Chapter 2

DATA FLOW DIAGRAM(DFD)

Objectives

- Define systems modeling and differentiate logical and physical models.

- Define process modeling and explain its benefits.

- Recognize and understand basic concepts and constructs of a process model.

- Read and interpret a data flow diagram.

- Explain when to construct process models and where to store them.

- Construct a context diagram to illustrate a system's interfaces with its environment.

- Draw primitive data flow diagrams and describe the elementary data flows in terms of data structures and procedural logic.

Models: Logical and Physical

Model – a pictorial representation of reality.

Just as a picture is worth a thousand words, most models are pictorial representations of reality.

Logical model – a non-technical pictorial representation that depicts what a system is or does. Synonyms or *essential model, conceptual model,* and *business model*.

Physical model – a technical pictorial representation that depicts what a system is or does and how the system is implemented. Synonyms are *implementation model* and *technical model*.

Why Logical System Models

- Logical models remove biases that are the result of the way the system is currently implemented, or the way that any one person thinks the system might be implemented.

- Logical models reduce the risk of missing business requirements because we are too preoccupied with technical results.

- Logical models allow us to communicate with end-users in nontechnical or less technical languages.

Process Modeling and DFDs

Process modeling – a technique used to organize and document a system's processes.

- Flow of data through processes
- Logic
- Policies
- Procedures

Data flow diagram (DFD) – a process model used to depict the flow of data through a system and the work or processing performed by the system. Synonyms are bubble chart, transformation graph, and process model.

- The DFD has also become a popular tool for business process redesign.