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AI Powered Event Organizer

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***Abstract*- In the world of fast-paced lifestyles and dynamic technical events, the organization and management of such an event is one of the complex tasks. This project proposes new way in the form of AI- powered event organization and recommendation system which normalizes the task of evet management. This project uses Artificial Intelligence, Machine learning algorithms to recommend the targeted users only for whom we have to recommend the events only. This works by analyzing the uses the previous history of attended events, registered events and also the events which are attended by users with similar interest of the targeted users. It will work the both the content based as well as collaborative filtering for the event recommendation. The project architecture integrates the organization functionalities with the help of finding the targeted uses from the taken interest and also the interest generated due to friends for them according to the system. Through the evaluation process, including user feedback, eighter he likes or dislikes or his friends likes or registered accordingly the events are recommended. In this way the efficiency of the proposed system is enhanced with the help of suitable algorithms for the management of events in this digital era.**

Keywords: Artificial Intelligence, recommendation, event management, interests, training.

I. INTRODUCTION

In the fast-paced era of growing technology and technical events the management of such events is one of the major task. From professional conference to sports events any kind of events can be managed by this project.

This project presents an AI- powered Event Organizer and Recommendation System to solve the problems arising in the management of such events, which gives the personal recommendation to only the targeted users, so that they can attend the particular event by registering it whether it should be paid or free. If not possible to attend it simply he can like it so that it events like can be suggested to him in the future, if it arises. He can also share the particular event if he likes it to his friends through the any social media platforms. The primary objective of this project is to develop a platform which can integrates all kinds of events, and recommending only the interested events by the user to the specific users.

Different admins can post the events related to their specific domain and that events get recommended to the target users.
Only verified club admin can get the login credentials of as admin. Particular club Admin can see the how many candidates are registered to the events and also, he can see the liked events by the candidates. So, in next times according to user's likes admin can organizes the events that are more helpful from use's point of view.

For getting the personalized recommendation to user's based on their area of interest the most trending technology Artificial Intelligence and Machine Learning are used. By using various Machine learning algorithm, modules , preprocessing and training data we are finding the exact matches of users' interest and their likes.

II. LITERATURE REVIEW

The implementation of Artificial Intelligence (AI) in Project Management (PM) has been a topic of interest for researchers and practitioners alike in recent years. The potential benefits of AI in project management include increased efficiency, improved decision making, and better risk management (Li et al., 2021). However, there are also concerns around the ethical implications

of AI in project management, as well as the impact on human roles and decision-making (Geraldi et al., 2020).

Several studies have explored the use of AI in project management. For instance, Zayed et al. (2021) conducted a systematic review of the literature on AI in project management, identifying key areas where AI can be used, such as project planning, risk management, and resource allocation. The authors also noted that the successful implementation of AI in project management requires a combination of technical and organizational factors. In a similar way, Liu et al. (2021) conducted a survey of project management practitioners on the use of AI in project management. The authors found that project managers are generally positive about the potential of AI to improve project outcomes, but that there are also concerns around the accuracy and reliability of AI systems.

Al-Mashari, M., & Zairi, M. (2022) discussed the implications of AI implementation for project management. The authors argued that AI can lead to a more efficient and effective project management process, but it also raises concerns about the potential redundancies and the need for upskilling the workforce. The paper highlighted the importance of a human-centered approach to AI implementation in project management. As it is defined above, artificial intelligence has numerous capabilities that are based on analyzing large amounts of data, finding patterns, extracting conclusions and making predictions based on them (Russell & Norvig, 2016). Influence of AI is already apparent into long-established positions to improve tasks and responsibilities which were traditionally performed by humans, including project managers.

III. PROPOSED SYSTEM OVERVIEW

Key features of the AI-powered event Organizer and recommendation system are as follow:

1. **Personalized Suggestions:**
   Through modern machine learning calculations, the framework conveys custom fitted occasion proposals based on person interest, past participation history, and social intelligent.

2. **Efficient event Organization:**
   By automating the recommendation process with help of AI algorithms is gives the targeted users in efficient way. It is possible to send the notifications to only the targeted users so that they can attend the event becomes easy.

3. **Upgraded user Engagement:**
   With natural client interfacing and intuitively highlights, the framework cultivates more noteworthy engagement among participants, empowering cooperation and finding new opportunities.

4. **Real-time Updates and Notices:**
   Participants get convenient updates and notices around up-and-coming occasions, charges, and important news and information about events which are liked by him.

   In addition to managing and recommendation of events to targeted users it also helps to suggest the events based on collaborative filtering, in which the events which are attended or like by the users with similar interest are also recommended to the similar users.

Modules Description:

1) **Keyword Extraction Module (TF-IDF):**
   Extract keywords from user-provided text.
   This module extracts the meaningful words, patterns from the Specified text. It also removes the stop words from the text for eliminating the unnecessary words from it.

2) **Data Storage and Management Module:**
   This module helps to store the user's and events data more efficiently and securely. When user's first time come to platform need to create account to access it. Once he created account and start using our system we have monitor his activity on platform ex: Likes, dislikes, shares, registered events etc. to giving best recommendations to him. This stored data can be easily access and retrieved when needed.

   For the sensitive information such as user's login credentials we have used some encryption techniques to achieve the high security.

3) **Recommendation Algorithm Module:**
   Recommendation is very major part in every large-scale application. When application is used by many users' and it contains large amount of data, then it is challenging to users to find there relevant contains on it. So, to solve this issue we used :
   Content Based Filtering – Provide recommendations based on user interests.
   Collaborative Filtering – Events are recommended based on Similarity measures between users.

4) **Notification and Communication Module:**
   Notifications helps used to stay up to date with new updates in the platform. Whenever admin post events that are relevant to particular user then immediately notification is send to that user about upcoming events.
   Various communication channels such as email, text message, are used.

5) UI Module:

User Interface has to be user friendly because end user directly interacts with system using UI. So, by considering this we developed interactive and responsive UI for this application.

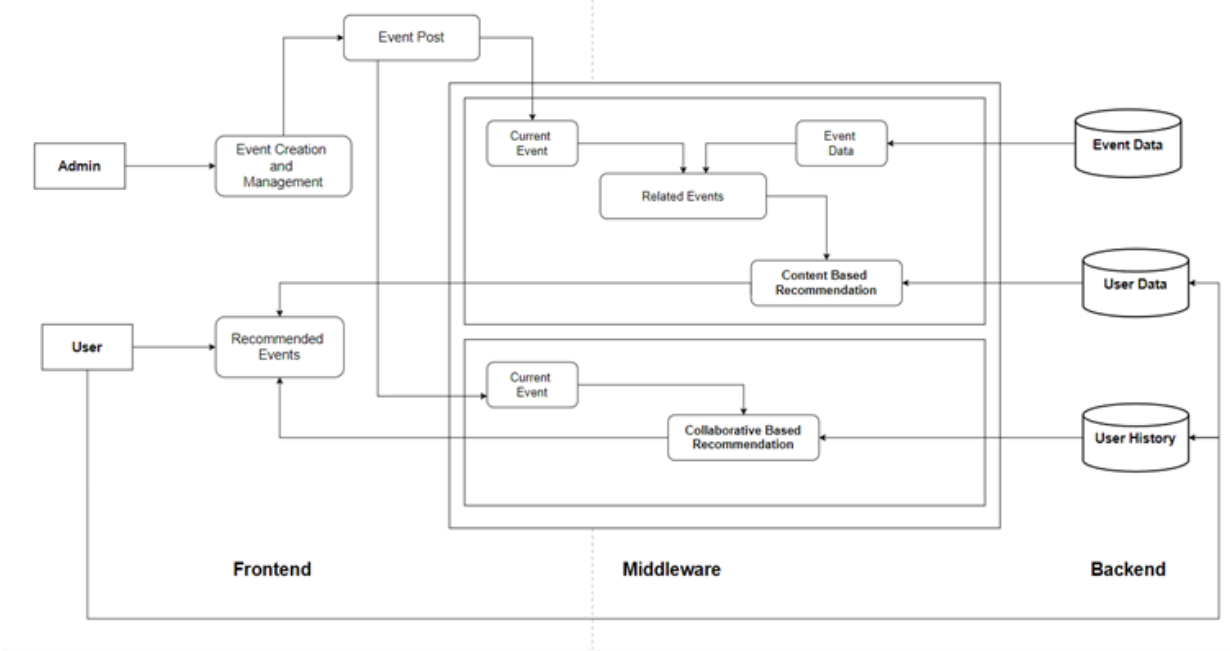


Figure 1: Architecture Diagram

IV. ALGORITHM DETAILS OF SYSTEM IMPLEMENTATIONS

Different algorithms are used for content based filtering and collaborative filtering, as follow:

I. Content Based Filtering:

1. **K-Means algorithm**:
   The k-means algorithm is a popular unsupervised machine learning algorithm used for clustering data into groups based on similarities. It aims to partition a given dataset into k clusters, where each data point belongs to the cluster with the nearest mean, serving as the prototype of the cluster.

2. **KNN:**
   The k-Nearest Neighbours (KNN) algorithm is a simple and effective supervised machine learning algorithm used for classification and
   regression tasks. In KNN, the output of a new data point is determined by the majority vote (for classification) or the average (for regression) of its k nearest neighbours in the feature space.

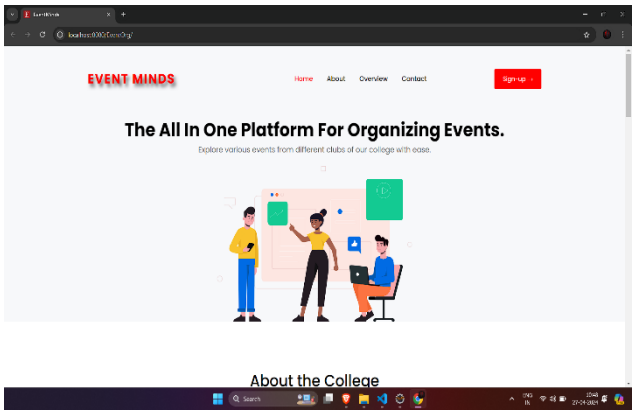
3. **TF-IDF**
   TF-IDF (Term Frequency-Inverse Document Frequency) is a statistical measure used to evaluate the importance of a term within a document relative to a collection of documents. It is commonly used in natural language processing and information retrieval for tasks such as text classification, document similarity, and keyword extraction.

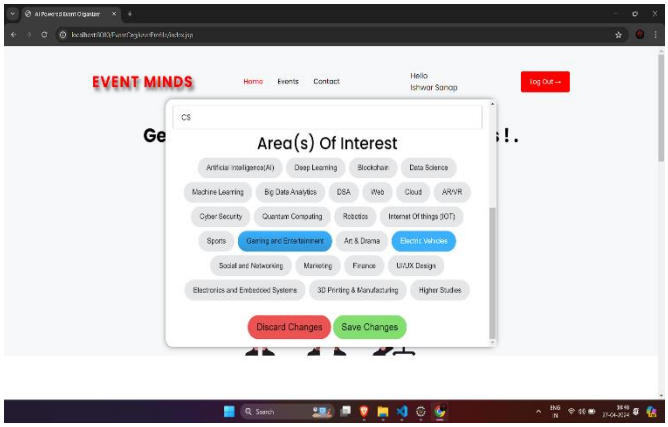
II. Collaborative Filtering:

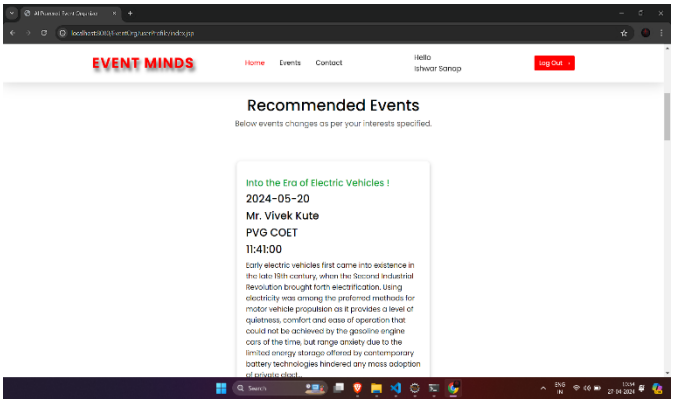
1. **Matrix Factorization algorithm:**

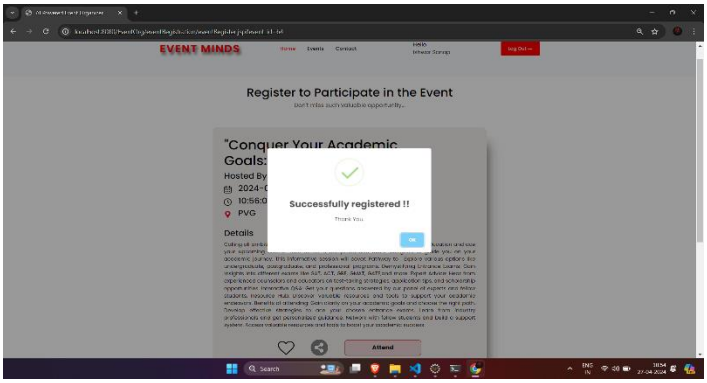
   Matrix factorization algorithms are used in various fields, including recommendation systems, image processing, and collaborative filtering. These algorithms aim to decompose a matrix into two or more matrices that represent latent features or concepts within the data. One of the most common applications of matrix factorization is in recommendation systems, where it is used to predict user-item interactions, such as ratings or preferences for movies, products, or articles.

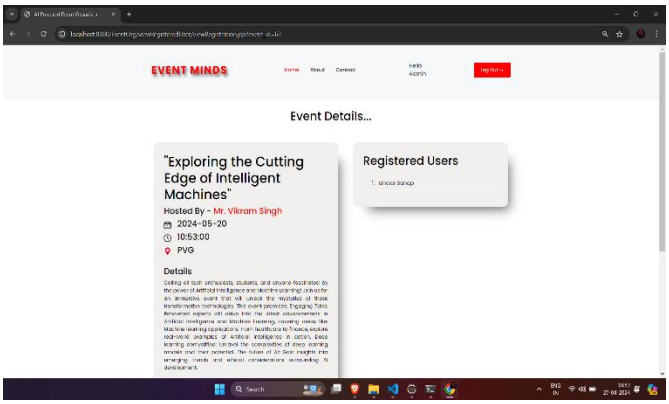
V. RESULTS

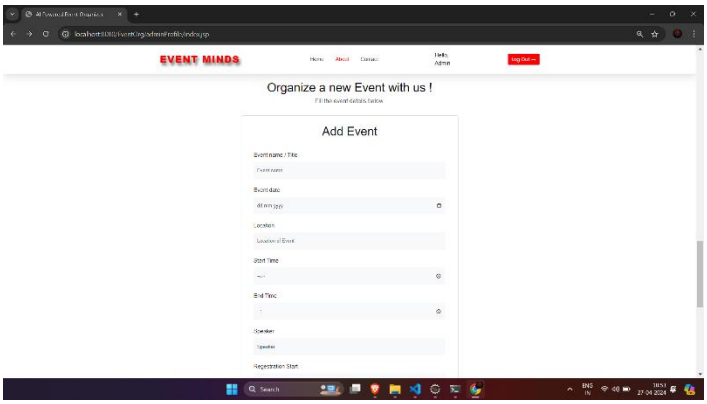

EVENT MINDS
Home
About
Overview
Contact
Sign-up
The All In One Platform For Organizing Events.
Explore various events from different clubs of our college with ease.
About the College


EVENT MINDS
Home
Events
Contact
Hello
Ishwar Sanap
Log Out
Area(s) Of Interest
Artificial Intelligence(AI)
Deep Learning
Blockchain
Data Science
Machine Learning
Big Data Analytics
DSA
Web
Cloud
AR/VR
Cyber Security
Quantum Computing
Robotics
Internet Of things (IOT)
Sports
Gaming and Entertainment
Art & Drama
Electric Vehicles
Social and Networking
Marketing
Finance
UI/UX Design
Electronics and Embedded Systems
3D Printing & Manufacturing
Higher Studies
Discard Changes
Save Changes


EVENT MINDS
Home
Events
Contact
Hello
Ishwar Sanap
Log Out
Recommended Events
Below events changes as per your interests specified.
Into the Era of Electric Vehicles !
2024-05-20
Mr. Vivek Kute
PVG COET
11:41:00
Early electric vehicles first came into existence in the late 19th century, when the Second Industrial Revolution brought forth electrification. Using electricity was among the preferred methods for motor vehicle propulsion as it provides a level of quietness, comfort and ease of operation that could not be achieved by the gasoline engine cars of the time, but range anxiety due to the limited energy storage offered by contemporary battery technologies hindered any mass adoption


EVENT MINDS
Register to Participate in the Event
Successfully registered !!
Details
Attend


EVENT MINDS
Event Details...
"Exploring the Cutting Edge of Intelligent Machines"
Hosted By - Mr. Vikram Singh
2024-05-20
10:53:00
PVG
Details
Registered Users


EVENT MINDS
Organize a new Event with us !
Add Event

VI. FUTURE SCOPE

This project helps to us to incorporate sentiment analysis, predictive analytics, and payment integration. It uses algorithms for more accurate and personalized event suggestions. By using it, it can give the list of targeted users in efficient manner. It helps to analyze comprehensive insights into attendee behavior and preferences.

Advanced AI Features: Incorporate sentiment analysis, predictive analytics, and interactive chatbots.

Refined Recommendation Algorithms: Enhance algorithms for more accurate and personalized event suggestions.

Smart Event Analytics: Develop tools for comprehensive insights into attendee behavior and preferences.

Social Media Integration: Strengthen connections with popular platforms for seamless event sharing.

Continuous User Feedback Loop: Establish a system for ongoing user feedback to drive improvements.

VII. CONCLUSION

The AI-Based Event Management web application stands as a comprehensive solution for users seeking a streamlined and user-friendly platform for event discovery and registration. By consolidating various events, from Tech-fests to seminars, into one accessible interface, the application addresses the diverse needs of its users. The core functionality, including event search, registration, and personalized recommendations based on user interests, ensures a tailored and engaging experience. The emphasis on user registration and the provision of a recently viewed events list add to the application's user-centric design, promoting ease of use and enhancing user engagement. The gateway's intuitive features, such as category-based event selection and search functionalities, contribute to a seamless navigation experience. This web application not only simplifies the event management process but also adapts to user preferences over time, offering a dynamic and personalized event discovery journey. As a result, the AI-Based Event Management web application not only meets the fundamental requirements for event participation but also aligns with the evolving expectations of users in the digital age, positioning itself as a valuable and enduring tool for event enthusiasts.

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