EXPERIMENT NO. 02

38 Comp B, Pratham Pathak

Learning Objective: Student should be able to draw Data Flow Diagram

AIM: Sketch a DFD (up to 2 levels)

Tools: Draw.io, word, canva

Theory :

A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. Data flowcharts can range from simple, even hand-drawn process overviews, to in-depth, multi-level DFDs that dig progressively deeper into how the data is handled. They can be used to analyze an existing system or model a new one. Like all the best diagrams and charts, a DFD can often visually "say" things that would be hard to explain in words, and they work for both technical and nontechnical audiences, from developer to CEO. That's why DFDs remain so popular after all these years. While they work well for data flow software and systems, they are less applicable nowadays to visualizing interactive, real-time or database-oriented software or systems.

Data flow diagrams were popularized in the late 1970s, arising from the book Structured Design, by computing pioneers Ed Yourdon and Larry Constantine. They based it on the "data flow graph" computation models by David Martin and Gerald Estrin. The structured design concept took off in the software engineering field, and the DFD method took off with it. It became more popular in business circles, as it was applied to business analysis, than in academic circles.

ADVANTAGES:

1. Simplicity and clarity.
2. Effective Communication
3. Requirement Analysis

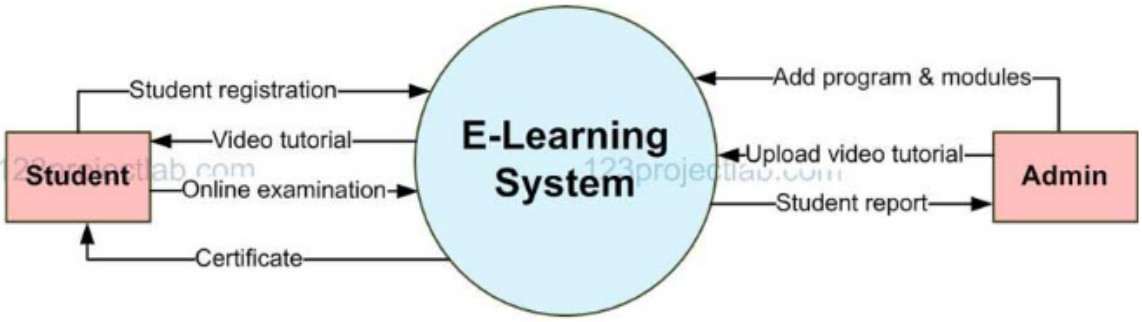
DISADVANTAGES:

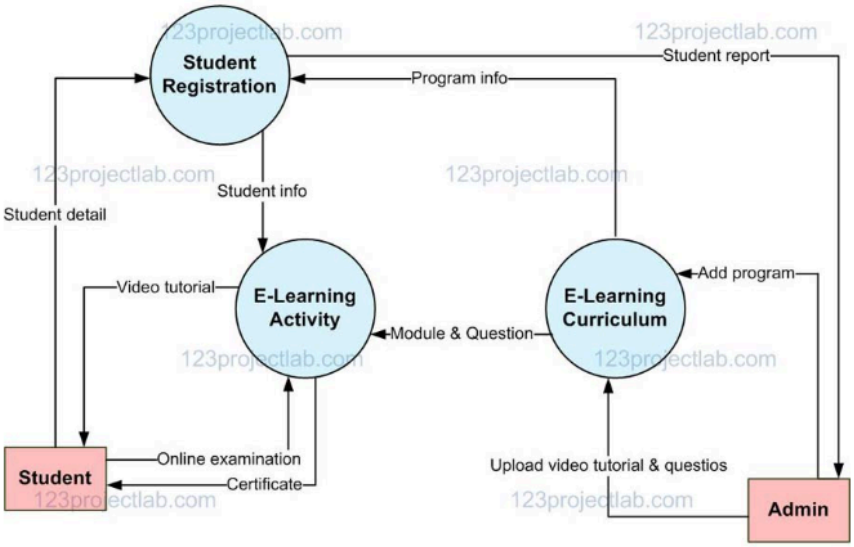
1. Subject to interpretation
2. Dynamic Aspects are ignored

APPLICATIONS:

1. Requirement Analysis
2. System Design
3. Communication with stakeholders

Design:


Student registration
Video tutorial
Online examination
Certificate
Student
E-Learning System
Add program & modules
Upload video tutorial
Student report
Admin


Student Registration
Program info
Student report
Student info
Student detail
Video tutorial
E-Learning Activity
Module & Question
E-Learning Curriculum
Add program
Student
Online examination
Certificate
Upload video tutorial & questios
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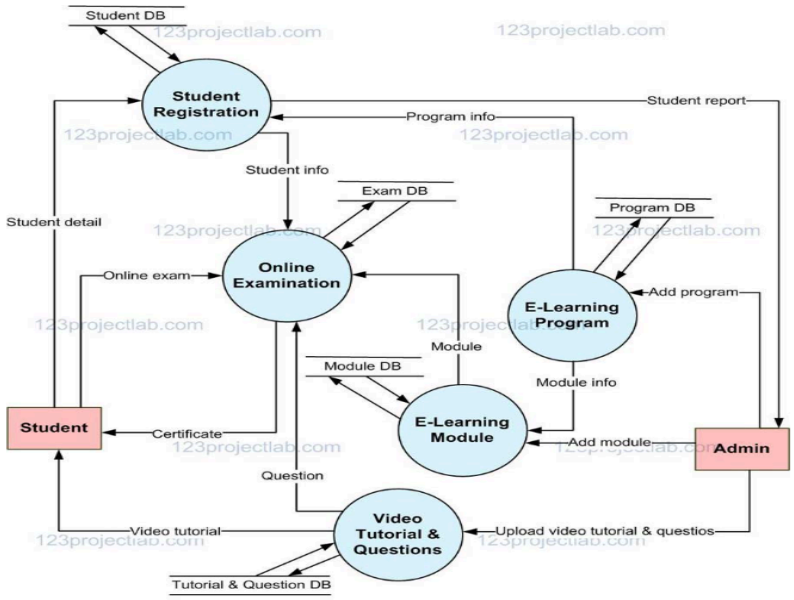
Student DB
Student Registration
Program info
Student report
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Exam DB
Program DB
Student detail
Online exam
Online Examination
E-Learning Program
Add program
Module
Module DB
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Student
Certificate
E-Learning Module
Add module
Admin
Question
Video Tutorial & Questions
Video tutorial
Upload video tutorial & questios
Tutorial & Question DB

Learning Outcomes: The student should have the ability to

LO4.1 identify the need of DFD

LO4.2 define DFD

LO4.3 apply technique to solve DFD

LO4.4 identify advantages and disadvantages of the DFD

Conclusion:

In conclusion, Data Flow Diagrams (DFDs) are powerful tools in system development, offering a visual representation of data flow, processes, and components. Their simplicity makes them valuable for requirements analysis, system design, and communication with stakeholders. While DFDs have advantages in clarity and communication, they may face limitations in representing complex processes and dynamic aspects. When used judiciously in conjunction with other analysis techniques, DFDs contribute significantly to understanding, designing, and managing systems across various domains.

Viva Questions:

1. Explain DFD

Ans. A data flow diagram (DFD) maps out the flow of information for any process or system.

2. What is the use of DFD

Ans. Following are the uses of DFD:

1. Requirement Analysis
2. System Design
3. Communication with stakeholders

For Faculty Use

Correction Parameters	Formative Assessment [40%]	Timely completion of Practical [40%]	Attendance / Learning Attitude [20%]	
Marks Obtained				