**SDLC**

**Stage 1: Planning and Requirement Analysis**

The stage is performed by the senior members of a team with inputs from the customer, the sales department, market surveys and domain experts in the industry. It helps identifying the risks associated with the project and to make sure the projects are feasible.

Roles:

* Senior members
* Customer
* Scrum master

**Stage 2: Defining Requirements**

Define the document and product requirements and get them approved from the customer or the market analysis. This is done through a **Software Requirement Specification (SRS)** document which consists of all the product requirements to be designed and developed.

Roles:

* Customer
* Market analysts
* Scrum Master
* Technical lead

**Stage 3: designing the Product Architecture**

Based on the requirements, a design is being proposed and documented, usually multiple designs. The Design Document Specification (DDS) is reviewed by all important stakeholders and a design is picked based on various parameters such as:

* Risk assessment
* Product robustness
* Design modularity
* Budget
* Time constraints

Roles:

* Stakeholders
* Designers
* Technical lead

**Stage 4: Building or developing the product**

The actual developments start, and the product is being built. The programming code is generated as per DDS. Developers must follow coding guidelines defined by their organizations and programming tools such as compilers, interpreters, debuggers are used to generate the code. The programming language is chosen with respect to the type of software being developed.

Roles:

* Programmers
* Software development managers
* Security engineering
* UX/UI designer
* System analyst
* Operations engineer

**Stage 5: Testing the Product**

This stage refers to the stage of the product where product defects are reported, tracked, fixed and retested, until the product reaches quality standards defined in the SRS.

Roles:

* Testers
* Employers

**Stage 6: Deployment in the market and maintenance**

Once the product is tested and ready to be deployed it is released formally in the appropriate market. Sometimes product deployment happens in stages as per the business strategy of that organization. The product may first be released in a limited segment and tested in the real business environment.

Then based on the feedback, the product may be released as it or with suggested enhancements in the targeting market segment. After the product is released in the market, its maintenance is done for the existing customer base.

Roles:

* Customer
* Scrum Master

Roles

Product owner/client – Comes up with the idea of requirements for the finished product. They create a backlog. This is important as they come up with new products. The impact is that the project wouldn’t happen without them.

Scrum master – The scrum master helps to facilitate scrum to the larger team by ensuring the scrum framework is followed. He/she is committed to the scrum values and practices but should also remain flexible and open to opportunities for the team to improve their workflow. They are responsible for managing the project.

Technical lead – Technical Leads ensure that all team members understand and follow major technical decisions. This role is important as they work as the backbone of the team and the group can trust them to help them with the technical side of the project.

Project manager – The project manager ensures that all team members are getting on with their work and meet their deadlines. They are responsible for the entire project and support every team member when something is needed. Plans, organizes, and manages budget, scope, schedule, risk and quality on all phases of a subject.

System analyst – A systems analyst is a person who uses analysis and design techniques to solve business problems using information technology. Systems analysts are important as they serve as change agents who identify the organizational improvements needed, design systems to implement those changes, and train and motivate others to use the systems.

UX/UI designer – The UX/UI designer creates the experience and interface of the system. They create the face of a new app or system. They are important as they need to be unbiased towards their creation and work to please the clients.

Software developer/engineer - Software developers design, program, build, deploy and maintain software using many different skills and tools. They also help build software systems that power networks and devices and ensure that those systems remain functional. They are important on a team as they create what makes an app or system work.

Operations engineer - An operations engineer is an engineer who specializes in industrial processes, systems and equipment. They oversee and work to optimize the operational processes of a company's systems. They are important as they design more efficient workflows, enhance equipment operations or optimize the use of resources.

Software testers – They will make sure the software has no flaws and works as intended and is acceptable for the clients. They are important as they identify problems to let the software developers fix. This role is important as it prevents an unfinished or bugged app or system from being launched/given to the client.