Software Development Lifecycle (SDLC) Stages

### Introduction

The software Development Lifecycle (SDLC) outlines the process of developing software from the conception to delivery. It includes several stages, each with its specific goals, activities, and outcomes that are required to begin the next stage in the process.

1. Planning

Understanding client needs and analysis begins to determine the project approach deliverables and anticipated final outcomes business requirements from the customer are gathered to determine who will use the software and how.

1. Requirements Gathering and Analysis

A requirement is the description of an individual piece of the needs or wants to include in software design.

requirements include:

Functional requirements: The functions or processes the system needs to carry out to comply with user needs.

Non-functional requirements: like, security, performance, usability, availability, reliability

Compliance requirements and constraints.

3- Design

This is when business architects use the requirements gathered from the first stage to produce several designs of the product. Each design is reviewed and the best one is selected.

4. Implementation (Coding)

The code development is the longest part of SDLC process. The code is written according to the design. It must follow the organization or the projects coding standards, and peer – reviewed.

5. Testing

Testing begins after the code developed. The code is testing according to client requirements. Generally, there are three main types of testing, performed at different stages of a project: Unit testing, Integration testing, and user acceptance testing.

6- Deployment

This is when the product is delivered to the customer. Deployment is installing the developed system on the client's target environment, performing the acceptance test and getting the all-clear for its live operation and usage by the end of all users.

7- maintenance / post- deployment

Once the project in use , the customer may experience technical issues and maintenance of the software is conducted at that time.

There are several methods of SDLC. To get though each phase of SDLC and it depends on the client requirements and the length of time the project team has to complete the project. Some of SDLC models include: the waterfall model, iterative model and spiral model.

For this project Spiral mode will be using. The spiral model includes the development of a prototype and the use of waterfall method . Prototype is necessary to begins implementation . A prototype meets the customer’s requirements.