PROJECT SYNOPSIS

ON

"ClassNexus"

Bachelors of Computer Application

Submitted By

RISHABH BISHT (2321703)

SUDHANSHU CHAMOLI (2321896)

AMAN RANA (2321113)

AISH THAKUR (2321072)

Under the guidance of

Pooja Gunwant

Graphic Era Hill University

1. Introduction:

In today's educational landscape, managing classroom activities, assignments, student attendance, and communication between faculty and students is crucial to ensure efficiency and transparency. Despite the advancement in technology, many educational institutions still rely on traditional methods of record keeping and interaction, which are often time-consuming, error-prone, and difficult to manage at scale.

"Class Nexus" aims to address these challenges by providing a centralized, user-friendly platform that facilitates seamless interaction between students and faculty. It acts as a digital hub for managing class schedules, posting assignments, marking attendance, and sharing important announcements in real-time.

With intuitive dashboards and smart notification systems, students can stay updated on their academic responsibilities while faculty can easily monitor class progress. The project leverages modern web technologies to create a responsive interface accessible across devices.

Moreover, Class Nexus emphasizes data integrity and security, ensuring that only authorized users can access sensitive academic information. It promotes collaborative learning, reduces paperwork, and improves the overall educational experience.

This project will be developed using Python (backend), Flask framework, HTML/CSS for front-end development, and SQLite for lightweight database needs. The platform will also incorporate role-based access to differentiate between student and faculty features.

By building this system, we intend to streamline routine classroom processes, foster better communication, and enhance academic productivity. Class Nexus is envisioned as a scalable and customizable solution that can be adapted by any institution aiming to modernize its classroom management.

2. Objective:

To develop a web-based platform for efficient classroom management.

To automate the process of attendance tracking and assignment submission.

To enable real-time announcements and notifications between students and faculty.

To provide role-based access and secure login system.

To enhance communication and collaboration within the classroom environment.

3. Tools / Hardware / Software required:

Server : Express.js Or node.js

Frontend: HTML, CSS, JavaScript

Database: MongoDB

Tools: Visual Studio Code, Git

Hardware: PC or laptop with internet connection

4.Roles:

Admin - Manage user access

Teacher Role - Manage student data and attendance

Student Role - Access data

5. Expected Outcome:

A functional web application with modules for attendance, assignments, and announcements.

Secure authentication for student and faculty roles.

Improved communication between students and faculty members.

Easy access to academic resources and updates.

Streamlined management of class-related activities.

6. Conclusion:

In conclusion, Class Nexus offers a modern solution to classroom management by integrating essential academic processes into a single digital platform. It reduces administrative overhead, enhances communication, and provides real-time access to important information, thereby promoting a more organized and interactive educational experience.

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