System Development Life Cycle (SDLC)

Definition and Description System Development Life Cycle
1. System development Life Cycle (SDLC) is a conceptual model in project management that describes the stages in an information system development project.
2. The system development life cycle can be defined as a project management technique that divides complex projects into smaller, more manageable segments or phases.
A system development life cycle has three primary objectives: To ensure that high quality systems are delivered, to provide strong management controls over the projects, and to maximize productivity of the systems staff.

Stages of System Development Life Cycle
The following are stages of system development life cycle
a.   Preliminary study
b.   Feasibility study
c.   Investigative study
d.   System analysis
e.   System design
f.   Implementation
g.   Maintenance
h.   Study review

Description of each Stage
Preliminary study
The initial system study involves the preparation of a system proposal which list the problem definition, objectives of the study, terms and reference of study, constraints, and the expected benefits of the new system, etc.
Feasibility study
In case the proposal is acceptable to the management, the next stage is to examine is the Feasibility study. Feasibility study is basically the test of the proposed system in the light of workability, meeting user's requirements, effective use of resources and the cost effectiveness.
Investigative study
This involves detailed study of various operations performed by a system and their relationships within and outside the system. During this process, data are collected on available files, decision points and transaction handled by the present system.
System analysis
System analysis is a process of collecting factual data, understanding the process involved, identifying problems and recommending feasible suggestions for improving the functional system.

System Design

Based on the user requirements and the detailed analysis of the existing system, the new system must design. This is the phase of system designing. It is the most crucial phase in the developments of a system.

Implementation

After having the user acceptance of the new system developed, the implementation phase begins. Implementation is the stage of a project during which theory is turned into practice. The major steps involved in this phase are:

- Acquisition and Installation of Hardware and Software
- Conversion
- User Training
- Documentation

Maintenance

Maintenance is necessary to eliminate errors in the system during working life and to tune the system to any variation in its working environments.

Study Review

Review activities occur several times throughout this phase. Each time the system is reviewed, one of three of the following decision will be made:

- The system is operating as intended and meeting performance expectations
- The system is not operating as intended and needs corrections and modifications
- Users are/are not satisfied with the operation and performance of the system.

Diagram of System Development Life Cycle