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Community web application for event management platform

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Abstract: -Generally, we developed a progressive web application titled "Community web application for event management". To get the best out of online event management, the events should reach its target audience faster. We created a community event management system so that the users can interact with a community that shares similar interests. We made this a better event finding platform by mapping the events with those of user interest so that the users will always find those events that they are interested in. The main advantage of creating this platform is that any events can be hosted freely without paying. By providing this feature of free events hosting, we provide an opportunity for all types of events irrespective of their strength and size, this feature makes this platform accessible and affordable to every event creators and hosting group. But hosting an event and getting it to the users who are interested in it is still a difficult challenge. It is also important for the users to get the events that they are interested in seamlessly. Our platform will be easier for both event hosting groups and users to get connected more quickly. This progressive web application uses several features such as Serve over HTTPS and application shell, register a service worker, and add push notifications, a web app manifest. This application is structured using MERN stack.

Keywords: - *Community, Progressive Web Application (PWA), event management, MERN stack.*

I. INTRODUCTION

Community Web is a social networking site that allows the user base to find and join any events related to their interests. However, instead of just talking about these interests online, this platform is used to create events and meetings in any locality. We want to create a flexible online community where the users can share their interests, connect with others who possess the same interests and to join events that are based on their interest. We are doing this to improve the current system which requires a difficult procedure to create and join events, they are either easy for organizers or users, but not for both.

It is a great resource for meeting new people, getting involved in a community, and being more active with an interest you enjoy. Best of all, it is completely free to join and get started. All events are created and run by individuals with verified account and identity, which is existing users with verification, can create the event. Every event you will find on Community Web is created by the user-base. These users can create events to meet others who share their interests in a particular topic they felt passionate about or are the larger groups like event organizers setting up a big event. Whenever you attend a Community Web event, there will be an organizer group as professional or a representative there hosting it. There is a variety of events, including tech fests, hackathons, music's, dance, books, food, outdoor activities, games, sports, and politics, there is no limit on what type of events can be created. Some are general, like events for social gathering, while others can be more specific, like a big event with professional talks. Users can find any events that they are interested in, they can always update their interest details in the profile to get more events suggestions.

All events that are created in this platform are free to host, some are paid events, but not all. This gives the user great flexibility in choosing what events he/she needs to join. This platform is also a great option for organizers, they can create events without spending any fees, so more and more events that are happening unnoticed will emerge in the platform where users can join. This makes finding and joining any events easier and also the added community section for

discussion will provide a platform where the users can discuss topics on interest and even rate the events.

II. Literature Review

Bob Frankston [1] says a PWA can be treated like a standard application on a device; the ability for it to be run from uniform resource locator (URL) makes it easy to use the application on any device with a browser. Unlike desktop applications, which have had full access to the capabilities of the hardware, Pastors out with essentially no access beyond the content from its original site? This reflects the cautious safety-first model for the web. These capabilities are becoming more available to browser applications. They can now get the user's location and support Bluetooth devices. Soon they will be able to process payments. We can think more of PWAs as true applications and not just as cached web pages.

Nikos Bikakis [2] says a major challenge for social event organizers (e.g. event planning and marketing companies, venues) are attracting the maximum number of people, since it has a great impact on the success of the event, and, consequently, the expected gains(e.g., revenue, artist/brand publicity). The inclusion of social media and networks has given birth to a new type of social networks which focus on online event management, called Event-based Social Networks (EBSN). The main objectives substantially different compared to the existing works. The same holds for the solution; in our problem, the solution is a set of event-time assignment, while in existing works is a set of user event-assignments.

III. Problem Statement

There are a lot of event organizing services online, but none of the platform provides events based on the user's interest. This is a major problem for all the users who are using those services because it makes it harder for them to find one that he/she is interested in while being time-consuming.

We solve this problem by providing our user-base with interest-based events. This solution makes the user spend less time choosing the events based on their interest.

The other problem that users face when joining an event is payment. Most of the time it is 'on spot' pay-registration, which makes it more difficult to book in advance. We solve this by providing a payment solution on registration and creating a joined member database so that the users and organizers can have better information about the event. It will help them plan the event better.

Purpose: Community Web is a social networking site that allows the user base to find and join any events related to their own personal interests. However, instead of just talking about these interests online, this platform is used to create events and meetings in any locality. We want to create a flexible online community where the users can share their interests, connect with others who possess the same interests and to join events that are based on their personal interest. We are doing this to improve the current system which requires a difficult procedure to create and join events, they are either easy for organizers or users, but not for both. So, this platform makes life easier for both organizers and the user base.

Scope: It is a great resource for meeting new people, getting involved in a community, and being more active with an interest you enjoy. Best of all, it is completely free to join and get started. All events are created and run by individuals with verified account and identity, which is existing users with verification, can create the event. Every event you will find on Community Web is created by the user-base. These users can create events to meet others who share their interests in a particular topic they felt passionate about or are the larger groups like event organizers setting up a big event. Whenever you attend a Community Web event, there will be an organizer group as professional or a representative there hosting it. There is a variety of events, including tech fests, hackathons, music's, dance, books, food, outdoor activities, games, sports, and politics, there is no limit on what type of events can be created. Some are general, like events for social gathering, while others can be more specific, like a big event with professional talks. Users can find any events that they are interested in, they can always update their interest details in the profile to get more events suggestions. All events that are created in this platform are free to host, some are paid events, but not all. This gives the user great flexibility in choosing what events he/she needs to join. This platform is also a great option for organizers, they can create events without spending any fees, so more and more events that are happening unnoticed will emerge in the platform where users can join. This makes finding and joining any events easier and also the added community section for discussion will provide a platform where the users can discuss topics on interest and even rate the events.

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IV. EXISTING SYSTEM

The major existing systems that exist in this space are meetup and paytm Insider. They have been connecting many events with every individual seeking event online.

Fig. 1. Paytm insider and meetup

If we consider Meetup which uses group-based event displaying, which means the user should be a member of a certain group to see the event or get notified for the event. This method makes it harder for the user to find all events he is interested in, he may have to join multiple groups and keep track of all the group activities in those group to find all the information about the event he/she is interested in, which is time consuming and is an intense way of finding an event that the user is interested in. There smaller events go unnoticed in the space.

There is not always a big event going on, but there are a lot of smaller events also, and these platforms are paid to host the events.

V. PROPOSED SYSTEM

In this part, let us see the flow diagram of the entire system and its implementation. Implementation refers to a set of planned, intentional activities that aim to put into practice evidence-informed policies and practices in real-world services. The goal of effective implementation is to benefit end-users of services – children, youth, adults, families, and communities.

- Sign-up and Login.
- Make an event database.
- Match user data with interest-based event.
- Suggest upcoming interest-based events.
- Payment gateway.
- Ticket generation.

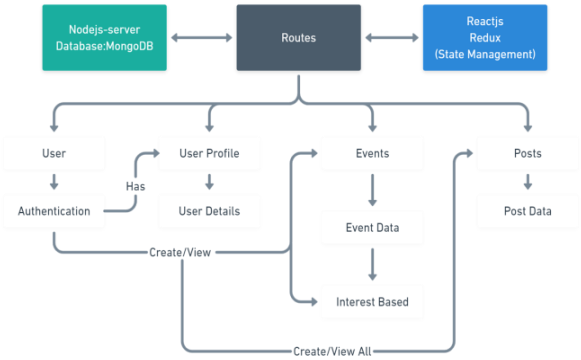

Fig. 2. Project structure

A. Modules Description:

- Sign-up and Login: The user can create a free account by filling up all required details. Existing users can login by simply providing their registered email address and password.
- Make an event database: Verified users can create an event and these events are then stored in a key matched database, where event sets are sorted and stacked.
- Match user data with interest-based events: The user interest data are taken and matched with that of the events, if a match occurs, then the user gets the event suggestion.
- Suggest upcoming interest-based events: Events are suggested based on queue order where the events that are happing first are shown at the very first.
- Payment gateway: Providing the users simpler and convenient on service payment to book a paid event.
- Ticket generation: The user is provided with the ticket for the events after payment and the organizer will get the list of all those who have attended.

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VI. System Architecture

To achieve the product that is web application, which is flexible, scalable and user friendly, the very popular three-tier architecture is deployed to build our application. This architecture is composed of three layers: the user interface layer, the application logic layer, and the database layer. The main aim of this kind of architecture is to solve several designs and developmental problems, therefore, to make the application developmental work more easily. The user interface layer in the three-tier architecture offers the user an easy way to communicate with the application, while the application logic layer performs the controlling functionalities and manipulating the logic connection of data flows. And the last one, the data modeling job is conducted by the database layer, which can store, index, manage and model the data needed for this application.

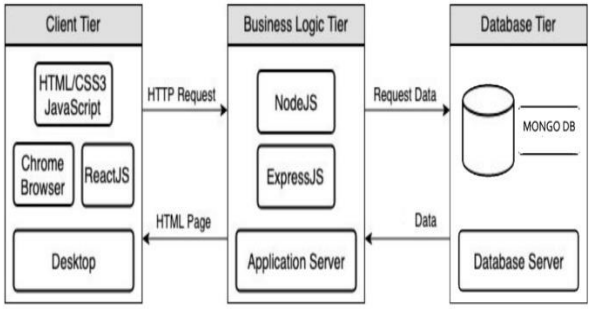

Fig. 3. Project architecture

The architecture of our application is mainly based on MVC model. Our Client tier (View) is been written in JavaScript, HTML, and CSS, also using ReactJS as the framework. This type of the architecture is what the user will interact with to access all the features of our application. The Business logic tier (Controller) is been written using NodeJs and ExpressJS, and this part represents the application server that will act as an interface of communication for the client tier and database tier. This tier will provide the HTML pages to the user's device and accept HTTP requests from the users and follow with the proper response. Our database tier (model) will be hosting MongoDB. This is where we will store all the data our application that is needed for proper functioning.

TECHNOLOGIES USED: The MERN stack is a JavaScript stack that is designed to make the development process very smooth way. MERN includes four open-source components: MongoDB, Express, React, and Node.js. All these technologies provide an end-to-end framework for developers to work in. All the below technologies are used to build the both front-end and back-end that is basically the full-fledged end-to-end application.

- MongoDB
- ExpressJS
- ReactJS
- Node JS
- Material UI

VII. Results

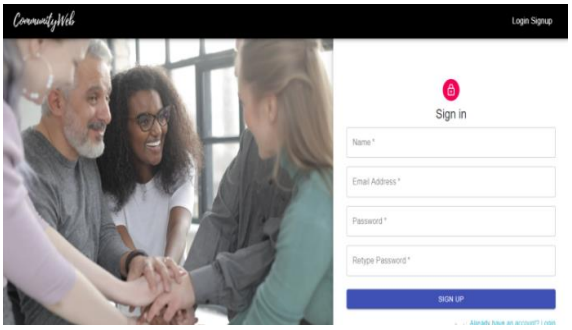

Fig. 4. Sign up page

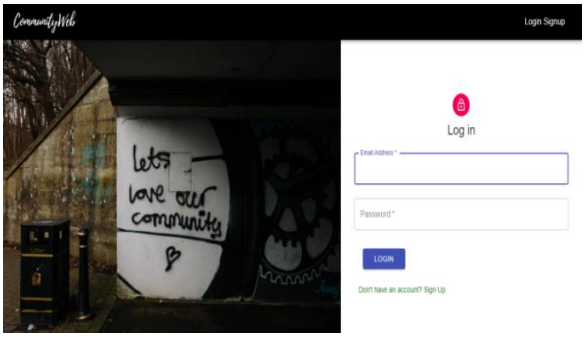

Fig. 5. Login page

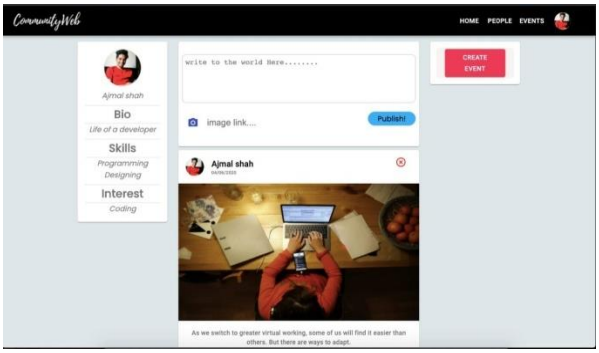

Fig. 6. Home page

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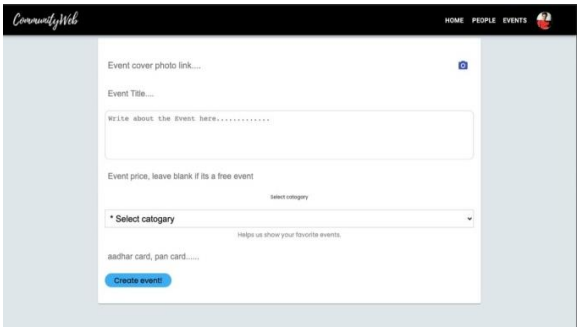

Fig.7. Create event

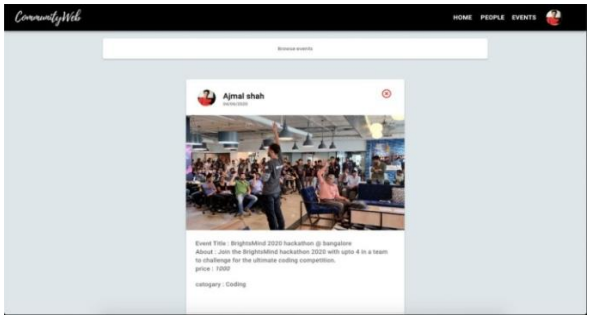

Fig.8. View events

VIII. CONCLUSION

This platform has the best ideal possibility for solving the community problem. We are creating this platform to connect people based on their interests and proving them all the events that they may feel interested to connect with.

The current system does not do both, so we want to target this problem and solve this entirely with new concepts and ideas on top of it. Data's are collected from the users to predict the user's interests in the most optimal way and provide events accordingly, and also this data's on user interests and interactions also helps us to suggest user to other users who possess the same interest. These users can then engage in a conversation and share contents of interests. There is no friendsaddingor follow the one you like feature like other platforms, this platform connects the users with other users with matching interests decided by our intelligent system algorithms, so there is no spamming nor there is any need to view any posts that the users are not interested. To make this platform available to the largest of the mass market, we had to use the latest technologies base on PWA (progressive web app). This makes sure that no matter what devices the user base is using, they still get the best user experience, in which our platform is designed and developed for maximum user experience. So, we solved the usage problem by providing the latest technology available.

The technology is based on MERN stack, which uses reactjs, a javascript library for the frond-end, Nodejs and expressjs for the server and backend handling and MongoDB for our ever expanding and highly scalable database. This efficient and powerful way of providing the community user's based on their interests and by using the latest and best technologies to handle it makes this platform the best for both the end user, who are looking to find their interest matched events and friends, and for the event organizers too. Who are all the part of the verified user base they can create any events for no fees at all, making this platform different and more effective than other existing platform.

IX. FUTURE WORK

We can create a machine learning algorithm that learns about user preferences that is based on the user interactions with the platform. Even if the user has not chosen any interests, based on his recent activities, the events will be suggested for the user.

Augmented Reality capability which when the user points his phone camera at an ad post anywhere on the real world, he will be redirected to the event booking page directly. Event management improvements using QR code capabilities. The user can just scan the Rode of the event at the entry gate and can check-in seamlessly. Instant messaging capabilities for better team Collaborations.

X. ACKNOWLEDGEMENT

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