Enotes using MERN Stack

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Enotes using MERN Stack

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***Abstract*— Enotes is an online web-based project that is designed to manage students' notes. Primarily focusing on the development and design phase. It is a rich internet application where the major function is to provide online study notes to students in pdf format. Among the features provided by the system are easy accessibility, and well-organized notes. Also as all the study material is present on a single web application, there is no fear of losing notes. To achieve the features of the website, students first need to register and then log in. After logging into respective accounts, students can avail of various other features such as uploading notes, summaries, templates, frameworks, or course guides throughout their studies.**

I. INTRODUCTION

The internet plays a very important role in today's society. Nearly all windows based applications have a web-based equivalent. It is becoming more and more important in software development especially as it makes it possible for millions all over the world to access and use that application directly. In this 21st century, there is a tremendous impact of technology on our day-to-day lives including education, the growth of the internet was considered a revolution, later as an evolution in education. As education has evolved, learning methodologies have also evolved. One of the most important methods is note-taking. Note-taking is the practice of writing down or otherwise recording key points of information. It's an important part of the research process. Notes taken during class lectures or discussions may serve as study aids, while notes taken during an interview may provide material for an essay, article, or book. "Taking notes doesn't simply mean scribbling down or marking up the things that strike your fancy," said Walter Pauk and Ross J.Q. Owens in their book, "How to Study in College." "It means using a proven system and then effectively recording information before tying everything together."

Traditionally students used to write down very time-consuming study notes. But as technology has advanced it is possible to find notes on a single website that is easy to access and helps students learn by providing the best study material online.

II. PROBLEM STATEMENT AND SCOPE

With the increasing demand for online education, the demand for online study materials is also increasing. It is very difficult for students to find reliable notes and further manage them. The goal of this project is to create a web app so that users can upload their handwritten or typed notes to help fellow students in their academics. Also, develop an environment that will allow students to access their notes very easily. This project shall be very easy to use so that even a person who is a beginner or someone who has a lack of understanding can use it.

The scope of this project is to be broken down and a system to be developed. The scope of this project is as follows:

1. The design and architecture of this application are focused on creating a web application as well as a mobile application.
2. The system is developed using the MERN stack consisting of MongoDB as the database, React as the frontend framework, Nodejs, and Expressjs as the backend.

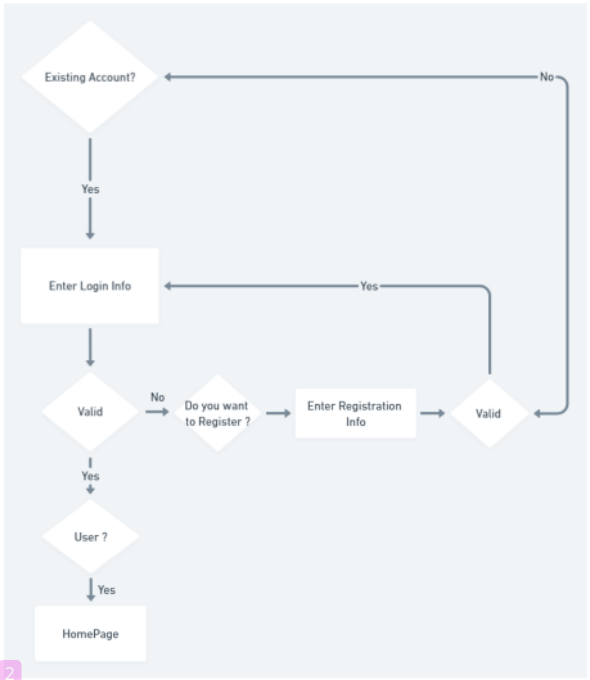
III. TECH STACK

The Tech Stack consists of

1. HTML, CSS, and JavaScript
2. MongoDB: Cross-Platform Document-Oriented Database
3. ExpressJs: BackEnd Framework
4. ReactJs: FrontEnd Framework
5. NodeJs: JavaScript runtime built on Chrome's V8 JavaScript engine.

III. FLOWCHART

1. Authentication System



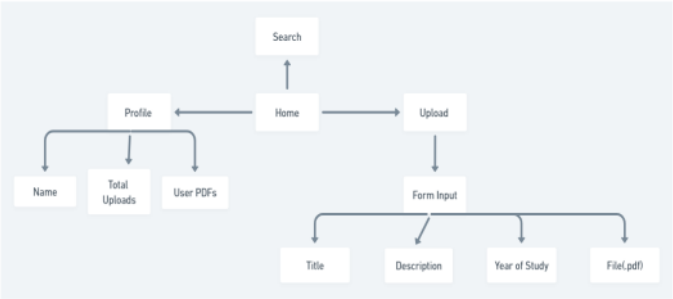
The purpose of this project is to create a convening and user-friendly web portal for uploading and accessing notes online.

There is a single-user model in this system:-

[1] User:- This user will register to be a member to use the online system of Enotes. This system is a single-user system that has a single user who will be uploading his/her notes on the Web-App. To access the notes, the user has to create an id on our site after which he can search and can access any Enote he/she wants.

Here as shown in Fig.1, the user first has to enter the login information if he/she has an existing account on our site. After the validation, the user will be redirected to the HomePage of our site. If it is a first-time user, then he/she will have to register and create an account on our site. After creating, verify that the user has to log in again to access our site. After successful login, he/she will be redirected to HomePage.

2. User Flow



In above Fig.2, after the user has logged in to our site, he/she will be redirected to the HomePage. At the HomePage, two of the components will be shown to him/her. The following will be the components:-

A]. Profile:-
The Profile Component is the component that will be consisting of the basic information/details of the user. The details available on the profile would be the Name of the User, the Count of the Total Uploads by the User, and the PDFs uploaded by the user on the site.

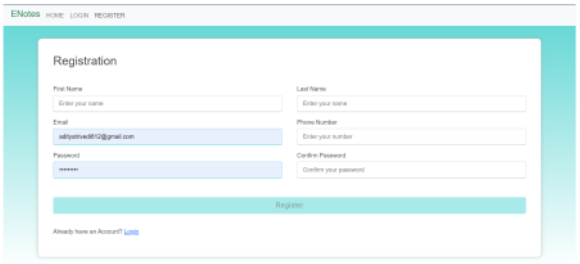
B]. Upload:-
The Upload Component is the component that takes the input of the file from the user. Once the user is on the upload page, he/she will have to fill up the Upload form which will consist of the following inputs:
-Title: The Title of the Enote that is to be uploaded.
-Description: The Description of the Enote.
-Year of Study: The Year of Study of the particular user or the year of study in which the following Enote has been learned.
-File: The file which is to be uploaded in .pdf format.

C]. Search:-
The Search Component is the component that will enable the user to search the Enotes. The search page would also contain the filters which will be filtering the Enotes based on the Year of Study.

IV. MODULES

1: SIGNUP

Here are the text boxes available for first-time users to register themselves in the system. Registration will require some basic information about the user. This information includes the First Name, Last Name, Email, Mobile Number, Year of Study, and Password. Underneath them will be the reset and submit buttons. The Submit button will submit the form and save the user's information.

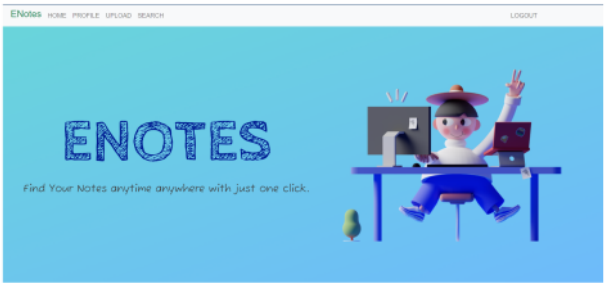


2: LOGIN PAGE

For the already existing user, they will just have to Login by clicking the Login button.

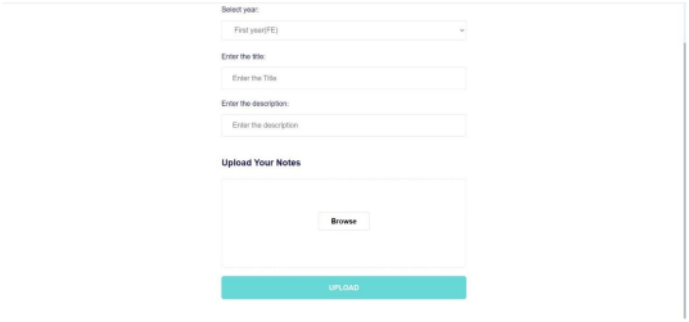
3: HOME PAGE

Once the user has logged in, the user will be redirected to the home page. The home page acts as the core of the project as it contains all the notes uploaded by the users. At the top of the page, there is a search menu where the user can search for notes from a particular branch, year, and particular subject. Filtering options will include filtering based on the Title of the Note, the Description of the Note, and the Year of Study. On clicking on the note, the user will be redirected to the note file on a new tab.



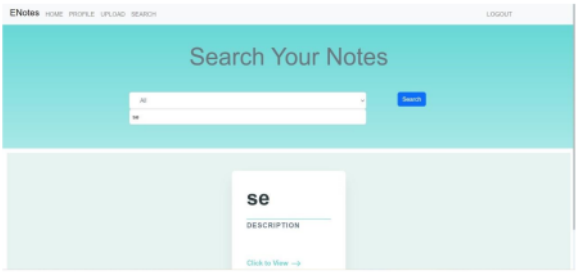
5: UPLOAD PAGE

This page is the one for users who wish to upload their notes. For listing a note, the user has to provide some information which includes the Title of the Note, Description of the Note, and Year of Study. At the bottom of the form, we have an Upload button which will list the note on the home page. The listing is done based on the Title, Description, and Year of Study provided by the user. An Enote will be visible to the user only and only when the note to be searched and the note displayed match.



6: SEARCH PAGE

This page is where the user will search for the notes that they wish to see. The notes will be searched based on the Title of the note. Filtering of the notes will be done based on Title, Year of Study. So the user who wishes to see the notes of the second year would be able to find them by filtering them. An Enote will be visible to the user only and only when the note to be searched and the note displayed match.



V. CONCLUSION

It has been a matter of immense pleasure, honor, and challenge to have this opportunity to take up this project and complete it successfully. While developing this project we learned a lot about the MERN stack which was a new tech stack for us. We faced some difficulties while developing the project but eventually overcame it by referring to online sources which helped us gain more knowledge. We also understood the concept of note-taking and managing notes. Additionally, we have also learned how to make it user-friendly (easy to use and handle) by hiding the complicated parts of it from the users. During the development process, we studied carefully and understood the criteria for making the Web-App more demanding and we also realized the importance of maintaining a minimal margin for error.

VI. FUTURE PLANS

From the received feedback, the team is planning to flourish the model and make it capable of performing many more tasks. We have future plans that will make E-notes more versatile by implementing some more features.

These are some other updates we are looking forward to in the future:

[1] We are planning on making a mobile application that will have all the core features of the website and also add some niche features which will help in improving the quality of life aspect of the application.

[2] Once the mobile application is approved, users can download the notes, which will remain saved in their playlist or profile.

[3] As of now, access to the website is limited to VCET students. We are planning to grow our website as it will be allowed in all colleges affiliated with Mumbai University.

[4] We will be forming a community center wherein users will have a platform to interact with their mates. It will also allow having connections with people with the same interests as the users will be none other than your peers itself.

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