HITAM BLOG SPACE

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Abstract: Blog Space is a simple yet a powerful medium to share thoughts and ideas. Blogs are a latest and interesting means of communication and personal expression. Blog is a informational website which displays information in reverse chronological order. Researchers have just started to understand the importance that these media present as sources of data for communication. This project aims to create a platform for the students to express their views and collaborate. We created a space for enthusiasts and students. Students can read the blog and comment their opinions on others blogs. A friendly user experience and easy accessibility helps users to use the platform with convenience. In a study, writing for a motive has inspired users to create language more articulate and focus about accuracy, which leads us to contemplate blogs as a promising tool for the enhancement of knowledge of the users. The main idea of this project is to enable this platform as a tool for education and knowledge. The website enables users to create and manage blogs of themselves and view others' blogs. This platform creates a space for its users to get perspectives from one another about their opinions and experiences about any topic of interest via posting blogs. It is not just about the description but also enables users to add images to their posts to add colour and make them more engaging. We can get access to all functionalities provided by the platform just by creating an account by providing a username, email, and password. We can log into our account by providing the same credentials used during the account creation. Moreover, the management of the institution can login, post related content and do a regular check-up on the content posted by the students. The result is a website that allows the general public to convey their thoughts. This platform creates an edge to its users to get to a consensus from other users of the platform about their views and experiences about any event or place, simultaneously it's other users to share their experiences and thoughts via posting blogs.

Key Words: Blog Space, Educational website, Student management system, Communication platform

I. INTRODUCTION

To acquire skills, we have several resources but it could be overwhelming to choose a platform or refer to multiple platforms. What if we have a platform where people with similar interests share their understandings and learning experiences? People could acquire a more compliant skill set by appealing in experiential and community-based learning. The main idea of our project is to develop a platform where people can learn as well as help solve each other's problems by posting their queries on the platform. To implement this idea, we are using a blog as a platform as it is easy to use and it is user friendly.

Blogs provide a platform for a variety of purposes ranging from personal diaries, to political manifestos, to professional discussions, to news and current events. Blogs can focus on many diverse topics, ranging from the political to the personal. Majority of the blogs are interactive and dynamic, which also allows viewers to post comments and even message each other via widgets on the blogs and it is this interactivity that differentiates them from other static websites. **HITAM BLOG SPACE** is a website where we are creating a platform for the ones who are very enthusiastic and want to share their views and experiences and to the ones who want to do research about

a place or thing that they want to visit in near future or want to know about a fellow being's experience. The blog is restricted to the students, alumni and management of HITAM. The users of the platform will be able to use functionalities such as add post, edit post and delete post and comment on the posts made by their peers. The objective of this project is to equip the students, alumni and management of HITAM, a platform that supports peer-peer interaction about plethora of topics among the students pursuing different streams. This platform also provides an opportunity to the management to post events occurring in the campus and do regular surveys on the content posted by the students. There are social media platforms where people are allowed to post blogs and view the posts of people they are connected directly or indirectly to the platform**.**

The proposed system is all about creating a space where people post their blogs and view posts of everyone that is present in the platform provided the user accesses the platform using the college email address, provided by the management of the Institution.

II. SYSTEM DESIGN

The detailed design includes modules and sub-modules of the application which is based on Modules for the HITAM Blog Space. The student must log in using their student roll no provided by the college, and password. The student credentials will already be stored in the database and are validated against the credentials used by the students while logging in. The home page of the blog will contain virtual spaces where students can interact and exchange their ideas, doubts and knowledge. A virtual space is basically a group or community where people of common interests are in one place. A student can join in more than one virtual space and engage in all activities in that virtual space. The user(student) can create a post, like a post or even comment on a post. The HITAM Blog Space also contains all the study materials in pdf/word format of all the subjects ranging from first year to ending year. The materials are classified semester wise so that it becomes very easy and efficient for the user to search the material.

III. APPLICATION DESIGN

The main aim of the system design is to explain the modules using use case diagrams. Use case diagrams helps us understand the flow of the application by presenting the use cases for all the functionalities in form of diagrams for the user's better understanding. The use case diagram portrays the dynamic aspect of a system. It consists of 3 main components: Actors: which represent a person or a thing that invokes the functionality of a system. Once each and every single functionality is identified, then they are modified into the use cases to be used in the use case diagram. Relationships: Once both the actors and use cases are enlisted, the relation between the actor and use case/ system is inspected. The login page is the first page that appears when the student uses the application. The next

screen is the homepage where the student can select features and use the app.

Web Pages for the HITAM Blog Space:

Sign-Up Page:

The Sign -up page consists of a form where it accepts the input of username, email, password and confirm password fields along with a submit button and a button that redirects to login page. When the new user gives the data and submits, an account is created. On giving a different password at the confirm password field that does not match with the password, Password does not match error pops up. On successful entry of the credentials the new gets navigated to the all-blogs space in the website.

Login Page web: The login page consists of a form where it accepts the input of email and password along with a submit button and a button that redirects to the sign-up page. On providing the correct password i.e., given during sign- up, the user gets navigated to the all-blogs space in the website. On giving wrong email or password, incorrect password error pops up. The ADD BLOG space consists of a form where user can add a blog by giving a title, description and providing image URL. On successful submission the page gets redirected to MY BLOGS space.

IV. SYSTEM IMPLEMENTATION

INTRODUCTION TO TECHNOLOGIES USED: *We used MERN (MongoDB, Express js, React, Node js), CSS and Material UI to develop our website.*

MongoDB is considered as a document-oriented database server. In more simple terms, we can define it as an open-source database server product which is used for document-oriented storage. It is also called as a NoSQL Database server. MongoDB gained popularity due to its many unique features, including:

- MongoDB is a simpler and easy to use database server, when com- pared to those of relational databases.

- The Master Slave replication feature of MongoDB increases the rate of data reliability.

  - MongoDB facilitates fast data storage and retrieval functionalities.

  - Instead of procedures, JavaScript are used in MongoDB.

  - In MongoDB, no schema compatibility issue arises during database migrations.

  - MongoDB is an open source database server product and is thus customizable with the requirement.

  - MongoDB supports multiple servers execution and still provides high performance.

    Express js: Express is a fast, assertive, essential and moderate web framework of Node.js. You can assume express as a layer built on the top of the Node.js that helps manage a server and routes. It provides a robust set of features to develop web and mobile applications.

- **Some of the core features of Express framework:**

  - It can be used to design single-page, multi-page and hybrid web applications.

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  - It defines a routing table which is used to perform different actions based on HTTP method and URL.

  - It allows to dynamically render HTML Pages based on passing arguments to templates.

  - It is:

    - Ultra-fast I/O

    - Asynchronous and single threaded

    - MVC like structure

    - Robust API makes routing easy

- **React:** React, commonly called as a frontend JavaScript framework, is a JavaScript library created by Facebook. React is a tool for building UI components. React creates a VIRTUAL DOM in memory. Instead of manipulating the browser's DOM directly, React creates a virtual DOM in memory, where it does all the necessary manipulating, before making the changes in the browser DOM. React finds out what changes have been made, and changes only what needs to be changed. React only changes what needs to be changed! Page routing can be done using React router.**Node js:** Node.js is a free open source server environment. Node.js runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.). Node.js uses JavaScript on the server. Node.js uses asynchronous programming.

- Here is how Node.js handles a file request:

1. Sends the task to the computer's file system.

2. Ready to handle the next request.

3. When the file system has opened and read the file, the server returns the content to the client.

Node.js eliminates the waiting, and simply continues with the next request. Node.js runs single-threaded, non-blocking, asynchronous programming, which is very memory efficient.Node.js can generate dynamic page content, create, open, read, write, delete, and close files on the server, collect form data and add, delete, modify data in your database.

- **CSS:** CSS is the language we use to style a Web page. CSS stands for Cascading Style Sheets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. External stylesheets are stored in CSS files. With an external stylesheet file, you can change the look of an entire website by changing just one file! There are three different ways you can use to insert CSS definitions in your web page. They are:

  - Inline Style

  - Embedded Style Sheet

  - External Style Sheet

- **Material UI:** MUI is a lightweight CSS framework that follows Google's Material Design guidelines.
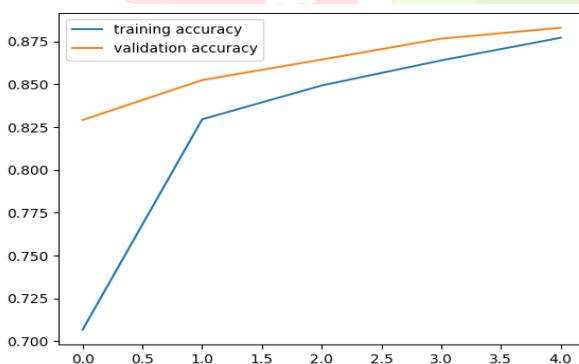
It was designed from the ground up to be fast, small and developer friendly.

MUI distinguishes itself from other CSS/JS frameworks by focusing on the following features:

- CSS-namespace to separate framework and app markup

- Small payload size

- No external dependencies

- Automatically attaches event handlers to new DOM nodes

- JavaScript library can be loaded asynchronously

- Cross platform support (E.g. HTML Email, React, Web Components) extreme hackability.

V. RESULT

In our project we calculated the accuracy of the answers by the users in the blog. We have used NLP TF-IDF algorithm to know the most used words (count frequency) from the user text and compared it with the original or predefined answer. The graph below represents the training accuracy which is plotted by blue color and validation accuracy is represented by orange color. In the graph, x-axis represents epoch and y-axis represents accuracy.

VI. CONCLUSION

The outcome of this project was the same as we forecasted. We were able to build a website using MERN Technologies, which builds a bridge between the different types of its users varying from the ones who wishes to seek information and get their queries answered and for those who are enthusiastic to express. Changes can be incorporated into the website as per the requirements of the students and management of the institution in order to encourage more interactivity. The application offers reliability, time savings, and easy control.

VI. ACKNOWLEDGEMENT

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