JYOTHY INSTITUTE OF TECHNOLOGY

Department of Computer Science and Engineering

Accredited by NBA, New Delhi

Tataguni, Off. Kanakapura Road,

Bengaluru - 560 082

C E R T I F I C A T E

This is to certify that the project work titled **'NOTES REPOSITORY'** carried out by **MAHANTESH M S [1JT19CS047], MALLANAGOUDA B R [1JT19CS048], MANOJ V [1JT19CS052], NITHIN J [1JT19CS058]** are bonafide students of Jyothy Institute of Technology, in partialfulfilment for the award of **Bachelor of Engineering**, in **Computer Science and Engineering** under Visvesvaraya Technological University, Belagavi, during the year **2022-2023**. It is certified that all corrections/suggestions indicated have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the course Project Work Phase-2 (18CSP83).

Signature of Guide	Signature of Co-ordinator	Signature of HOD	Signature of Principal
Mrs. Prithvi B S Assistant Prof - CSE JIT, Bangalore	Mr. Basavesh D Assistant Prof - CSE JIT, Bangalore	Dr. Prabhanjan S HOD - CSE JIT, Bangalore	Dr. Gopalakrishna K Principal JIT, Bangalore

EXTERNAL VIVA

Name of Examiner	Signature with Date
1.	
2.	

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI - 590018

A Project Report

on

"NOTES REPOSITORY"

Submitted in partial fulfillment of the requirements for the Project (18CSP83)

BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING

Submitted by

MAHANTESH M S	**[1JT19CS047]**
MALLANAGOUDA	**[1JT19CS048]**
MANOJ V	**[1JT19CS052]**
NITHIN J	**[1JT19CS058]**

Under the Guidance of

Mrs. Prithvi B S

Assistant Professor

Department of Computer Science and Engineering

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Academic Year 2022-2023

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Bengaluru – 560082

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Mission of the Institution

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M3: To Imbibe awareness on societal responsibility and leadership qualities with professional competency and ethics.

DECLARATION

We, the students of final semester of Computer Science and Engineering, Jyothy Institute of Technology, Bangalore - 560082, declare that the project work entitled **"NOTES REPOSITORY"** has been successfully completed under the guidance of **Mrs. Prithvi B S**, Assistant Professor, Department of Computer Science and Engineering, Jyothy Institute of Technology, Tataguni. This dissertation work is submitted to Visvesvaraya Technological University in partial fulfillment of the requirements for the award of Degree of Bachelor of Engineering in Information Science and Engineering during the academic year 2021 - 2022. Further the matter embodied in the project report has not been submitted previously by anybody for the award of any degree or diploma to any university.

Date:

Place: Bangalore

MAHANTESH M S **[1JT19CS047]**

MALLANAGOUDA **[1JT19CS048]**

MANOJ V **[1JT19CS052]**

NITHIN J **[1JT19CS058]**

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MAHANTESH M S [1JT19CS047]
MALLANAGOUDA [1JT19CS048]
MANOJ V [1JT19CS052]
NITHIN J [1JT19CS058]

ABSTRACT

A document management system can provide web-based access to documents from anywhere, making information retrieval instantly responsive, reducing the time and cost of processing and distributing data for students. A considerable amount of research has been done to achieve an effective repository management system. However, most of them fail to meet expectations because they cannot accurately enforce automatic access control to maintain access control mechanisms. The commercial tools for such an effective document management and its related contractual licensing are costly enough to be sustained by most of the organizations of developing countries. Therefore, cost-effective implementation models and tools are desired.

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1. INTRODUCTION

Digital data is easier to edit because it doesn't require a closet to be organized and consumes no ink or paper to create, which makes it easier to edit. Digital copies of documents offer the opportunity to streamline many tasks.

Accessibility: Comparing accessing a digital file to searching a closet for a paper document is like comparing a walk in the park to climbing a mountain. Space Utilization: There was a time when full vault or off-site document storage was essential for the secure storage of paper documents. Flexibility: This term is often associated with electronic documents, which is why it is the preferred option for modern processes. PCs are so ubiquitous that people spend most of their time using them. The use of electronic documents is increasing.

Traditionally, documents have been produced and distributed on paper. People today create electronic documents, such as word processing files and presentation files, and share them over computer networks. Electronic technology enables rapid document creation and delivery. As a result, electronic documents replace paper documents.

Many universities or colleges have already launched archive digitalization to improve efficiency and standard of archives management. Some archives management systems have been used commercially to help initialize the management of text archives. However, there are some common problems with managing unstructured archives, such as incomplete file information, inefficiency of access to data, and inability to fully express the association between documents and files. Thus, many universities still use traditional management processes and methods which are suitable for physical records to handle image and video archives. This obviously has an adverse effect on the heavily invested archives digitization construction

It is difficult for Universities to shift from paper-based systems to electronic systems due to the difficulty in uploading the existing paper-based documents into electronic forms. This system intends to integrate PDF document standards into the system to achieve the same. Universities which hold most of their essential documents in paper form bear the risk of unauthorized access to those documents.

Whenever, a website provides the service of electronic document management, it provides an upload and a download service. But when the number of users uploading and downloading increases, it puts a lot of pressure on the website server and the bandwidth. LMS (Learning Management System) covers registration, administering, monitoring of users and content. Blackboard and Moodle are widely accepted solutions. Although the integration with external e-learning repositories is not standardized, LMS permits exporting learning content to another system. In contrast, e-learning repository solutions are improving and now provide federated advanced searches of learning items across a network of repositories.

The term “learning object” (LO) refers to any digital item that can be utilized to facilitate teaching or learning, and is not meant to be limiting. An organization’s long-term vision should focus on building intelligence, intellectual property (IP), and its knowledge base. Organizational knowledge sharing and creation is based on documents that require a structured approach to archiving, storing, retrieving, and managing.

Document repository management is an important part of project management in any organization which requires sustainable long-term investment. Commercial tools for such effective repository management and the associated contractual licenses are costly enough for most organizations to maintain for developing countries. Therefore, low-cost implementation models and tools are desirable. Opensource development tools, on the other hand, are not a complete solution, but they are a cheap option for delivering creative content. In today's digital age, the management of documents and academic materials plays a vital role in the lives of undergraduate students. As they navigate through their educational journey, students often encounter a vast array of documents, including lecture notes, assignments, research papers, and various administrative forms. Keeping track of these documents can be a challenging task, leading to disorganization, lost files, and wasted time.

To address these challenges, a Document Management System (DMS) specifically designed for undergraduate students has been developed. The DMS is an efficient and user-friendly platform that aims to streamline document organization, retrieval, and collaboration, enhancing productivity and reducing the stress associated with managing academic material

1.1 PROBLEM STATEMENT

Students and professionals often take notes to keep track of important information, but managing these notes can become overwhelming and time-consuming. They may have different types of notes for various subjects and it can be difficult to locate specific information when needed. Additionally, physical notes can be lost or damaged, causing important information to be lost.

To address this problem, a digital notes repository can be created to store all types of notes in one place. The repository allows users to organize their notes by subject to tag them for easy searching. The repository also has a robust search function to quickly locate specific information. The goal of this project is to create a user- friendly and efficient digital notes repository that can help students and professionals manage their notes effectively and increase.

1.2 OBJECTIVES

- Develop a user-friendly UI that allows users to easily create, organize, and manage the notes.
- Enable robust search function that allows users to quickly locate specific notes or information within notes.
- Implement a secure login system that protects the privacy of user notes and prevents unauthorized access.
- Designing an interface which will allow faculty members to create subjects and upload relevant files, while also enabling students to easily access and view/download those documents.
- The admin will be able to approve new signups of students and faculty, while also deleting any unwanted signups.

2. LITERATURE SURVEY

[2.1] Prototype of cloud-based document management for scientific work validation

The paper proposes a prototype of a cloud-based document management system specifically designed for validating scientific work. The system aims to streamline the process of validating scientific documents by providing a centralized platform accessible via the cloud. The prototype offers features such as document storage, version control, collaboration tools, and secure access controls. It enables researchers to upload, organize, and share their scientific work with peers and experts for validation purposes. The system also incorporates advanced metadata tagging and search capabilities, facilitating efficient retrieval of relevant documents. Overall, the prototype offers a promising solution for enhancing the efficiency and effectiveness of scientific work validation through cloud-based document management.

[2.2] Document management system

This paper discusses the concept and benefits of a Document Management System (DMS). A DMS is a software solution designed to digitize, organize, and manage documents within an organization. The paper highlights how a DMS can improve productivity, enhance collaboration, and streamline document retrieval and version control. It explores key features of a DMS, such as document storage, indexing, metadata tagging, and access controls. The paper also discusses the integration of advanced technologies like artificial intelligence and machine learning in DMS for automated document categorization and intelligent search capabilities. Overall, the paper emphasizes the significance of implementing a DMS to optimize document handling and improve overall organizational efficiency.

[2.3] An Implementation of SCORM-compliant Learning Content Management System - Content Repository Management System

This paper presents the implementation of a SCORM-compliant Learning Content Management System (LCMS) with a focus on Content Repository Management System (CRMS) functionality. The system is designed to support the creation, organization, and delivery of e-learning content that adheres to the SCORM standard. It offers features such as content storage, version control, metadata management, and content reuse. The implementation emphasizes the importance of interoperability and compatibility with other SCORM-compliant systems. The paper discusses the architecture, components, and workflow of the LCMS, highlighting its ability to effectively manage learning content and track learner progress. Overall, the implementation of this SCORM-compliant LCMS with CRMS capabilities provides a robust platform for creating and managing e-learning content.

[2.4] Online Document Management System for Academic Institutes

This paper focuses on the development and implementation of an Online Document Management System (DMS) specifically tailored for academic institutes. The system aims to streamline document handling processes within academic institutions by providing a centralized platform accessible through the internet. Key features of the system include document storage, version control, collaboration tools, and secure access controls. The DMS enables academic staff and students to upload, organize, and share various types of documents, such as research papers, assignments, and administrative forms. The paper highlights the benefits of implementing such a system, including improved document accessibility, enhanced collaboration, and efficient retrieval of academic materials. Overall, the Online Document Management System offers a valuable solution for academic institutes to manage and organize their documents effectively.

[2.5] A novel approach for data management over cloud

This paper introduces a novel approach for data management over the cloud. The approach proposes a set of innovative techniques and algorithms to effectively handle data storage, retrieval, and processing in cloud environments. The paper highlights the challenges associated with traditional data management approaches and presents solutions that leverage cloud computing capabilities. The proposed approach emphasizes scalability, fault-tolerance, and efficient resource utilization. It incorporates concepts such as data partitioning, replication, and load balancing to optimize data management operations. The paper also discusses the potential benefits of the novel approach, including improved performance, cost-effectiveness, and flexibility in managing large-scale data in cloud-based systems. Overall, the novel approach presents a promising solution for efficient data management over the cloud.

[2.6] Analysis of e-Learning Repository Systems and Frameworks with Prepositions for Improvements

This paper provides an analysis of e-Learning Repository Systems and Frameworks, with a focus on identifying areas for improvement. The study evaluates existing systems and frameworks used for storing and managing e-learning resources. It assesses their functionality, scalability, interoperability, and usability. The analysis identifies potential shortcomings and challenges faced by these systems. The paper then proposes suggestions and recommendations for improving e-Learning Repository Systems and Frameworks, including enhancements in metadata management, search capabilities, user interfaces, and integration with learning management systems. The goal is to enhance the overall efficiency, accessibility, and effectiveness of e-learning resource management. The findings of this analysis provide valuable insights for researchers, developers, and educators interested in optimizing e-Learning Repository Systems and Frameworks.

[2.7] A Web-based Knowledge Management Support System for Document Collections

This paper introduces a web-based Knowledge Management Support System (KMSS) specifically designed for managing document collections. The system aims to enhance knowledge sharing and collaboration within organizations by providing a centralized platform accessible via the web. Key features of the KMSS include document storage, indexing, search capabilities, and knowledge tagging. It offers functionalities such as document version control, document categorization, and user collaboration tools. The paper highlights the benefits of the web-based KMSS, including improved knowledge sharing, efficient document retrieval, and enhanced collaboration among users. The system emphasizes the importance of organizing and structuring document collections to facilitate effective knowledge management. Overall, the web-based KMSS provides a valuable tool for organizations to manage their document collections and promote knowledge sharing within their workforce.

[2.8] Intranet Document Management Systems as Knowledge Ecologies

This paper explores the concept of Intranet Document Management Systems (IDMS) as knowledge ecologies within organizations. It discusses how IDMS can facilitate the creation, sharing, and dissemination of knowledge among employees. The paper emphasizes the importance of viewing IDMS as dynamic ecosystems that enable the exchange and growth of knowledge. It highlights the features and functionalities of IDMS, such as document storage, version control, metadata management, and search capabilities. The paper also discusses the role of social interactions, collaboration, and knowledge sharing within IDMS. Overall, the paper presents IDMS as powerful tools for fostering knowledge management and creating a collaborative environment where knowledge can thrive and be effectively utilized within organizations.

[2.9] Management Information System for Documents Archiving and Organization Security

This paper focuses on the design and implementation of a Management Information System (MIS) specifically tailored for documents archiving and organization with a strong emphasis on security. The system aims to provide a comprehensive solution for efficiently storing, managing, and retrieving documents within an organization. It incorporates robust security measures to protect sensitive and confidential information. Key features of the system include document categorization, metadata tagging, version control, access controls, and encryption techniques. The MIS enables users to easily search, retrieve, and share documents while ensuring data integrity and confidentiality. The paper highlights the significance of implementing such a system to enhance productivity, streamline document management processes, and safeguard critical organizational information. Overall, the MIS for documents archiving and organization with enhanced security provides a reliable and efficient platform

for managing documents in a secure manner.

[2.10] Cost effective Document Repository Management

This paper addresses the challenge of cost-effective document repository management. It presents a comprehensive framework and strategies for minimizing costs associated with document storage, organization, and access. The paper explores various cost-saving techniques such as compression, deduplication, and tiered storage. It emphasizes the importance of efficient metadata management and indexing to optimize document retrieval while reducing expenses. The proposed framework also incorporates cloud storage and virtualization technologies to leverage their cost benefits. The paper discusses the potential impact of the cost-effective document repository management on organizational efficiency, resource allocation, and scalability. Overall, the strategies and framework presented in this paper offer valuable insights for organizations aiming to manage their document repositories in a cost-effective manner.

[2.11] Research on Document Management System Based on Streaming Storage Technology

This research paper focuses on the development of a Document Management System (DMS) based on streaming storage technology. The paper explores the challenges faced by traditional DMS in handling large volumes of documents and proposes a solution that leverages the benefits of streaming storage. The proposed system utilizes streaming storage technology to enable efficient storage, retrieval, and processing of documents in real-time. The research highlights the advantages of streaming storage, such as high scalability, low latency, and cost-effectiveness. The paper discusses the architecture and key components of the DMS, including data ingestion, indexing, and retrieval mechanisms. It also presents experimental results and performance evaluations, demonstrating the effectiveness of the streaming-based DMS in managing document-centric workflows. Overall, this research provides valuable insights into leveraging streaming storage technology for document management systems, offering improved performance and scalability.

[2.12] Document Management System: A Notion Towards Paperless Office

This paper explores the concept of a Document Management System (DMS) as a step towards achieving a paperless office. It emphasizes the need to reduce paper usage and transition to digital document management systems. The paper discusses the benefits of implementing a DMS, such as improved organization, accessibility, and collaboration. It highlights features such as document scanning, storage, indexing, and retrieval in the context of creating a paperless office environment. The paper also addresses potential challenges in the adoption of a DMS and provides recommendations for successful implementation. Overall, the paper advocates for the adoption of DMS as a means to reduce paper waste, enhance productivity, and move towards a more sustainable and efficient paperless office.

[2.13] Electronic-Document-Based Management Process Model for Image Archives in Universities

This paper presents an electronic-document-based management process model specifically designed for image archives in universities. The model aims to streamline the management of image archives by leveraging electronic document management systems. The paper discusses the challenges faced by universities in managing image archives and proposes a comprehensive model that incorporates document digitization, metadata tagging, storage, retrieval, and preservation. The model emphasizes the integration of electronic document management systems with existing university workflows to enhance efficiency and accessibility. It highlights the benefits of the model, including improved image organization, easy retrieval, and enhanced collaboration among university staff and researchers. Overall, the electronic-document-based management process model offers a valuable framework for universities to effectively manage and utilize their image archives.

[2.14] The design of file management system based on website and qr

This paper presents the design of a file management system that combines website and QR code technology. The system aims to provide an efficient and user-friendly method for managing files and documents. It utilizes a website as the central platform for file storage, organization, and retrieval. QR codes are integrated into the system to enable quick and easy access to specific files by scanning the codes with a mobile device. The paper discusses the architecture and functionalities of the system, including file uploading, categorization, search capabilities, and QR code generation. It emphasizes the advantages of this approach, such as improved accessibility, mobility, and convenience in managing files. Overall, the design of this file management system offers a practical solution that harnesses the power of website and QR code technologies for efficient file management.

[2.15] WFMS: Web File Management as A Service

This paper introduces WFMS (Web File Management as a Service), a system that provides file management capabilities as a service over the web. The paper focuses on the benefits and functionalities of WFMS, including file storage, organization, sharing, and collaboration. It emphasizes the convenience and accessibility of file management through a web-based interface. The system allows users to upload, manage, and share files from any device with an internet connection. The paper discusses the underlying architecture and technologies used in WFMS, highlighting its scalability and security features. Additionally, it explores the potential applications and advantages of adopting WFMS in various industries and organizations. Overall, WFMS presents a promising solution for efficient and user-friendly web-based file management.

[2.16] Efficient Electronic Document Access Control Management using Natural Language Processing

This paper presents an efficient electronic document access control management system that utilizes Natural Language Processing (NLP) techniques. The system aims to enhance the security and accessibility of electronic documents by leveraging NLP capabilities for fine-grained access control. The paper discusses how NLP techniques are applied to analyze and interpret the content of documents, enabling the system to automatically assign access rights based on the document's context and user requirements. The system incorporates features such as entity recognition, sentiment analysis, and user profiling to accurately determine access privileges. The paper highlights the benefits of this approach, including improved document security, reduced administrative overhead, and enhanced user experience. Overall, the system offers a robust solution for efficient electronic document access control management using NLP techniques.

[2.17] Intelligent Document Technology in University Educational Administration Management System

This paper discusses the integration of Intelligent Document Technology (IDT) into a University Educational Administration Management System. It highlights the benefits of incorporating IDT, which utilizes advanced technologies such as natural language processing and machine learning, in streamlining document-related processes in educational administration. The paper explores various applications of IDT, including document classification, data extraction, and automated workflows, to enhance efficiency and accuracy in handling administrative tasks. It emphasizes the potential of IDT to automate routine administrative processes, improve decision-making, and reduce manual effort and errors. The paper also addresses challenges related to data privacy and security in implementing IDT. Overall, the integration of IDT in the University Educational Administration Management System offers a promising solution to optimize document management and streamline administrative operations in educational institutions.

[2.18] Implementation of Electronic Document Management in Russian Education. Quality Assessment

This paper focuses on the implementation of Electronic Document Management (EDM) in the context of Russian education and explores its impact on quality assessment. The study examines the adoption and integration of EDM systems within educational institutions in Russia. It evaluates the effectiveness of these systems in improving document management processes, such as document creation, storage, and retrieval. The paper also assesses the impact of EDM

on quality assessment in education, including aspects such as data accuracy, efficiency, and transparency. The findings highlight the benefits of implementing EDM in Russian education, including improved document security, streamlined administrative processes, and enhanced quality assessment practices. Overall, the paper highlights the positive influence of EDM systems on the quality of document management in Russian educational institutions.

[2.19] Framework to Customize A Document Management System (DMS) Using Web Services Technology

This paper presents a framework for customizing a Document Management System (DMS) using web services technology. The framework aims to provide flexibility and adaptability to meet specific organizational requirements and workflows. It proposes the use of web services to enable seamless integration with existing systems and enhance interoperability. The paper discusses the key components of the framework, including the customization layer, web service interfaces, and data models. It highlights the benefits of customization, such as tailored document workflows, user interfaces, and metadata management. The framework also addresses challenges in DMS customization and provides guidelines for successful implementation. Overall, the framework offers a valuable approach to customize DMS using web services technology, empowering organizations to tailor their document management systems to their unique needs.

[2.20] Main concepts of the document management system required for its implementation in enterprises

The implementation of a Document Management System (DMS) in enterprises requires several key concepts. First, a robust document storage and retrieval system is necessary, providing secure and organized storage of documents. Version control capabilities are crucial for tracking changes and ensuring document integrity. Access controls and permissions are essential to maintain data security and restrict document access based on user roles. Workflow automation features streamline document processes and facilitate collaboration among employees. Metadata management enables efficient search and categorization of documents. Integration with other systems, such as customer relationship management or enterprise resource planning, enhances productivity and data exchange. Finally, scalability and flexibility are crucial to accommodate the growing document needs of the enterprise.

[2.21] Electronic document management systems and distributed large-scale systems

This paper explores the relationship between electronic document management systems (EDMS) and distributed large-scale systems. It highlights the challenges and opportunities presented by the integration of EDMS into distributed environments. The paper discusses the advantages of using distributed systems for document management, such as scalability, fault tolerance, and load balancing. It also addresses key considerations, including data synchronization, security, and performance

optimization. The paper examines various approaches for implementing EDMS in distributed systems, such as cloud-based solutions or distributed file systems. Overall, it emphasizes the importance of leveraging distributed large-scale systems to enhance the capabilities and efficiency of electronic document management.

[2.22] Secure Cloud Based Document Management System

This paper focuses on the development and implementation of a secure cloud-based document management system. It emphasizes the importance of data security in document management and explores the benefits of utilizing cloud technology for secure storage and access. The system incorporates robust encryption techniques, access controls, and authentication mechanisms to ensure the confidentiality and integrity of the stored documents. The paper discusses key features such as secure document sharing, version control, and audit trails to enhance security and accountability. It also addresses challenges related to data privacy, compliance, and disaster recovery in cloud-based document management. Overall, the secure cloud-based document management system offers a reliable and protected platform for organizations to manage their documents while mitigating security risks.

[2.23] An Intranet-Based Document Management and Monitoring System Framework: A Case for the National University Quality Management Office

This paper presents a framework for an intranet-based document management and monitoring system specifically designed for the National University Quality Management Office (NUQMO). The framework aims to streamline document management processes and enhance monitoring activities within the office. It highlights the benefits of utilizing an intranet-based system, including improved accessibility, collaboration, and document version control. The paper discusses key components of the framework, such as document storage, metadata management, and workflow automation. It emphasizes the importance of monitoring features, such as task tracking and notifications, to ensure timely and efficient document management. Overall, the framework offers a tailored solution for the NUQMO to effectively manage and monitor their documents, contributing to improved quality management processes at the university.

3. PROPOSED SYSTEM

The Notes Repository System is a proposed solution aimed at efficiently managing and organizing notes for individuals, educational institutions, and professional organizations. This system will provide a centralized platform to store, access, search, and collaborate on various types of notes, enhancing productivity and knowledge sharing. The following sections outline the key features and functionalities of the proposed system.

User Registration and Authentication: The system will offer user registration and authentication mechanisms to ensure secure access to the repository. Users can create individual accounts or be affiliated with an organization or educational institution, allowing for customized access levels and permissions.

Approval of faculty and student: When a student or a faculty signup for the system a request for approval will be sent to the admin. The admin can verify the student or the faculty and can approve the access for them. On approval the student or the faculty will be able to login to the system.

Notes Upload and rating for the notes: The proposed system will provide faculty an uploading window through which they can upload the notes. The faculty can directly upload the local file from their system or they can upload the drive link through which the students can access the notes. The students are able to access the notes and can rate them accordingly which can be seen by the faculty.

Search and Retrieval: Efficient search functionality will be a core component of the system. Users will be able to search for notes based on keywords, tags, or metadata, making it effortless to locate specific information.

Note Security and Privacy: To ensure the confidentiality and integrity of notes, the system will incorporate robust security measures. Encryption algorithms will protect data transmission and storage, and user access controls will be implemented to limit note visibility to authorized individuals.

Cross-Platform Accessibility: The proposed system will be accessible across multiple platforms, including desktop computers, laptops, tablets, and smartphones. This cross-platform compatibility will enable users to access their notes anytime, anywhere, fostering convenience and productivity.

4. IMPLEMENTATION

3.1 User registration and login:

Create a registration form with fields such as username, email, password, and additional necessary details specific to students and faculty members (e.g., student ID, department, etc.). Handle form submission by creating an API route or server-side function to handle the registration process. In the API route or server-side function, validate the submitted data to ensure it meets the required criteria (e.g., valid email format, strong password).Generate a secure password hash using a hashing algorithm like bcrypt to store in the database. This helps protect user passwords. Store the user information, including the hashed password, in the database, creating a new user entry.

Optionally, you can send a verification email to the user's provided email address to confirm their registration. Create a login form with fields for username/email and password. Handle form submission by creating an API route or server-side function to handle the login process. Retrieve the submitted credentials from the form and validate them. Query the database to find a user with a matching username or email. If a user is found, compare the submitted password with the stored hashed password using bcrypt. If the passwords match, authentication is successful. Create a session for the authenticated user to maintain their login state. You can use libraries like next-auth or json-web-token to handle sessions and generate JSON Web Tokens (JWT).Store the session token in a secure HTTP-only cookie or local storage. Redirect the user to their respective panel (student or faculty) after successful login.

3.2 Admin Panel

During the user registration process, set the role of the admin user to "admin" in the database. Implement a middleware or function to check the role of the logged-in user before allowing access to the admin panel routes. Only users with the "admin" role should be granted access. Design and create the user interface (UI) for the admin panel. This can include a dashboard or navigation menu for easy navigation between different admin functionalities. Use components and styling libraries to create a professional and user-friendly admin panel UI. Implement functionality for the admin to view the details of all students and faculty members stored in the database. Fetch the necessary user data from the database and display it in the admin panel UI. You can use server-side rendering or client-side API requests to fetch the data. Implement CRUD operations for managing user accounts. This can include options to create, read, update, and delete user accounts. Provide an interface for the admin to search, filter, and sort users

based on specific criteria such as name, department, or approval status. Add a field in the user table to track the approval status of each user. Set a default value for this field during user registration. Implement functionality in the admin panel to view pending registrations. Display a list of users with pending approval status in the admin panel. Provide options for the admin to approve or reject registrations, updating the approval status field accordingly in the database.

3.3 Faculty Panel

Implementing functionality for faculty members to create subjects within the Faculty Panel.
Provide a form or interface where faculty members can enter details such as subject name, code, semester, and any other relevant information for each subject. Handle form submission and validate the entered data to ensure its completeness and accuracy. Store the subject details in the database, associating them with the respective faculty member who created them. Implement the ability to view, edit, and delete existing subjects if necessary.

Provide an interface within the Faculty Panel for faculty members to upload notes for specific subjects. Create a form or file upload component that allows faculty members to select the subject to which the notes belong and upload the file containing the notes.
Handle the file upload process and store the uploaded file in a designated directory or cloud storage service. Associate the uploaded notes with the relevant subject and the faculty member who uploaded them in the database. Store the necessary details about the notes, such as the file name, file path, and any additional metadata, in the database for future retrieval. Provide a section within the Faculty Panel where faculty members can view a list of subjects they have created.
Upon selecting a subject, display the associated notes uploaded by the faculty member for that subject. Allow faculty members to manage their notes by providing options to edit or delete them if needed.

3.4 Student Panel

Design and create a user interface (UI) for the Student Panel. The UI should provide easy navigation and access to relevant functionalities for students.
Consider creating a dashboard or sidebar menu to allow students to navigate between different sections and actions within the panel. Implement functionality to display the available subjects to students within the Student Panel. Retrieve the subject data from the database and present it in a user-friendly format, such as a list or grid view. Include relevant details about each subject, such as the subject name, code, semester, and faculty member(s) associated with the subject.

Implement pagination or infinite scrolling if there are a large number of subjects to improve performance. Enabling students to access the notes associated with each subject and providing a way for students to click on a subject to view its details and associated notes. Retrieve the notes data from the database and display it in a structured manner, such as a list or a file repository.

Implement options for students to download or view the notes, depending on the file type (e.g., PDF, Word document). Implement search and filtering options to help students find specific subjects or notes within the Student Panel. Provide a search bar where students can enter keywords to search for subjects or notes that match the provided criteria. Implement filtering options based on different attributes, such as subject name, code, semester, or faculty member. Apply the search and filtering criteria to dynamically update the displayed subjects and notes, showing only the relevant ones. Ensure that only authenticated students have access to the Student Panel and its functionalities. Implement user authentication and authorization. Apply appropriate security measures to protect against unauthorized access or data breaches, such as implementing secure file downloads and handling user inputs securely

5. RESULT

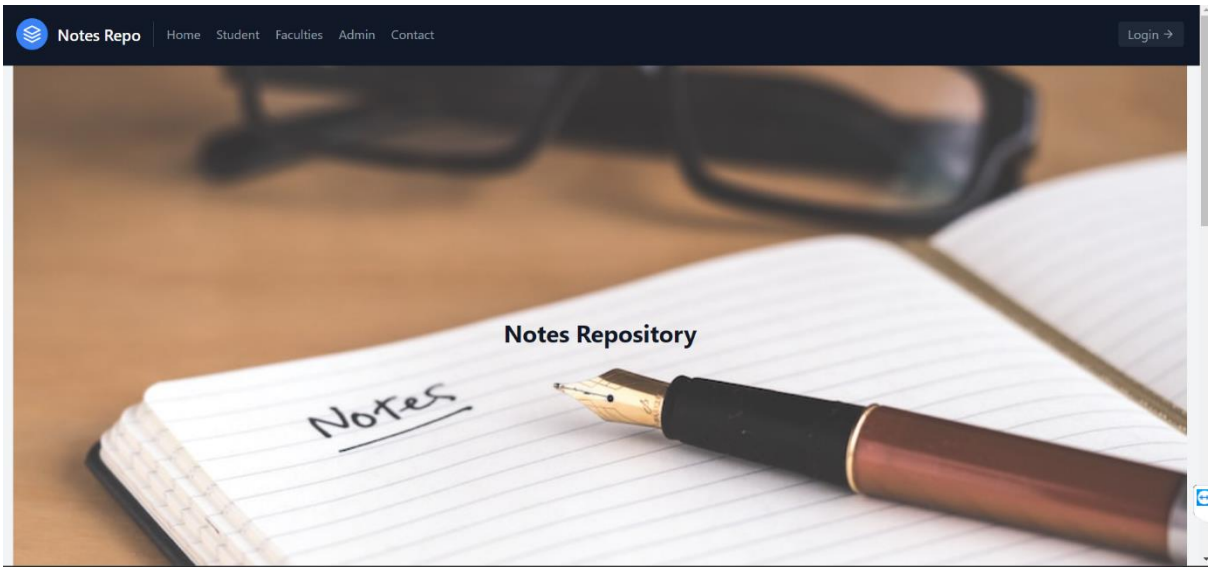

Fig 1.1 Home page

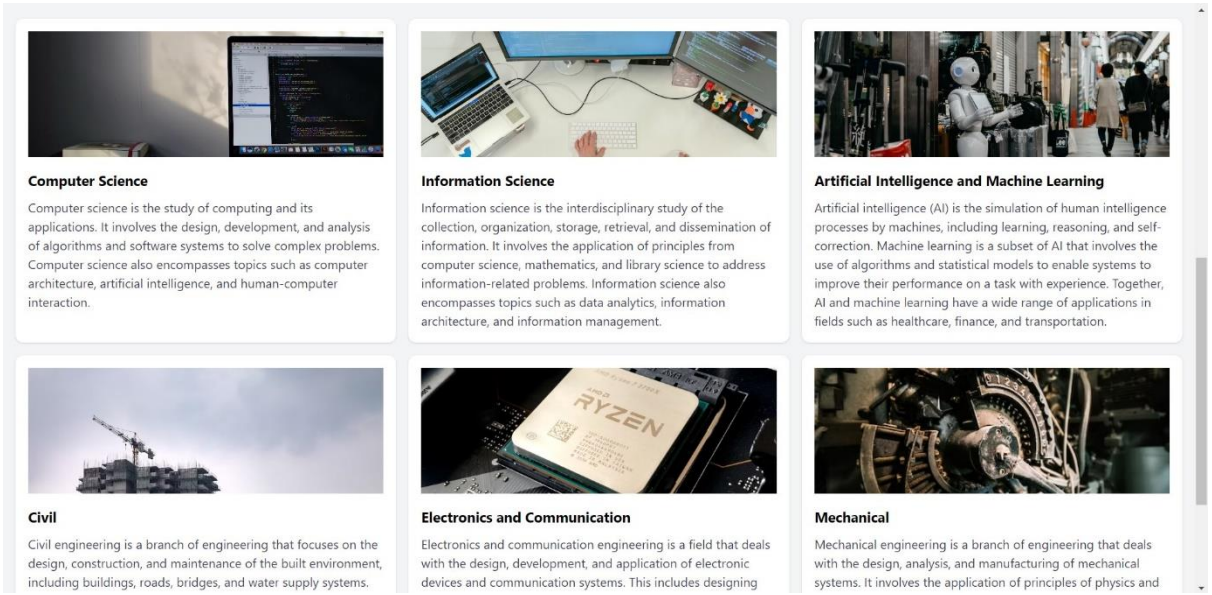

Fig 1.2 Home page

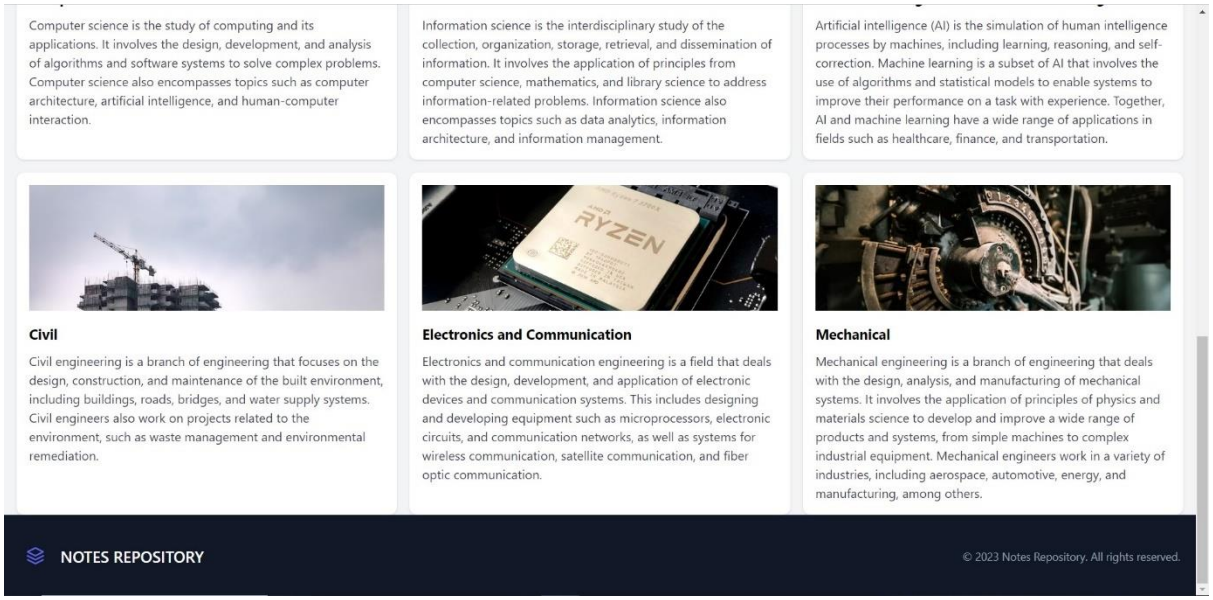

Fig 1.3 Home page

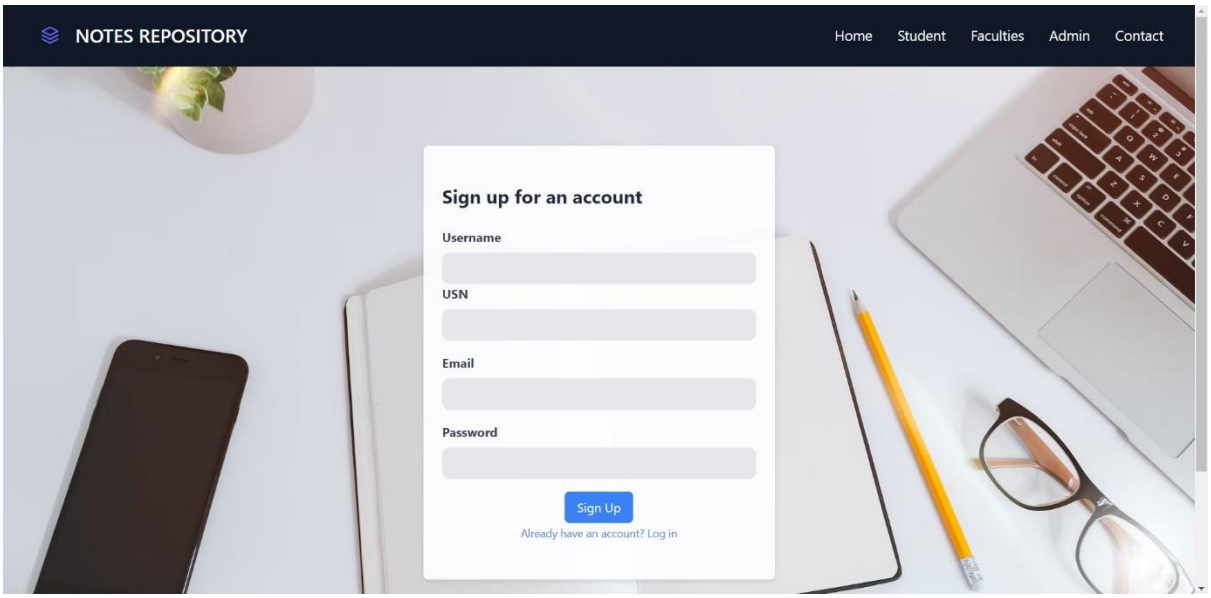

Fig 2 Signup page

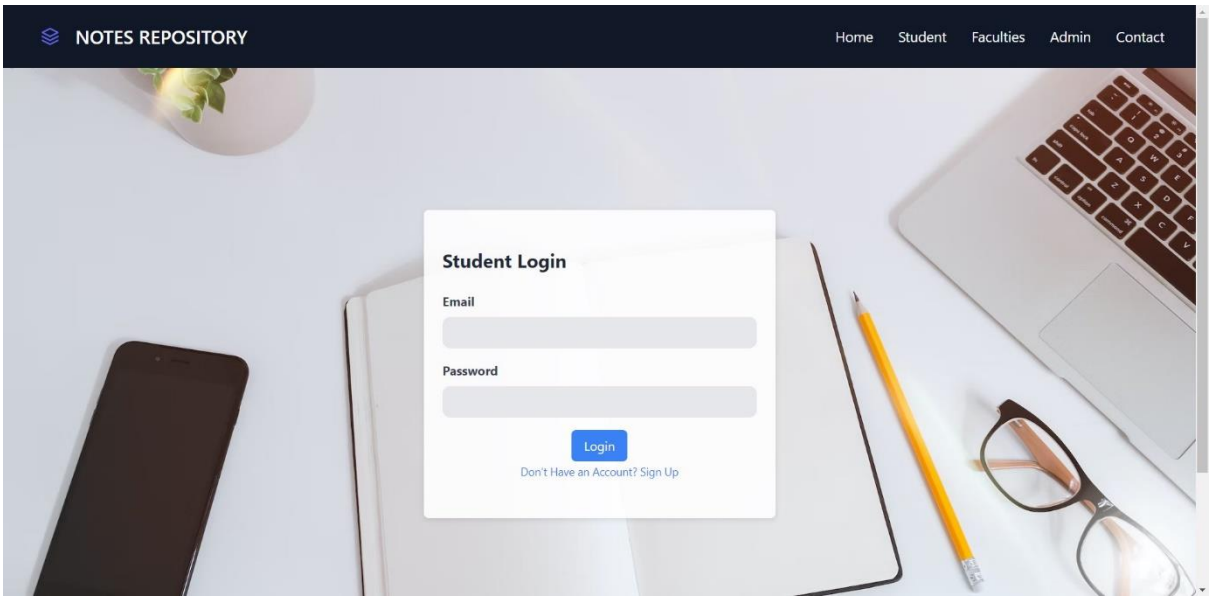

Fig 3 Login page

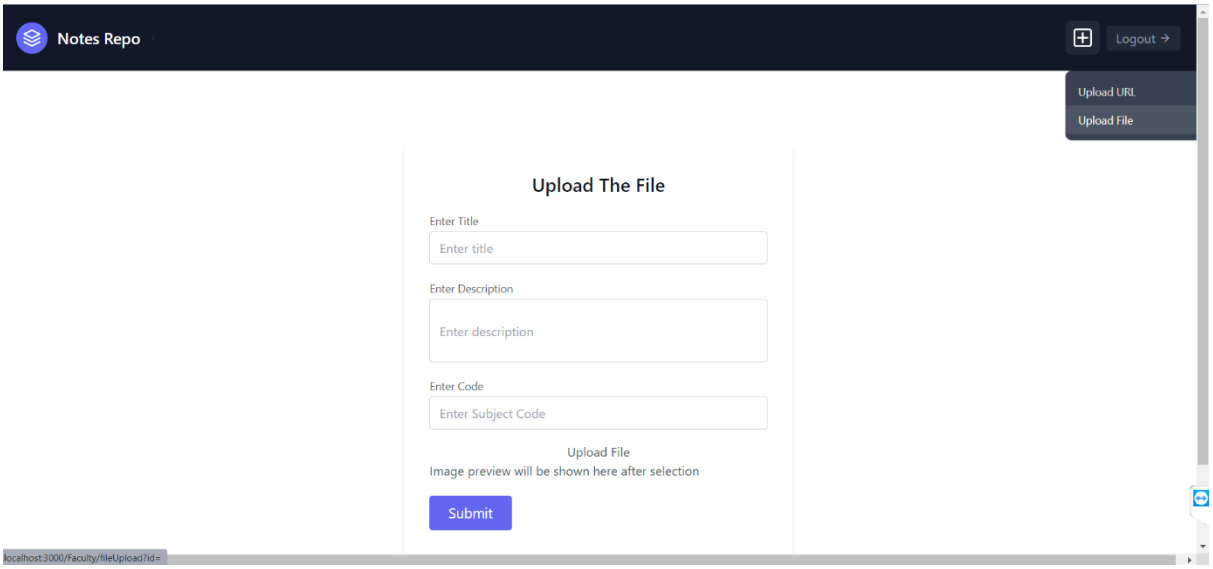

Fig 4 Local File uploader

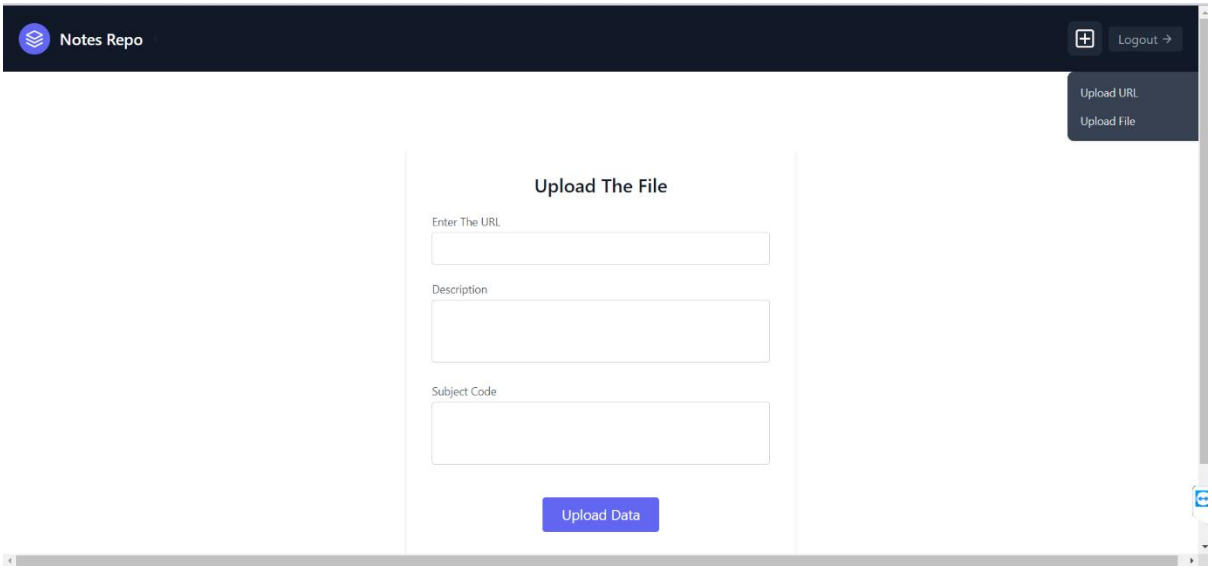

Fig 5 Drive File Uploader

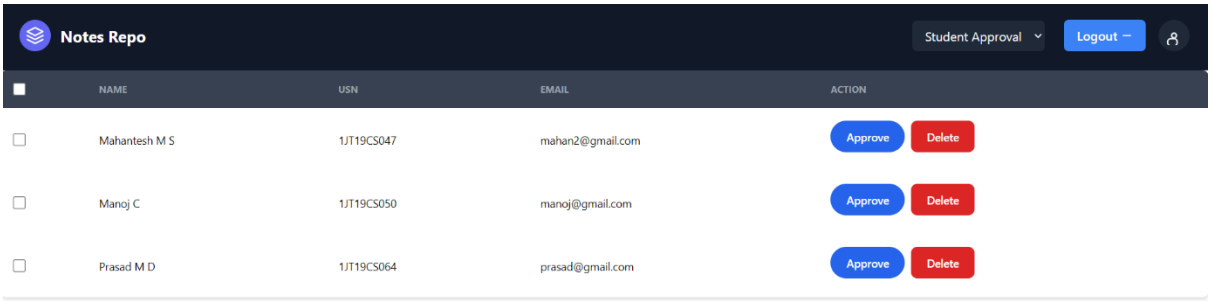

Fig 6 Student Login approval

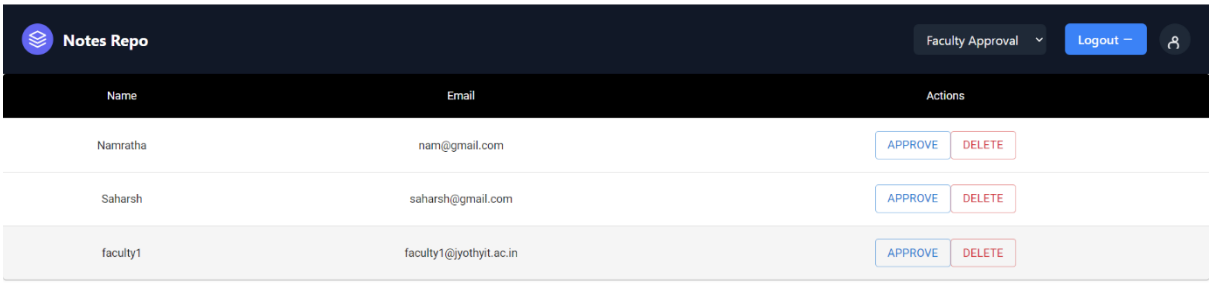

Fig 7 Faculty Approval

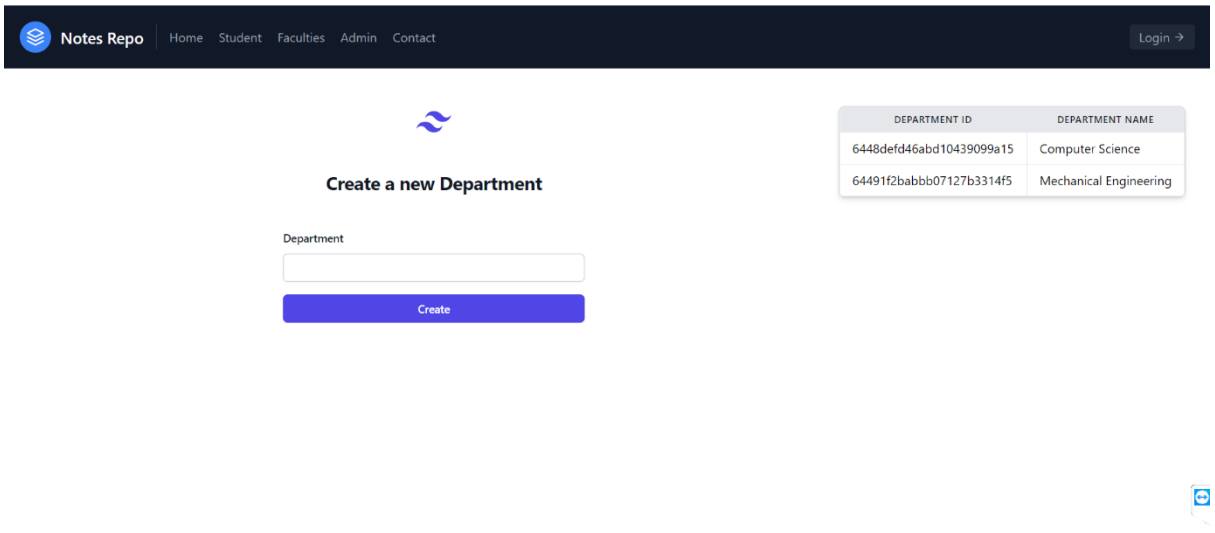

Fig 8 Create Department

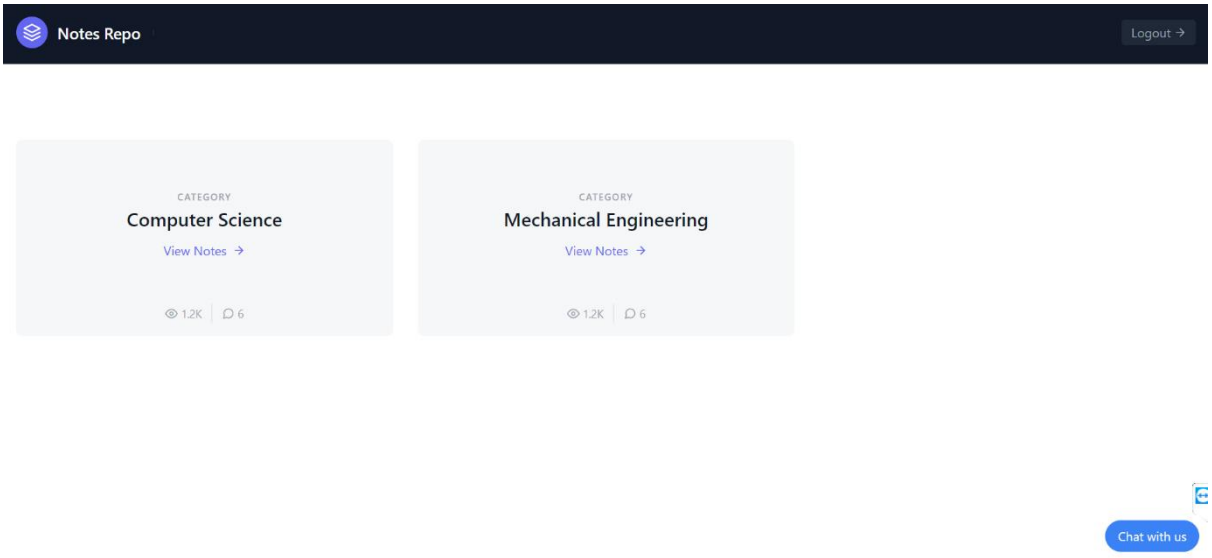

Fig 9 Subject View

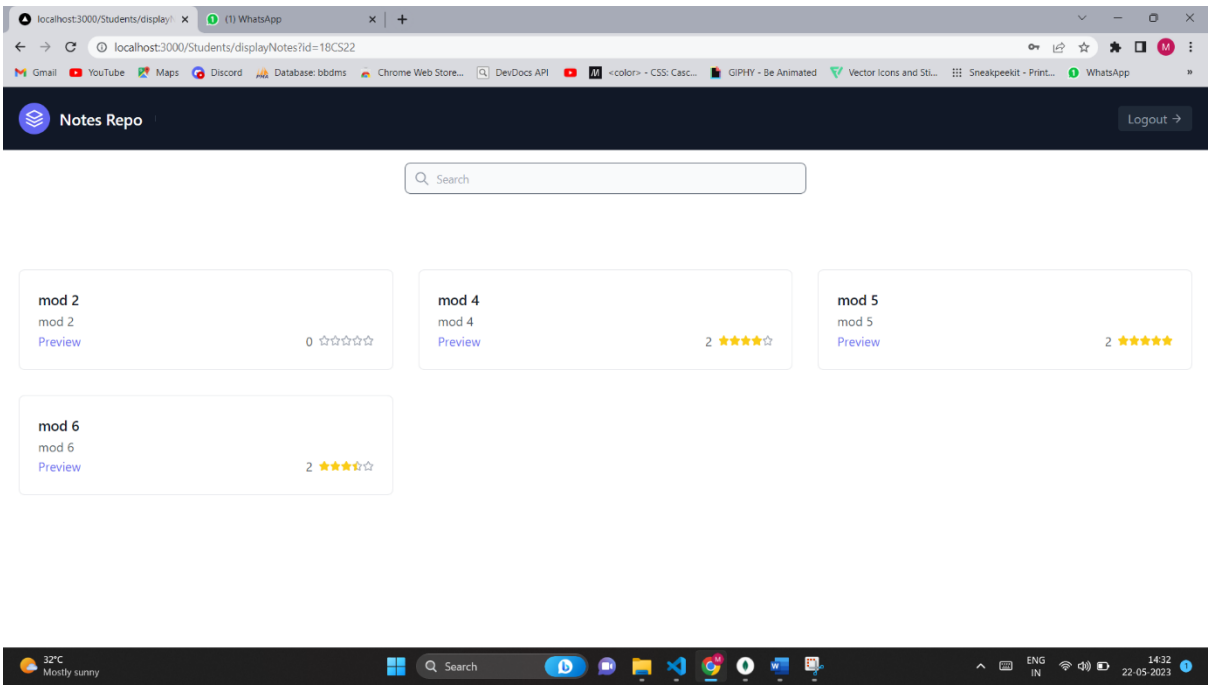

Fig 10 Rating for notes

6. FUTURE SCOPE

The future scope of a Document Management System (DMS) for undergraduate students holds immense potential for further development and enhancements. Here are some key areas that can be explored for the future scope of a DMS for undergraduate students:

1. **Artificial Intelligence (AI) Integration:** Incorporating AI technologies, such as natural language processing and machine learning, can enable advanced capabilities within the DMS. This can include automated document classification, intelligent search algorithms, and personalized document recommendations based on user preferences and behavior.
2. **Advanced Search Capabilities:** Enhancing the search functionality by implementing advanced search techniques, such as semantic search or concept-based search, can improve the accuracy and relevance of search results. This can help students quickly find the most relevant documents based on their query context.
3. **Intelligent Document Analysis:** Implementing intelligent algorithms to extract meaningful information from documents, such as key concepts, keywords, or summaries, can provide students with quick insights into the document content without having to read the entire document. This can save time and support efficient information retrieval.
4. **Enhanced Collaboration Features:** Building upon existing collaboration features, future enhancements can include real-time document editing, integrated commenting and feedback mechanisms, and the ability to track document changes and contributions made by multiple users simultaneously. This would foster effective collaboration among students working on group projects or assignments.
5. **Analytics-driven Insights:** Expanding the analytical capabilities of the DMS to provide more in-depth insights into student document usage, preferences, and learning behaviors can help institutions make data-driven decisions. This information can be used to improve curriculum design, identify knowledge gaps, and personalize learning experiences for students.
6. **Security and Privacy Enhancements:** With the increasing focus on data security and privacy, future developments in DMS can include enhanced encryption methods, two-factor authentication, and compliance with data protection regulations to ensure the confidentiality and integrity of student documents.

7. CONCLUSION

A proposed Document Management System (DMS) for undergraduate students offers several key benefits. Firstly, it streamlines document organization by eliminating the need for manual filing systems, making it easier to categorize and retrieve documents efficiently. This streamlined organization enhances accessibility as students can access their documents anytime, anywhere, using various devices through a centralized repository.

Moreover, the collaborative features of the DMS promote effective teamwork among undergraduate students. They can work on shared documents, provide feedback, and track changes in real-time, facilitating seamless collaboration. This not only saves time but also encourages knowledge sharing and exchange, fostering a collaborative learning environment.

The time and effort saved by using a DMS for document management can be significant. Students can quickly search for and retrieve documents, reducing the administrative burden and increasing overall productivity. Additionally, a DMS can future-proof itself by integrating emerging technologies such as artificial intelligence, advanced search capabilities, and mobile accessibility to meet evolving student needs.

Analytics-driven insights provided by a DMS can offer valuable information about document usage, user behavior, and learning patterns. These insights enable institutions to make data-driven decisions, enhancing the overall student experience and improving the effectiveness of educational processes.

Security and privacy are crucial considerations for any DMS implementation. Robust security measures ensure the confidentiality, integrity, and privacy of student documents, protecting sensitive information from unauthorized access.

In summary, a proposed DMS for undergraduate students offers streamlined document organization, enhanced accessibility, improved collaboration, time and effort savings, knowledge sharing and exchange, future-proofing with technology integration, analytics-driven insights, and robust security and privacy measures. Implementing such a system can significantly improve the efficiency and effectiveness of document management for undergraduate students, enhancing their overall learning experience.

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