Experiment no. 2

Aim: Sketch a Data Flow Diagram (DFD) up to Level 2 for any software management system

Tools: Lucidchart, Draw.io, MS Visio, or StarUML

Theory:

A Data Flow Diagram (DFD) is a graphical representation that depicts how data moves through a system, including its inputs, processes, storage, and outputs. It is used in structured system analysis and design to visualize the flow of data within a system.

Types of DFDs:

1. Level 0 DFD (Context Diagram):
    - Provides a high-level overview of the system
    - Shows the system as a single process with external entities and major data flows
2. Level 1 DFD:
    - Breaks down the main process into sub-processes
    - Shows more detailed flow between processes, data stores, and external entities
3. Level 2 DFD (optional):
    - Provides even more detail by decomposing Level 1 sub-processes further

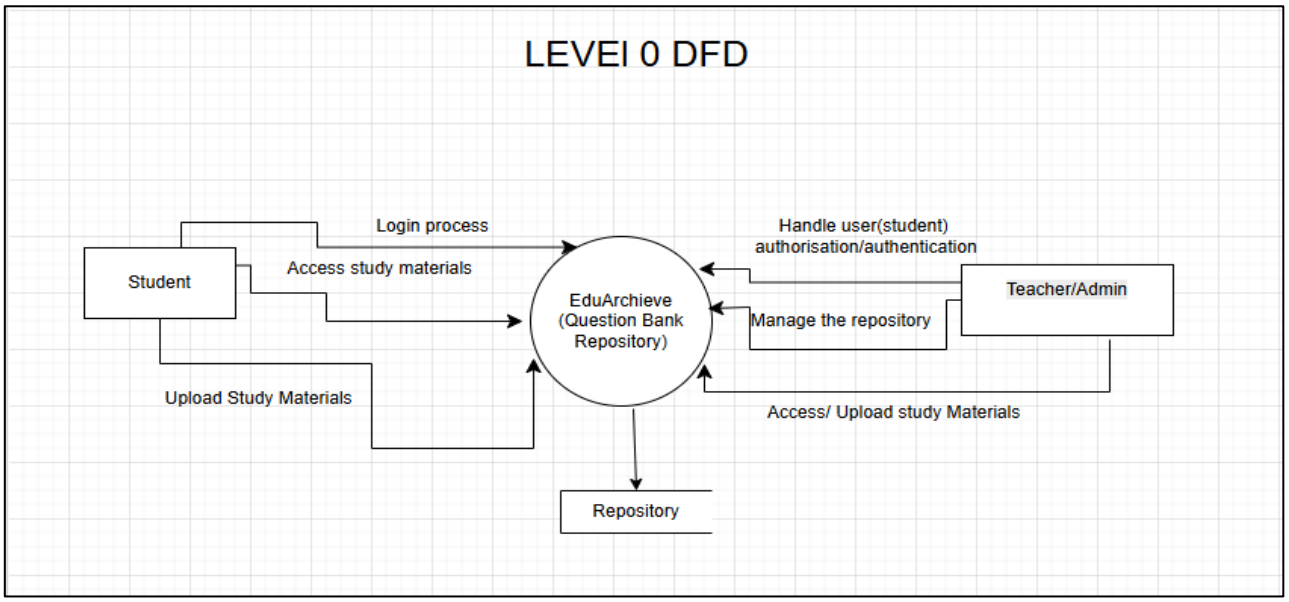
DFD Notations:

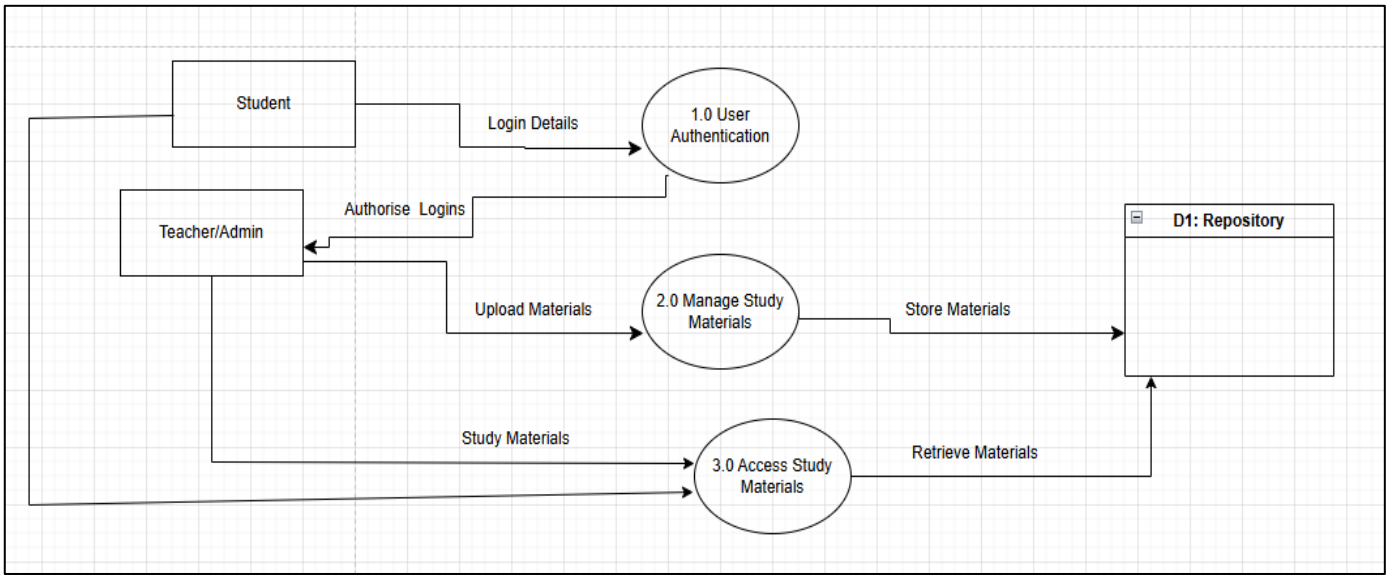
- Process: Represented by a circle or rounded rectangle
- Data Flow: Arrows showing the direction of data movement
- Data Store: Represented by open-ended rectangles or parallel lines
- External Entity: Represented by a rectangle, representing people or systems outside the boundary of the system

Procedure:

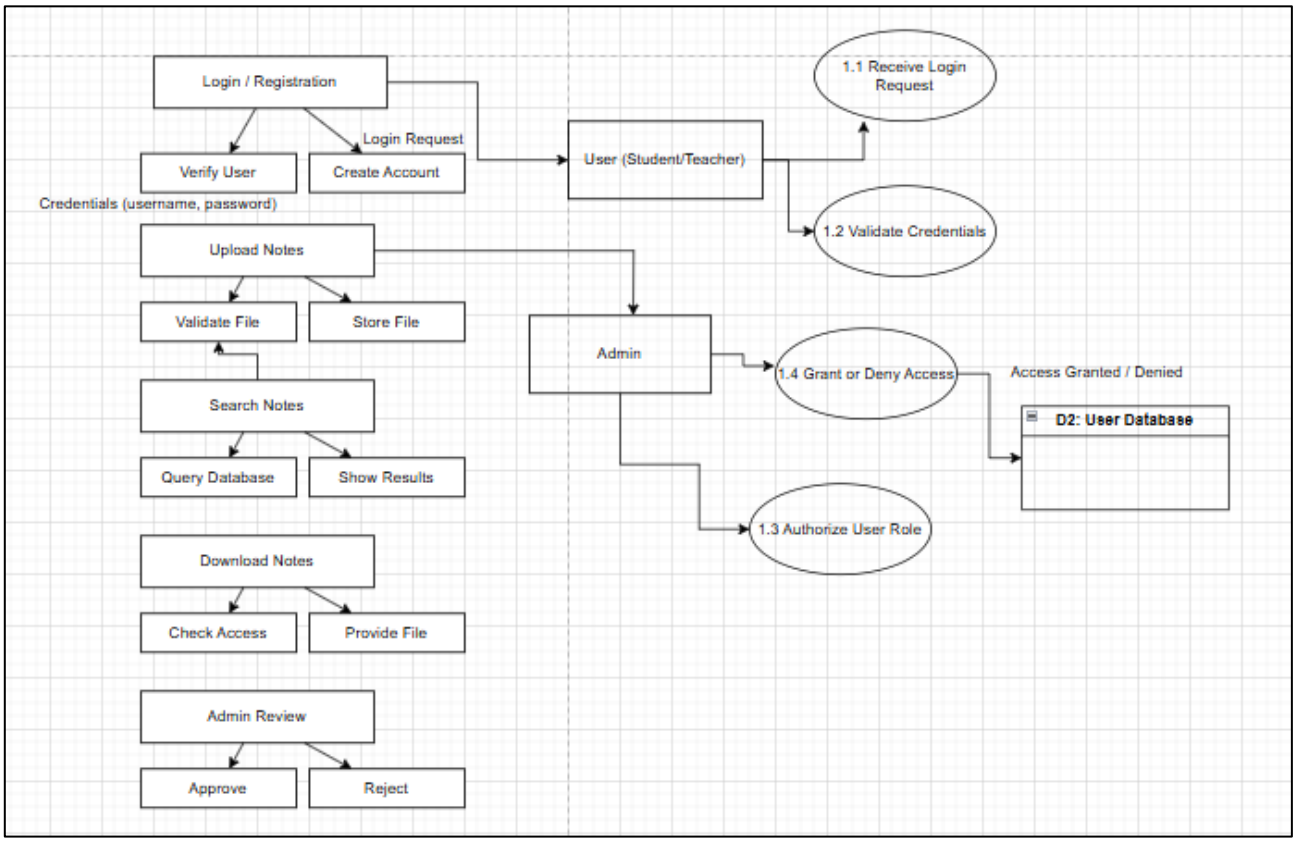
1. Understand the system requirements
2. Identify the external entities, processes, data stores, and data flows
3. Create a Context (Level 0) DFD
4. Break down the main process into sub-processes to develop Level 1 DFD
5. If required, further decompose any Level 1 process to Level 2 DFD

Output:





LEVEL 1



LEVEL 2

Learning Outcomes: The student should have the ability to

LO1: Identify system components to create basic and detailed DFDs
LO2: Draw Level 0 and Level 1 DFDs to represent data flow in a system
LO3: Document functional and non-functional requirements effectively

Course Outcomes:

Upon completion of this experiment, students will be able to design Level 0 and Level 1 Data Flow Diagrams (DFDs) to represent the logical flow of data within a system

Conclusion:

Successfully designed Level 0 and Level 1 Data Flow Diagrams for any Software Management System, effectively representing the logical flow of data within the system

Theory Questions:

1. Why is it important to decompose a DFD into levels?
2. What are the benefits of using a DFD in system analysis?

Case-Studies/Open-Ended Questions:

1. How would you modify a DFD if new user requirements are introduced after the initial design?
2. What steps would you take to validate a DFD with a client or end user?

For Faculty Use

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