**Class SDLC 01 Date; 27-11-2023**

**What is software???**

Software is a machine-readable code that tells the computer how to perform. Which can-not be touched.

Example; WhatsApp, amazon, e-bay, mobile apps

**What is hardware???**

Any physical things which can be touched are called hardware.

Example, mouse, keyboard, monitor or anything else.

**What is SDLC (software development life cycle)?**

**SDLC** is a methodology way or method or a set of rules to develop a software.

First understand the example of a rich couple who wants to make a house. To build house where they will go and how they will make house, let’s see.

1. They will contact with builder
2. They will tell their need what they want to build
3. Builder will give them blueprint
4. Builder will start construction and after 6 moths house will be ready.
5. Now they will inspect every single thing is working or not
6. Then family move in to live right now.

also you can take an example of car making company they go through a complete cycle.

There are two types of companies.

1. One who make software for itself like, Facebook, google
2. Other companies who make software for others, like banks, governments projects and other

--------------------------------------------------------------------------------------------------------

1. **Planning**

Let’s take example, company A is client and company B is software development company.

Company A owner business man which is client comes to company B software company and talk with business analyst not with owner of B.

Feasibility study

1. **Analysis**

What is the job of business analyst?

The main job of business analyst is to get all the requirements from clients, requirements mean all the features, all the functionality of the software. For example do you want login, do you want log out, do you want pages every thing which the clients wants .

For example client want to build a facebook , then he need login , feed pages, Facebook app or Facebook on google chrome, all such things like of this.

To write and note all those things from client is the job of business analyst of software company B.

To meet with company A owner and ask what you want to, and how do you want ?

Sid effects of not proper planning or market demands.

Facebook fails in his Facebook phones

Google fails in his google smart glasses

Google fail in window phones

-----------------------------------------------------------------------------------------------------------

1. **Design phase**

Tester is not involved in design phase

What will be the color or page

What will be the structure of page

At which server application will build

If more audience comes in future then what will you do next.

What is the infra structure of the app.

Ui and UI/UX will be responsible to design

Job of software architect in design phase is

1. Which language has been used
2. How many server is used
3. Which tools is used

How many classes we have to create

Job of UI/UX designer

1. How the interface looks
2. Which thing there to display with what images colors, fonts, style
3. User experience is good, easy to use the application
4. The make all sketches of design

**4. Development coding phase**

In this phase the developers create the coding, in this part developers give the real life to the design which is given by UI and UX designer.

**5.Testing phase**

This is the job of tester after some thing has been developed. Tester work with planner, designer, and developers but they report his testing managers not any other person.

The job of testing is just high light the flaws not develop the code or of

**6.Production phase**

In production phase the application is produced and take over the company owner

**7. maintenance**

If some one need maintenance service after production you can give for some period of time.

There are three frameworks or methodology which are used in market to build a software

1. SDLC (software development life cycle)
2. Water fall (abshaaar , jharna )
3. Agil (mean fast, teeeez )

Doomed mean?? barbaad, tabbaa

Boom, fast expansion, rapid develop

Sequential -------- > tarteeb se, tarteeb waar

Methodology ----------- >>>> tareeqa car

1. **Wate fall**

Water fall methodology is used only in govt projects, because they are not IT person, they are unexperienced man they don’t want changes in project , all the websites of govt are mostly old fashion and out dated they don’t like changes in a running projects.

Like construction, water fall is sequential design process

If one step has been completed, developers can’t go back to a previous step, unless they destroy all the projects and starts from beginning.

Step 1 ------🡪 planning , feasibility study means, demand of app, budget for investment, return of invest

Step 2 -------🡪 analysis, business analyst write all requirements, functionality on a document

Step 3 ------- > designer, UI/UX designer will design the project.

Step 4 ---------- > developers well construct, develop the project

You can’t go back from step 3, or step 4 if you have designed the app or developed the app this is flaw in water fall cycle.

**When to use water fall???**

When the quality is more important then speed or time.

You make software in ten years but the software should be every-thing perfect.

**Advantages of water fall method**

1. Easy to understand
2. Easy to manage
3. Suitable for smaller projects
4. Step by step process

**Disadvantages**

1. Never go back if one step is completed
2. Clear requirements is mandatory, functionality written document
3. Can not change the requirements

Deploy mean taaynaat krna

Implement mean laago krna

**--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------**

**Class SDLC 02 Date: 29-11-2023**

**BA job? to write BRD**  ----- > business requirement document

What are requirements?? the functionality of the application. all the details which the customer want in his application.

What is mean of methodology?

It means a method to develop a software.

-----------------------------------------------------------------------

What is difference in water fall and agile method?

Water fall follow sequential process and agile use incremental process.

----------------------------------------------------------------------

What is agile?????

Lets start with example

Which fast food give most fast service?? chipotle, subway.

Why do you think chipotle is most famous, you go check the chicken, go into line order and go away. Their service is very fast.

2nd example take the car , which car is mostly used in all over the world.

Toyota is most common , because they produce car very low price and their maintenance is easily , their spare parts are easily available

3rd example is to build a table of wood.

A customer give me 200 dollars and he say colored legs a table is needed within two weeks.

After two weeks he came and did not like that design

Agile came as a solution which was disadvantage of water fall.

Sprint mean ; a set period of time during which specific tasks must be completed. Sprint mean time frame.

In agile there are four types of sprint

1. One week sprint
2. Two-week sprint
3. Three-week sprint
4. Four-week sprint

Sprint never changes, if two sprint is given for a project to complete the sprint couldn’t change.

Pitfalls (noqsanaat) of agile method.

Manifest --------- >>> zahir ,  Manifest, Apparent, Evident, Patent, Plain, Unmistakable : صاف, واضح

When to use agile method ??

1. When there is not clear picture what the final project should be.
2. Speed is more important then quality

Advantages

Disadvantages

1. Less documentation
2. Changing the project at any time
3. Unclear requirements.

----------------------------------------------------------------------------

Agile framework

1. Scrum ---------- >> (bheeed )
2. Kanban
3. Scrum-ban
4. Crystal
5. Extreme programming XP

Backlog mean jama krna, future k liay jama krna zakheera krna.

an object or tool made by a human being

The agile **product backlog** in Scrum is a prioritized features list, containing short descriptions of all functionality desired in the product.

 نامکمل کام یا مسائل کا بیک لاگ جسے حل کرنے کی ضرورت ہے۔

Retrospective ------- >> pichely zamany se matalaq .

What is Agile scrum framework ???

Inception mean ---------- agaaz, shoru , start

This is framework which is used to complete complex tasks.

It has three modules

1. Roles/scrum team
2. Artifacts ---- mean artificial
3. Ceremonies

Let’s discus all of them

1. Roles ->scrum team -🡪 i. product owner ------------> ii. Scrum master -----------> iii. Development team.

What is product owner???

Product manager/ product owner.

Very important, in agile methodology, business analyst does not exist, in place of business analyst there is product owner in agile methodology which do all the work as BA., but the companies in agile still use business analyst term.

1. Product owner make a list of all requirements that list is called backlog
2. Product owner give the priority which task should be done first by interacting with end user and stakeholder.
3. Product owner can change features and priority at any sprint.
4. Product owner may be from client’s side.

What is scrum master ?

Product owner is mostly busy with client side, at the development team side to watch developers there is scrum master.

Scrum master is a supervisor /assistant under product owner.

The job of scrum master is to deal with the problems of development team.

Hey developers are you good, you are little behind complete your work hurry.

Hy tester are you good, how much work have you left, complete in on time.

They arrange all the meetings with developers,

They can not fire you, they can not hire you, they are non-technical they just supervise the development team.

Developers team?

The development team is labor. They are builders and constructors of a project.

1. Testers
2. Designer
3. Developers
4. Business analyst

------------------------------------------------------------------------------------------------------------------

Jira website link syntax

<https://babar123.atlassian.net/jira/software/projects/KAN/boards/1>

username; babar123

https://babar123.atlassian.net/jira/software/projects/KAN/boards/1

1. Artifacts --- mean --- namona , missal, map, blueprint, layout, sketch, desing.

an artifact in Agile Scrum is anything physical or visible that's produced during the process of building something, like a house, For instance, blueprints, construction materials, or even a partially built wall can be considered artifacts.

Artifact provides transparency in scrum.

1. **Product backlog** ----- >> combination of all the requirement/user stories is called product backlog
2. all the requirements to must be completed before the end of a project.

In agile requirements are called user story

**When a user story is break down into small chunks this is called task.**

Scrum artifacts are simply tools that help teams implement the Scrum framework and complete projects successfully.

1. Sprint backlog; item or user story picked from backlog to complete in the given sprint is called sprint backlog.

If the task is no completed then it go back to the product backlog.

In the context of Agile Scrum, a task within a sprint refers to a specific piece of work or activity that needs to be completed by the development team to achieve the sprint goal.

**Items picked from the Wish list by the development team and executed during the sprint.**

**Wish List:** This is a list of all the things that need to be done or features that stakeholders want to see in the product. It's like a shopping list of desired items for the project.

**Sprint:** A sprint is a short period of time, usually around 1-4 weeks, where the development team works on a set of tasks.

a desired user story is taken and it is divided into sprints and sprint divided int tasks Sprint burn down;

what is burn down chart??

 Visual representation of progress. This is graph between how much task completed and how much task remaining

This is not for tester.

it is a flow chart to see the progress of team;

How much work is completed in sprint?

Do need any help

Retrospective saabqa ,, pahly waaali

**Burndown Chart:** This is a visual representation of the work completed versus the work remaining throughout a sprint.

**-**---------------------------------------------------------

---------------------------------------------------------------------------------------------

3.Ceremonies;

Ceremonies are lot of meeting.

1. Daily standup/scrum meetings

Daily 15 minutes meeting with team, BA, scrum master.

What you did yesterday

What you plan doing to day

Any issue/impediments/blockers

1. Sprint grooming (tayaar krna , mashaq krna, tarbiyaat)

Attendee , product owner, BA, team, scrum master

Time may be 3,4 hours.

When you don’t understand user story may you have questions. Developers don’t understand story they have questions. This meeting is held before starting of new sprint.

1. Sprint planning

This meeting is estimation how much time will consume a story

In this meeting all the members are present

They plan how much time will take this user story to complete. If story is small they give less sprints if it is large they will give more time to complete it. Developers take their own time to complete and tester take their own time to test.

1. Sprint review

After completion of a sprint then there is meeting with customer. Who comes and see what you have completed, if he don’t like work if he give feed back then this feed back is noted and written inside product backlog

1. Sprint retrospective (saabqa)

In this meeting every one can speak openly what he has issue. Mean what problems come when you completing the task, what should be suggestion for any thing . this meeting is internal meeting no customer in present in this.

--------------------------------------------------------------------------------------------------

Class SDLC - 03 Date: 12-01-2023

Kahoot game online.

This video is recap and quiz only.