

Week 4: System Analysis and Design

DBA 303

Business Information System



Learning Outcome

- Student should be able to:
 - Detail the steps required to build a new information system
 - Examine available alternative methods for building an information system

What is system development cycle?

- Is a strategy to develop a system by grouping them into phases.
- Most development cycles contain five phases:
 - Feasibility Studies
 - System Analysis
 - System Design
 - System Implementation
 - System testing & maintenance



1. Feasibility study

- Feasibility is measure how suitable the development of a system will be to the company.
- A system analyst often uses four tests to evaluate feasibility study:
 - Operational feasibility
 - Schedule feasibility
 - Technical feasibility
 - Economic feasibility

- Feasibility study, also known as preliminary investigation, is to determine the exact nature of the problem or improvement and decide whether it is worth pursuing.
- It answers the question, whether the company should continue to assign resources to this project.



2. System Analysis

- This phase consists of two major activities:
 1. Conduct a preliminary investigation
 2. Perform detailed analysis
- Preliminary investigation is also known as a feasibility study, described in the earlier phase.
- Detailed design is also known as logical design because the system analyst develops the proposed solution without regard to any specific hardware and software.

- 3 types of detailed design:
 - Study how the current system works
 - Determine the users' wants, needs and requirements
 - Recommend a solution.



3. System Design

- Consists of 2 major activities:
 1. If necessary, acquire hardware and software
 2. Develop all of the details of a new or modified system.
- The system analyst often performs these two activities at the same time instead of sequentially.



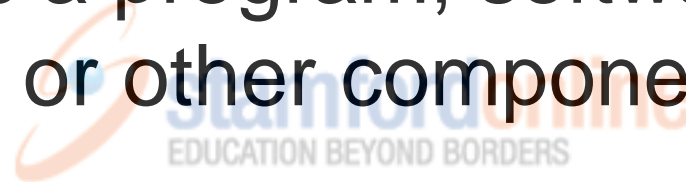
4. System Development

- The phase when the programmer writes or modifies programs from the program specification package created during the analysis phase.



5. System Implementation

- Is the realization of an application, or execution of a technical specification or algorithm as a program, software component, or other component system.



5. System Testing & Maintenance

- Is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements.
- System testing falls within the scope of black box testing and, as such, should require no knowledge of the inner design of the code or logic.

Other alternatives of system building approach

- Prototyping
- Application software packages
- End-user development
- Outsourcing

