

Software Engineering

Software Development Life Cycle

- Recognition of need/ requirement collection
 - Initial investigation
 - Getting the detail and precise requirement
 - Performed by senior team members
 - Defines the scope, objectives of the project
- Feasibility study
 - Software Requirement Specification (SRS): Product requirements to be designed and developed throughout the lifecycle. Everything which should be designed and developed
 - Technical: Whether the current computer system can support the new software
 - Economic: Is the budget sufficient for developing the software?
 - Legal: Cyber law and other regulations
 - Operation: Can operations be created which are expected by the client?
 - Schedule: Can the software be developed within the given time frame?
- Design
 - Based on SRS, usually more than one design approach is proposed and documented in Design Document Specification (DDS)
 - Describes the system from the software developer's viewpoint
 - System design
 - Program design

Software Development Life Cycle

- Design
 - High level design
 - Brief description and name of each module
 - Outline about the functionality of each module
 - Dependencies between modules
 - Database tables with key elements
 - Complete architecture diagram
 - Low level design
 - Complete input, output of each module
 - Functional logic of the modules
 - Database tables with type, size
 - Error messages
- Implementation/ coding
 - Whole task is divided into modules
 - Different modules are assigned to different developers
 - Developers write code to develop the module and thus the software
 - Raw code/ framework
 - Longest phase

Software Development Life Cycle

- Testing
 - Verifying that the software works according to the customer requirement
 - Quality Assurance (QA) team and testing team tries to find bugs/ defects
 - If they find so then the inform it to the developing team
 - Developing team solves the issue
 - Tested again by the QA and testing team until it is bug/ defect free and the quality standard defined in SRS is met
- Installation/ deployment
 - Releasing to a limited number of selected users
 - Releasing the final software
- Maintenance
 - Bug fixing: Bugs are reported by users and fixed
 - Update: Updating to newer versions
 - Enhancement: Adding new features