***What is SDLC?***

Software development life cycle

1. Analysis and planning
2. Requirements
3. Design and prototype
4. Software development
5. Testing
6. Deployment
7. Maintenance and updates

***Why SDLC?***

* Clear goals and responsibilities
* Common vocabulary for each step
* Project tracking and visibility
* Improved product quality
* Increase deployment speed
* Decrease project risks
* Decrease project mgmt. overhead
* Reduce unnecessary cost

***Analysis and planning***

1. Alignment
2. Resource allocation
3. Scheduling
4. Cost estimation

Note: scope of the work

***Requirements***

* How requirements are gathered?
* Who will be part of this meeting/workshops?
* Identification of usecases
  + How existing system is working?
  + Who is going to use this system?
  + What is input and output needed?
  + Do we need to integrate with third party APIs or tools?
  + How to handle security and privacy?
  + What are limitations?
* Software Requirement specification document (SRS Document)
  + Functional requirements
    - What the software application or product should do?
    - Requirements stated and demand by users
      * Login form for employees
      * Form to fill new Joinee details
  + Non functional requirements
    - Quality constraints
    - How the software system should behave
      * Performance/ Response time
      * Accessibility
      * Scalability
      * Availability
      * Maintainability
      * Extensibility
  + Technical requirements
    - Technical stack
    - Database

***Design and prototyping***

SRS Document converts to a prototype

* How design applications end to end?
  + High level design (Made by architect)
    - Entire system
    - Architecture
    - Database design
    - Data flow
    - Service platforms and module
  + Low level design (Made by lead developer)
    - Each module design and specification

Dev -> QA -> Stage -> Production

***High level diagram***

***A screenshot of a computer

AI-generated content may be incorrect.***

***Low level diagram***

***A diagram of a company

AI-generated content may be incorrect.***

***Data flow diagram***

***A screenshot of a computer

AI-generated content may be incorrect.***

***Data base schema diagram***

***A screenshot of a computer

AI-generated content may be incorrect.***

***Sample prototype/mockup login page***

***A screenshot of a login screen

AI-generated content may be incorrect.***

***Software development***

1. Coding OOP
2. SRS document
3. Developers manual
4. Change Log summary document (requirements and clarifications)

***Testing***

*QA*

* Functional testing
* Integration testing
* Performance testing
* Load testing
* Penetration testing
* Testing sign offs

***Deployment***

* Production deployment
* DecOps team/ change management team (request for change)

***Maintenance and updates***

* Logging app issues (Service Level Agreement [SLA])
* Application updates
* Server updates
* OS updates
* Application framework upgrades