A PROJECT REPORT ON
EduStake: Centralized College Resource Sharing Platform

SUBMITTED TO
MIT SCHOOL OF COMPUTING, LONI, PUNE IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE

BACHELOR OF TECHNOLOGY
(INFORMATION TECHNOLOGY)

BY

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Under the guidance of prof. Rahul Rathod

DEPARTMENT OF INFORMATION TECHNOLOGY

MIT School OF COMPUTING
MIT Art, Design and Technology University
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2024-25

MIT SCHOOL OF COMPUTING
DEPARTMENT OF INFORMATION TECHNOLOGY
MIT ART, DESIGN AND TECHNOLOGY UNIVERSITY,
RAJBAUG CAMPUS, LONI-KALBHOR, PUNE 412201

CERTIFICATE

This is to certify that the project report entitled
EduStake: Centralized College Resource Sharing Platform ”

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This a bonafide work carried out by them under the supervision of Prof. Rahul Rathod and it is submitted towards the partial fulfillment of the requirement of MIT ADT university, Pune for the award of the degree of Bachelor of Technology (Information Technology)

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Seal/Stamp of the College
Place: PUNE
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CERTIFICATE

This is to certify that the Project report entitled
“EduStake: Centralized EduStake: Centralized College Resource Sharing Platform”

Submitted by:

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Date:

DECLARATION

We, the team members

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Hereby declare that the project work incorporated in the present project entitled **"EduStake: Centralized EduStake: Centralized College Resource Sharing Platform "** is original work. This work in part has not been submitted to any University for the award or a Degree. We have properly acknowledged the material collected from secondary sources wherever required. We solely own the responsibility for the originality of the entire content.

Date:

Name & Signature of the Team Members

Member 1: Anurag Bodkhe

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DEPARTMENT OF INFORMATION TECHNOLOGY
MIT SCHOOL OF COMPUTING,
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EXAMINER'S APPROVAL CERTIFICATE

The project report entitled "**EduStake: Centralized EduStake: Centralized College Resource Sharing Platform** Anurag Bodkhe (ADT23SOCB1509), Sahil Jirapure (ADT23SOCB1630), **Ujjwal Garud (**ADT23SOCB1629), **Shrinivas Bhore** (ADT24SOCBD207) in partial fulfillment for the award of the degree of Bachelor of Technology (Information Technology) during the academic year 2024-25, of MIT-ADT University, MIT School OF COMPUTING, Pune, is hereby approved.

Examiners:

1. **Prof.R.R Rathod**

2. **Mr.Gaurav Kumar**

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ABSTRACT

EduStake: Centralized College Resource Sharing Platform is a comprehensive web-based application designed to facilitate the efficient sharing of both academic and non-academic resources within a college or university community. In modern educational institutions, students, faculty, and staff often face challenges in accessing essential materials such as textbooks, notes, lab equipment, tools, and other useful resources. EduStake addresses this issue by providing a centralized platform where members of the academic community can easily list, share, borrow, or donate resources. This not only helps reduce the financial burden on students but also promotes sustainability and resource optimization by encouraging reuse and minimizing waste.

The platform is designed with a strong emphasis on user experience and accessibility. Users can create personalized profiles, where they can manage their listed and borrowed items, track activity, and build trust within the community through ratings and transaction history. Resource listings include detailed descriptions, categories, availability status, and condition of items, making it easy for others to find what they need. An intelligent search functionality allows users to quickly locate resources using keywords and filters based on type, location, or availability.

One of the standout features of EduStake is its secure messaging system, which enables seamless communication between users for discussing item details, coordinating pickup or drop-off times, and ensuring smooth transactions.

EduStake incorporates a notification system to alert users about new listings, updates on borrowed items, return deadlines, and messages received, ensuring timely communication and better user engagement. The platform supports role-based access control, allowing different levels of permissions for students, faculty, and administrators to maintain system integrity and streamline operations. It also offers an intuitive dashboard that provides insights into borrowing trends, most-requested items, and user contributions, fostering a sense of community participation. Integration with college authentication systems ensures that only verified members can access the platform, enhancing trust and security.

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Chapter 1

INTRODUCTION

1.1 Introduction

In modern academic environments, resource sharing plays a crucial role in ensuring the effective use of educational materials and equipment. The "EduStake: Centralized College Resource Sharing Platform " is an innovative web-based solution aimed at facilitating seamless sharing of academic and non-academic resources among students, faculty, and staff within a college or university. The platform allows users to easily post, discover, and access resources, whether they be textbooks, lab equipment, notes, or other essential materials. By offering a central repository for resources, the platform reduces the need for individuals to purchase redundant items, helps promote sustainability, and fosters a collaborative academic culture.

Through this system, students and faculty members can share knowledge and resources, reducing waste and improving the overall educational experience. The platform's simple interface ensures that users can navigate and interact with ease, regardless of their technological expertise. The project is a step toward creating a more connected, resource-efficient academic community.

1.2 Existing Work

Numerous platforms have emerged in recent years that facilitate resource sharing, but many of them have limitations. Existing work in this field largely includes platforms focusing on specific resource categories (e.g., textbooks, software tools) or particular user groups (e.g., students or faculty). Some examples include:

- **Textbook Exchange Platforms**: Platforms like BookMooch and Chegg focus primarily on textbook exchange, but they do not support the sharing of other types of academic resources, such as lab equipment or notes.

- **Campus-Specific Platforms**: Many colleges develop their own internal resource-sharing systems, but these tend to be fragmented, catering only to specific user groups or types of resources.

- **Online Marketplaces**: Websites like eBay or Craigslist facilitate the buying and selling of educational items, but they often lack the features of a dedicated academic sharing platform, such as user profiles, secure communication, or resource-specific categorization.

Challenges with Existing Platforms:

- **Limited Scope**: They often focus on a single category of resources, such as books or tools, while ignoring the broader needs of a college community.

- **Lack of Security**: Many platforms do not offer secure messaging systems or reliable user verification, which can hinder trust between users.

-

- **Poor User Experience**: Navigating some resource-sharing platforms can be complicated, and they may lack a proper search functionality that helps users quickly find what they need.

- **Lack of Community Integration**: Existing platforms tend to be generic and do not promote meaningful interactions between users across different academic departments or interest groups.

The "EduStake: Centralized College Resource Sharing Platform " intends to overcome these shortcomings by offering a comprehensive, easy-to-use solution that accommodates a wide range of resources, promotes interaction between diverse users, and ensures the security and privacy of all participants.

1.3 Objectives

The key objectives of the "EduStake: Centralized College Resource Sharing Platform " project are as follows:

1. **Centralized Resource Sharing**:

   - To create a central, online platform where students, faculty, and staff can easily share, borrow, or donate academic and non-academic resources.

   - Users can post resources such as textbooks, lab equipment, notes, and study materials, making them available for borrowing or exchange.

2. **User Interaction & Communication**:

   - To implement features that facilitate seamless communication between users, including secure messaging and notifications.

   - The platform will allow users to contact each other about shared resources, discuss terms of borrowing, and resolve any queries.

3. **Resource Search & Discovery**:

   - To provide a robust search engine that allows users to find specific resources based on keywords, categories, or location.

   - Users can filter results by resource type, availability, and other criteria to ensure they find exactly what they need.

4. **Security & Privacy**:

- To ensure the security and privacy of all users through secure logins, encrypted messaging, and proper user verification.
- Personal information will be protected, and all interactions will be governed by strict privacy policies.

5. **Sustainability and Resource Optimization**:

- To promote the reuse of resources within the academic community, reducing waste and ensuring optimal use of available resources.
- Encourage sharing and borrowing over purchasing new items, contributing to sustainability goals within the college.

6. **User-Friendly Interface**:

- To design an intuitive, easy-to-use interface that ensures all users, regardless of their technical expertise, can navigate the platform without difficulty.
- The platform will be responsive, ensuring it is accessible on both desktop and mobile devices.

1.4 Scope

The scope of this project includes the development of a fully functional, web-based platform that addresses the following features and functionalities:

1. **Resource Listing & Management**:

- Users can create and manage listings for available resources they wish to share.
- Resources can be categorized (e.g., textbooks, equipment, notes, etc.) for easy browsing.

2. **Search and Filter Options**:

- A dynamic search functionality that allows users to filter available resources by category, keywords, location, and more.
- The platform will provide real-time updates to ensure that users always have the latest information on available resources.

3. **User Profiles and Roles**:

- Users will create personal profiles, which can include details like name, department, resources

available, and user reviews.

- The system will support different user roles, such as student, faculty, and staff, with specific permissions for each role.

4. **Secure Messaging System**:

- An integrated messaging system will enable users to communicate with each other securely, arranging transactions or clarifying resource details.

- The platform will incorporate features to ensure privacy and safe interaction.

5. **Transaction Tracking**:

- The system will track resource transactions, including borrowing periods, return deadlines, and condition of the resource at the time of lending.

- Users will be notified when a transaction is nearing its completion, ensuring smooth returns and exchanges.

6. **Mobile and Desktop Accessibility**:

- The platform will be responsive and accessible on both desktop and mobile devices, ensuring users can access the platform from anywhere.

Out of Scope:

- The project will not include physical resource management (such as inventory tracking or maintenance) beyond the sharing system.

- The platform will not integrate with external third-party systems or databases unless specified in future updates.

The platform's scope will focus on its core functionality of resource sharing, communication, and usability, with future scalability in mind for additional features.

Chapter 2

CONCEPTS AND METHODS

2.1 Definitions

This section provides the key definitions and concepts that form the foundation of the "EduStake: Centralized College Resource Sharing Platform " project. It is important to clarify these terms to ensure a shared understanding of the terminology used in the project's development and functionality.

1. Resource Sharing:

Resource sharing refers to the practice of making resources (both academic and non-academic) accessible to other individuals or groups within a community. In the context of the "EduStake: Centralized College Resource Sharing Platform ," resource sharing involves students, faculty, and staff within a college sharing textbooks, notes, lab equipment, and other materials. The aim is to reduce redundancy, increase accessibility to resources, and promote a culture of collaboration.

2. Platform:

A platform is a digital or online framework that allows users to interact, share, and access resources. The "EduStake: Centralized College Resource Sharing Platform " is an online application or system designed to connect users within a college environment to facilitate the sharing of educational resources. It provides a user-friendly interface to list, search, borrow, and request resources, among other functions.

3. User:

A user refers to an individual who interacts with the "EduStake: Centralized College Resource Sharing Platform ." Users can be students, faculty, staff, or any other member of the college community. Each user can create an account, list resources for sharing, browse available resources, communicate with other users, and engage in transactions (such as borrowing or donating resources). The platform may support different types of users with distinct roles and permissions.

4. Resource Listing:

A resource listing is an entry on the platform created by a user to share a specific resource (such as a book, lab equipment, or notes). Each listing includes details about the resource, including its description, condition, availability, and location. Users can search for and request these resources based on their needs.

5. Borrowing/Requesting:

Borrowing or requesting refers to the act of a user accessing a shared resource from another user. In the context of the platform, borrowing allows users to temporarily take possession of resources that have been listed by others. The platform will include features to set borrowing terms such as the duration, return date, and condition of the resource when it is returned.

6. User Profile:

A user profile is a personalized account or page within the platform that contains relevant information about the user, such as their name, contact information, the resources they have listed, and their transaction history. The profile may also include user reviews or ratings based on past interactions, helping to build trust among community members.

7. Secure Messaging System:

The secure messaging system refers to the communication tool integrated into the platform that allows users to communicate with each other privately and securely. This system facilitates discussions related to resource transactions, such as negotiating borrowing terms, arranging pick-up or drop-off, and clarifying details about resources.

8. Search Functionality:

Search functionality enables users to find specific resources listed on the platform based on various criteria, such as keywords, categories, location, and availability. This feature is crucial for ensuring that users can quickly locate the resources they need, without having to manually browse through all available listings.

9. Transaction Tracking:

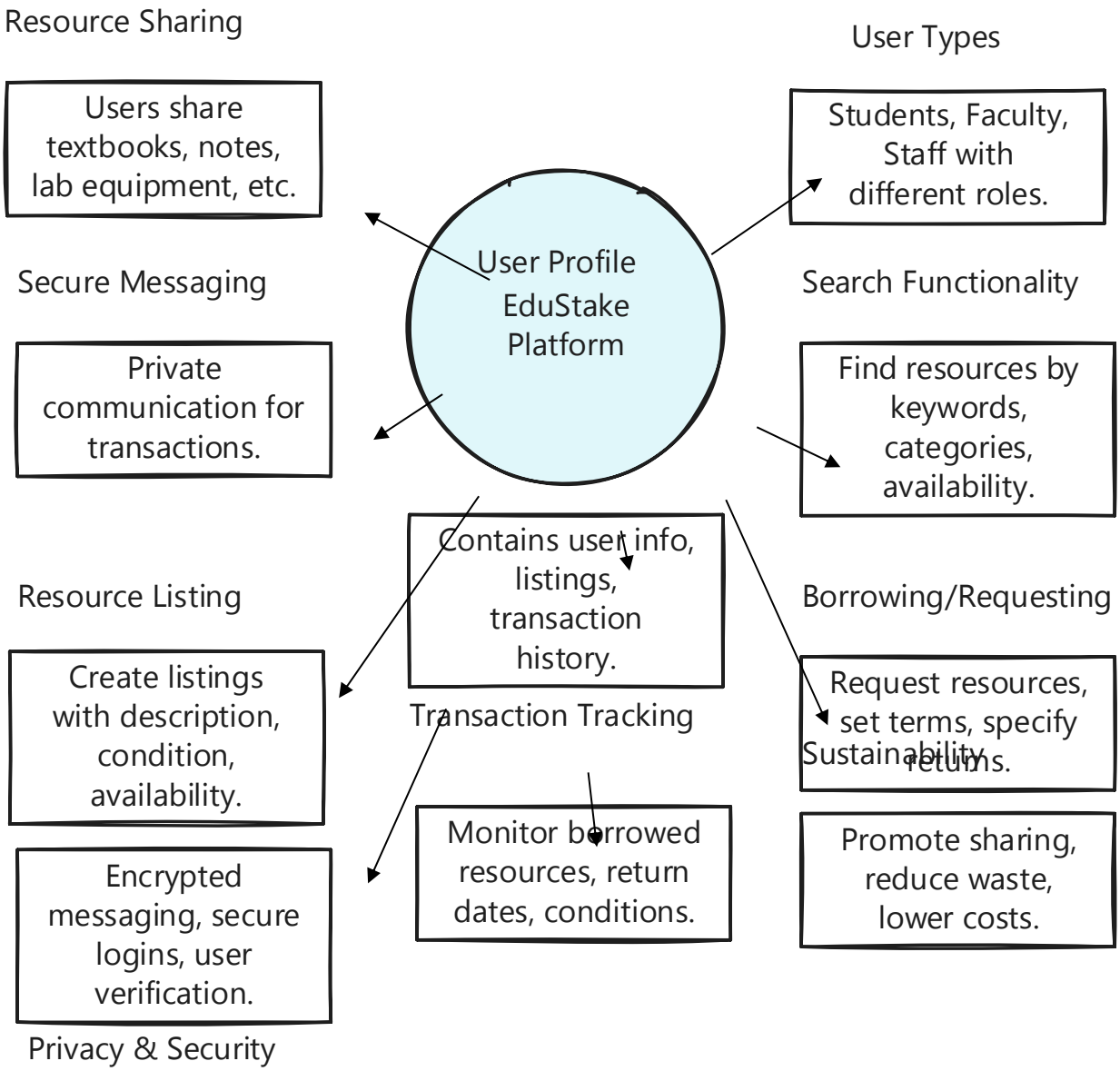
Transaction tracking refers to the system's ability to monitor and record each interaction or exchange involving a shared resource. This includes tracking when a resource is borrowed, when it is due to be returned, and ensuring that the resource is returned in its original condition. The platform will provide notifications to users about the status of their transactions.

10. Privacy and Security:

Privacy and security are fundamental principles of the platform. Privacy refers to the protection of users' personal information, ensuring that sensitive data is only accessible to authorized users. Security refers to the technical measures taken to prevent unauthorized access, data breaches, or misuse of the platform. Features such as secure logins, encrypted messaging, and user verification are implemented to safeguard users' data and interactions.

11. Sustainability:

Sustainability in the context of the "EduStake: Centralized College Resource Sharing Platform " refers to the reduction of waste and optimal use of available resources. By encouraging the sharing and reusing of materials rather than purchasing new ones, the platform promotes environmentally sustainable practices within the college community. This not only benefits the environment but also reduces the financial burden on students and staff.


Resource Sharing
Users share textbooks, notes, lab equipment, etc.
User Types
Students, Faculty, Staff with different roles.
User Profile
EduStake Platform
Secure Messaging
Private communication for transactions.
Search Functionality
Find resources by keywords, categories, availability.
Contains user info, listings, transaction history.
Resource Listing
Create listings with description, condition, availability.
Borrowing/Requesting
Request resources, set terms, specify returns.
Transaction Tracking
Monitor borrowed resources, return dates, conditions.
Sustainability
Promote sharing, reduce waste, lower costs.
Encrypted messaging, secure logins, user verification.
Privacy & Security

Chapter 3

LITERATURE SURVEY

The literature survey provides a comprehensive review of existing research, technologies, and platforms related to resource-sharing systems, particularly in educational settings. It highlights the strengths and limitations of previous work and lays the groundwork for the design and development of the **"EduStake: Centralized College Resource Sharing Platform ."**

1. Resource Sharing in Academic Environments

The concept of resource sharing has been studied in various contexts, including libraries, academic institutions, and online communities. Resource-sharing systems in academic settings typically focus on sharing physical resources like books, lab equipment, and educational materials.

- Zhang et al. (2016) explored digital library systems that enable resource sharing in academic environments, focusing on cataloging, access control, and user interaction. The study emphasizes the importance of a well-structured system to support the seamless sharing of resources, such as books and research papers, across university campuses.
- Brown & Green (2014) presented a framework for designing shared digital spaces for university resources. The paper discusses the growing need for platforms that enable collaboration among students and faculty members, pointing out the limitations of traditional systems that don't support direct peer-to-peer resource sharing.

While these studies focus on the sharing of academic resources, they often overlook the integration of non-academic resources (like lab equipment or personal notes) and fail to provide a comprehensive platform for the entire campus community.

2. Online Resource Sharing Platforms

Many online platforms have been developed to facilitate the sharing of resources, but most focus on specific user groups or types of resources, such as textbooks or educational tools.

- Chegg (2017) is an example of a textbook-sharing platform that allows students to rent or buy textbooks. While successful in providing a marketplace for textbooks, it does not address the broader scope of resource sharing, such as lab equipment, study notes, or multimedia content.
- BookMooch (2008) and PaperBackSwap (2015) focus on the exchange of books, but they lack

comprehensive features for handling multiple types of academic materials or providing a collaborative environment for different members of the educational community.

These platforms do not offer features like secure messaging, transaction tracking, or advanced filtering options that could improve user experience and resource discovery.

3. Peer-to-Peer Resource Sharing Systems

Peer-to-peer (P2P) resource sharing has become an important model for collaborative platforms in recent years. Research on P2P systems provides valuable insights into the design of resource-sharing platforms.

- Jiang et al. (2018) analyzed P2P resource-sharing systems that facilitate the exchange of items between users, particularly in academic and community settings. The study found that while P2P systems are effective in promoting resource exchange, challenges such as trust issues and transaction verification need to be addressed to ensure the success of these platforms.
- Gong & Zhao (2019) developed a P2P resource-sharing system aimed at university campuses, where users can list and exchange educational materials. The system successfully integrated user profiles, transaction records, and a reputation system to foster trust among users. However, the system was limited to text-based resources and did not consider multimedia or lab equipment sharing.

While P2P systems have proven effective in promoting resource sharing, the need for a platform that ensures trust and security in an academic context remains critical.

4. Collaborative Platforms in Educational Contexts

There is a growing interest in collaborative platforms designed to facilitate interaction among students and faculty members, particularly for sharing educational resources.

- Google Classroom (2014) is widely used in educational institutions to share assignments, notes, and study materials. While it provides a platform for collaboration, it lacks specific resource-sharing features, such as a marketplace for textbooks or lab equipment, and is focused more on course management than peer-to-peer resource exchange.

Chapter 4

PROJECT PLAN

1. Project Overview

The "EduStake: Centralized College Resource Sharing Platform " aims to create a digital space where students, faculty, and staff can share academic and non-academic resources. The platform will include features like resource listings, secure messaging, search functionality, and transaction tracking, with a focus on ease of use, security, and scalability.

2. Objectives

- Develop a web-based platform that allows users to list, borrow, and share academic and non-academic resources.
- Implement user profiles, a secure messaging system, transaction tracking, and search functionality.
- Ensure a user-friendly interface, security features (e.g., encrypted messaging), and a mobile-responsive design.
- Promote sustainable resource usage through resource-sharing practices.

3. Project Phases and Timeline

Phase 1: Requirements Gathering and Analysis (Weeks 1-2)

Key Activities:

- Meet with stakeholders (faculty, students, and staff) to gather requirements.
- Define system requirements, user roles, and functionalities.
- Research existing systems and platforms for insights and best practices.
- Create a requirement specification document.
- Finalize the scope of the project.

Deliverables:

- Requirement specification document
- List of key features and functionalities

Phase 2: System Design (Weeks 3-4)

Key Activities:

- Design the system architecture (client-server model, database schema, etc.).
- Create wireframes for the platform's user interface (UI).
- Develop user journey maps and flowcharts.
- Design the database (e.g., resource listings, user profiles, transaction history).
- Identify and plan for potential technical challenges, such as security and scalability.

Deliverables:

- System architecture design
- UI wireframes and user flow diagrams
- Database schema

Phase 3: Development of Core Features (Weeks 5-9)

Key Activities:

- **User Authentication & Registration:**
  - Implement user sign-up, login, and profile management.
  - Develop different user roles (students, faculty, staff) with varying permissions.
- **Resource Listings and Search Functionality:**
  - Implement features to allow users to post, update, and delete resource listings.
  - Develop a robust search engine that allows users to find resources based on categories, keywords, and location.
- **Messaging System:**
  - Develop a secure messaging feature that allows users to communicate privately regarding resource transactions.
- **Transaction Tracking:**
  - Implement functionality to track resource borrowing, return dates, and transaction history.

Deliverables:

- Working user authentication system
- Functional resource listing and search system
- Messaging system prototype
- Transaction tracking system

Phase 4: Front-End and User Interface Development (Weeks 10-12)

Key Activities:

- Develop the front-end using HTML, CSS, JavaScript, and responsive design principles.
- Implement dynamic features (search results, user interactions, etc.) using jQuery and JavaScript.
- Design user-friendly forms for resource listing and transaction management.
- Ensure that the platform is mobile-responsive for accessibility across devices.

Deliverables:

- Fully functional front-end interface
- Responsive design implementation
- User-friendly interaction design

Phase 5: Back-End Development and Database Integration (Weeks 13-15)

Key Activities:

- Develop the back-end functionality for resource sharing, messaging, and transaction tracking using PHP or a suitable back-end framework.
- Integrate the database (MySQL or another relational database) to store user profiles, resources, and transaction data.
- Implement security measures, such as data encryption, to ensure secure communication and user privacy.
- Test the interaction between front-end and back-end systems.

Deliverables:

- Fully integrated back-end with secure database access
- Secure data management (user profiles, transaction data)
- Backend functionalities for resource sharing and transactions

Phase 6: Testing and Quality Assurance (Weeks 16-17)

Key Activities:

- Conduct unit testing for individual components (e.g., search, messaging, transaction tracking).
- Perform integration testing to ensure the platform works seamlessly as a whole.
- Conduct user acceptance testing (UAT) with a small group of real users (students and faculty).
- Identify and fix bugs, performance issues, and security vulnerabilities.
- Perform load testing to ensure the platform can handle multiple users simultaneously.

Deliverables:

- Test cases and test reports
- Bug fixes and security patches
- User acceptance testing feedback

Phase 7: Deployment and Launch (Weeks 18-19)

Key Activities:

- Set up the server environment (e.g., cloud hosting, domain configuration).
- Deploy the platform to the live server and ensure all features are functioning correctly.
- Perform final testing in the production environment.
- Launch the platform to the broader college community.
- Provide user documentation and training materials.

Deliverables:

- Live deployment of the platform
- User manual and training documentation
- Official platform launch

Phase 8: Maintenance and Post-Launch (Weeks 20-22 and ongoing)

Key Activities:

- Monitor the platform for any performance issues or bugs reported by users.
- Offer technical support and resolve issues as they arise.
- Gather user feedback to identify areas for improvement.
- Plan and implement platform updates, such as additional features, based on user needs.

Deliverables:

- Maintenance reports and performance logs
- Updates to the platform based on user feedback

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4. Resource Allocation

Personnel:

- **Project Manager**: Oversee the project, manage timelines, and communicate with stakeholders.
- **Frontend Developers**: Develop the user interface and implement responsive design.
- **Backend Developers**: Develop server-side functionality, database management, and security features.
- **UX/UI Designer**: Create wireframes, design the user interface, and focus on user experience.
- **QA Engineers**: Conduct testing (unit, integration, and user acceptance testing).
- **Technical Support**: Provide post-launch maintenance and user support.

Tools and Technologies:

- **Front-End**: HTML, CSS, JavaScript, jQuery, Bootstrap
- **Back-End**: PHP, MySQL (or alternative databases), Node.js (optional)
- **Frameworks**: Laravel (for PHP), Bootstrap (for responsive design)
- **Version Control**: Git (GitHub or GitLab)
- **Testing Tools**: Selenium, PHPUnit (for PHP testing)
- **Cloud Hosting**: AWS, Google Cloud, or any suitable cloud service
- **Collaboration Tools**: Slack, Trello, Jira, Google Drive

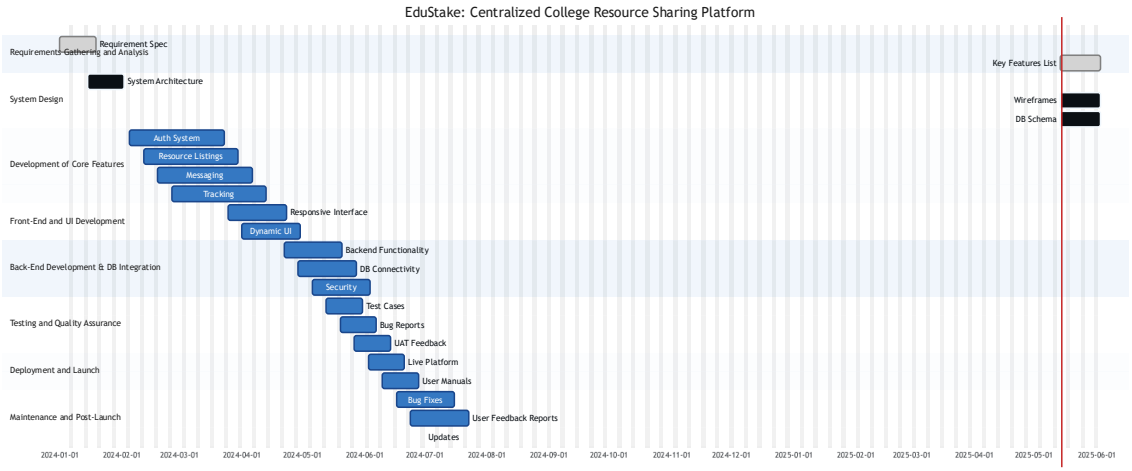
5. Risk Management

Potential Risks:

- **Technical Challenges**: Issues with database integration or ensuring security and privacy could delay the project.
- **User Adoption**: If students and faculty are not motivated to use the platform, it could impact its success.
- **Data Security**: Ensuring the security of user data and preventing unauthorized access is crucial.
- **Resource Constraints**: Limited resources or unexpected setbacks could impact the timeline.

Mitigation Strategies:

- Regular communication and progress reviews to manage technical risks.
- User engagement through promotional campaigns, workshops, and demonstrations.
- Implement robust security protocols, including encryption and user verification.
- Plan for potential delays and allocate additional resources if necessary.


EduStake: Centralized College Resource Sharing Platform
Requirements Gathering and Analysis
Requirement Spec
Key Features List
System Design
System Architecture
Wireframes
DB Schema
Development of Core Features
Auth System
Resource Listings
Messaging
Tracking
Front-End and UI Development
Responsive Interface
Dynamic UI
Back-End Development & DB Integration
Backend Functionality
DB Connectivity
Security
Testing and Quality Assurance
Test Cases
Bug Reports
UAT Feedback
Deployment and Launch
Live Platform
User Manuals
Maintenance and Post-Launch
Bug Fixes
User Feedback Reports
Updates
2024-01-01
2024-02-01
2024-03-01
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Chapter 5

SOFTWARE REQUIREMENT SPECIFICATION

5.1 Project Scope

EduStake: Centralized College Resource Sharing Platform is designed to facilitate seamless sharing, discovery, and access to academic resources within a college ecosystem. It will provide an intuitive platform where students, faculty, and administrators can upload, access, rate, and manage study materials, lecture notes, project documents, e-books, and institutional announcements. The system will support role-based access, real-time collaboration tools, resource categorization, search and filtering, and secure file sharing. EduStake will be accessible via a responsive web application and mobile app, integrated with backend databases and cloud storage for scalable and secure content management.

5.2 User Classes & Characteristics

 Beginner Coders:
Require detailed documentation, guided tutorials, and code templates to handle tasks such as uploading documents, managing user authentication, or creating resource categories.

 Intermediate Coders:
Comfortable with building functional modules like advanced search filters, rating systems, and front-end UI components using modern frameworks like React or Angular.

 Expert Coders:
Experienced in full-stack development, cloud integration, and system optimization. Responsible for backend architecture, API security, file storage handling, and performance optimization.

.

Responsibilities:

 System Development:

Build and maintain features such as resource upload/download, categorization, commenting, rating system, and user roles (student, teacher, admin). Handle file handling and permission control.

 Design:

Create a clean, responsive user interface for web and mobile platforms, focused on usability and accessibility for students and staff.

 Backend Integration:

Develop APIs to manage authentication, file storage, content categorization, and access control. Integrate with cloud storage services and ensure real-time updates on uploaded or modified resources.

Technical Requirements:

 Knowledge of Programming Languages:
Proficiency in JavaScript, Python, Java, or C# to implement both front-end and back-end modules such as resource handling, authentication, and notification systems.

 Database Management:
Experience with relational (MySQL, PostgreSQL) and NoSQL (MongoDB) databases for managing user profiles, resource metadata, and access logs.

 Network and Cloud Integration:
Familiarity with cloud storage services (e.g., AWS S3, Google Drive API) and platforms (e.g., Firebase, Azure) for secure document hosting, user access logs, and backups.

Tools Familiarity:

 IDE Tools:

Visual Studio Code, IntelliJ IDEA, or Sublime Text for developing and debugging front-end and back-end modules.

 Version Control Systems:

Git for collaborative source code management, using platforms like GitHub or GitLab for version control and issue tracking.

 API Development:

Postman for API testing, Swagger for documenting RESTful APIs.

 Front-End Development:

HTML/CSS, JavaScript, React.js, Angular, or Vue.js to create the user interface with responsive design and accessibility features.

 Back-End Development:

Node.js, Express.js, or Python (Flask/Django) to handle server-side logic, authentication, and resource routing.

 Database Management:

MySQL, PostgreSQL, or MongoDB for data persistence (e.g., storing metadata, logs, user roles, and permissions).

 Payment Gateway Integration (if monetization or donation is planned):

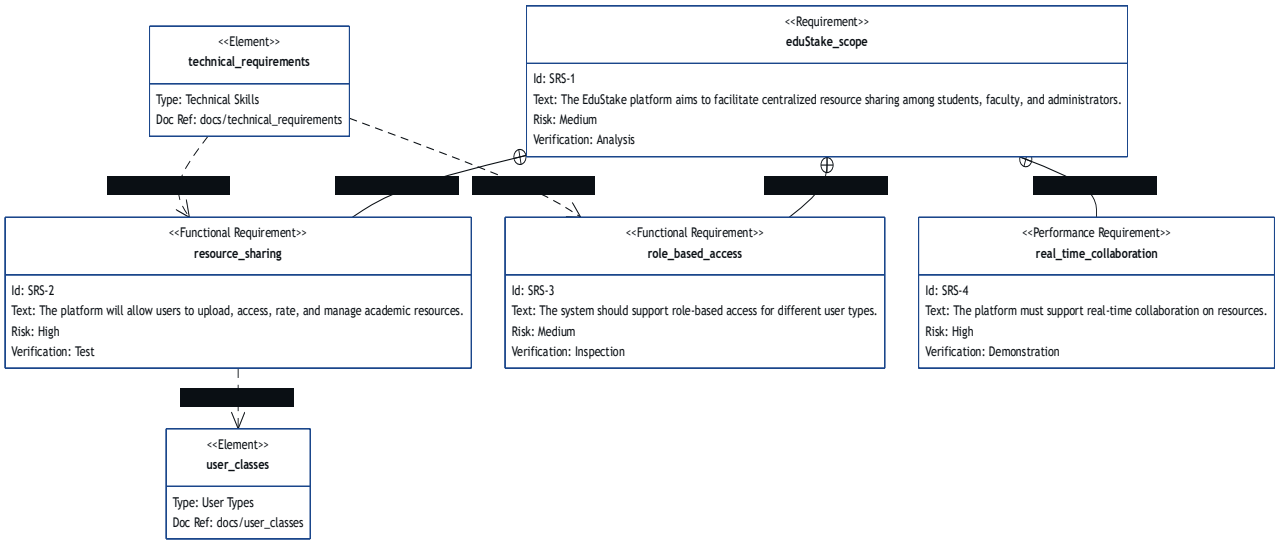
Stripe or PayPal for optional donation handling or premium feature access.

 Cloud Platforms:

AWS, Google Cloud, Firebase, or Heroku for scalable hosting, storage, and database management.

 Testing Tools:

Selenium, Jest, or Mocha for front-end and API testing to ensure code reliability and quality assurance.



Chapter 6

RESULTS

Enhanced User Experience for **"EduStake (Centralized College Resource Sharing Platform)":**

- **Shorter Response Times:**

The platform's real-time resource availability and instant notifications reduce waiting time for users, allowing them to quickly access or reserve materials and services. This convenience fosters a seamless user experience, encouraging continued engagement and repeat usage of the platform.

- **Instant Resource Access:**

Students and faculty can instantly check the availability and borrow materials (books, equipment, etc.) through EduStake. Transparency in resource availability reduces frustration, providing users with the information they need to plan their studies or projects more effectively, improving satisfaction and engagement.

Increased Operational Efficiency:

- **Fewer Errors in Resource Allocation:**

The automation of resource reservations and returns minimizes human errors, ensuring accurate tracking and allocation of resources. This efficiency reduces misunderstandings or disputes over resource availability, building trust among users and freeing up staff to focus on other administrative tasks.

- **Faster Resource Management:**

The streamlined process of requesting, reserving, and returning resources ensures quicker turnaround times, which allows the platform to handle more requests and provide faster access to resources for all users, ultimately improving overall system efficiency.

Improved Resource Management:

- **Real-Time Availability Updates:**

With real-time syncing of resource availability, EduStake ensures users always have up-to-date information. This transparency prevents booking conflicts and allows the platform to dynamically manage inventory, ensuring that students and faculty can access the materials they need when they need them.

- **Better Resource Planning:**

EduStake collects data on resource usage patterns, helping administrators predict demand for various items and services. This information allows for optimized resource allocation, ensuring that the college has the right resources available to meet user needs and avoid overstocking or shortages.

Cost Savings:

- **Lower Administrative Costs:**

The platform's automation reduces the need for manual tracking and administration, lowering the labor costs associated with resource management. Resources can be efficiently allocated to areas that improve service quality, enhancing overall resource distribution with minimal overhead.

- **Increased Resource Utilization:**

By facilitating easy access to shared resources, EduStake encourages higher usage rates. This optimal use of existing resources can reduce the need for additional purchases, resulting in cost savings while maximizing the value of the institution's investments.

Data Insights:

- **Tracking User Preferences:**

The system tracks student and faculty usage patterns, providing valuable insights into preferred resources and demand trends. This data allows for targeted recommendations and tailored resource management strategies that meet the needs of users more effectively.

- **Resource Performance Analytics:**

By analyzing resource usage data, EduStake helps administrators make data-driven decisions on resource allocation. Insights on frequently used materials can guide purchasing decisions, while underutilized items can be reassigned or phased out, ensuring efficient use of resources.

Sustainability:

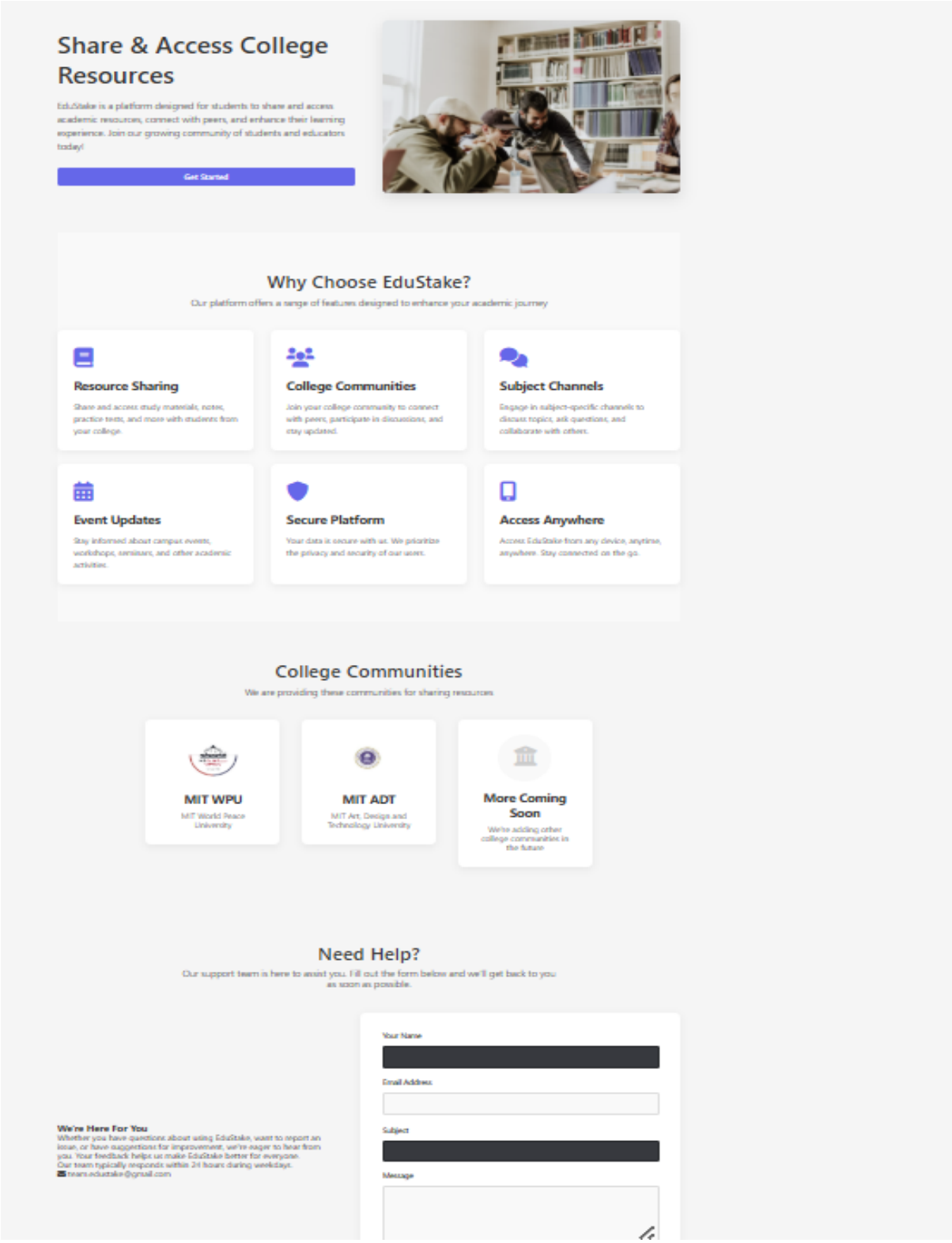
- **Reduced Paper Use:**

By shifting to digital resource reservations and tracking, EduStake helps reduce the need for paper forms, receipts, and other printed materials. This contributes to a more sustainable campus environment, resonating with users who prioritize eco-friendly practices, thus improving the platform's reputation.

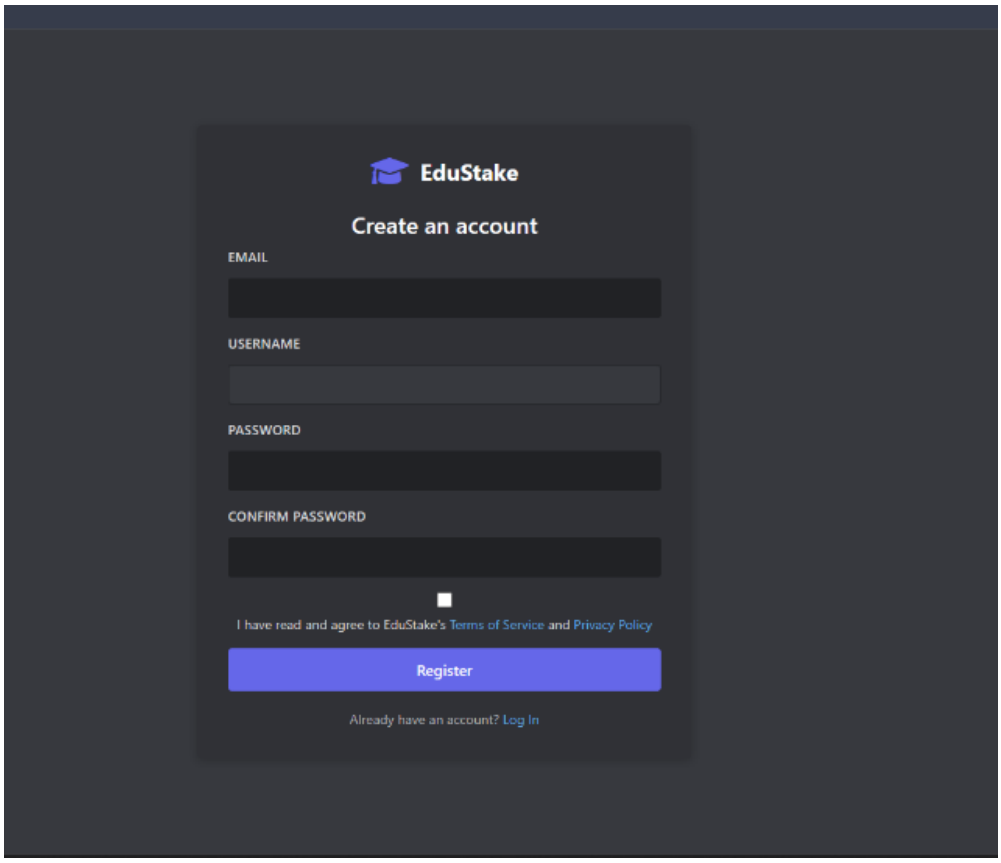
- **Efficient Energy Use:**

Through digital access and centralized management of resources, EduStake promotes more efficient use of campus infrastructure, potentially leading to a reduction in the overall carbon footprint by minimizing the need for physical space and resources.

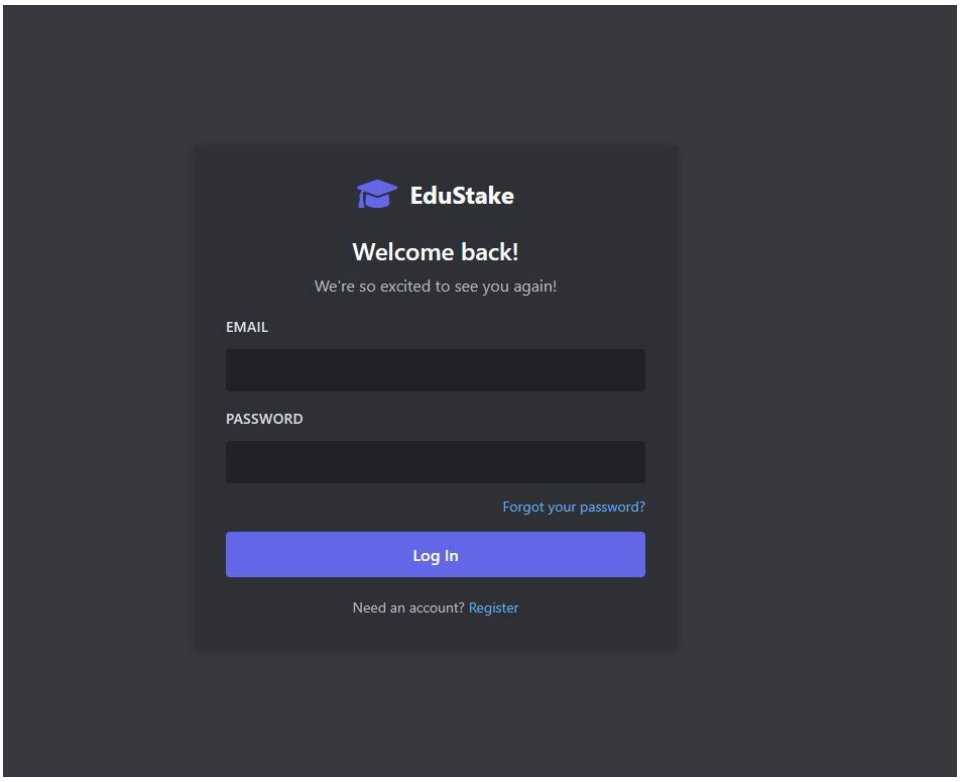
- **Landing Page**



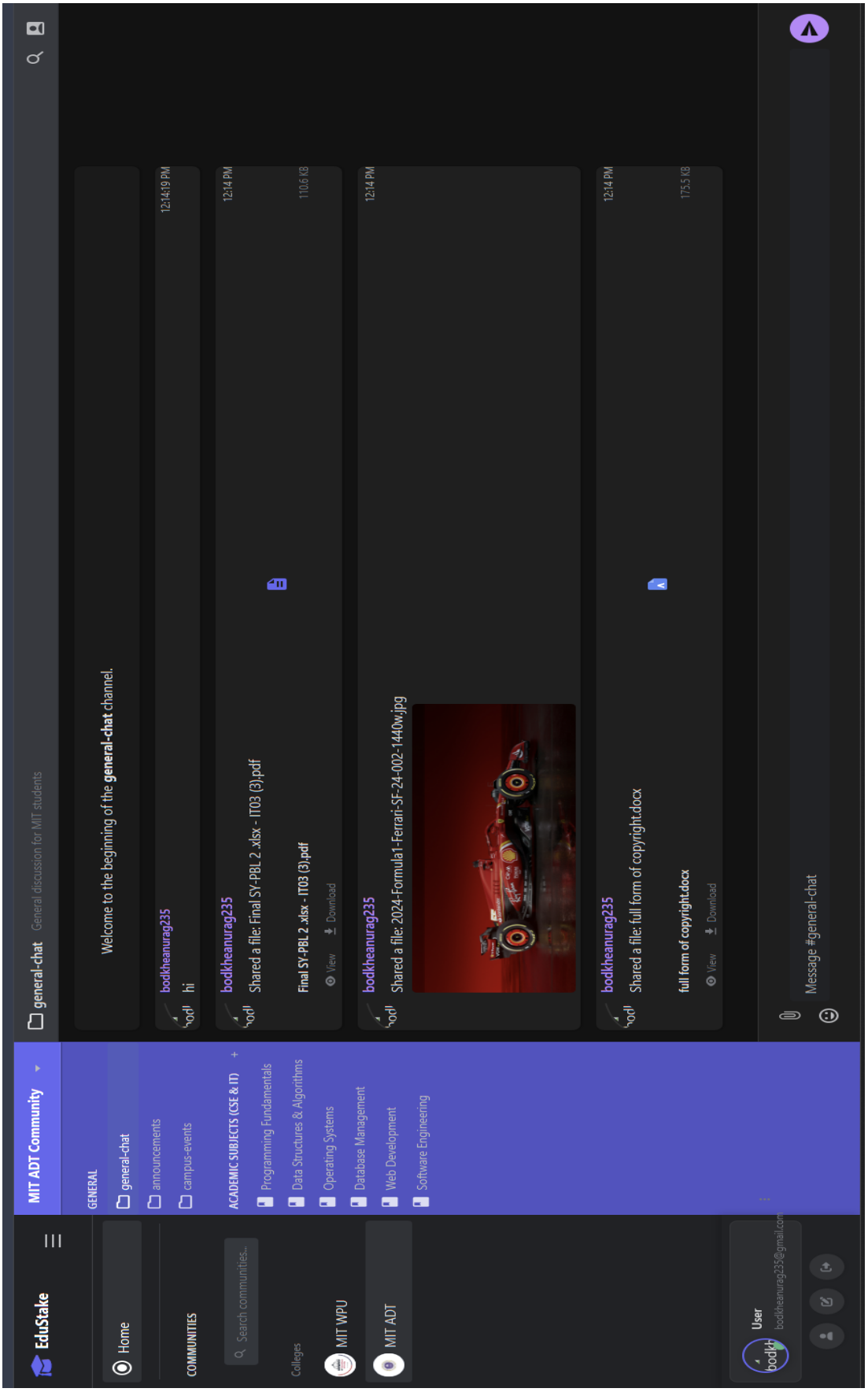
- **Sign IN Page**



- **LogIn Page**



- **Main Page**


EduStake
MIT ADT Community
GENERAL
general-chat
announcements
campus-events
COMMUNITIES
ACADEMIC SUBJECTS (CSE & IT)
Programming Fundamentals
Data Structures & Algorithms
Operating Systems
Database Management
Web Development
Software Engineering
Colleges
MIT WPU
MIT ADT
Home
User
general-chat General discussion for MIT students
Welcome to the beginning of the general-chat channel.
bodkheanurag235
hi
12:14:19 PM
bodkheanurag235
Shared a file: Final SY-PBL 2 .xlsx - IT03 (3).pdf
Final SY-PBL 2 .xlsx - IT03 (3).pdf
View
Download
110.6 KB
12:14 PM
bodkheanurag235
Shared a file: 2024-Formula1-Ferrari-SF-24-002-1440w.jpg
12:14 PM
bodkheanurag235
Shared a file: full form of copyright.docx
full form of copyright.docx
View
Download
175.5 KB
12:14 PM
Message #general-chat

Chapter 7

CONCLUSION AND FUTURE WORK

EduStake offers a groundbreaking approach to managing and sharing educational resources within colleges by automating key processes such as resource discovery, allocation, tracking, and return. By seamlessly integrating technologies like RFID (Radio-Frequency Identification), barcode scanning, and Internet of Things (IoT) solutions, the platform enables students and faculty to efficiently browse available resources—such as books, lab equipment, project materials, and digital assets—receive real-time availability updates, and quickly borrow or reserve items with minimal manual intervention.

This technological advancement significantly reduces wait times and paperwork, improves the accuracy of resource allocation, and enhances user satisfaction through a streamlined, user-friendly interface. Whether it's borrowing a textbook or reserving a lab kit, EduStake ensures that the process is efficient, transparent, and accessible from both mobile and desktop platforms.From an administrator's perspective, EduStake revolutionizes campus resource management. It minimizes the inefficiencies of manual tracking, reduces the risk of resource misplacement, and provides valuable data on usage patterns, peak demand periods, and inventory turnover. These insights empower institutions to make data-driven decisions, optimize procurement, and ensure equitable distribution of shared resources.

Moreover, by simplifying the borrowing and return process, EduStake boosts operational efficiency across departments, freeing up staff time for more critical academic and support services. As the platform evolves, it can integrate with student portals, learning management systems (LMS), and mobile payment or deposit systems to enhance usability and accountability.The **EduStake: Centralized College Resource Sharing Platform** marks a significant advancement in automating and modernizing how educational institutions manage shared resources. It offers clear benefits to both users and administrators by saving time, reducing errors, and creating a seamless and efficient system for academic resource sharing. As colleges continue to embrace digital transformation, EduStake stands as a vital tool for enhancing educational access, institutional efficiency, and overall campus experience.

Chapter 8

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