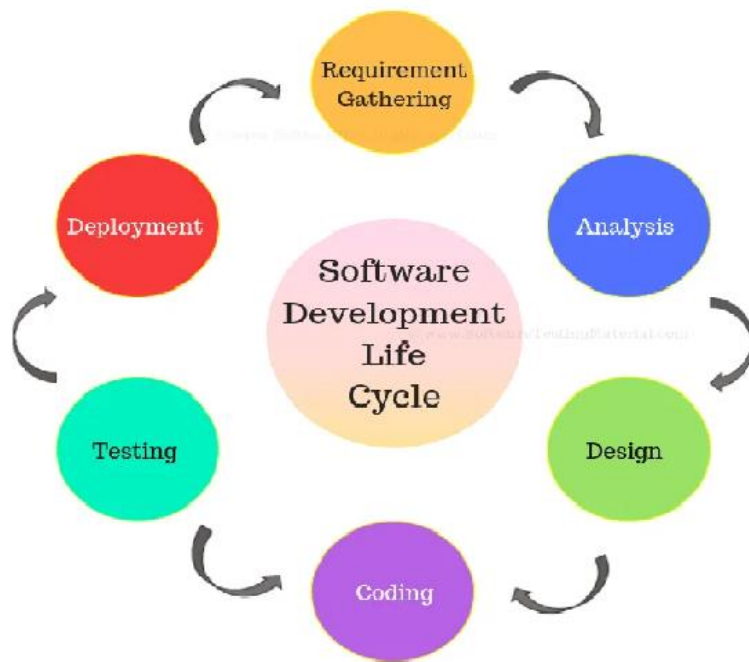


SDLC

The Software Development Lifecycle is a process of building a good. All the stages of Lifecycle are important in itself. One Wrong step in Lifecycle can create a big mistake in the development of Software.

SDLC is a process followed for a software project, within a software organization.



Stages/phases in SDLC-

- 1.Requirement/information gathering
- 2.Analysis
- 3.Design
- 4.Coding/Implementation
- 5.Testing
- 6.Maintenance

Information/requirement gathering-

- 1.Business Analyst is responsible for information gathering
- 2.It is a requirement gathering from customer

- 3.Information gathering involve business requirement specification (BRS) which is prepared by BA
- 4.BRS is bridge between client and team (dev,testers)

Analysis-

- 1.BA involves in this process and here SRS document made which is named as Software/System requirement Specification.
- 2.This made after BRS
- 3.SRS is detailed document

BRS-

Gather requirement example-banking project

- sign up page
- home page
- acc info page
- contacts page
- etc

This is overall requirement gathering

SRS-

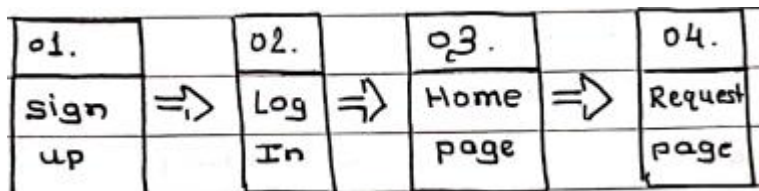
Consider above example-

- Sign up page should have Name,number,email,password etc

This is the detailed specification which shows minor units of software.

SRS documents include-

- 1.Functional Flow Diagram.
- Functional flow diagram means flow of our task.
 - This shows how relationship between each task.
 - This gives proper sequence of task
 - Example-Facebook or any website-



Function flow diagram looks like above diagram

-Overall, this functional flow diagram is actually a stepwise representation of software.

2.Functional Requirement.

-Functional Requirement means attributes which are required to complete a specific function.

-Now we have signup function.

-For sign up,its requirements are-

First name

Last name

mobile number

email

pwd

submit button

Now for first name requirement is-

-Name should be in characters

-Name should not have numbers

-It should not have spaces-

-It should not have sp.characters

These all kind of requirement fulfill in this phase.

3.Snapshot

-Its a visualization of the functionality before development of product

-It is created by BA

-This created by IRise software etc.

-This gives idea to developer as how the software will look like.

- SRS send to all stakeholder or team (developer+tester)
- When developer do coding, testers do test case design means write test case

Design-

Based on the requirements specified in SRS, a DDS - Design Document Specification OR Technical Design Document (TDD) is proposed and documented.

Here TDD(Technical design document) documents made which is divided into two levels:

1.HLD

2.LLD

High Level Design	Low Level Design
It contains design of working of main module	It includes static logic of sub module
It includes what and how any module do work	In sign up page, sign up is the main module and the rest fields like first name, last name, email etc are the sub modules.
It is created by design architect, TL	It is created by front end developer

Implementation/Coding:

- Coding means programming
- one line of code is code
- multiple line of code is called program
- set of programs written by developer creates software.
- 2 types of developer-

1.Front end developer-UI, functionality, process are developed by the front end developer.

2.Back end developer-Data management, Data gathering, Data security is done by back end developer.

Developer who work as front end developer as well as back end developer is called full stack developer.

Testing:

Testing is the process of checking completeness and correctness of the software.

Methods of testing-

- 1.White box
- 2.Black box
- 3.Grey box

1.White box testing-

- White box testing is done by coder because code knowledge is required.
- It is also called as code level testing/unit testing/clear box testing.
- In white box testing whenever coder complete his code writing, he checks or compile code then if any bug found code have to solve it
- coder cannot send code to tested without doing white box testing
- coder check or test mostly positive scenarios only.
- white box testing has purpose to test correctness and completeness of the program.

2.Black box testing-

- Black box testing is known system and function testing.
- This testing is done by tester.
- Overall functionality get checked in this type of testing.
- Tester check internal functionality depend upon external functionality.
- Example-Tester check whenever data is sign module got entered and users press sign up button,this button is process to store entered data.Tester check whether the data is stored correctly or not.
- So here internal functionality is storing of data and external functionality is filling up data in fields and submit buttons process.

- Tester test the positive and negative scenarios.

Positive scenario means-

If suppose we have mobile number field with 10 digit functionality then as a tester we will check field functionality by entering 10 digit number whether it works or not.

Negative scenario means-

If suppose we have mobile number field with 10 digit functionality then as a tester if we check with 9 digits or less as it should not accept or more than 10 digits.

Grey box testing:

- Grey box testing is a combination of both white box and black box.
- To do grey box testing, tester need programming knowledge
- The role of grey box tester is whenever final software is handed over to tester, tester check its functionality and if any fault occur in the output of function then tester himself find out the reason as well from code and discuss with developer. Knowledge of coding is required.
like database ,code knowledge needed with functionality

Black-Box Testing	Grey-Box Testing	White-Box Testing
The internal workings of an application need not be known.	The tester has limited knowledge of the internal workings of the application.	Tester has full knowledge of the internal workings of the application.
Also known as closed-box testing, data-driven testing, or functional testing.	Also known as translucent testing, as the tester has limited knowledge of the insides of the application.	Also known as clear-box testing, structural testing, or code-based testing.
Performed by testers.	Performed by testers and developers.	Normally done by testers(if required) and developers.
Testing is based on external expectations - Internal behavior/coding of the application is unknown.	Testing is done on the basis of high-level database diagrams and data flow diagrams.	Internal workings are fully known and the tester can design test data accordingly.

Deployment and Maintenance:

- Once the product is tested and ready to be deployed it is released formally in the appropriate market(on production server). Sometime product deployment happens in stages as per the organizations, business strategy.

- Maintenance means proving service after delivery (like bugs or improvement or enhancement) of the project.
- After delivery if any bug or enhancement occur than all comes under maintenance.

Support as its optional-

- Maintenance involve non technical as well as technical support if needed and provided by org.
- Non technical support is called as BPO
- Technical support is called KPO