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SDLC
(Software Development Life Cycle)

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SDLC

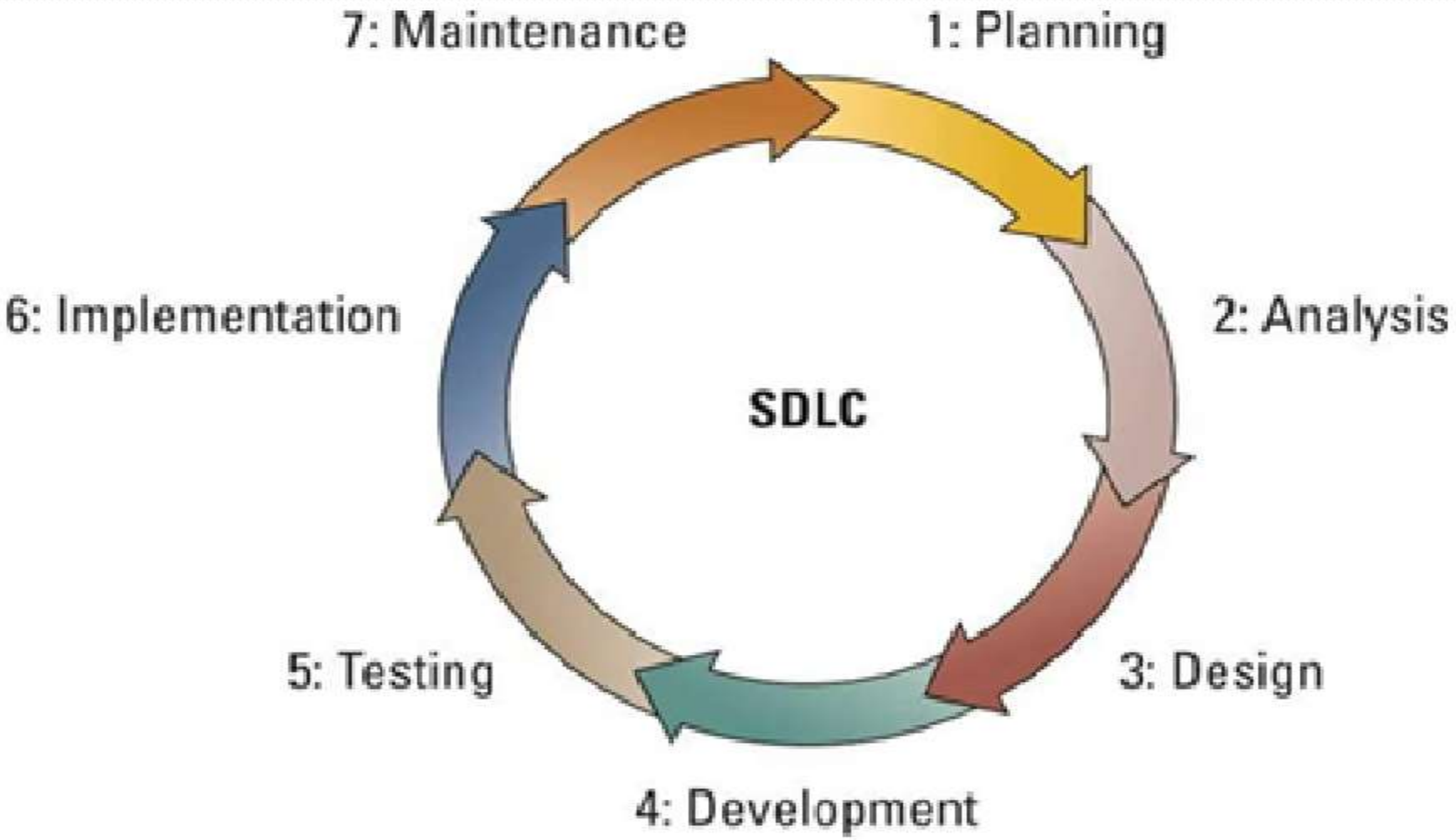
- The Software Development Life Cycle(SDLC),or System Development Life Cycle in systems engineering, information systems and software engineering, is the entire process of formal,logical steps taken to develop a software product.The concept generally refers to computer or information systems.

Phases of SDLC

The phases of SDLC can vary somewhat but generally include the following:

1. Requirement Analysis
2. System Design
3. Implementation
4. System Testing
5. System Deployment
6. System Maintenance

SDLC Life Cycle



Requirement Analysis

- This phase deals with the better understandability of software specification and its related problem.It focuses on identifying what the system actually needs but not on how the system fulfill is related objectives.The two persons that are involved in software development are a client and a developer.

System Design

- In systems, design functions and operations are described in detail, including screen layouts, business rules, process diagrams and other documentation. The output of this stage will describe the new systems. The design stage takes as its initial input the requirements identified in the approved requirements document. Design elements describe the desired software features in detail, and generally include functional hierarchy diagrams, screen layout diagrams, tables of business rules, business process diagrams, pseudo code, and a complete entity-relationship diagram with a full data dictionary.

Software Development

- Developers of all levels (seniors, juniors, freshers) involved in this phase. This is the phase where we start building the software and start writing the code for the product. The outcome from this phase is Source Code Document (SCD) and the developed product.

System Testing

- The code is tested at various levels in software testing. Unit,System and user acceptance testing's are often performed.This is a grey area as many different opinions exist as to what the stages of testing are and how much if any iteration occurs.

Implementation

- After the developers ensures that the product meets user requirements,it is released into market. However, the life cycle of software product does not terminate at this phase.

System Maintenance

- Maintaining the system is an important aspect of SDLC. As key personnel change positions in the organization, new changes will be implemented, which will require system updates. Maintenance is the process of keeping the software in its fully functional form and see to that nothing goes wrong. Maintaining and enhancing software to cope with newly discovered or problems or new requirements can take far more time than the initial development of the software.

Types of SDLC Models

1. Code and Fix Model
2. Waterfall Model
3. V Model
4. Evolutionary Model
5. Iterative Software Process Model
6. Spiral Model
7. Rationalized Unified Process Model

Strengths and Weakness

- The SDLC practice has advantages in traditional models of software development that lends itself more to a structured environment.
- The disadvantages to using the SDLC methodology is when there is need for iterative development or (i.e.,web development or e-commerce) where stakeholders need to review on a regular basis the software being designed.

Conclusion

- Systems and Development Life Cycle(SDLC) is a process used by a system analyst to develop an information system, including requirements, validation,training and user(stakeholder) ownership.
- Any SDLC should result in a high quality system that meets or exceeds customer expectations, reaches completion within time and cost estimated,works effectively and efficiently in the current and planned information Technology infrastructure, and is inexpensive to maintain and cost-effective to enhance.