🗓️ Timetable Management System

Database Management System Project

Department of Computer Science

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👨‍💻 Project Team Members

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🎯 Purpose of the Project

In universities, students often need to manually scroll through PDFs just to find their weekly class timetable. This process is time-consuming and inefficient, especially for large student bodies. Our project aims to replace this manual process with a digital web-based solution.

Managing class schedules via PDFs can be very tedious for students. Often, students have to scroll through long documents just to find their weekly class

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schedules. This project aims to eliminate that hassle by providing a digital,

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web-based Timetable Management System.

The Timetable Management System provides:

- **Student Interface:** Students can enter their roll number and view their personalized timetable with filtering options (by day, time, course)
- **Admin Panel:** Administrative users can manage students, teachers, courses, rooms, and class scheduling

💻 Technologies Used

Component	Technology
Programming Language	Python
Database	SQLite3
Frontend GUI	Tkinter (Python GUI Library)
Database Management	SQL Scripts embedded in Python
ER Diagram	draw.io / dbdiagram.io

IDE	VS Code / PyCharm
Version Control	Git & GitHub

🖥️ Dashboard Overview

On first look, the dashboard provides a comprehensive overview including options like:

- **Manage Students**- Add, edit, and delete student records
- **Manage Teachers** - Handle teacher information and assignments
- **Manage Courses**- Control course offerings and details
- **Room Scheduling**- Manage room allocations and capacity
- **Time Table** - View and configure class schedules
- **Admin Settings**- System configuration and permissions

📊 Summary Statistics Dashboard

The right section displays summary statistics such as:

- Total Students
- Total Teachers
- Total Courses
- Total Rooms

📊 Database Tables Overview

Below are the key tables in the database with their purposes:

Table Name	Purpose
Admins	Stores admin credentials for secure access
Students	Holds student records, roll numbers, and section IDs
Teachers	Contains teacher details including name, email, and department
Courses	Stores course data such as code, name, and credit hours
Sections	Groups students into logical classes (sections)
Departments	Maintains information about academic departments
Rooms	Contains physical room data like capacity and type
Days	Represents weekdays
TimeSlots	Defines individual time slots for scheduling
ClassTimes	Binds course offerings with time, room, and slot

Table Name	Purpose
ClassTypes	Categorizes the types of classes (e.g., Lecture, Lab)
CourseOfferings	Links courses to sections, teachers, and semesters
ClassSchedule	Main scheduling table linking students, teachers, courses, and timing
DeletedStudents	Archive table to track students removed by an admin
TeacherOfficeAssignments	Links teachers to their assigned office rooms

TeacherOfficeRooms	Stores information about teacher office rooms

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