

A
Mini Project Report on
Student Productivity Management System

Submitted in partial fulfilment of the requirements
for the degree of
BACHELOR OF ENGINEERING
IN
Computer Science & Engineering
Artificial Intelligence & Machine Learning

by

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2024-2025



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CERTIFICATE

This is to certify that the project entitled “**Student Productive Management System**” is a bonafide work of Sami Ansari (23106093), Jeet Jain (23106029), Tanishq Birje (23106106), Shashank Iyer (23106056) submitted to the University of Mumbai in partial fulfillment of the requirement for the award of **Bachelor of Engineering in Computer Science & Engineering (Artificial Intelligence & Machine Learning)**.

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Project Report Approval

This Mini project report entitled “**Student Productive Management System**” by **Sami Ansari, Jeet Jain, Tanishq Birje and Shashank Iyer** is approved for the degree of *Bachelor of Engineering in Computer Science & Engineering*, (AIML) 2024-25.

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Date:

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We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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ABSTRACT

This project is a year long that introduces a comprehensive web platform designed to enhance communication, collaboration, and academic management for students and teachers in an educational environment. The platform integrates several key features aimed at streamlining day-to-day academic tasks and improving the efficiency of information sharing between users. One of the central components of the platform is a real-time chat system that supports both private and group chats, allowing students to communicate effectively with their peers and teachers. This system also includes file-sharing capabilities to facilitate collaboration on assignments and projects.

A core feature of the platform is the notes database, which allows both teachers and students to upload, categorize, and search for academic resources. Notes can be organized based on categories such as subject, year, or course, and can be easily filtered to ensure quick access to the necessary material. This feature ensures that all users have access to a centralized repository of information, reducing the reliance on scattered resources and improving overall academic efficiency.

The tasks management feature enables teachers to assign tasks such as homework, projects, and exams, while providing students with a system to track their workload. The task page allows students to monitor their progress, set personal deadlines, and prioritize their work according to urgency or importance. This feature ensures that students can manage their academic responsibilities more effectively, leading to better organization and time management.

In conclusion, this platform offers a comprehensive solution to the challenges of academic communication and management. By providing features such as real-time communication, a centralized notes database, task tracking, schedule management, and event coordination, the website aims to enhance productivity, organization, and collaboration for both students and teachers within an academic setting.

Keywords: Student Management , Communication , Platform , Task

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

This is a one year (two semester) project that introduces a web-based platform aimed at improving communication and academic management within educational institutions. Recognizing the challenges posed by fragmented tools—such as email, standalone task management apps, and file-sharing services—this platform offers a centralized solution to enhance collaboration among students and teachers. Key features include a chat system that supports both private and group discussions, allowing for seamless communication and file sharing. Additionally, the notes database serves as a searchable repository for academic materials, making it easier for students to access essential resources organized by subject and course.

The platform also includes robust task management capabilities, enabling teachers to assign tasks and students to track their workload effectively. A schedule page presents important updates in a user-friendly calendar format, ensuring that students remain informed about class schedules, exams, and deadlines. Furthermore, the events page keeps students engaged with extracurricular activities and college-related events, facilitating community involvement. Developed using a modern technology stack, the platform prioritizes secure user authentication and offers a responsive experience across devices. Ultimately, this integrated solution not only simplifies academic workflows but also fosters a collaborative and engaging learning environment, empowering students to manage their responsibilities more effectively while enhancing teacher-student communication.

Moreover, the platform includes an events page that keeps students updated on extracurricular and college-related events, such as seminars, workshops, and social gatherings. Teachers and student admins can create events, manage RSVPs, and send reminders, ensuring that students remain engaged with the broader college community. The integration of the events page with the schedule ensures that students have a holistic view of both their academic .

From a technical perspective, the platform was developed using a modern web technology stack that ensures a smooth, responsive, and user-friendly experience across devices. The platform employs secure authentication mechanisms to safeguard user data and prevent unauthorized access, ensuring that all communication and resource sharing occurs within a protected environment.. Due to limited public health spending, a lack of infrastructure, and a poor budgetary response, scaling up the COVID-19 responseand management will be difficult.

As a result, an emergency readiness and response strategy must be integrated into India's health system. Because of the virus's extraordinary spread, the globe has been put on lockdown, with numerous governments instituting tight screening of possible cases admitted into their territory.

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In summary, this project seeks to address the common challenges of academic communication and resource management by providing an integrated platform that combines chat functionality, resource sharing, task tracking, schedule management, and event coordination. The website not only simplifies academic workflows for both students and teachers but also fosters a more collaborative and engaging learning environment. The platform represents a significant step forward in leveraging technology to improve the academic experience, making it easier for students to manage their responsibilities and for teachers to effectively communicate with and support their student.

CHAPTER 2

LITERATURE SURVEY

2. LITERATURE SURVEY

2.1-HISTORY

The history and evolution of web development is a testament to human creativity and innovation. From the birth of the World Wide Web to the dynamic, interconnected digital landscape of today, web development has come a long way. As technology advances at an ever-increasing pace, web developers will continue to shape the future of the web, offering new possibilities and addressing emerging challenges.

The history of web development began with Tim Berners-Lee's creation of the World Wide Web in the late 1980s, which led to the introduction of HTML in 1991 as the foundational language for web pages. The mid-1990s saw the "Browser Wars" and the rise of dynamic content with JavaScript. CSS was introduced in 1996 to separate content from design, and the dot-com bubble in the late 1990s paved the way for Web 2.0, focusing on user-generated content and dynamic web applications.

Student portals started in the late 1990s as basic websites for accessing course schedules and grades. Over time, they evolved to include features like online course registration, digital libraries, and communication tools. The integration of Learning Management Systems (LMS) enabled online submission of assignments and access to course materials. With mobile technology in the late 2000s, portals became more accessible, offering personalized dashboards and real-time updates. Today, student portals are central to managing academic and administrative tasks, with advanced features like AI-driven.

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2.2-LITERATURE REVIEW

(1) Web Development Framework : Future Trends , 2022 4th International Conference on Advances in Computing, Communication Control and Networking (ICAC3N) , IEEE

The most basic and first step for development is to decide the right frontend framework. There is a wide variety of options emerging every year as solutions for the problems developers face every day with browser-based applications taking over the world. This paper initially discusses different trends in framework and libraries of JavaScript, which then summarizes the project we worked on using these libraries and its future scope. However, one issue we noticed was that the paper lacked emphasis on enhancing user experience, particularly in terms of ease of navigation and overall accessibility. To address this, we made the website more user-friendly by implementing a simplified and intuitive user interface. We improved the layout for better navigation, added responsive design elements to ensure accessibility across all devices, and streamlined the user flow to minimize the number of actions needed to complete tasks. These enhancements made the website much easier for users to interact with, significantly improving their overall experience.

(2) Development of a web – based Student Portal System for University Students , IEEE(2022); International conference on intelligent Education and Intelligent Research (IEIR) This project aims to design and develop a web-based Student Portal System (SPS) for the University of Malakand to replace the current traditional system and provide needed services for students use. Right now, the current traditional system handles things like grading, attendance, and assignments, but it relies on manual paper- based processes, leading to many inefficiencies. Regrettably, it lacks a studentcentric approach. That's where our exciting Student Portal System comes in, ready to shake things up and make student life a whole lot easier. The proposed SPS provide a consolidated platform that brings multiple services together, making life easier for students. Within this system, students can effortlessly access a range of services, including attendance management, assignment tracking, result retrieval, and quizzes. The proposed system provides a simple and user-friendly interface. Teachers can log in to upload assignments, quizzes, and attendance records. Meanwhile, students can log in to check their attendance, view their results, and submit assignments. The Student Portal System (SPS) is developed by using strong tools like PHP, MySQL Database, HTML5, CSS3, JavaScript, and Bootstrap.

(3) Students Community Portal using Machine Learning 2023 Second International Conference on Electronics and Renewable Systems (ICEARS) , publish by IEEE

The research paper introduces an online discussion system aimed at improving communication between students and teachers by addressing the challenges of asking and answering questions. However, the paper overlooks the issue of low student engagement and the potential for information overload in a discussion system. While it effectively uses support vector machines and feed-forward neural networks to ensure the accuracy of information, it fails to account for the difficulty students may have in navigating large volumes of data and participating actively in discussions. To address these drawbacks, we not only implemented personalized content recommendations based on each student's learning patterns and interests, but also introduced separate admin interfaces for students and teachers. This distinction allows students and teachers to interact with the system based on their roles—students can focus on asking questions and engaging in discussions, while teachers can more easily manage, review, and respond to queries. This approach enhances the usability of the portal

(4) Implementation of Intelligent Chatbot in Student Portal: A Systematic Literature Review 2022 International Visualization, Informatics and Technology Conference (IVIT) IEEE

The research paper discusses the benefits of implementing an chatbot in a student portal to provide 24/7 support, but it overlooks several key aspects that would enhance the user experience. One significant drawback is the lack of a collaborative communication feature, limiting students to interacting only with the chatbot rather than engaging with their peers. Additionally, the paper highlights implementation challenges such as limited user interaction capabilities and the complexity of integrating a user-friendly interface, which could hinder users with minimal technical knowledge. To address these drawbacks, we not only implemented a simple and efficient chatbot interface but also added a real-time chat system that allows students to interact with each other. This fosters peer-to-peer communication, creating a more collaborative environment. By integrating this feature alongside the AI chatbot, we improved both support availability and user engagement, making the system more comprehensive and interactive than the one proposed in the original research.

(5) Notes Sharing and Student performance Analysis Web Application , IEEE,

The research paper titled "Notes Sharing and Student Performance Analysis Web Application" (2023, 7th International Conference on Intelligent Computing and Control System (ICICCS), IEEE, 17 May 2023) introduces a platform for students to share notes and engage in collaborative learning. However, it highlights several drawbacks in existing models, such as the restriction of access to notes only after payment, inability to upload handwritten notes, the requirement for regular uploads, and limitations on uploading notes only for specific streams.

To address these shortcomings, our proposed solution allows students from all streams to upload notes, whether handwritten or in digital formats like PPT, PDF, and DOC. We also introduced flexible access options where students can offer their notes for free or set a price for download, providing more control to the uploader. This way, the application enhances accessibility and usability while allowing students to earn money if desired. These improvements address the issues identified in the original research, creating a more versatile and student-friendly platform.

Summary of literature review in tabular form:

Title	Conference Details	Key Points	Improvements	Citation
Web Development Framework: Future Trends	ICAC3N, IEEE (2022)	<ul style="list-style-type: none">- Discusses trends in JavaScript frameworks.- Focuses on project implementation.	<ul style="list-style-type: none">- Enhanced user experience by simplifying UI and improving navigation.	(IEEE, 2022)
Web-Based Student Portal System	IEIR, IEEE (2022)	<ul style="list-style-type: none">- Consolidates services like grading, attendance, and assignments.- User-friendly for students and staff.	<ul style="list-style-type: none">- Addressed inefficiencies and lack of student-centric design by integrating multiple services.	(IEEE, 2022)
Students Community Portal using Machine Learning	ICEARS, IEEE (2023)	<ul style="list-style-type: none">- Online discussion system for student-teacher communication.- Focuses on engagement and accurate info.	<ul style="list-style-type: none">- Added personalized recommendations and separate student-teacher admin interfaces.	(IEEE, 2023)
Intelligent Chatbot in Student Portal	IVIT, IEEE (2022)	<ul style="list-style-type: none">- AI chatbot for 24/7 support in student portals.- Addresses interaction limitations.	<ul style="list-style-type: none">- Added real-time peer chat for better user engagement and collaboration.	(IEEE, 2022)
Notes Sharing & Student Performance Web App	ICICCS, IEEE (2023)	<ul style="list-style-type: none">- Platform for students to share notes in multiple formats.- Allows free or paid access.	<ul style="list-style-type: none">- Overcame payment-only access and stream limitations.- Allowed handwritten and digital uploads.	(IEEE, 2023)

CHAPTER 3

PROBLEM STATEMENT

3. PROBLEM STATEMENT

Many students and teachers face challenges managing academic tasks, resources, and communication due to the lack of a centralized platform. This often results in fragmented communication, disorganized study materials, missed deadlines, and inefficiencies in task tracking and scheduling. Students rely on various tools like email, messaging apps, and file-sharing services that lack integration, leading to ineffective collaboration. Teachers also struggle with managing tasks, distributing notes, and keeping students updated on schedules or events, which can be time-consuming without a unified system.

This project aims to address these issues by developing a unified web platform that integrates communication, resource sharing, task management, scheduling, and event coordination. It will offer distinct user roles—Teacher, Student Admin, and Regular Student—ensuring each user can efficiently access and manage the features relevant to them. By centralizing academic responsibilities, the platform will improve communication, organization, and productivity within the academic community. It will also enhance event management, making it easier for students to stay informed about academic and extracurricular activities, increasing participation and engagement.

The overall goal is to provide a seamless academic experience that fosters collaboration, improves resource accessibility, and simplifies workload management for both students and teachers.

CHAPTER 4

EXPERIMENTAL SETUP

4. EXPERIMENTAL SETUP

4.1 HARDWARE SETUP

1. **High-performance web servers:** Efficiently handle user requests and deliver portal content.
2. **Database servers:** Store and manage student data, user interactions, and other critical information.
3. **Backup servers:** Ensure data recovery in case of system failure or data loss.
4. **Networking equipment:**
 - High-speed routers
 - Switches
 - Firewalls for managing traffic and securing the system.
5. **Security hardware:**
 - Intrusion Detection Systems (IDS)
 - Encryption modules to protect against unauthorized access and ensure data confidentiality.
6. **Access devices:**
 - Support for modern desktops, laptops, and mobile devices for cross-platform accessibility.
7. **Development workstations:** Required for building and enhancing the portal's features.
8. **Testing servers:** Used to validate and ensure the functionality and stability of new features before deployment.

4.2 SOFTWARE SETUP

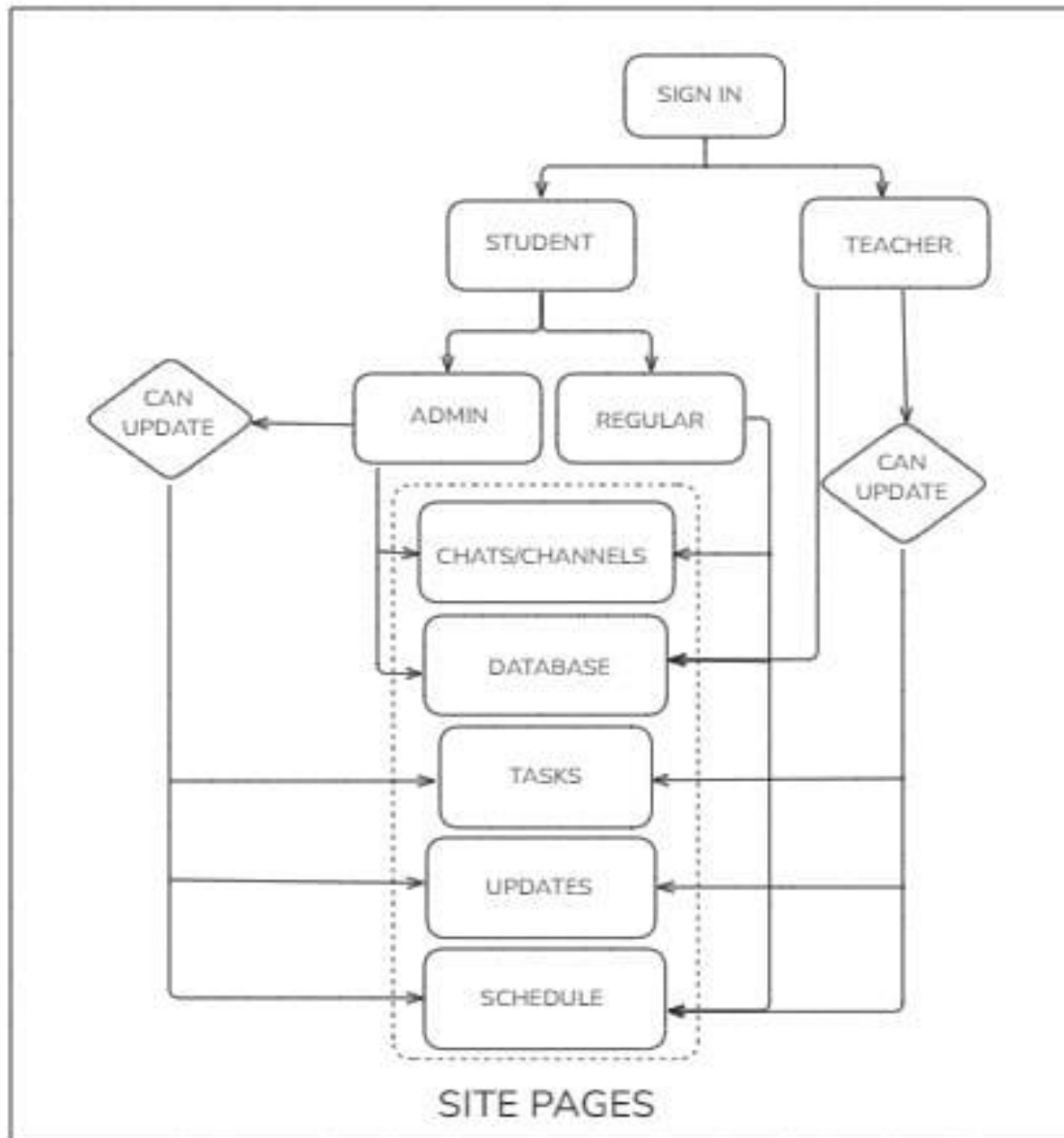
1. **Web server software:**
 - Apache or Nginx to handle HTTP requests and ensure reliable performance.
2. **Database management systems:**
 - MySQL or PostgreSQL for structured data.
 - NoSQL options for unstructured data.
3. **Development tools:**
 - IDEs like Visual Studio Code.
 - Version control systems such as Git for coding and managing changes.
4. **Frontend technologies:**
 - HTML, CSS, and JavaScript frameworks (e.g., React, Angular) to create an interactive user interface.
5. **Backend technologies:**
 - Node.js or Django to handle server-side logic.
6. **Integration tools:**
 - Learning Management Systems (LMS) for educational management.
 - Communication tools like Slack for collaboration.
7. **Security measures:**
 - Web application firewalls.
 - Antivirus software to protect against threats.
8. **Analytics and monitoring tools:**
 - Track performance and user behavior.
9. **Backup and recovery solutions:**
 - Safeguard data and ensure rapid recovery in case of emergencies.

CHAPTER 5
PROPOSED SYSTEM
&
IMPLEMENTATION

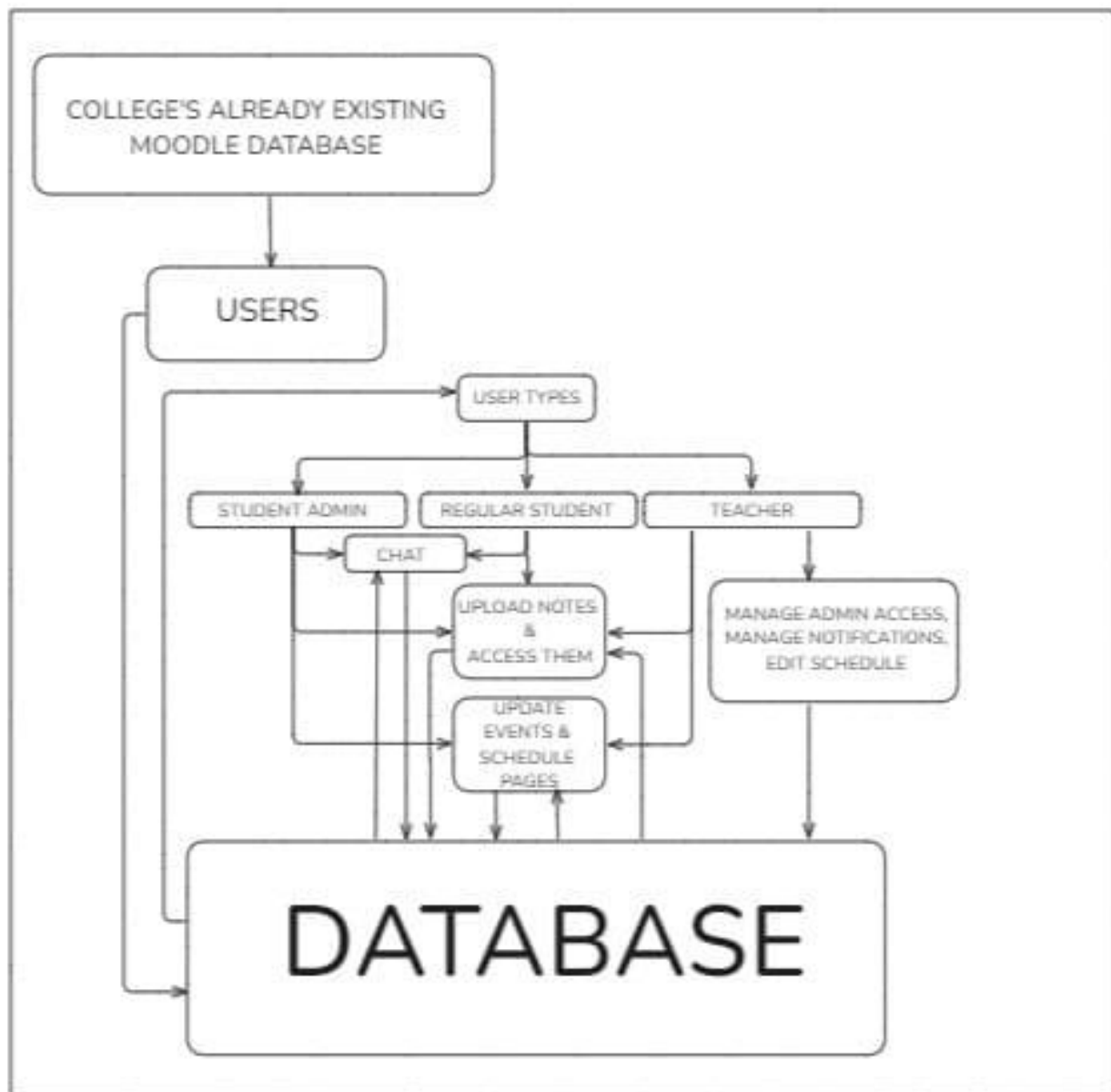
5. PROPOSED SYSTEM & IMPLEMENTATION

We are making a system that can be used by students and teachers to connect with each other for academic resources, updates, schedules, managing tasks & for such other purposes. We basically are creating a better form of our college resources website by adding features that we desire that should have been there like notifications.

5.1 BLOCK DIAGRAM OF PROPOSED SYSTEM



SITE ACCESS ACCORDING TO USER TYPE



DATABASE BASIC INPUT OUTPUT FLOW

5.2 DESCRIPTION OF BLOCK DIAGRAM

Diagram 1: Site Access According to User Type

- **Sign In:** The starting point for accessing the system.
- **User Types:** The diagram outlines three primary user types: Student, Teacher, and Admin.
- **Student:** Students can access and update chats/channels, database, tasks, updates, schedule, and site pages.
- **Teacher:** Teachers have similar access rights as students, but they can also update events and schedule pages.
- **Admin:** Admins have the highest level of access, allowing them to manage admin access, notifications, and access to the database.

Diagram 2: Database Basic Input Output Flow

- **College's Already Existing Moodle Database:** The system is integrated with an existing Moodle database.
- **Users:** This section connects to the user types defined in Diagram 1.
- **User Types (Detailed):** The user types are further specified as Student Admin, Regular Student, and Teacher.
- **Chat:** All user types can participate in chats.
- **Database:** Students and Admins can upload notes and access them.
- **Tasks:** Students and Admins can manage tasks.
- **Updates:** Students and Admins can view and potentially update system updates.
- **Schedule:** Teachers can update events and schedule pages, while other users can view the schedule.
- **Site Pages:** All user types can access and potentially update site pages.
- **Database Basic Input Output Flow:** This section emphasizes the core functionality of the system, which involves inputting and outputting data from the database.

Overall, the diagrams illustrate the hierarchical structure of user access and the basic data flow within the system.

5.3 IMPLEMENTATION

Implementation of proposed system must be included here. Students can explain implementation using screen shots of output:

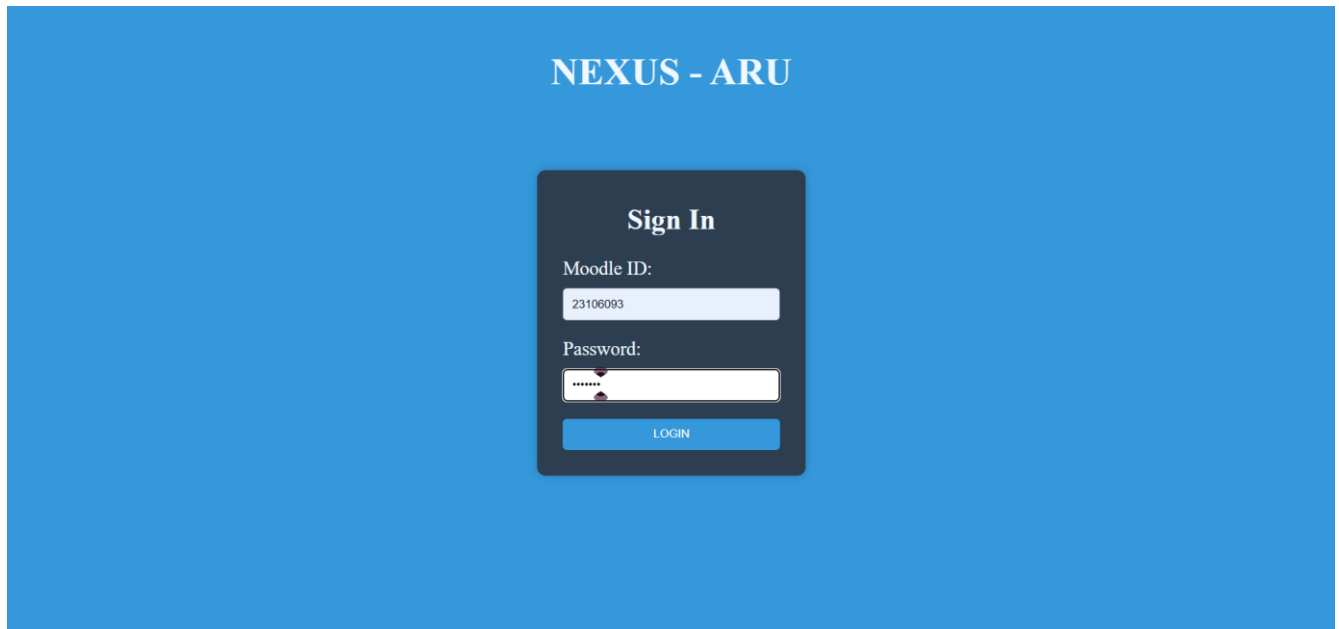


Figure 1: Login page

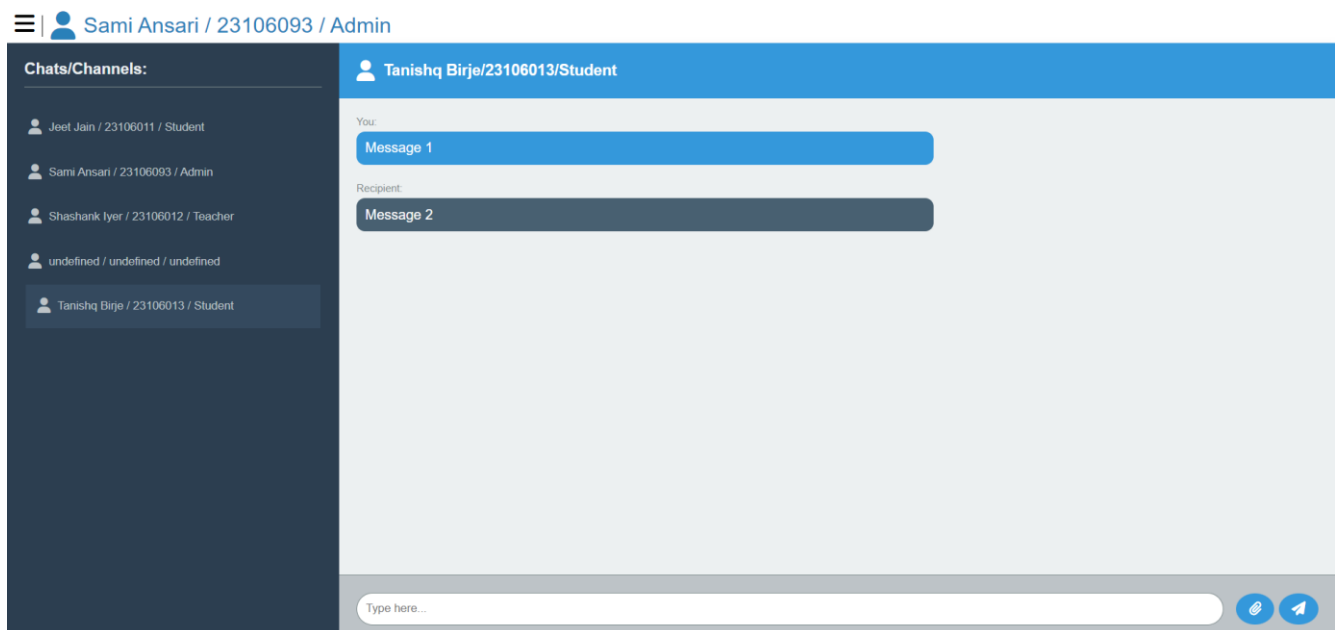


Figure 2: Homepage after successful login

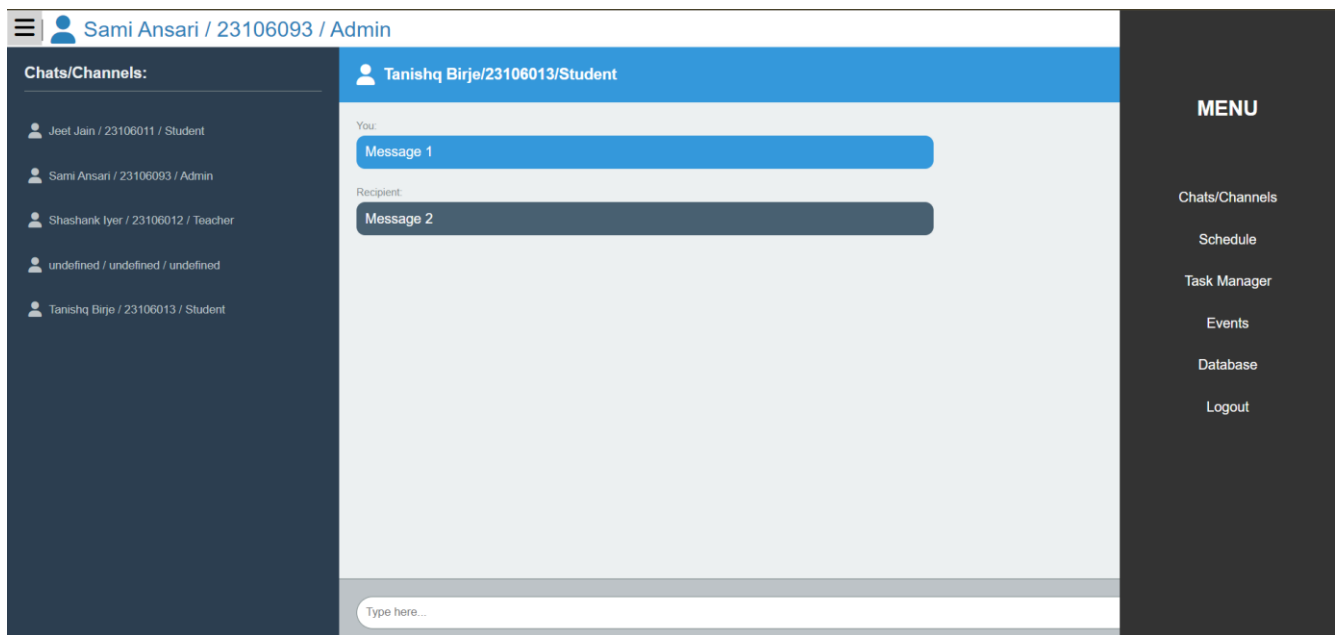


Figure 3: Website menu to navigate different pages

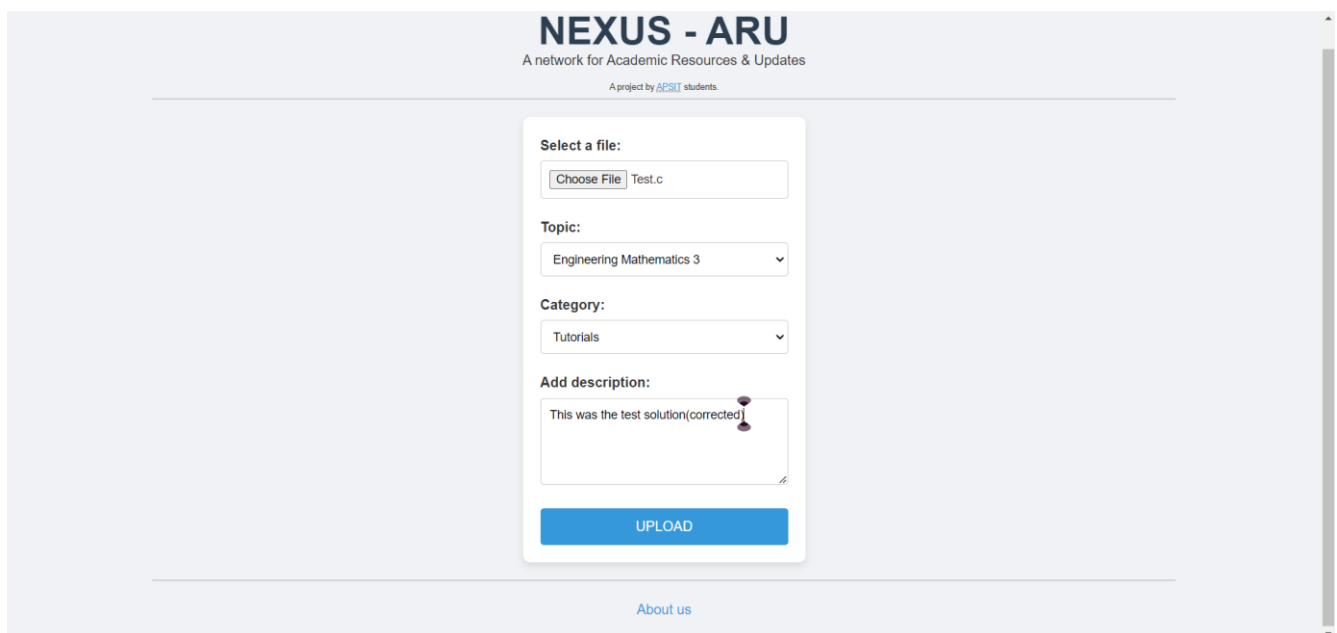


Figure 4: Uploading a file to the database of the website

Figure 5: Downlink link of the file on the database page of the website

Figure 6: Schedule page(Yet to be implemented)

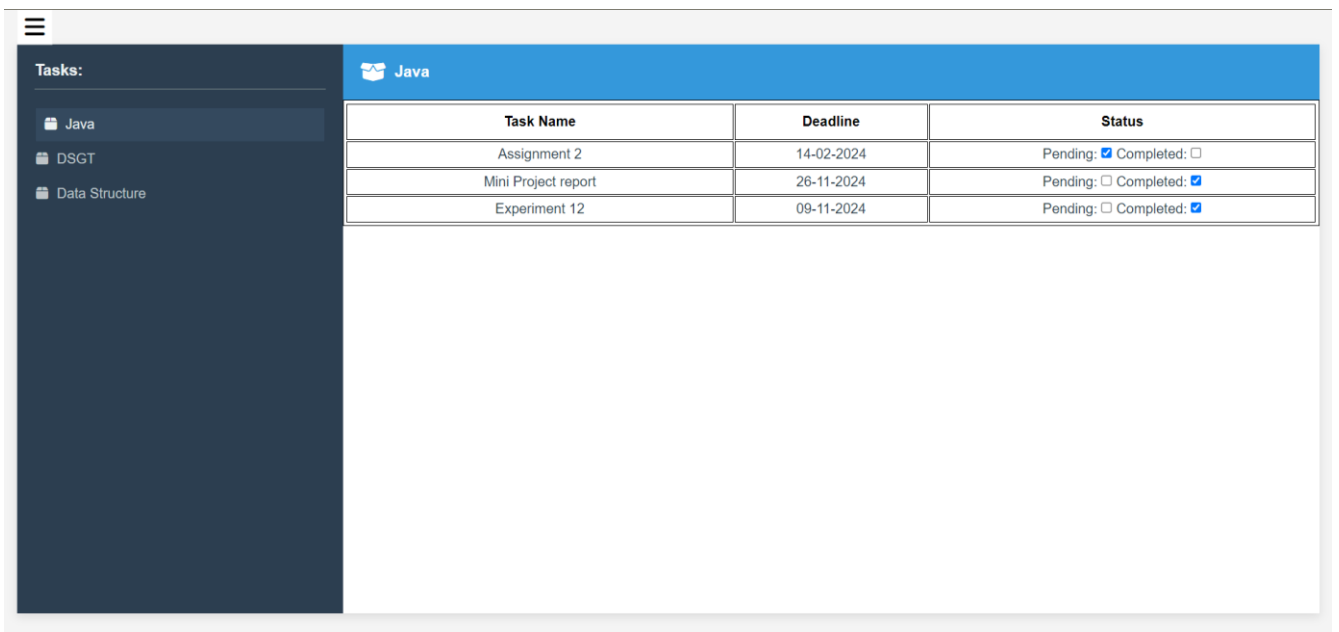


Figure 7: Tasks page(Yet to be implemented)

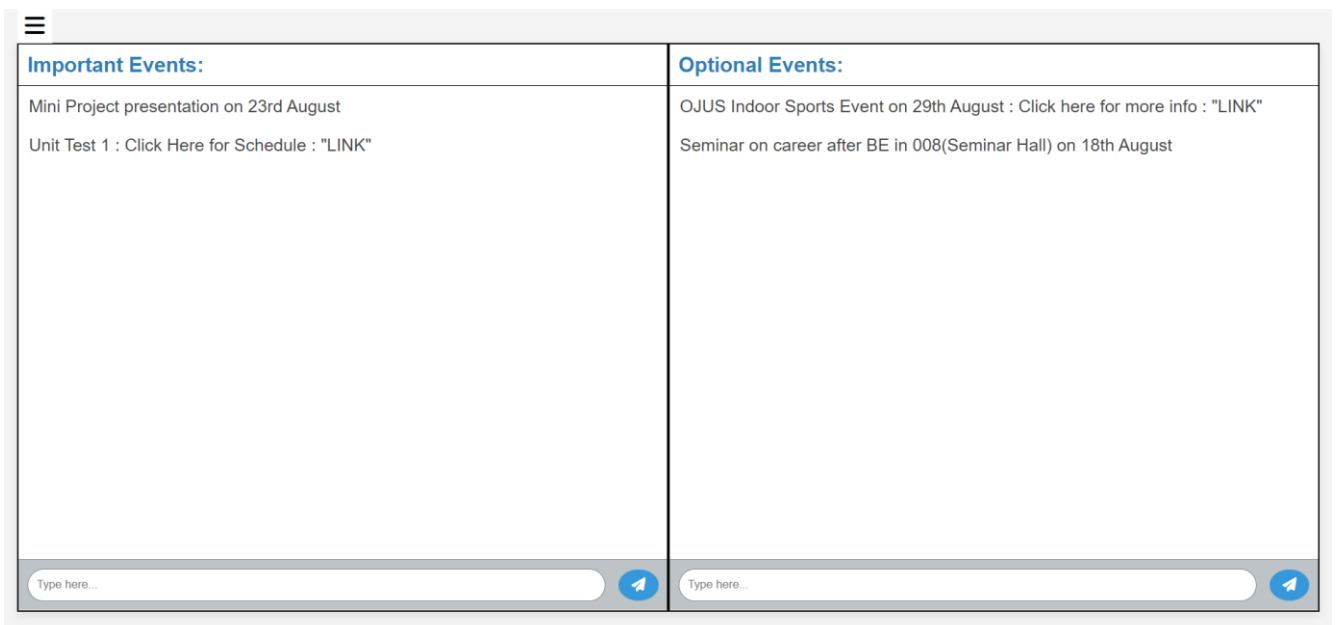


Figure 8: Events page(Yet to be implemented)

CHAPTER 6

CONCLUSION

6. CONCLUSION

In conclusion, this project has successfully completed the first phase of its development, addressing some of the core functionalities needed to enhance academic management for students and teachers. The work accomplished so far includes the system design, database establishment, front-end development, and the creation of a functional notes uploading section. These components have been carefully designed and implemented to provide a strong foundation for the platform's further development, effectively addressing some of the challenges faced by educational institutions, such as disorganized academic materials and inefficient resource sharing.

The front-end of the platform offers a user-friendly interface, allowing students and teachers to easily navigate and upload academic notes, creating a centralized database that promotes collaboration and resource accessibility. This notes feature lays the groundwork for efficient study and project collaboration by ensuring that important academic materials are available to all users in a structured and organized manner.

However, much remains to be implemented to complete the full vision of the platform. The next phase of development, planned for the upcoming semester, will focus on adding several key features: task management for students to track their assignments and deadlines, real-time chat functionality to enhance communication between users, schedule notifications to keep everyone updated on important dates, and event coordination to manage extracurricular and academic events effectively.

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