**Lab Assignment: 06**

**Object:** To draw the **Data Flow Diagram (DFD)**for ***Hotel Management.***

**Introduction:**

Data flow diagram (DFD) represents the flows of data between different processes in a business. It is a graphical technique that depicts information flow and the transforms that are applied as data move form input to output. It provides a simple, intuitive method for describing business processes without focusing on the details of computer systems. DFDs are attractive technique because they provide what users do rather than what computers do.

***Types of DFD***

Data Flow Diagrams are either Logical or Physical.

* **Logical DFD** - This type of DFD concentrates on the system process and flow of data in the system. For example in a Banking software system, how data is moved between different entities.
* **Physical DFD** - This type of DFD shows how the data flow is actually implemented in the system. It is more specific and close to the implementation

Representation of Components

DFDs only involve four symbols. They are:

* Process
* Data Object
* Data Store
* External entity

|  |  |
| --- | --- |
| http://members.tripod.com/~myyee/cs457/process.gif | **Process** Transform of incoming data flow(s) to outgoing flow(s). |
| http://members.tripod.com/~myyee/cs457/data.gif | **Data Flow** Movement of data in the system. |  |
| http://members.tripod.com/~myyee/cs457/datastore.gif | **Data Store** Data repositories for data that are not moving. It may be as simple as a buffer or a queue or a s sophisticated as a relational database. |  |
| http://members.tripod.com/~myyee/cs457/external.gif | **External Entity** Sources of destinations outside the specified system boundary |  |

**Relationship and Rules**

Relationship

The DFD may be used for any level of data abstraction. DFD can be partitioned into levels. Each level has more information flow and data functional details than the previous level.

Highest level is Context Diagram. Some important points are:

* 1 bubble (process) represents the entire system.
* Data arrows show input and output.
* Data Stores NOT shown. They are within the system.

Next Level is Level 0 DFD. Some important points are:

* Level 0 DFD must balance with the context diagram it describes.
* Input going into a process is different from outputs leaving the process.
* Data stores are first shown at this level.

Next level is Level 1 DFD. Some important points are:

* Level 1 DFD must balance with the Level 0 it describes.
* It identifies data stores that are used by the major processes.
* Boundary of level 1 is context diagram or 0 level DFA.

Next level is Level 2 DFD. Some important points are:

* Each process in Level 1 is decomposed to show it’s inner processes.
* Boundary of level 2 is the Level 1 processes.

A DFD may look similar to a flow chart. However, there is a significant difference with the data flow diagram. The arrows in DFDs show that there is a flow of data between the two components and not that the component is sending the data that must be executed in the following component. A component in DFD may not continue execution when sending data and during execution of the component receiving the data. The component sending data can send multiple sets of data along several connections. In fact, a DFD node can be a component that never ends.

Rules

* In DFDs, all arrows must be labeled.
* The information flow continuity, that is all the input and the output to each refinement, must maintain the same in order to be able to produce a consistent system.