**What is SDLC?**

* SDLC refers to Software Development Life Cycle.
* SDLC is a process of software development planned to desing, develop and test high quality products that meet user expectations.
* SDLC is teamwork aimed at a common goal. At each stage, another teammate takes role.
* Coordination is achieved through meetings held together and project follow-up programs.
* Designers brins their quality for an attartive application.
* Developers bring high quality technical skills to build an application.
* Testers understand the bussiness requirement and cover all missing parts to make sure they are in the requierement.

**Benefits of SDLC**

* It helps to follow and control a project.
* It gives a chance to employer and investor to see the whole planning and process.
* Planning and meetings increse the speed of project creation and development.
* It strengthens the communication of the whole team.
* It reduces the risks of the project.
* It simplifies management and documentation.
* It helps employees to understand what to do and why need to do.
* It helps all parties agree on the project in advance and sees a clear plan to achieve that goal
* It enables all parties to see required costs and resources.

**SDLC Phases**

1. **Planning and Requirement Analysis**

* It’s a fundamental and the most important phase of SDLC.
* Experts take into consideration of thoughts of the costumer.
* Thoughts of the costumer is used to plan the basic project planning.
* Quality assurance requirements and identifying the risks associated with the project is also done during the planning phase.
* In order to successfully implement the project with minimum risks, technical approaches are planned in this phase.

1. **Defining Requirements**

* The next step after requirement analysis is to clearly define and document the product requirements.
* **Business Requirements Document (BRD**) describes a company’s *high-level* goals they’re trying to achieve or needs they’re trying to fulfill by creating a service or a product. A BRD is always prepared by the business analyst.
* **The Functional Requirements Document (FRD)** is a formal statement of an application’s functional requirements. It serves the same purpose as a contract. Here, the developers agree to provide the capabilities specified. The client agrees to find the product satisfactory if it provides the capabilities specified in the FRD.
* **Software Requirement Document/Specifications (SRD/SRS)** A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs.

1. **Designing The Product Architecture**

* The **design phase** can be referred to as the transformation phase, because this is when an idea is actually transformed into a real working system.
* Business Requirements Document (BRD) is the reference for designers to come up with the best design for the product they will develop.
* Based on the requirements set out in the BRD, more than one design approach is often outlined for the product architecture.
* DDS (Design Document Specification): a detailed document that provides a list of points about a product or process. DDS is also called System Design Specification (SDS). DDS is reviewed by all the important stakeholders and based on various parameters as risk assessment, product robustness, design modularity, budget and time constraints, the best design approach is selected for the product.

1. **Building or Developing the Product**

* The development stage is the part where developers actually write code and build the application according to the earlier design documents and outlined specifications.
* Developers will follow any coding guidelines as defined by the organization.
* Developers will choose the right programming code to use based on the project specifications and requirements.

1. **Testing the Product**

* This is the stage where product defects (bugs) are reported, monitored, corrected and retested until the product reaches the quality standards defined in the BRD.
* The product must also meet business requirements (requirement specifications)

1. **Deployment in the Market and Maintenance**

* After the product is tested and approved, it is released.
* Once the product is released, it is maintained for the existing customer base.
* With Customer (End User) feedback and Technological Developments needs are redefined and the cycle is restarted

**SDLC TEAM MEMBERS**

1. **The Product Owner (PO):** Product owner is a business representative or a voice for the stakeholders. Product owner makes sure that development is done in accordance with the project requirements.
2. **The Project Manager (PM):** Project manager can be considered a team representative. The PM’s task is to coordinate the work of the participants and organize meetings and negotiations.

* Responsible for the development of the project plan
* Establishes a close relationship with the project owners (Stakeholders)
* Provides communication within the team
* Manages project risk
* Prepares the project schedule
* Manages the project budget
* Prevents conflicts that may arise in the project (responsible for crisis management)
* Manages the distribution of tasks.

1. **The Business Analyst (BA):** Business analysts are responsible for evaluating business processes of companies, predicting requirements, identifying areas for improvement, and developing solutions.

* BA determines the needs of a project or program and communicates with the managers and partners**.**
* Business Analyst (BA) must determine exactly what the customer needs.
* Business Analysts is the bridge between business stakeholders and the development team to ensure everyone is on the same page with the business needs.
* BA creates BRD, FRD, use-cases and spreadsheets.
* Use-case= A use case is a written description of how users will perform tasks on your website or application.

1. **The Development Team :** development team starts to build the entire system by writing code using the chosen programming language.

* Development team creates the required application and program based on the software requirement document (Software Requirements Specification).
* An SRS gives you a complete picture of your entire project. It provides a single source of truth that every team involved in development will follow. It is your plan of action and keeps all your teams — from development to maintenance — on the same page.
* They write High Quality code that will meet the expectations and requirements (costumer requirement).

1. **Qualit Analyst (QA, Tester) :** ensures that the software meets planned functionality, is bug-free, and works flawlessly under various conditions.

* Helping by testing to create a high quality product before the product is released to the end user.