Assignment No: 03

Title: Perform the Structured Systems Analysis and Design (SSAD)- Draw the DFD MODEL (Level 0, Level 1 and Level 2). Use an open source tool for the same.

Date:

Remark:

ASSIGNMENT NO: 2

Aim: Perform the Structured Systems Analysis and Design (SSAD) - Draw the DFD MODEL (Level 0, Level 1 and Level 2). Use an open source tool for the same.

Problem Statement :

Draw DFD of level 0, level1 and level 2 for library management system using open source tool like **draw.io**

A student comes to a library to borrow a book. The student makes the book request by giving book title and author name. The student has to submit his details/credentials to the library. Sometimes students may simply give topic and demand for a book. The library information system maintains a list of authors, list of titles, and list of topics. This system also keeps records of topics on which books are available with the system. The system maintains information about the shelf number on which books are located. Finally the list of demanded books should be displayed on the console for ease of selection.

Objectives:

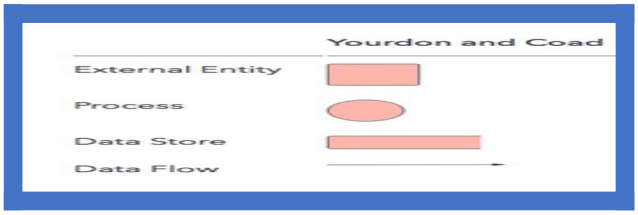
1. To understand the different levels of DFD in Library management system.
2. To choose and use levels DFD .
3. To learn and understand the different concept structured system design.

Theory:

Data flow diagrams:

Data flow diagrams are used to describe data flow within a system. They can depict transformations on data as well as storage locations. They trace the route that data travels in a system, from start to finish.

Symbols Used (Yourdon and Coad)



1. External Entity : An external entity, which are also known as terminators, sources, sinks, or actors, are an outside system or process that sends or receives data to and from the diagrammed system. They're either the sources or destinations of information, so they're usually placed on the diagram's edges.

2. Process: Process is a procedure that manipulates the data and its flow by taking incoming data, changing it, and producing an output with it. A process can do this by performing computations and using logic to sort the data or change its flow of direction.

3. Data Store: Data stores hold information for later use, like a file of documents that's waiting to be processed. Data inputs flow through a process and then through a data store while data outputs flow out of a data store and then through a process.

4. Data flow: Data flow is the path the system's information takes from external entities through processes and data stores. With arrows and succinct labels, the DFD can show you the direction of the data flow.

Rules of DFD:

1. Each process should have at least one input and one output.
2. Each data store should have at least one data flow in and data flow out.
3. A system's stored data must go through a process.
4. All processes in a DFD must link to another process or data store.

DFD Level 0, 1, 2:-

Data flow diagrams are also categorized by level. Starting with the most basic, level 0, DFDs get increasingly complex as the level increases.

Level 0 DFDs, also known as **context diagrams**, are the most basic data flow diagrams. They provide a broad view that offers little detail. Level 0 data flow diagrams show a single process node and its connections to external entities.

Level 1 DFDs are still a general overview, but they go into more detail than a context diagram. In a level 1 data flow diagram, the single process node from the context diagram is broken down into sub processes.

Level 2+ DFDs simply break processes down into more detailed sub processes. Level 3 data flow diagrams are detailed enough that it doesn't usually make sense to break them down further.

Explain the difference between DFD and CFD diagram.

Data Flow Diagram	**Control Flow Diagram**
1. A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects	1. It describe the control flow of a business process, process or program.
2. It contains external entity, process and data dictionary	2. It contains Control Specification (CSPEC) and Process Specification (PSPEC).
3. It contains various levels like level 0, level 1 etc.	3. There is no such levels like DFD.
4. It will give idea about how data will passed and how output will be generated.	To indicate How the software behaves when an event is sensed.

Conclusion: Hence, learned to draw data flow diagram of level 0, level 1 ,level 2 and control flow diagram.

FAQs:

1) What is meant by context diagram?
2) What are different levels of Data flow diagram?
3) What are the data stores in the context diagram of problem Statement?