**Software Development Life Cycle**

**Software Development Life Cycle (SDLC):**  
          
      **I)  Requirements Gathering** (BA/BT)  
  
in case of customer specific application:  
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Business Analyst category people gathers requirements from the customer, and prepares   
BRS (Business Requirement specification) and submits to Project Manager.  
  
PM sends BRS for review, after getting review report and clarifications, PM approve the document.  
  
Document stages:  
  
a)document creation/preparation  
  
b)document review  
  
c)document approval  
  
  Base lined document (finalized)  
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we can execute this base lined document  
  
in case of Software Product:  
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Business Team  gathers requirements from model customers and explores competitor products, and prepares   
PRD (Product Requirement Document) and submits to Project Manager.  
  
PM sends PRD for review, after getting review report and clarifications, PM approve the document.  
  
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Output of this stage:  
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Baselined BRS/PRD  
  
Document names may vary from one company to another  
  
Ex: BRS/CRS/BRD/URS/PRD etc..  
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       **II) Analysis & Planning (Tech Manager and Project Manager)**  
        ------------------------------------------------------  
Technical Manager analyzes BRS document in terms of below factors  
  
a) are they complete requirements?  
  
b) are they correct requirements?  
  
c) are they achievable requirements?  
  
d) are they Testable requirements?  
  
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after analyzing the above factors Technical Manager creates SRS (Software Requirements specification) Document  
  
SRS consists of two sub documents  
  
    a) FRS (functional requirement specification)  
  
FRS describes functionalities to be developed  
  
    b) SRS (System Requirements specification)  
  
SRS describes Software & Hardware to be used  
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During SRS creation TM concentrates on Technology selection  
  
He considers below factors for selecting Technology:  
  
Technical factors:  
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a) Nature of the Application  
  
b) Organization's experience  
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  Business factors:  
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a) Cost/Budjet   
  
b) Customer interests  
  
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Planning:  
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Project manager analyzes risks, creates project plan, team formation etc...  
  
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Output:  
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SRS  
Project Plan  
  
        **III) Design (System Arch)**  
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Input: SRS  
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System Architect / senior developer creates Software Design document(SDD)  
  
It consists of two types of design docs  
  
    a) HLD (High Level Design) or Global Design  
  
  Overall architecture of the system  
  
    b) LLDs (Low Level design) or Detailed Design   
Internal architecture of each and every Unit/component/module  
  
Note: System Architect uses either word document or UML like tools for Software  
  
  
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Output:  
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SDD  
  
      **IV)  Implementation / Coding (Developers/programmers)  
        ----------------------------------------------**  
Input:  
SDD  
  
Developer/Programmers develop the code based on Design documents and they follow  
coding standards  
  
Output:  
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Code documents  
  software(.exe file)          
  
        Testing (Testers)  
        -----------------  
Input:  
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  software(.exe file)  
SRS  
  
Testers test software based on SRS, if they find any mismatch, send defect reports  
, after fixing defects, confirm fixes and close defects      
  
  
Output:  
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Tested software  
Test documents

       **V) Release & Maintenance (Release Team/Maintenance Team)  
        -----------------------------------------------------**  
Release:  
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PM forms Release Team, Release team consists of a few developers, testers,project management executive, and system administrator  
  
Release Team goes to customer place and deploys software.  
  
Release Team provides some training to the customer site people (if required)  
  
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Maintenance:  
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PM forms Maintenance Team, Maintenance team consists of a few developers, testers, and project management executive  
  
Release Team receives customer change requests and perform required changes  
  
  Maintenance(3 types)  
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a) Modifications   
    i) Corrective changes  
    ii) Enhancements  
  
b) Migration  
Migrating from old technology to new technology  
  
(ex: windows 98 to Vista/windows 7)  
Ms Access to SQL Server/Oracle)  
  
c) Retirement  
Retiring the Old system and developing New system  
  
(Ex: II-tier application to web application)