NOVA University
Information Management School

Web Technologies and Applications

Final Project

Web Application for Online Class Management

Final Report

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Group 7
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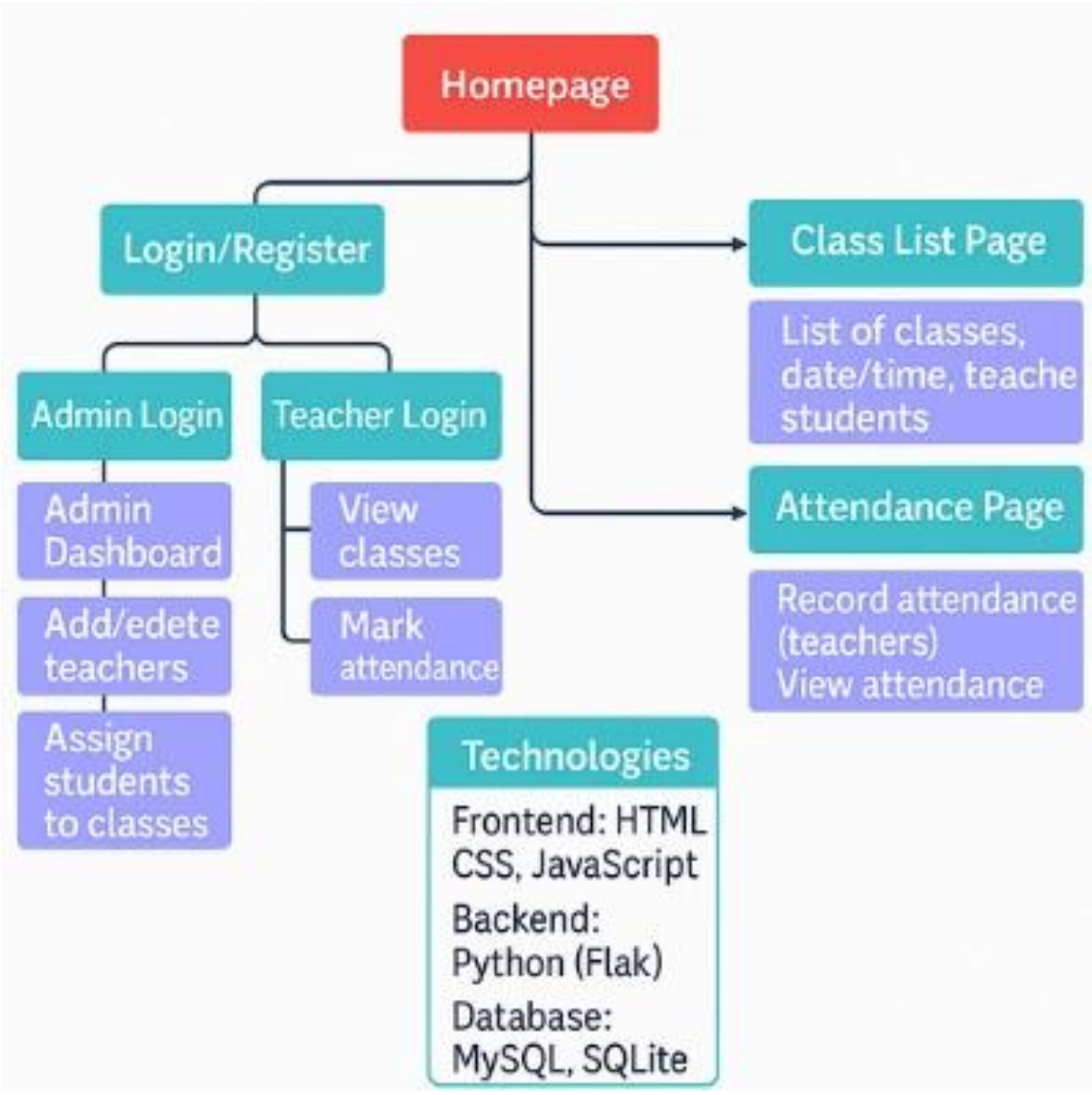
Introduction

The group project involves developing a web application supported by a database. The application is an Online Classes App, designed to manage and organize virtual or in-person classes. It includes tools for administrators to schedule classes, manage users, and assign teachers and students, while teachers can mark student attendance. The goal is to create a responsive and user-friendly system that simplifies class administration and improves communication between staff and students.

App



Structure Diagram

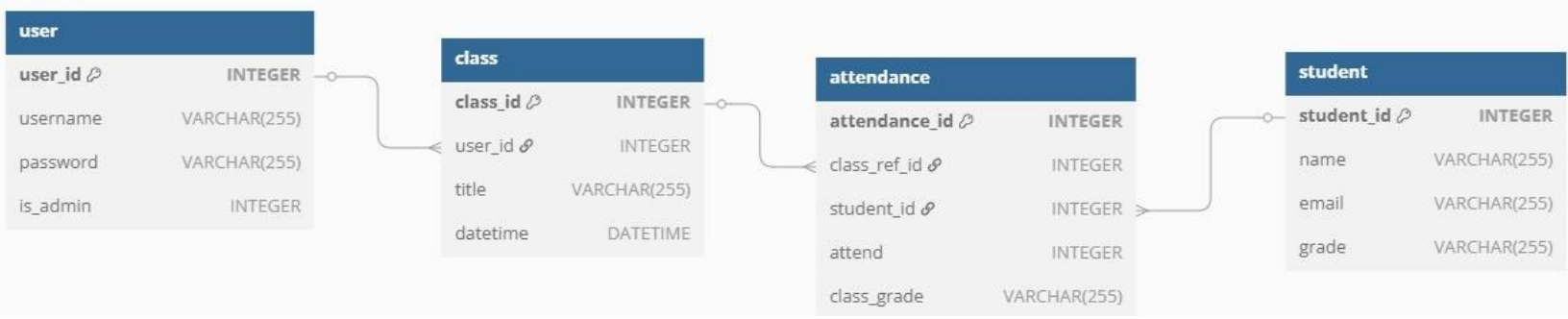
The app is composed of the following core pages and functionalities:

- **Homepage** – The entry point of the app that gives access to the login page and a general overview.
- **Login/Register** – A secured login system for admins and teachers. Different users are redirected to their respective dashboards.
- **Admin Dashboard** – Allows the admin to add and manage students, teachers, and classes with appropriate fields.
- **Teacher Dashboard** – Enables teachers to view their classes and mark attendance for students.
- **Student Profile Page-** Enables to view a specific student profile.
- **Attendance Page** – Used by teachers to record which students attended each session.
- **Download CSV** – Admins and teachers can export class data in CSV format for record keeping.
- **Database** – Manages users, classes, and attendance records, ensuring proper relational integrity.
- **Analytics Page** - Used by admins to analyze class and student attendance statistics.

Functionalities

Functionality	Implemented	Not Implemented
Admin login	X	
Teacher login	X	
Add/edit/delete students	X	
Add/edit/delete teachers	X	
Add/edit/delete classes	X	
Assign students to classes	X	
Teacher marks attendance	X	
Download CSV of classes	X	
Student self-registration		X

Database



Technologies Used

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Python (Flask)
- **Database:** SQLite

Group Collaboration

The group collaborated by dividing responsibilities based on each member's strengths. Some focused-on frontend layout and responsiveness, while others worked on backend logic and database structure or in the report itself. We held frequent meetings and testing sessions to ensure that features worked as expected.

Challenges Faced

- Ensuring that data relationships between students, classes, and attendance were consistently updated.
- Dynamically updating attendance and class lists based on user input and real-time changes.
- Implementing the feature to export class data in CSV format.
- Make a website aesthetically pleasing on small screens like smartphones

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Conclusion

The web application is fully functional and meets all the initial requirements of the project. The final product is responsive, intuitive, and includes essential features such as class scheduling, attendance tracking, and CSV export for academic records.