PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

B. Tech (CSE) – 5th Semester – Aug-Dec 2024

UE22CS303 - Software Engineering

DESIGN DOCUMENT

EXAM CENTRE MANAGEMENT SYSTEM

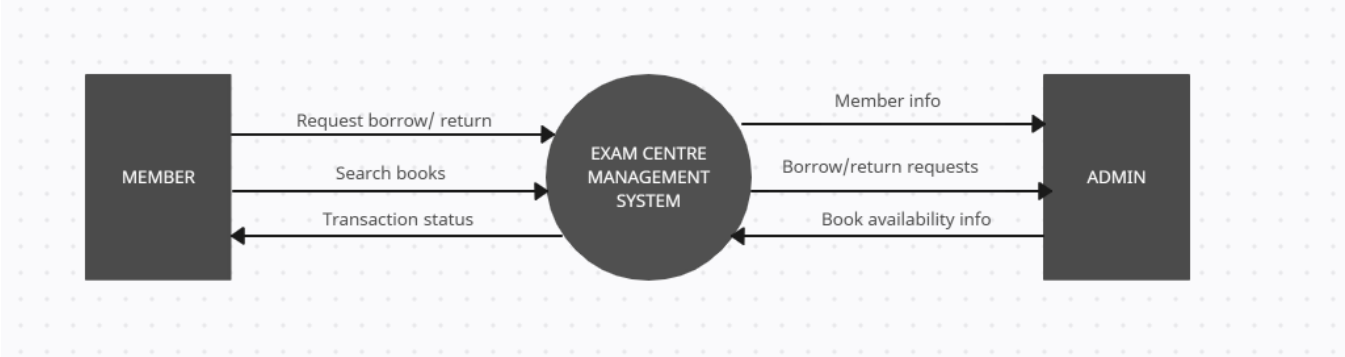
Team #: 25

PES2UG22CS003	AAKANKSH SEELIN
PES2UG22CS032	ADITI ROOPESH MIRJI

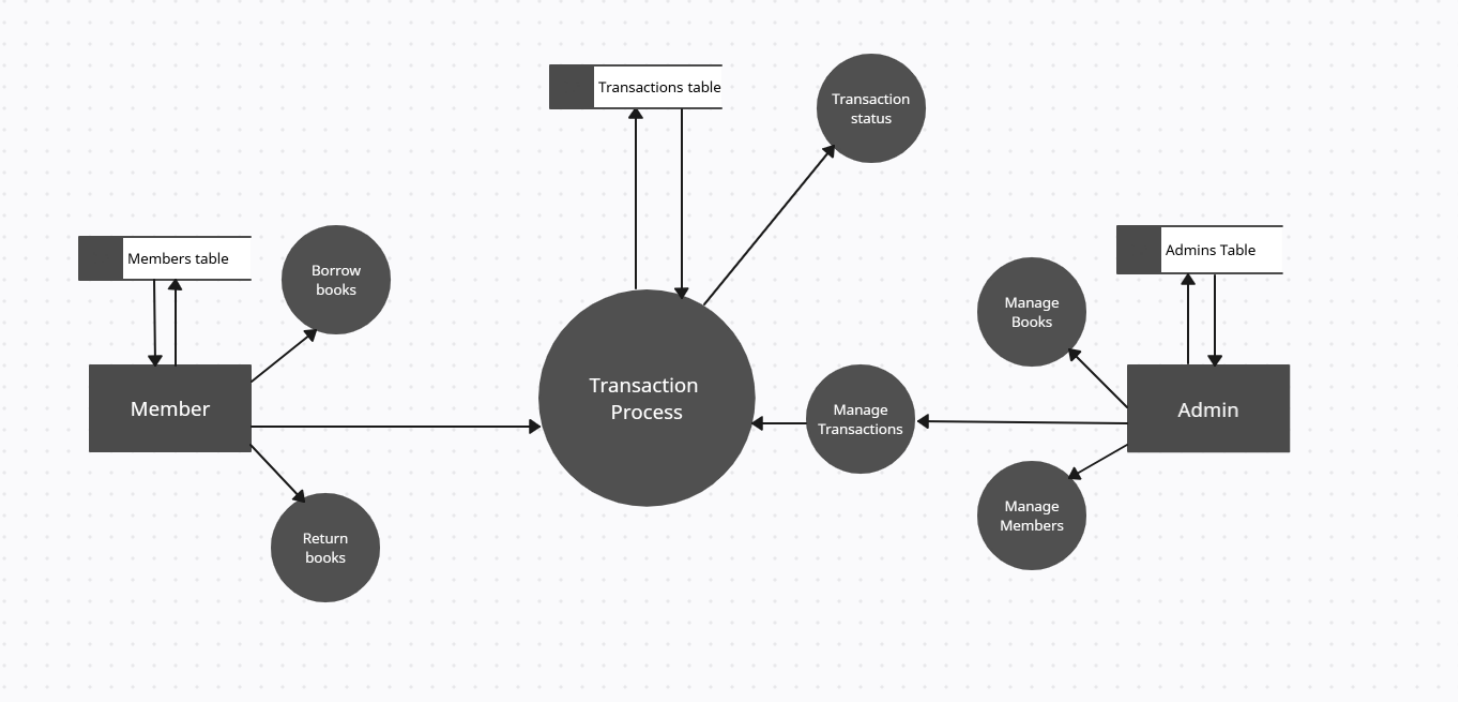
Design Diagrams

Diagrams of Levels of DFD

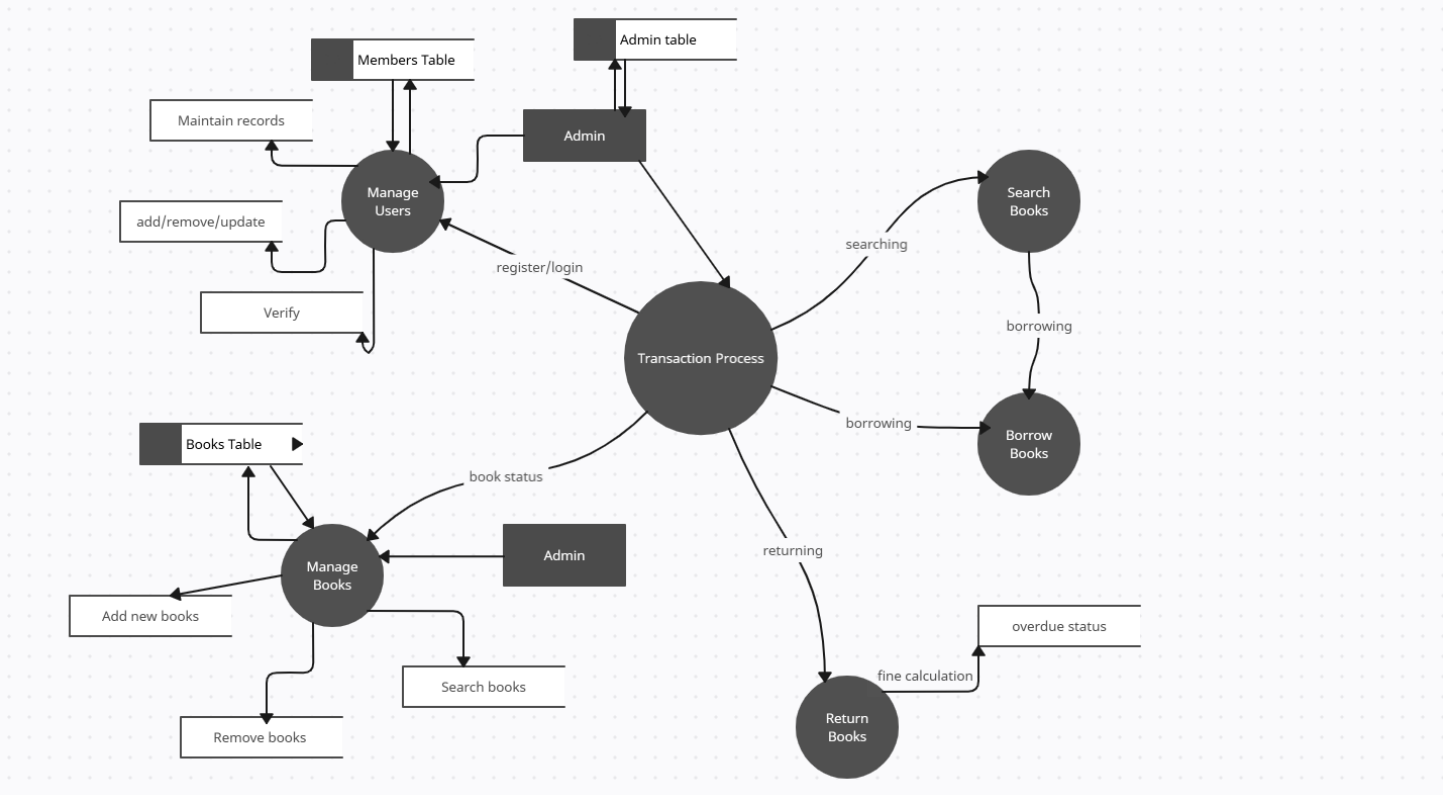
Top-level DFD(0 -level DFD)



First level DFD



Second Level DFD

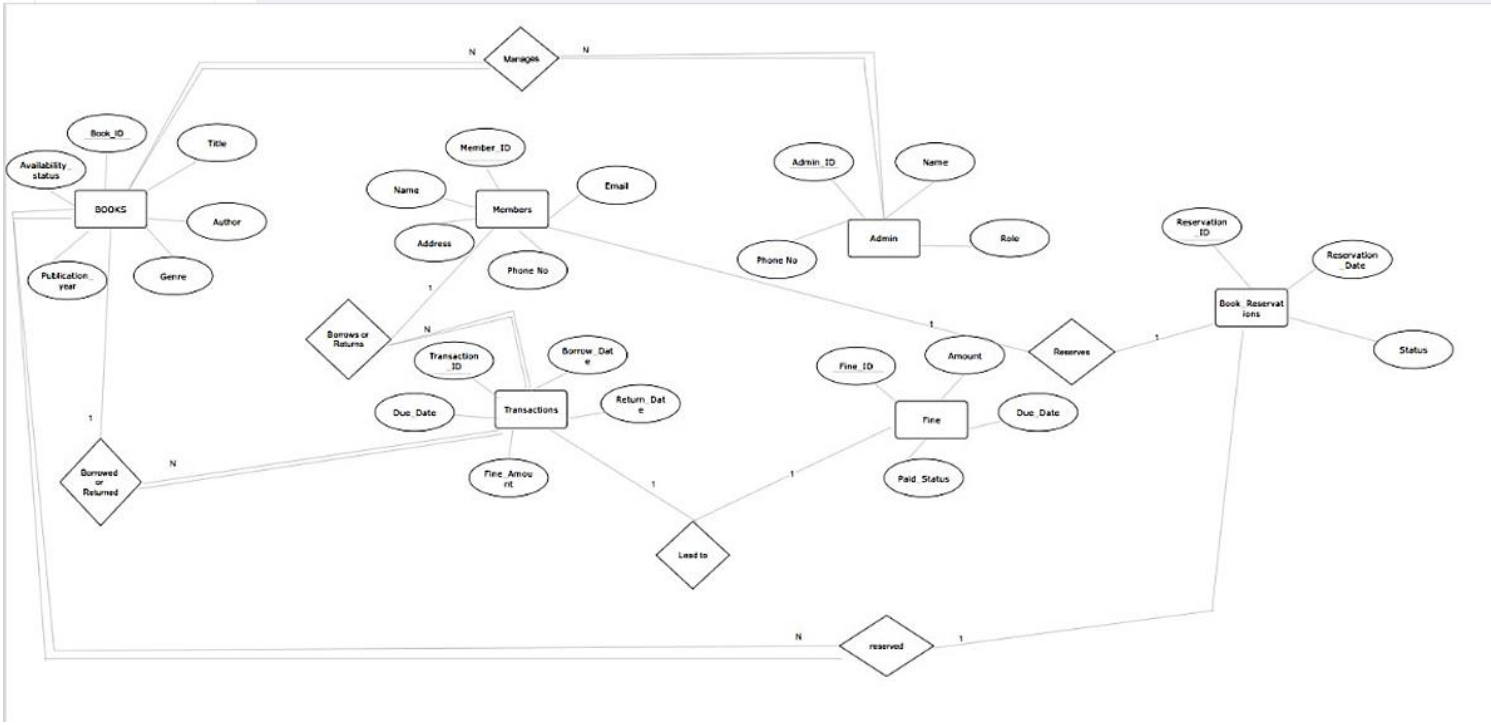


Architectural Design

Layered Architecture :

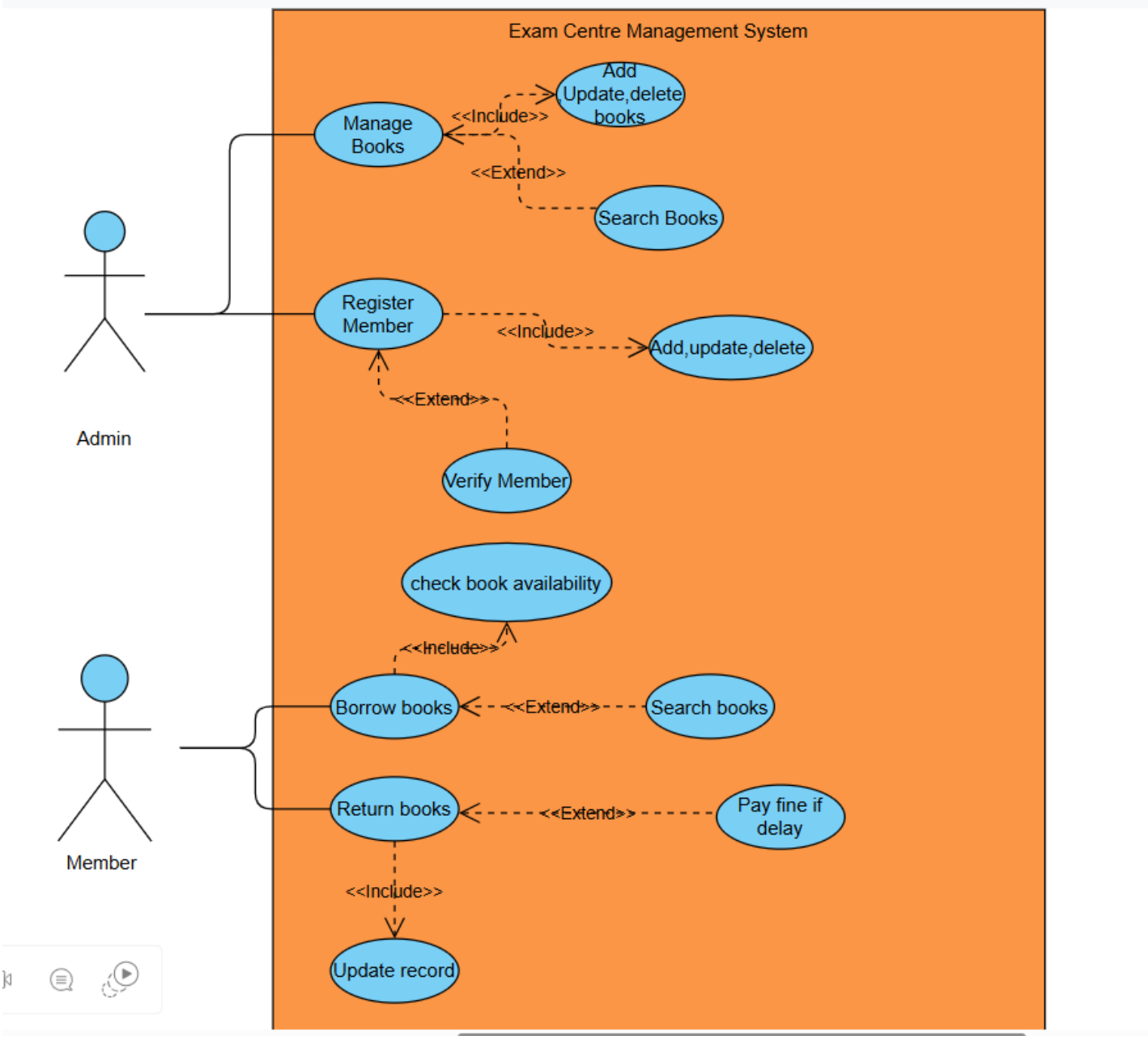
1. **Presentation Layer (User Interface)**:
    - This layer handles user interactions and presents information to users.
    - This includes pages for managing books, and user registration.
    - Streamlit for Python-based web app created.
2. **Application Layer (Business Logic)**:
    - The core logic that defines how data from the presentation layer is processed.
    - Handles the rules for book issuing, returning, calculating fines, and user authentication.
    - Example functions: issueBook(), calculateFine().
3. **Data Access Layer**:
    - This layer is responsible for retrieving, updating, and managing data stored in the database.
    - This would include CRUD operations for managing records like books, exams, transactions, and users.
    - Interacts with the database using SQL queries
4. **Database Layer**:
    - The underlying storage for all the data.
    - Consists of tables for books, users, and transactions.
    - Ensures data integrity and relationships through primary and foreign keys.

ER diagram


Manages
N
N
Book_ID
Title
Availability status
BOOKS
Author
Publication year
Genre
Member_ID
Name
Email
Members
Address
Phone No
Admin_ID
Name
Admin
Role
Phone No
Reservation ID
Reservation Date
Book_Reservations
Status
Borrows or Returns
Transaction ID
Borrow_Date
Due_Date
Transactions
Return_Date
Fine_Amount
Fine_ID
Amount
Reserves
Fine
Due_Date
Paid_Status
Borrowed or Returned
Lead to
reserved
1
N

UML

Use Case Diagram



Class Diagram