Systems Development Life Cycle

The systems development life cycle (SDLC) is a term used in systems engineering, information systems and software engineering to describe a process for planning, creating, testing, and deploying an information system. The systems development life cycle concept applies to a range of hardware and software configurations, as a system can be composed of hardware only, software only, or a combination of both.

SDLC aims to produce high-quality systems that meet or exceed customer expectations, based on customer requirements, by delivering systems which move through each clearly defined phase, within scheduled time frames and cost estimates. There are several SDLC models or methodologies such as waterfall, spiral, Agile software development, rapid prototyping, incremental, and synchronize and stabilize.

SDLC is used during the development of an IT project. It describes the different stages involved in the project from the drawing board, through the completion of the project. The SDLC is not a methodology per se, but rather a description of the phases in the life cycle of a software application.

Software Development Models

The **Waterfall model** is a linear non-iterative design approach for software development, in which progress flows in one direction downwards through the phases of conception, initiation, analysis, design, construction, testing, deployment and maintenance.

**Scrum** is a framework for managing software development. It is designed for teams of three to nine developers who break their work into actions that can be completed within fixed duration cycles, track progress and re-plan in daily 15-minute stand-up meetings, and collaborate to deliver workable software every sprint.

The **Iterative model** is repetition incarnate. Instead of starting with fully known requirements, you implement a set of software requirements, then test, evaluate and pinpoint further requirements. A new version of the software is produced with each phase, or iteration. Rinse and repeat until the complete system is ready.