

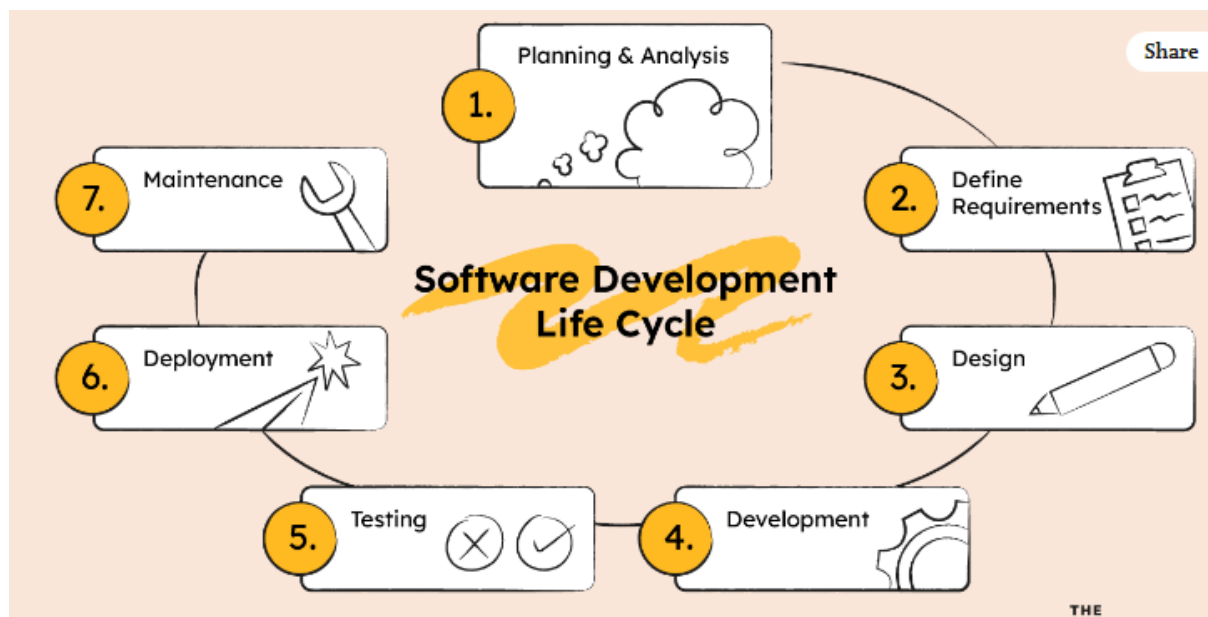
Assignment 1: SDLC Overview - Create a one-page infographic that outlines the SDLC phases (Requirements, Design, Implementation, Testing, Deployment), highlighting the importance of each phase and how they interconnect.

The software development life cycle is a process that development teams use to create awesome software that's top-notch in terms of quality, cost-effectiveness, and time efficiency. The main goal is to minimize risks long before deciding how to launch your SaaS product and ensure the software meets the customer's expectations during and after production.

This process is about creating a detailed plan to guide the development of the product and then breaking down the development process into smaller modules that can be assigned, completed, and measured to make the whole thing more manageable.

The 7 Phases of the Software Development Life Cycle

The SDLC process will look a little different for every team and product. However, these are the stages that most SDLC frameworks have in common:



1. Planning & Analysis

The first phase of the SDLC is the project planning stage where you are gathering business requirements from your client or stakeholders. This phase is when you evaluate the feasibility of creating the product, revenue potential, the cost of production, the needs of the end-users, etc.

To properly decide what to make, what not to make, and what to make first, you can use a feature prioritization framework that takes into account the value of the software/update, the cost, the time it takes to build, and other factors.

Once it is decided that the software project is in line with business and stakeholder goals, feasible to create, and addresses user needs, then you can move on to the next phase.

2. Define Requirements

This phase is critical for converting the information gathered during the planning and analysis phase into clear requirements for the development team. This process guides the development of several important documents: a software requirement specification (SRS) or product specification, a Use Case document, and a Requirement Traceability Matrix document.

3. Design

The design phase is where you put pen to paper—so to speak. The original plan and vision are elaborated into a software design document (SDD) that includes the system design, programming language, templates, platform to use, and application security measures. This is also where you can flowchart how the software responds to user actions.

In most cases, the design phase will include the development of a prototype model. Creating a pre-production version of the product can give the team the opportunity to visualize what the product will look like and make changes without having to go through the hassle of rewriting code.

4. Development

The actual development phase is where the development team members divide the project into software modules and turn the software requirement into code that makes the product.

This SDLC phase can take quite a lot of time and specialized development tools. It's important to have a set timeline and milestones so the software developers understand the expectations and you can keep track of the progress in this stage.

In some cases, the development stage can also merge with the testing stage where certain tests are run to ensure there are no critical bugs.

Keep in mind, different types of product development software will have different specialties so you'll want to pick the one that suits you best.

5. Testing

Before getting the software product out the door to the production environment, it's important to have your quality assurance team perform validation testing to make sure it is functioning properly and does what it's meant to do. The testing process can also help hash out any major user experience issues and security issues.

In some cases, software testing can be done in a simulated environment. Other simpler tests can also be automated.

The types of testing to do in this phase:

- **Performance testing:** Assesses the software's speed and scalability under different conditions
- **Functional testing:** Verifies that the software meets the requirements
- **Security testing:** Identifies potential vulnerabilities and weaknesses
- **Unit-testing:** Tests individual units or components of the software
- **Usability testing:** Evaluates the software's user interface and overall user experience
- **Acceptance testing:** Also termed end-user testing, beta testing, application testing, or field testing, this is the final testing stage to test if the software product delivers on what it promises

6. Deployment

During the deployment phase, your final product is delivered to your intended user. You can automate this process and schedule your deployment depending on the type. For example, if you are only deploying a feature update, you can do so with a small number of users (canary release). If you are creating brand-new software, you can learn more about the different stages of the software release life cycle (SRLC).

7. Maintenance

The maintenance phase is the final stage of the SDLC if you're following the waterfall structure of the software development process. However, the industry is moving towards a more agile software development approach where maintenance is only a stage for further improvement.

In the maintenance stage, users may find bugs and errors that were missed in the earlier testing phase. These bugs need to be fixed for better user experience and retention. In some cases, these can lead to going back to the first step of the software development life cycle.

The SDLC phases can also restart for any new features you may want to add in your next release/update.