Unit 1: Systems Development Environment

Systems Analysis

It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components.

System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose.

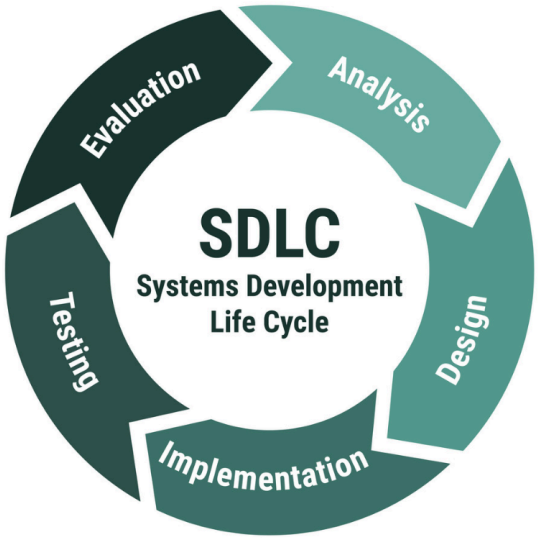
Systems Design

It is a process of planning a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements. Before planning, you need to understand the old system thoroughly and determine how computers can best be used in order to operate efficiently.

System Design focuses on how to accomplish the objective of the system.

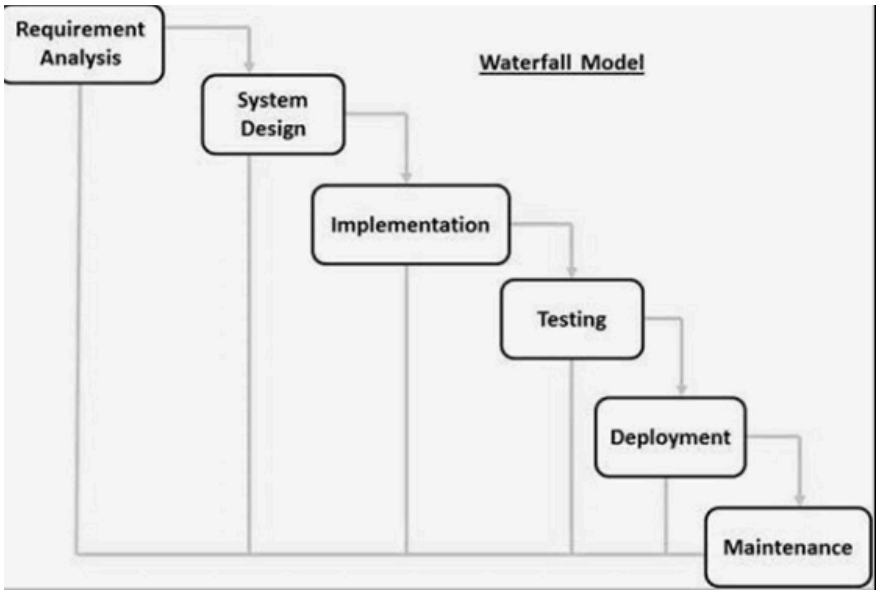
SDLC

The SDLC 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. There are usually six stages in this cycle: requirement analysis, design, development and testing,implementation documentation, and evaluation.



Waterfall SDLC:

The Waterfall model is a linear and sequential SDLC approach, ideal for projects with stable requirements. Each phase must be completed before the next begins, providing a structured framework suited to projects where requirements are clear from the outset.

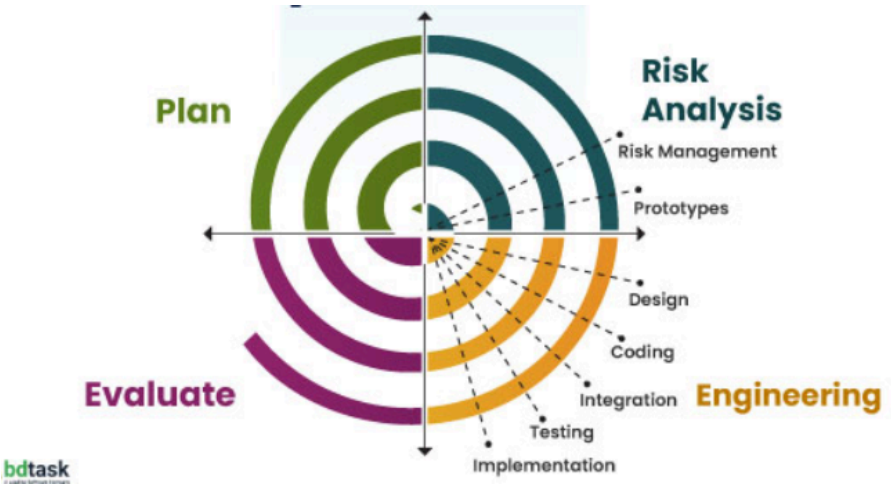


Prototyping:

Prototyping involves creating a preliminary version of the system to visualize design ideas and gather feedback. This iterative approach helps address user requirements and refine system features early in the development process.

Spiral Development:

Spiral development combines iterative and Waterfall models, emphasizing risk assessment at each cycle. This model is useful for complex projects with evolving requirements, as it allows continuous refinement and stakeholder feedback.



Agile Methodologies:

Agile methodologies promote adaptability and collaboration, focusing on iterative development through continuous delivery of small, workable parts of the system. It's well-suited for dynamic projects that benefit from ongoing adjustments and frequent user input.

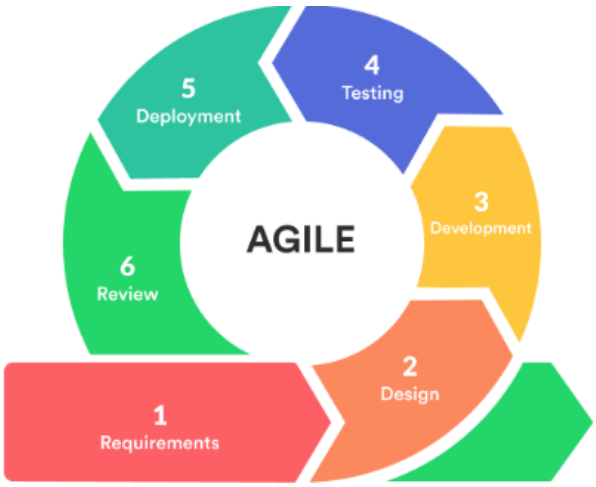


fig : agile methodology