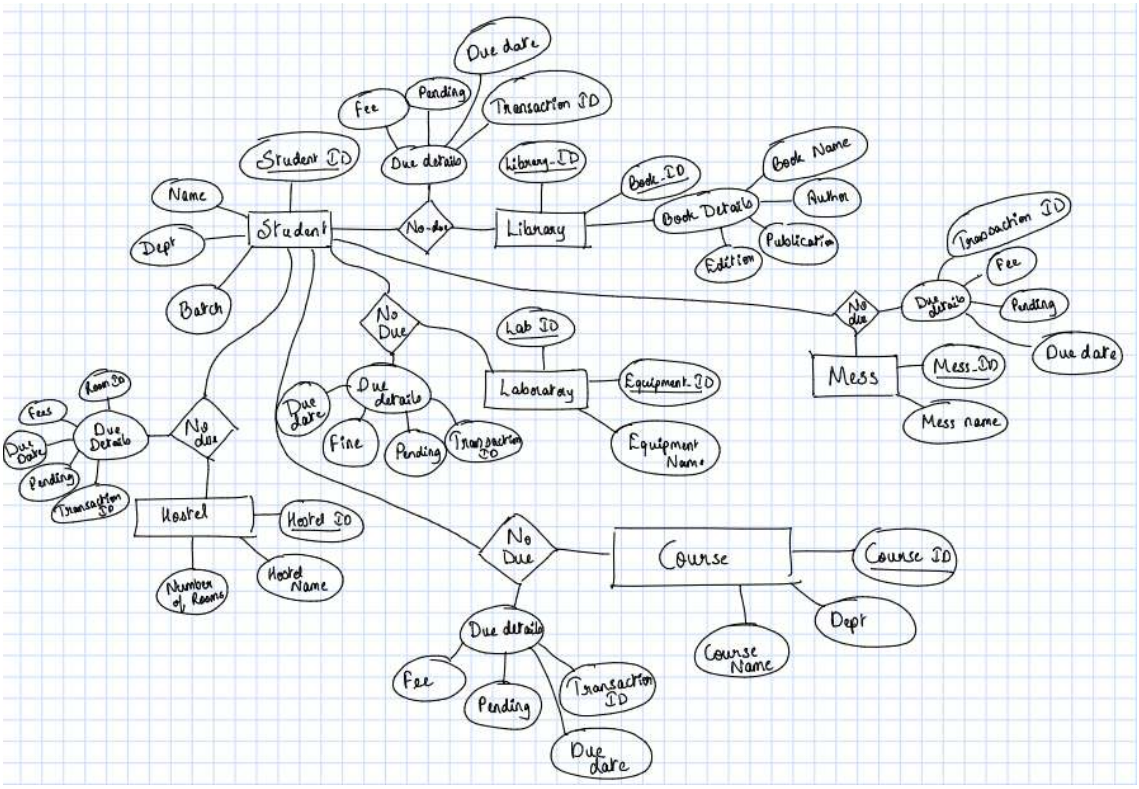
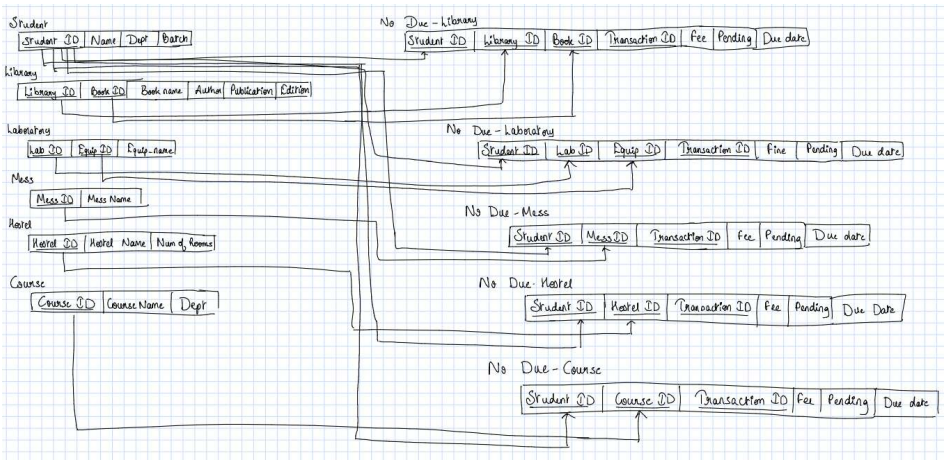
No Dues System

ER Diagram



Relational Schema



UE21CS351A: Database Management System

MINI PROJECT USER REQUIREMENT SPECIFICATION

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1.Introduction

- Purpose of the project: The purpose of this project is to design and implement a database management system (DBMS) for a due system that can store and manage the information of the dues of students from hostels, libraries, mess, laboratories and other services
- Scope of the project: The scope of this project is to create a relational database schema for a dues management system, populate the database with sample data, and develop a user interface that can perform various queries and operations on the database.

2.Project Description

- Project overview: The dues management system is a DBMS that can handle the data and transactions related to the dues held by the students. The system can store the details of the students, such as their Student Id number, name, department,Branch etc.The system can also store the details of the other amenities used by the student such as their Hostel which would include details such as hostel name ,hostel Id,Number of rooms etc. It can also store the details of other amenities which would have any due payments left by the students such as laboratory,libraries,mess ,courses etc and contain the details of all their respective IDs and names.It also shows about the due details for each services used by the students along with the payment and transaction ids.

- Major project functionalities:

    1. The system can register new students and assign them amenities such as a hostel or laboratory and allows them to view all their dues.

    2. The system can update or delete the information of existing students.

    3. The system can record the pending amount and the due dates for all the dues.

    4. The system can manage the students , such as their student ID, name, department, branch, batch,etc.

    5. The system can record the amenities used by each student and the amount of dues they need to pay.

    6. The system can generate reports on various aspects of the dues management system, such as transaction ids,due dates,pending payments, etc.

3. System Features and Functional Requirements

- **User Authentication**

  This feature allows students to login to the interactive application and view all the pending dues they have at a single application.

  Functional Requirements :

  The system must provide a user registration process for students and staff members.

  Users should be able to log in with a username and password.

- **Intuitive Dashboard**

  An intuitive dashboard must be provided for students and staff members to view and manage their dues. The dashboard should display the status of different dues categories clearly and be user-friendly.

  Functional Requirements :

  - The system must display a personalised dashboard for each user type (students and staff).
  - The dashboard should include widgets for each dues category (library, laboratory, hostel, mess, course fees).
  - Users should be able to view the current status of their dues, including amounts and due dates.

- **Library Fine Monitoring**

  The system should keep track of all the fines for each Library in the University. It should keep a proper record of the fines associated with each student and the payment details of these fines.

  Functional Requirements :

  - The schema has to store the Student ID, the Library ID and the Book ID for which the fine is applied.
  - It should keep track of the total fine amount, the pending fine amount and the transaction ID of the payments made to clear the fine.

- **Laboratory Fine Monitoring**

  The system should keep track of all the fines for each Laboratory in the University. It should keep a proper record of the fines associated with each student and the payment details of these fines.

  Functional Requirements :

  - The schema has to store the Student ID, the Laboratory ID and the Equipment ID for which the fine is applied.
  - It should keep track of the total fine amount, the pending fine amount and the transaction ID of the payments made to clear the fine.

- **Course Fee Monitoring**

  The system should keep track of all the fees for each Course offered by all the departments in the University. It should keep a proper record of the fees associated with each student and the payment details of these fees.

  Functional Requirements :

  - The schema has to store the Student ID, the Course ID for which the student has enrolled to and the fee associated with the course.
  - It should keep track of the total fee amount, the pending fee amount and the transaction ID of the payments made to clear the fee.

- **Hostel Fee Monitoring**

  The system should keep track of all the fines or fee associated with the hostel where a particular student resides. It should keep a proper record of the fines and fees associated with each student and the payment details of these fees.

  Functional Requirements :

- The schema has to store the Student ID and the Hostel ID where the student resides.
- It should keep track of the total fee amount, the pending fee amount and the transaction ID of the payments made to clear the fine.

- **Mess Fee Monitoring**

  The system should keep track of the fee associated with the mess a particular student has chosen. It should keep a proper record of the fees associated with each student and the payment details of these fees.

  Functional Requirements :

  - The schema has to store the Student ID and the Mess ID where the student resides.
  - It should keep track of the total fee amount, the pending fee amount and the transaction ID of the payments made to clear the fine.