**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.**

SDLC Overview:

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

* SDLC is the acronym of Software Development Life Cycle.
* It is also called as Software Development Process.
* SDLC is a framework defining tasks performed at each step in the software development process.
* ISO/IEC 12207 is an international standard for software life-cycle processes. It aims to be the standard that defines all the tasks required for developing and maintaining software.

SDLC is a process followed for a software project, within a software organization. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process.

Requirement

Requirement gathering involves collecting all relevant information from the client and using it to create the product, ensuring their expectations are met. To do so, business analysts and project managers meet with the client to discuss software requirements in detail.

The purpose of this meeting is to more thoroughly understand the client’s wants and needs, including a description of the software, who the end user will be, and its overall purpose. This information is then written into the software requirement specification (SRS) document.

Once the team creates the SRS document, they pass it to the client for approval. The SRS document can then serve as a guide throughout the designing and development processes.

### **Designing**

During the design phase, the project team develops a working software prototype based on the desired features and user requirements.

The design process typically requires designers to create and test several design elements and ideas before selecting the final prototype. The implication of the design to the entire software development process is that it guides the developers to create a working representation of the client’s expectations while considering user-friendliness and multiscreen compatibility.

For example, if a team is developing an online shop, the design phase might consider the back-end framework, shopping cart features, payment features, and user experience parameters. They might also consider how the checkout page should display to the customer.

### **Implementation**

The implementation phase is where the design created in the design phase is implemented into the necessary application programming interfaces (APIs) and project components. The result of this phase is a fully functional product.

After implementation, the final product requires further testing to address all bugs and discrepancies before release. The team measures the software against the specifications in the SRS document and sends a test version to reviewers. The feedback gathered during this phase allows developers to make necessary product changes before full implementation.

### **Testing**

In the testing phase, developers—especially DevOps professionals—verify the software meets the predetermined requirements, designs, and other quality standards. Without proper software testing, the system may contain bugs or vulnerabilities that can go unnoticed and potentially lead to serious problems when put into use.

An example of this is deploying an application to a live environment like the Google Play Store. The application must be tested on various screens beforehand to ensure it works as intended. This includes validating data input, measuring application performance, and confirming security features are up to parameters.

### **Deployment**

The deployment phase typically consists of putting the software into a production environment so it’s accessible to users. After successful deployment, customers can use the newly developed software. In some cases, the client may request user acceptance testing before deployment to ensure the software meets expectations.

User acceptance testing involves testing the newly created software and ensuring it performs correctly and meets specific requirements.