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DICT-3 : Software Engineering

Lesson 9

Activities/Assessment

1. **Identify and discuss the DFD components.**

DFD (Data Flow Diagram) is a graphical representation of the flow of data through a system. There are four components in a DFD:

- Entities: Entities represent the external sources or destinations of data in a system. They are usually represented as rectangles in a DFD. An entity can be a person, organization, or system that interacts with the system being analyzed.

- Processes: Processes represent the activities or transformations that take place within the system. They are usually represented as circles or rounded rectangles in a DFD. A process can be a computation, a calculation, or a decision that takes place within the system.

- Data Flows: Data flows represent the movement of data between the entities, processes, and data stores in a system. They are usually represented as arrows in a DFD. A data flow can represent any kind of information that is transferred between the components of the system.

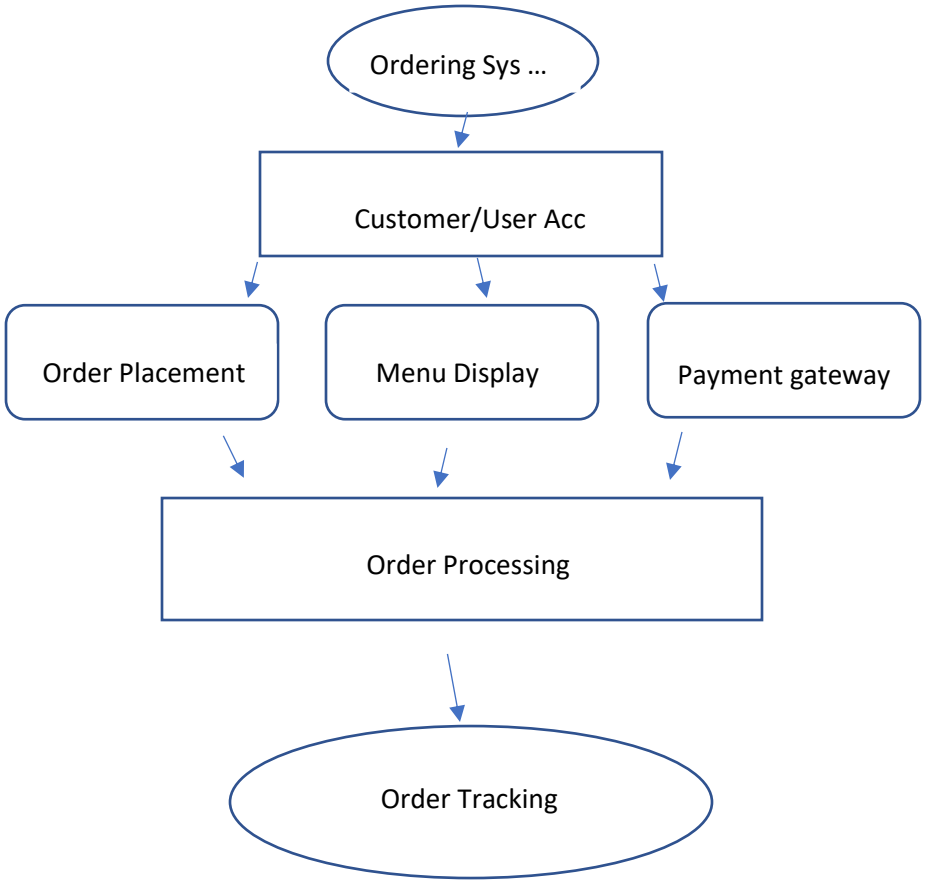
- Data Stores: Data stores represent the places where data is stored within the system. They are usually represented as rectangles with parallel lines in a DFD. A data store can be a database, a file, or any other kind of storage medium that is used by the system.

DFDs are useful in analyzing and designing systems because they provide a clear and concise way to represent the flow of data through a system. They help to identify the various components of the system, their relationships to each other, and the data that is processed and stored within the system. By analyzing the DFD, system analysts and designers can identify potential problems, optimize the flow of data, and create more efficient and effective systems.

2. **With your group, develop/create the following diagram for your proposed system**

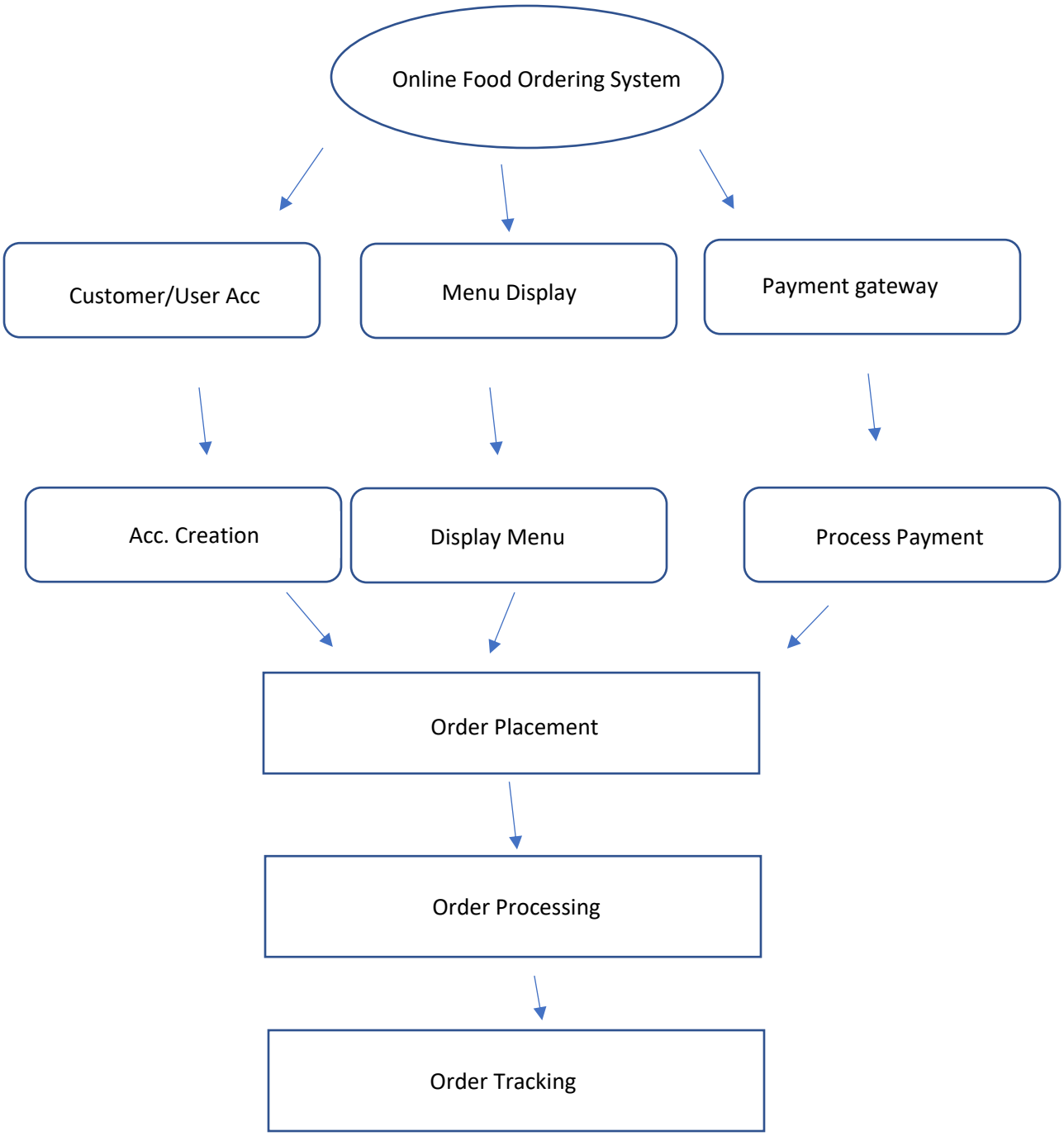
a. **Data Flow Diagram – Level 1**

A Level 1 DFD provides an overview of the system, and shows the major processes, data flows, and data stores in the system. Here is an example of a Level 1 DFD for our proposed system:



b. HIPO Diagram

A HIPO (Hierarchy plus Input-Process-Output) diagram is a hierarchical decomposition of a system that shows the major functions and sub-functions in the system, as well as the input, processing, and output for each function. Here is an example of a HIPO diagram for our proposed system:



In the HIPO diagram, the top level is the Online Ordering System, which is broken down into three major functions: Customer, Menu Display, and Payment Gateway. Each function is further broken down into sub-functions, and the input, processing, and output for each function are shown. The sub-functions for

Customer include Account Creation, the sub-functions for Menu Display include Display Menu, and the sub-functions for Payment Gateway include Process Payment. The Order Placement and Order Tracking functions are also shown in the diagram.