

SOFTWARE DEVELOPMENT WORKFLOW:

The process or series of steps that software development teams follow to design, develop, test, and deploy software applications.

TEAM MEMBERS AND ROLES:

Different important roles involved in the process of developing application.

Product Owner:

- Identifies the product requirements by talking to the customer & translates these requirements into tasks for the development team.

Software Developer:

- Write Code, develop features, fix the bugs.

Tester:

- Developed Application Needs to be tested to detect bugs and issue.
- Tests can be automated or manual.

System Administrator (Server Admin):

- Create and Configure server to run the application so that it is accessible to all the users.
- They also configure networking & manage the database.

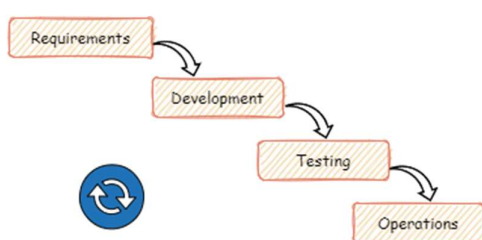
HOW DO TEAMS COLLABORATE?

- **Product owner** needs to communicate with **Software Developers** to explain to product details.
- **Developers** need to communicate with **testers** and **Systems Administrators** (software required to run on the server).
- [JIRA \(Issue And Project Tracking Software\)](#) is used to collaborate with teams.

SDLC (Software Development Lifecycle)

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software. The SDLC aims to produce a high-quality software that meets or exceeds customer expectations, reaches completion within times and cost estimate.

1. "THE WATERFALL" MODEL (Traditional Method)



- ➡ Plan Everything Beforehand
- ➡ Developers Code Complete App
- ➡ Testing after everything has Developed
- ➡ Huge Operations

- ✗ Ineffective Process
- ✗ Over Time New Requirements may arise
- ✗ Many Places of Failure & Miscommunication
- ✗ No Last Feedback

2. AGILE

WHAT IS AGILE?

- Agile is a project management methodology that prioritize flexibility, collaboration, and rapid iteration. It prioritizes delivering functional software quickly and frequently, allowing teams to adapt to changing requirements and feedback from users.
- In simple terms it breaks down the application into smaller chunks.



- And can be developed, tested and then validated by customer.

BENEFITS:

- Speed of development, testing & development.
- **SCRUM and KANBAN** -specific implementations.
- **Easier, faster and cheaper** to make adjustments while development.

SCRUM:

- Project Management system for delivering software in 2-3 week cycles. (also called sprints).
- Scrum is one of the implementations of agile methodology in which the incremental builds (develop most important feature first) are delivered to the customer in every 2-3 weeks' time.

SPRINTS:

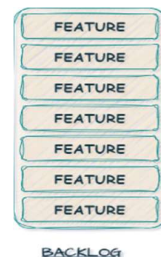


- In Simple terms, A sprint is like a mini-project that happens within a larger project. Think of it like a puzzle - the larger project is made up of many smaller pieces (or sprints) that fit together to create the whole picture.
- Series of iterations is called sprints (short, time-box period)

SPRINT PLANNING:

BACKLOG

- Prioritized list of work (most important tasks at the top)
- Backlog is flexible (features and requirements may change often)
- All the tasks that are based on the roadmap and its requirements.



- Eg. Suppose we are working on a project. It's not possible to build complete software s in 1 sprint(within 2-3 weeks). We divided the software into chunks. We will prioritize the task we can deliver in **sprint 1** as per client requirements. And then we deliver the application within 2-3 weeks. This process repeats. And again we work on the another features(**Sprint 2**). And then deliver it again within 2-3 weeks. And so on

SCRUM ROLES:

1. Scrum Master:
 - Ensures that scrum meetings happen and that they are successful. (Daily Meetings or daily stand-up)
2. Product Owner:
 - Represents the customer's interests.
 - Manage the products backlog. (Add tasks, Do regular adjustments)
3. Development Team:
 - Programmers
 - Testers
 - Designers
 - Sys Admins
4. Other Stakeholders:
 - Management
 - People from customer side

JIRA – Tools that enables these agile workflows, like scrum.