

A Real Time Research Project/ Societal Related Project Report
On

STUDY HUB

Submitted in fulfillment of the requirements for the award of the
Bachelor of Technology

In

Computer Science and Engineering (Artificial Intelligence)

By

Pranayaa Mansani **23241A6140**

Ashitha Praisy Aluri **23241A6109**

Ananya Emani **23241A6105**

Under the Esteemed guidance of

Ms.A.Samatha

Assistant Professor



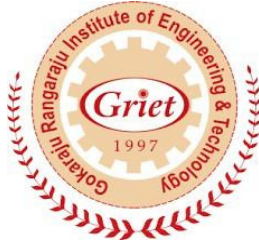
**Department of Computer Science and Engineering
(Artificial Intelligence and Machine Learning)**

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Bachupally, Kukatpally, Hyderabad, Telangana, India, 500090

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GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Autonomous)

CERTIFICATE

This is to certify that the Real Time Research Project/ Societal Related Project entitled “**STUDY HUB**” is submitted by **Mansani Pranayaa (23241A6140), Ashitha Praisyy Aluri (23241A6109) , Ananya Emani (23241A6105)** in fulfillment of the award of a degree in **BACHELOR OF TECHNOLOGY** in Computer Science and Engineering during the academic year 2024-2025.

INTERNAL GUIDE

Ms.A.Samatha

Assistant Professor

HEAD OF THE DEPARTMENT

Dr.G.Karuna

Professor

ACKNOWLEDGEMENT

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Mansani Pranayaa (23241A6140)

Ashitha Praisy aluri (23241A6109)

Ananya Emani (23241A6105)

DECLARATION

We hereby declare that the Real Time Research Project/ Societal Related Project entitled “**Study Hub**” is the work done during the period from “**16th January 2025 - 13th May 2025**” and is submitted in the fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering from Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous under Jawaharlal Nehru Technology University, Hyderabad). The results embodied in this project have not been submitted to any other university or Institution for the award of any degree or diploma.

Mansani Pranayaa (23241A6140)

Ashitha Praisya aluri (23241A6109)

Ananya Emani (23241A6105)

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ABSTRACT

This study platform is designed to streamline and enhance the academic experience for students by offering a centralized hub of essential learning tools. The website provides high-quality study resources, personalized reminders for assignments and exams, structured roadmaps for various subjects and career paths, and productivity features to support consistent learning. By combining organization with comprehensive educational support, the platform empowers students to take control of their learning journey and achieve their academic goals more efficiently. Study Hub is a user-friendly educational platform developed to empower beginners starting their journey in the tech field. Key features include a Resource Library that offers curated and categorized learning materials, a Task Management system to help users plan and monitor their daily goals, and a Calendar & Schedule module for organizing study sessions and setting reminders. To ensure consistent progress, the Progress Tracker visualizes user achievements through progress bars and statistics, encouraging continued learning. Additionally, the Feedback and Support module allows users to provide input, report issues, and access guidance when needed.

INTRODUCTION

A student-focused website offering study resources, task management, a calendar with reminders. This project was chosen because it offers a comprehensive, all-in-one solution with various features which are more practical and interactive compared to the other ideas. This project benefits students by providing a comprehensive platform for organizing tasks, accessing study resources, and improving productivity and learning outcomes. A real-world example A real-world example of this project is Khan Academy combined with Trello, where students can access educational resources, organize tasks, and set reminders. In today's fast-paced academic environment, students often struggle with managing multiple courses, deadlines, and learning materials scattered across different platforms. Traditional methods of organizing study routines, such as handwritten planners or disconnected apps, often fall short in providing an integrated solution. There is a growing need for centralized platforms that not only offer learning content but also help in planning, tracking, and optimizing study habits. This study website addresses that gap by offering a unified experience, merging content delivery with productivity-enhancing tools, tailored guidance, and real-time notifications.

SYSTEM REQUIREMENTS

2.1 SOFTWARE REQUIREMENTS

Text Editor: Use software like Visual Studio Code or Notepad++ to write and modify code in HTML, CSS, JavaScript, and backend languages used for building and maintaining the StudyHub platform.

Web Browser: Test the website's layout, responsiveness, and interactive features using modern browsers like Google Chrome, Mozilla Firefox, or Microsoft Edge to ensure compatibility across different devices and screen sizes.

Frontend Framework: Leverage libraries like React.js or Vue.js to build a dynamic and responsive user interface, allowing users to easily navigate through study resources, roadmaps, reminders, and progress dashboards.

Backend Framework: Utilize backend tools such as Node.js with Express, Django, or Flask to handle data processing, user authentication, and interaction between the server and database.

Database Management System: Store and manage user data, study resources, roadmaps, and progress tracking using databases like MongoDB, MySQL, or Firebase Firestore, ensuring data consistency and scalability.

HARDWARE REQUIREMENTS

Processor: Intel i5 or AMD Ryzen 5 (or better)

RAM: 8 GB minimum (16 GB recommended for smooth multitasking)

Storage: 256 GB SSD (or higher)

OS: Windows, macOS, or Linux

Optional: Docker support for containerized development

LITERATURE SURVEY

In recent years, the increasing demand for digital learning tools has led to the development of numerous educational platforms aimed at enhancing student productivity, organization, and access to quality resources. Platforms like Khan Academy, Coursera, and Edmodo have contributed significantly to online learning by offering video lectures, assignments, and interactive assessments. However, most of these platforms focus primarily on content delivery, with limited features for personalized learning paths, reminder systems, or task management.

Studies such as “The Effectiveness of E-learning Platforms in Student Learning Outcomes” (Journal of Educational Technology, 2020) highlight that students benefit most from platforms that combine learning materials with time management tools and progress tracking. Another study titled “Digital Tools for Student Self-Regulation” (International Review of Research in Open and Distributed Learning, 2019) emphasizes the importance of features like task reminders, roadmaps, and goal-setting interfaces in improving academic discipline and motivation.

Despite these findings, there remains a gap in platforms that holistically address students’ academic workflow—especially in combining curated resources, customizable roadmaps, automated reminders, and performance tracking into a single, user-friendly ecosystem. Applications like Notion and Trello provide organizational flexibility but are not tailored specifically for academic use, requiring significant customization to suit educational purposes. Furthermore, few platforms address the need for adaptive learning—where the system evolves based on the learner’s performance and pace. AI-powered platforms are emerging (e.g., ScribeSense and Century Tech), but they are often limited to institutional use and lack accessibility for independent learners.

The StudyHub project identified that students face challenges in organizing study materials, managing time, and maintaining consistent study habits. Users highly value features like automated reminders, personalized roadmaps, and visual progress tracking. Simplicity, mobile accessibility, and curated content emerged as top priorities. Additionally, there is strong interest in interactive and collaborative features to enhance motivation and peer support. These insights guided the development of StudyHub as an all-in-one, student-focused learning platform.

PROPOSED MODEL , MODULES DESCRIPTION , AND UML DIAGRAM

The proposed development method for the StudyHub platform is centered around creating a student-friendly, all-in-one academic support system. The project will begin with a thorough requirement analysis and user research phase, including surveys and feedback from students to identify their challenges, preferences, and desired features. Based on these insights, the system architecture will be designed using a frontend-backend model, with technologies such as React.js for the user interface and Node.js, Django, or Firebase for backend operations like authentication, data management, and scheduling.

The platform will be developed in modular components to ensure scalability and maintainability. Key modules include a resource hub for accessing curated study materials, a roadmap generator to guide learners through structured study plans, a reminder system to schedule tasks and deadlines, and a progress tracker with visual indicators such as checklists and streaks to boost motivation. These components will be integrated into a seamless, responsive interface optimized for both desktop and mobile users.

Once development is complete, the entire system will undergo rigorous testing to ensure functionality, responsiveness, and user experience across different browsers and devices. The platform will then be deployed using a reliable hosting service such as Vercel or Firebase. Finally, a continuous feedback loop will be implemented to collect user suggestions and performance data, allowing the team to make regular updates and improvements based on real user behavior and needs. This method ensures that StudyHub remains practical, user-focused, and adaptable to changing educational demands.

MODULES DESCRIPTION

1. Resource Library

A centralized module where users can access categorized learning materials like tutorials, PDFs, videos, and links. It supports search and filtering based on topics, skill levels, or formats.

2. Task Management

Helps users create, organize, and track their study tasks or goals. Features may include task lists, priorities, deadlines, and completion checkboxes to build productivity habits.

3. Calendar and Schedule

A visual planner that lets users schedule study sessions, set reminders for tasks or events, and view their weekly or monthly academic activities in one place.

4. Progress Tracker

Tracks user learning milestones, completed tasks, and overall activity. It may show stats, progress bars, or badges to motivate continuous learning.

5. Feedback and Support

Allows users to send feedback, report issues, or ask for help. It can include contact forms, FAQs, live chat, assistance for instant support.

UML DIAGRAM

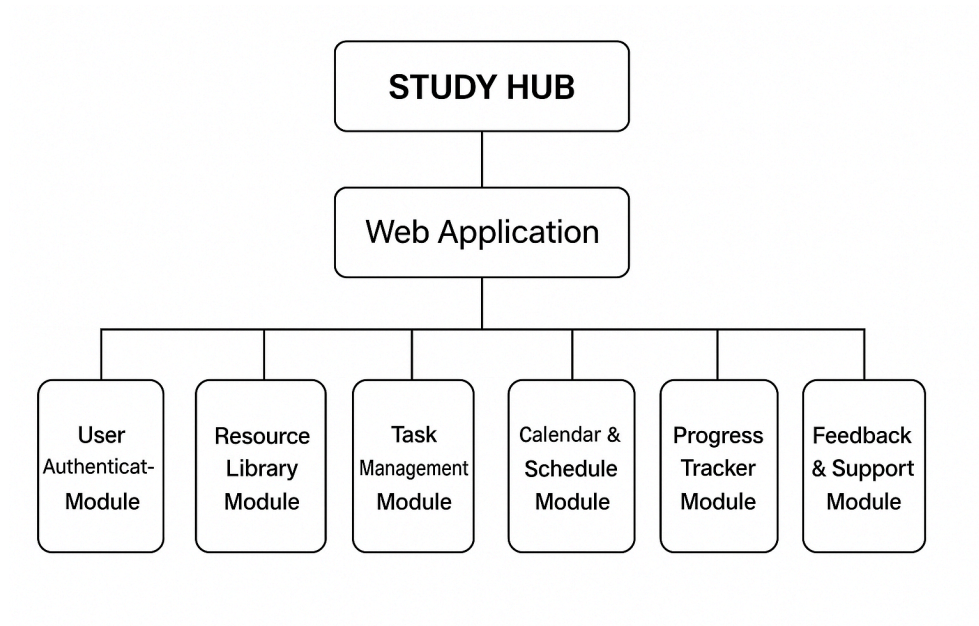


Fig-1 : Object Diagram

IMPLEMENTATION , EXPERIMENTAL RESULTS & TEST CASES

The StudyHub platform is expected to significantly improve student engagement and academic performance by providing personalized study roadmaps, a reminder system, and progress tracking features. The personalized roadmaps will help students follow structured learning paths, while the reminder system will enhance time management and reduce procrastination. Visual progress tracking, such as checklists and streaks, will motivate students to stay consistent and achieve their study goals. The curated resource library is expected to streamline learning by organizing quality study materials in one accessible place. However, challenges may arise in ensuring the platform remains flexible to different subjects and educational levels. Continuous user feedback and adjustments will be key to maintaining its effectiveness. Overall, StudyHub is poised to help students manage their studies more efficiently and stay motivated, with ongoing updates improving its adaptability to various learning needs.

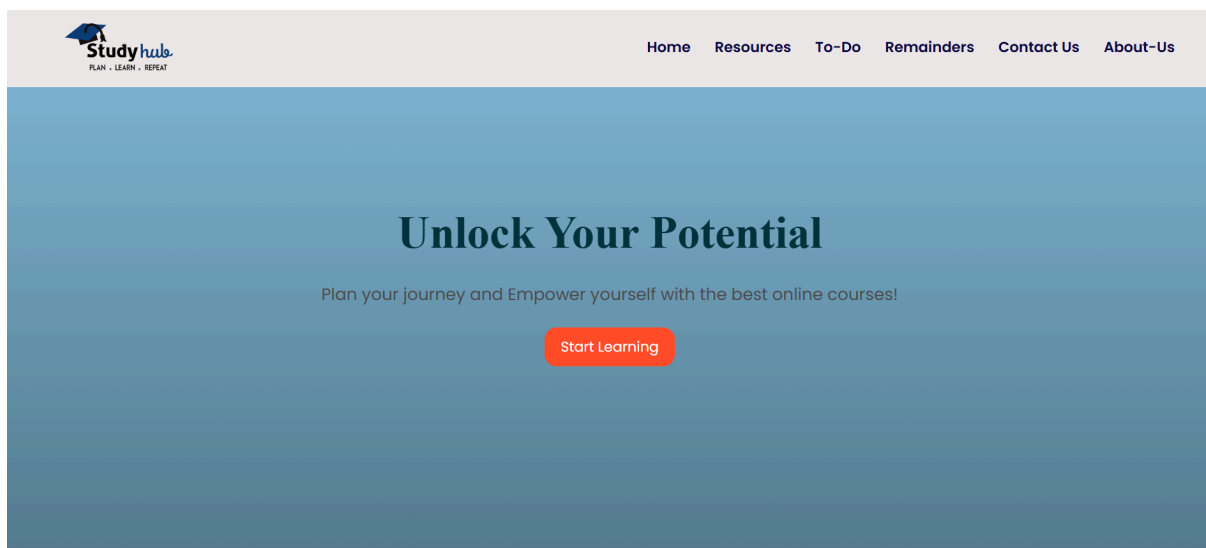


Fig-2 : Home Page

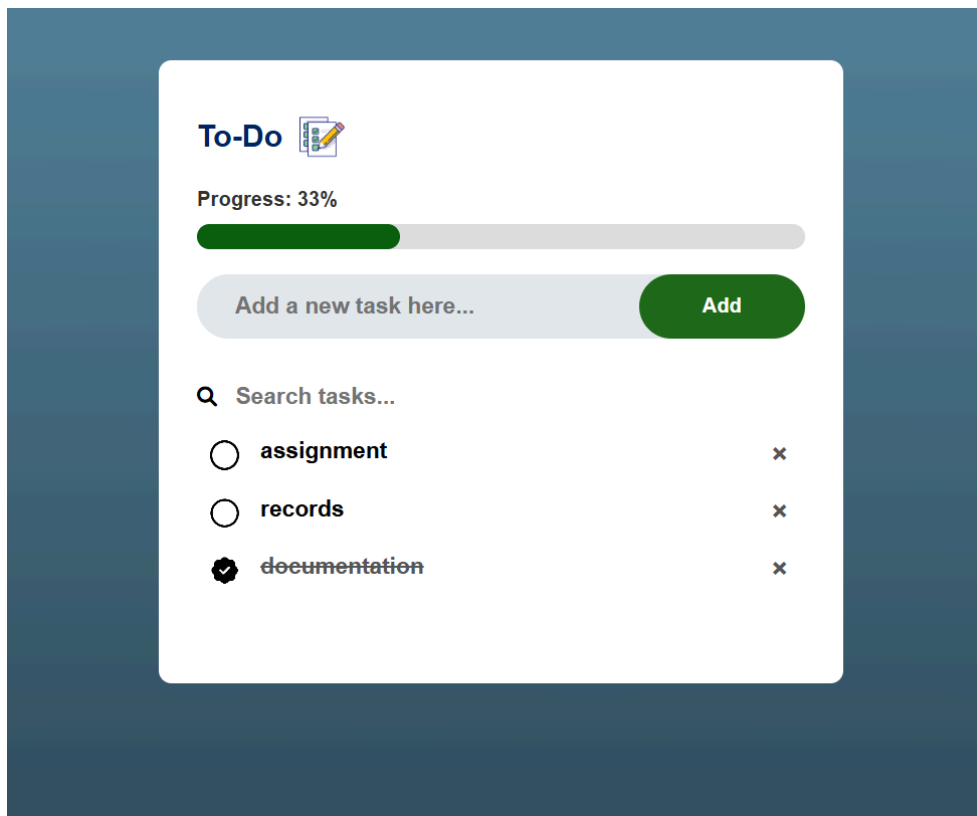


Fig-3 : To-Do Page

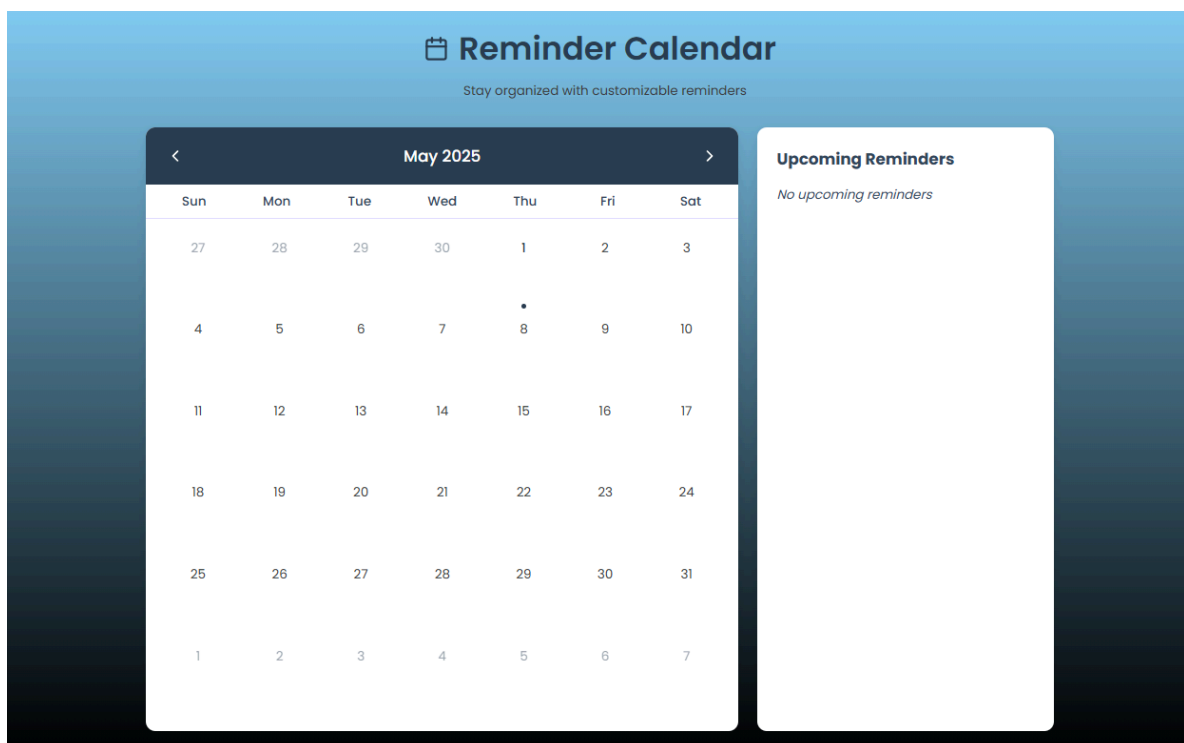


Fig-4 : Reminder Calender

Contact Us

Have any questions? Reach out to us today!

Fig-5 : Contact-Us Page

TEST CASES

Test Case ID	Module	Description	Expected Result
TC01	Resource Library	Search, filter, and download resources	Correct resources displayed; downloads work properly
TC02	Task Management	Add, complete, and delete tasks	Tasks appear, update, and remove correctly
TC03	Calendar & Schedule	Add, edit, and set reminders for study events	Events appear, update, and trigger notifications on time
TC04	Progress Tracker	Track progress after task completion and view summary	Progress bar and stats update accurately
TC05	Feedback & Support	Submit feedback, report bugs, and view FAQs	Messages submit, tickets generate, and FAQs display
TC06	User Experience	Navigate site, responsive design, and accessibility features	Smooth navigation; layout adapts on all devices

CONCLUSION

The StudyHub platform aims to be a comprehensive solution for modern students by integrating essential academic tools such as personalized study roadmaps, automated reminders, curated resources, and progress tracking into a single, user-friendly interface. Through thoughtful design and user-centric features, the platform addresses key challenges students face—such as disorganization, lack of motivation, and time mismanagement. By combining productivity with structured learning, StudyHub not only enhances academic performance but also encourages consistent study habits and self-discipline. As the platform continues to evolve based on user feedback and real-world usage, it holds strong potential to become a valuable companion for learners across different levels and disciplines.

FUTURE SCOPE

To further expand the capabilities of the StudyHub platform, several enhancements are planned for future development. A key improvement will be the launch of a dedicated mobile application for Android and iOS, allowing users to access their study plans, resources, and reminders more conveniently on the go. The integration of AI-powered personalization is also a major goal, where machine learning will be used to analyze user behavior and performance to recommend customized study paths, resources, and optimized schedules. To boost engagement, gamification features such as badges, streaks, and leaderboards will be introduced to make learning more interactive and motivating.

REFERENCES

1. Journal Article

“The Effectiveness of E-learning Platforms in Student Learning Outcomes”

– Journal of Educational Technology, 2020

➤ Use this to support claims about the benefits of combining content with productivity tools.

2. Journal Article

“Digital Tools for Student Self-Regulation”

– International Review of Research in Open and Distributed Learning, 2019

➤ Supports the importance of reminders, roadmaps, and goal-setting for learner discipline.

Platform References:

3. Khan Academy

Website: <https://www.khanacademy.org>

➤ Use as an example of a content-focused platform.

4. Coursera

Website: <https://www.coursera.org>

➤ For comparison with platforms offering structured courses but limited task management.

5. Edmodo (Now merged with other services)

Archived Info: <https://en.wikipedia.org/wiki/Edmodo>

➤ Reference for earlier models of classroom-style digital learning.

6. Notion

Website: <https://www.notion.so>

➤ Cited as a flexible tool that lacks educational focus.

7. Trello

Website: <https://trello.com>

➤ Example of task management without built-in educational structure.