery

At the time of resources gathering and documentation, Time require to complete the project also decided.

If company exceeds delivery time then company have to pay penalty

1. Maintenance

Maintenances is the part of service provided by company after delivery of the project

If any problem occurs after delivery of the project then company have to fix it

Day 2:

Software Development Life Cycle (SDLC)

SDLC is a process that creates a structure of development of software. There are different phases within SDLC, and each phase has its various activities. It makes the development team able to design, create, and deliver a high-quality product.

Different phases of the software development cycle

Software Development Life Cycle

* [Requirement Phase](https://www.javatpoint.com/software-development-life-cycle#requirement-phase)
* [Design Phase](https://www.javatpoint.com/software-development-life-cycle#design-phase)
* [Build /Development Phase](https://www.javatpoint.com/software-development-life-cycle#build-development-phase)
* [Testing Phase](https://www.javatpoint.com/software-development-life-cycle#testing-phase)
* [Deployment/ Deliver Phase](https://www.javatpoint.com/software-development-life-cycle#deployment-deliver-phase)
* [Maintenance](https://www.javatpoint.com/software-development-life-cycle#maintenance)

### **1. Requirement Phase and Analysis**

* This is the most crucial phase of the software development life cycle for the developing team as well as for the project manager.
* During this phase, the client states requirements, specifications, expectations, and any other special requirement related to the product or software.
* All these are gathered by the business manager or project manager or analyst of the service providing company.
* The Business analyst collect the requirements from the customer in the form Of BRS (Business requirement specifications )documents
* These documents are act as bridge between client and developer and tester
* BRS is prepared by business analysis only

Analysis

* BRS documents not understandable to developer because these are rough documents so,
* Business analyst convert BRS documents to SRS (software requirement specifications) documents which is understandable to developer.

BRS SRS

* Sign up page >Sign up page should
* Home page number , email ,password
* Account information etc.
* Contact , link

From BRS, SRS get generated

SRS documents includes

* functional flow diagram
* .Functional requirement
* .Use cases
* .Snap shot

Functional flow diagram

Functional flow diagram is nothing but flow of our task.

Sign-up ----login page ----Home page-----request page

Functional Requirement:

Functional requirement means attribute which are required to complete specific function

Eg . Sign up function

For sigh up requirement are

* First name
* Last name
* Mobile number
* Email id

For first name

* name should be in character
* name does not have number
* it should not have spaces
* it should not have specific symbol

So like this these should get fulfill in this phase

USE case

Use case describe requirement

Use case contains three items

1. Actor
2. Action
3. Flow

Person -----login -------- [homepage ]

(Actor ) (Action) (outcome)

Snapshot

1. Snapshot are visualization of functionality before development of product
2. Snapshot are created by Business analyst
3. Snapshot gives idea to developer how software supposed to look like

### **2. Design Phase**

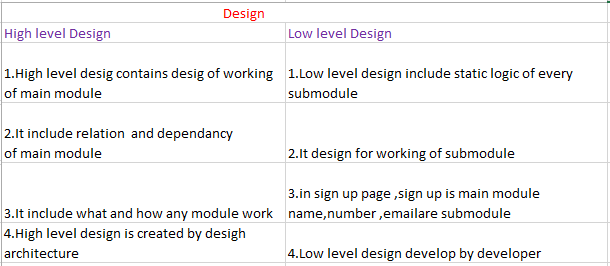
The design phase includes a detailed analysis of new software according to the requirement phase. This is the high priority phase in the development life cycle of a system because the logical designing of the system is converted into physical designing.

**1. High Level Design :**

High Level Design in short HLD is the general system design means it refers to the overall system design. It describes the overall description/architecture of the application. It includes the description of system architecture, data base design, brief description on systems, services, platforms and relationship among modules. It is also known as macro level/system design. It is created by solution architect. It converts the Business/client requirement into High Level Solution. It is created first means before Low Level Design.

**2. Low Level Design :**

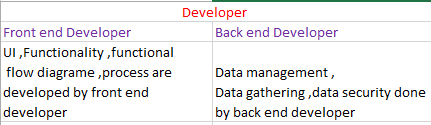
Low Level Design in short LLD is like detailing HLD means it refers to component-level design process. It describes detailed description of each and every module means it includes actual logic for every system component and it goes deep into each modules specification. It is also known as micro level/detailed design. It is created by designers and developers. It converts the High Level Solution into Detailed solution. It is created second means after High Level Design.



### **3. Build /Development Phase/coding**

* After the successful completion of the requirement and design phase, the next step is to implement the design into the development of a software system.
* In this phase, work is divided into small units, and coding starts by the team of developers according to the design discussed in the previous phase and according to the requirements of the client discussed in requirement phase to produce the desired result.
* Front-end developers develop easy and attractive GUI and necessary interfaces to interact with back-end operations and back-end developers do back-end coding according to the required operations.
* All is done according to the procedure and guidelines demonstrated by the project manager.
* **Front** and **back end developers** work on different sides of a website. **Front end development** is programming which focuses on the visual elements of a website or app that a user will interact with (the client side).
* **Back end development** focuses on the side of a website users can't see (the server side).

Coding is done by Developer



Testing

Testing is process of checking completeness and correctness of software

Testing is divided into three parts

1. White box testing
2. Black box testing
3. Gray box testing ­­­­­
4. White box testing :

* White box testing is done by developer it is also called as coding level testing ,unit testing ,clear box testing

1. Black box testing

* Black box testing is known as system and functional testing
* This testing is done by tester
* Overall functionality get checked in this type of testing
* Tester checked internal functionality depends on external functionality

Ex.

Tester check whether data in sign module got entered and user press sign up button ,this button is pressed to store the data ,then tester check data is stored correctly or not

So here internal functionality is storing of data external functionality is filling of data in field and submit button pressed

Tester tests positive and negative scenario

Positive scenario

If there is mobile number field in india mobile number are of 10 digits ,then tester check field functionality by entering 10 digit number whether it work or not

Negative scenario

Let us take same example the number field should not accept 9 digit or less or more then 10 digit tester check system by entering less the and more then 10 digit

Gray box testing

Its combination of black box and white box testing

Tester is involve in this type of testing

To do gray box testing tester need programming knowledge

The role of gray box tester whenever final software handover to client tester checks its functionality if any fault occurs in the output of function then tester does not system revert back to developer ,instead of tester himself solve or make changes in code so knowledge of coding required

### **5. Deployment/ Deliver Phase**

When software testing is completed with a satisfying result, and there are no remaining issues in the working of the software, it is delivered to the customer for their use.

### **6. Maintenance**

The maintenance phase is the last and long-lasting phase of SDLC because it is the process which continues until the software's life cycle comes to an end. When a customer starts using software, then actual problems start to occur, and at that time there's a need to solve these problems.