ANALISIS DESAIN DAN SISTEM

Muhammad Ilman Assiediqie (12030123140343)

Muhammad Biandra Wildan Aldityasmoro (12030123140231)

Chapter 5 Summary: Data and Process Modeling

5.1 Introduction

This section introduces the importance of data and process modeling in system analysis and design. It sets the foundation for understanding how these models help visualize and improve system processes.

5.2 Overview of Data and Process Modeling Tools

An overview of various tools used for data and process modeling, including their purposes and applications in system analysis.

5.3 Data Flow Diagrams (DFDs)

Explains what DFDs are and how they represent the flow of data within a system. It covers the basic symbols and conventions used in DFDs.

5.4 Creating a Set of DFDs

Guidelines and steps for creating a comprehensive set of DFDs, from context diagrams to detailed level diagrams.

5.5 Guidelines for Drawing DFDs

Provides best practices and rules for drawing clear and accurate DFDs, including tips on leveling and balancing DFDs to ensure consistency.

Case in Point 5.1: Big Ten University

A practical example illustrating the application of DFDs in a real-world scenario at Big Ten University.

5.6 Data Dictionary

Describes the purpose and structure of a data dictionary, which documents data elements and their attributes used in the system.

5.7 Process Description Tools

Covers various tools for describing processes, such as structured English, decision tables, and decision trees.

Case in Point 5.2: Rock Solid Outfitters (Part 1)

Case in Point 5.3: Rock Solid Outfitters (Part 2)

Examples showing the use of process description tools in the context of Rock Solid Outfitters.

5.8 Logical versus Physical Models

Explains the difference between logical models, which focus on system requirements and functionality, and physical models, which detail the system's implementation.

Case in Point 5.4: Tip Top Staffing

A case study demonstrating the transition from logical to physical models in a staffing company.

A Question of Ethics

Discusses ethical considerations in data and process modeling.

5.9 Chapter Summary

Summarizes the key points covered in the chapter, reinforcing the importance of data and process modeling in system analysis and design.

Data Flow Diagram (DFD) for a Clothes Ordering System

1. Context Diagram (Level 0 DFD)

- **External Entities**:

  - **Customer**: Places orders and makes payments.

  - **Clothes Supplier**: Provides inventory.

  - **Sales Manager**: Oversees sales operations.

  - **Clothes Store**: Manages inventory and full fills orders.

- **Processes**:

  - **Order Processing**: Handles customer orders.

  - **Inventory Management**: Manages stock levels.

  - **Payment Processing**: Manages payment transactions.

  - **Sales Management**: Oversees sales and customer interactions.

- **Data Stores**:

  - **Order Database**: Stores order details.

  - **Inventory Database**: Stores inventory levels.

  - **Customer Database**: Stores customer information.

  - **Sales Records**: Stores sales data.

2. Detailed Diagram (Level 1 DFD)

- **Processes**:

  - **1.0 Customer Order Entry**:

    - **Input**: Customer order details.

    - **Output**: Order confirmation.

    - **Data Store**: Order Database.

  - **2.0 Payment Processing**:

    - **Input**: Payment details.

    - **Output**: Payment confirmation.

    - **Data Store**: Payment records.

  - **3.0 Inventory Management**:

    - **Input**: Order details from Order Database.

- **Output**: Updated inventory levels.

- **Data Store**: Inventory Database.

- **4.0 Sales Management**:

  - **Input**: Sales data.

  - **Output**: Sales reports.

  - **Data Store**: Sales Records.

- **5.0 Supplier Management**:

  - **Input**: Inventory requests.

  - **Output**: Inventory updates.

  - **Data Store**: Inventory Database.

3. Data Flow

- **Customer → Order Processing**: Sends order details.

- **Order Processing → Order Database**: Stores order details.

- **Order Processing → Payment Processing**: Sends payment details.

- **Payment Processing → Payment Gateway**: Processes payment.

- **Payment Gateway → Payment Processing**: Sends payment confirmation.

- **Order Processing → Inventory Management**: Sends order details.

- **Inventory Management → Inventory Database**: Updates inventory levels.

- **Inventory Management → Supplier Management**: Sends inventory requests.

- **Supplier Management → Inventory Database**: Updates inventory levels.

- **Sales Management → Sales Records**: Stores sales data.

- **Sales Management → Sales Manager**: Sends sales reports.

- **Clothes Store → Customer**: Full fills orders.