



# Computer Application And Management Information System **MB 402**

UNIT V – **Management Information System (MIS)**

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# System Development Life Cycle (SDLC) continued

Period : 09 (1hr.)



# SDLC Stages : Explained

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- **System Design and Development**

It is the most creative (and challenging) phase of the SDLC.

The term 'Design' describes the final system architecture and process by which it comes into existence.

It refers to the technical specifications (blueprints) that will be applied in implementing the candidate system.

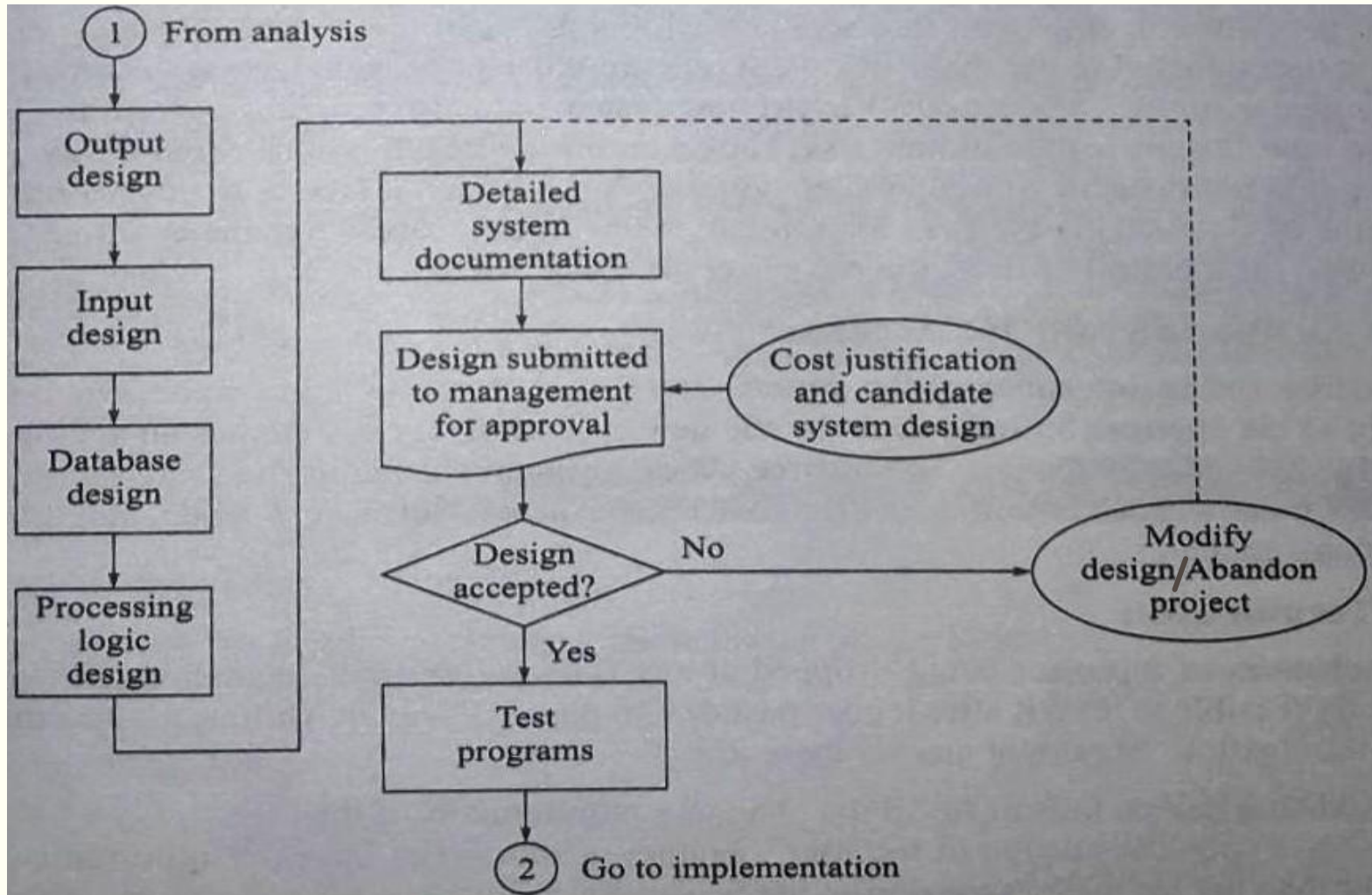
It also incorporates the development of programs and program testing.

**It addresses “How should the problem be solved?”**

The steps in system design phase are:



# SDLC Stages : Explained





# SDLC Stages : Explained

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The design process starts by determining how the outputs are to be generated and in which format.

Then, input data and master files (database) are designed in accordance with the requirements of the proposed outputs.

The operational (processing) requirements are managed by program construction and testing (process logic design), including a list of programs required to meet the system's objectives and complete documentation.



# SDLC Stages : Explained

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Finally, documentation and evaluation of the details related to justification of the system, and an estimate of impact of the system on the user and the organisation, is done by the management as a step towards implementation.

The final reports prior to implementation phase comprise of procedural flowcharts, record layouts, report layouts and workable plan for implementing the candidate system. Information on personnel, money, hardware, facilities, and their estimated cost must also be ready. In this phase, the projected cost must be close to the actual cost of implementation.



# SDLC Stages : Explained

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- **Implementation**

This phase mainly focuses on :-  
user training,  
site preparation and  
database creation.

When the candidate system is connected to terminals or remote machines, the communication network and tests of network, along with the system, are also performed.

User acceptance is secured during the final testing, followed by user training.



# SDLC Stages : Explained

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Depending on the nature of the system, extensive user training may be required.

Conversion from old to the new system usually also takes place along-with user's training. (the conversion may also take place after user's training).

System testing examines the readiness and correctness of the system to produce desired outputs.

After the programs become available, test (dummy) data is fed into the computer and processed against the programs provided for testing.

On successful execution, the program is run with live data or else, a diagnostic procedure is employed to detect and correct errors in the program.





# SDLC Stages : Explained

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In most conversions, a parallel run is conducted where the new system runs simultaneously with the old system. This approach provides added assurance against errors in the new system, and also provides opportunity to the staff to operate the new system with minimum risk.

Parallel execution of both old and new system is considered costly. Moreover, in some cases it is not possible to run parallel systems, for example, it is not possible to run two parallel online Point of Sale (POS) systems for a retail chain.

In any case, after the candidate system runs successfully over a period of time, the old system is discarded.



# SDLC Stages : Explained

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- **Periodic Evaluation and Maintenance**

The evaluation and maintenance of the system starts, once the installation phase gets completed and users adapt to the changes brought about by the new system.

Every system has an ageing process that necessitates periodic maintenance of software.

Periodic maintenance of the system ensures effective system utilisation with changing organisational requirements.



# SDLC Stages : Explained

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## ▪ Project Termination

There are chances of a project being dropped at any time before implementation. However, it is not economically feasible to drop it after it goes past design phase.

There are various reasons that could lead to project termination. Important among these are:

- The existing design fails to fulfill the changing requirements of the user.
- There is a sporadic change in the user's budget or inordinate increase in design costs, much higher than the estimate made during the feasibility study.
- The project goes beyond the time and cost schedule.



# SDLC : Conclusion

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There is a possibility of failure of the new system. The reasons why a new system fails, to satisfy user's needs, are as follows:

- Requirements of the users were not explicitly defined or understood.
- The user was not consulted in the important phases of system development.
- Time constraints forced on the systems analyst.
- Hardware was not compatible with the new application.
- The new system was not sufficiently user friendly.
- There was a change in user's requirements.