HobbyNet: A Personalized Platform for Hobby-Based Social Networking and Mentorship

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ABSTRACT: This paper presents HobbyNet, a personalized platform aimed at connecting individuals through shared hobbies and offering mentorship opportunities. Designed to bring together people with similar interests, the platform also encourages skill development and learning. Using collaborative filtering techniques, it recommends compatible users, mentors, and events, thereby creating a dynamic and supportive community. This study explores the impact of the platform on user engagement, learning progression, and the overall value it offers to both hobbyists and mentors.

KEYWORDS: Hobby Community, Social Networking, Mentorship Platform, Collaborative Filtering, Skill Development

I. INTRODUCTION

This platform is an innovative social connection and mentorship network for individuals passionate about hobbies, providing a seamless way to connect with like-minded people and expert mentors in their areas of interest. Designed to foster community and learning, this platform allows users to find and join hobby-based groups, participate in events, and learn from experienced mentors, all while exploring new activities and advancing their skills.

Through intelligent recommendations and a collaborative filtering system, users can discover new hobbies, engage in relevant discussions, and find mentors or peers based on shared interests and skill levels. Mentors can offer personalized guidance, organize workshops, and provide feedback, helping members achieve their goals. Members can join hobby-based events, participate in group collaborations, and even track their progress and skill development.

Whether users are beginners or seasoned enthusiasts, this platform brings a supportive space for exploration, learning, and personal growth—connecting people through the hobbies they love.

Many hobby enthusiasts and learners face challenges finding like-minded individuals and mentors to support their personal development. Existing social platforms do not cater specifically to hobby connections or the facilitation of mentorship. Our proposed platform addresses this gap, allowing users to connect with peers and experienced mentors based on shared interests. The system combines social networking, skill assessment, and collaborative filtering to create a highly personalized experience that fosters both community building and learning opportunities.

Our project is a good solution for people who are lonely as it not only helps people discover their hobbies and interests but also helps to make a social connection.

Also to tackle the problem of loneliness the government of South Korea is taking a similar policy to help combat loneliness.

Top 5 hobbies in India include watching movies, playing cricket, practicing yoga, cooking, and traveling, reflecting the country's diverse interests and passion

II.   RELATED WORK

The HobbyNet project is designed to connect hobby enthusiasts with mentors and like-minded individuals, creating a vibrant platform for skill development and community engagement. By leveraging a robust tech stack—Node.js, Express, MongoDB, and React—along with collaborative filtering algorithms, the platform ensures personalized recommendations for users, such as mentors, upcoming events, and hobby related content. It addresses the growing demand for accessible mentorship and networking, promoting knowledge sharing, collaboration, and growth within diverse hobby communities.

The rise of digital platforms has transformed how people interact, learn, and build communities around shared interests. Several existing systems and social networks have attempted to address the need for hobby-based engagement and mentorship. However, most platforms are either content-focused, lacking real-time collaboration, or social in nature without structured mentorship and skill progression. HobbyNet bridges this gap by combining social networking, intelligent matchmaking, and mentorship into a unified hobby-driven ecosystem.

A.   Hobby-Based Social Platforms and Communities

Platforms such as Meetup and Reddit have enabled users to engage with others through shared interests, events, and discussions. Meetup allows users to join interest-based groups and attend local events, promoting offline community building. Reddit provides diverse subreddits for hobbies where users can share experiences and knowledge. However, these platforms lack structured mentor-mentee models, skill tracking, and personalized recommendations, limiting their utility for sustained learning and growth.

B. Online Learning and Skill Platforms

Skill development platforms like Skillshare, Coursera, and Udemy offer on-demand video courses taught by professionals. These systems provide structured content delivery but lack dynamic mentor interaction and peer collaboration. Coach.me introduces habit-based coaching and goal tracking, offering one-on-one mentorship, but its scope is primarily self-improvement rather than hobby cultivation.

C. Hobby Matchmaking and Event Discovery

Niche platforms such as Hobify and Peerspace allow users to find events or rent venues for hobby-based activities. While they support offline interactions and occasionally offer workshops, their recommendation systems are limited and do not use collaborative filtering or AI-driven matchmaking. Additionally, these systems rarely integrate learning progression or mentor ratings, making it harder for users to evaluate and connect with suitable mentors.

D. Contribution of This Work

HobbyNet distinguishes itself by combining intelligent matchmaking (via collaborative filtering), real-time communication tools, and hobby-based mentorship into a cohesive platform. Unlike event-only systems or passive content platforms, HobbyNet allows users to:

- Join hobby-specific communities
- Get matched with mentors based on shared interests and skill levels
- Track learning progression and feedback
- Participate in online/offline events organized by mentors

This approach empowers users not only to explore hobbies socially but also to receive structured guidance and grow their skills through personalized mentorship.

E.   AI-Powered Recommendation and Personalization

Recent developments in AI and collaborative filtering techniques have enabled platforms to analyze user behavior, interests, and feedback to generate highly personalized suggestions. HobbyNet integrates a hybrid recommendation model that combines user-based and item-based collaborative filtering, along with location-based suggestions and sentiment-aware feedback analysis.

This enables:

- Personalized mentor and event recommendations
- Discovery of new hobbies aligned with user interests
- Dynamic feedback integration to enhance matching accuracy

III.   METHODOLOGY
A. Database Management

1.Relational Database Integration:

The platform uses a relational database (e.g. MongoDB) to efficiently store and manage data, including user profiles, hobbies, mentorship details, and activity history.

2.Data Segmentation:

Data is logically segmented into tables such as Users, Mentors, Hobby Categories, Events, and Activity Logs to ensure smooth retrieval and organization.

3.Scalability:

The database architecture is designed to scale horizontally, accommodating a growing number of users, mentors, and activities without performance bottlenecks.

4.Real-Time Data Synchronization:

Real-time updates ensure seamless tracking of user progress, mentor feedback, and collaborative events, supporting dynamic interaction between users and mentors.

B. Collaborative Filtering Algorithm

1.Personalized Recommendations:

The collaborative filtering algorithm recommends connections, mentors, events, and content based on shared interests, activity history, and skill levels.

2.Hybrid Recommendation Approach:

Combines user-based filtering (finding similar users) and item-based filtering (finding popular mentors, events, or content within specific hobbies).

3.Location-Based Suggestions:

Incorporates geolocation data to suggest mentors, events, and users in nearby regions, fostering local collaboration.

4.Feedback Integration:

User and mentor feedback (e.g., ratings, reviews) is incorporated into the algorithm to improve relevance and user satisfaction.
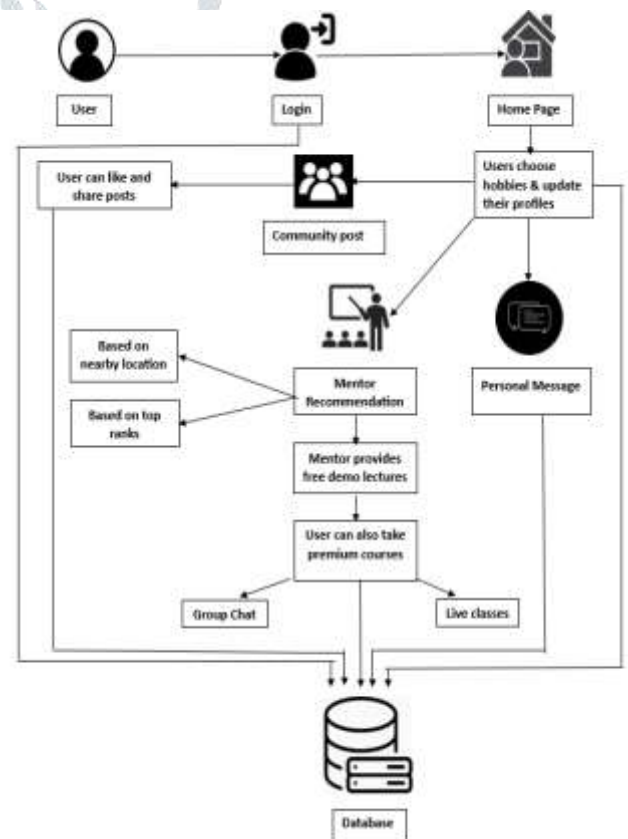

fig.1

IV. LITERATURE SURVEY

1.Meetup
Purpose: Helps people find and join groups based on shared interests, including hobbies, tech, and self-improvement.
Similarities: Connects people with shared interests, allows event-based networking.
Differences: Focuses more on events rather than direct mentor-mentee connections.

2. Skillshare
Purpose: An online learning platform where mentors (teachers) create courses on creative and technical skills.
Similarities: Connects learners with mentors based on interests.
Differences: Mostly course-based, lacks real-time mentor matching.

3. Coach.me
Purpose: A habit-tracking and coaching app where users can hire mentors for personal development.
Similarities: Mentor recommendations based on interests and goals.
Differences: Focuses on personal coaching, not general hobbies.

4. Reddit (Hobby-based Subreddits)
Purpose: A community-driven discussion platform where users share knowledge and experiences.
Similarities: Users find and engage with hobby-based communities.
Differences: No direct mentorship system, more discussion-oriented.

5. Udemy
Purpose: A marketplace for online courses where users can learn various skills from experts.
Similarities: Users get recommendations based on interests.

Differences: No real-time mentor interaction, course-based learning.

6. Coursera (With Mentorship Programs)
Purpose: Provides online courses with mentorship programs from industry experts.
Similarities: Offers mentor-guided learning experiences.
Differences: Structured courses, not direct hobby-based mentoring.

7. Peerspace
Purpose: A platform for renting spaces for hobby-related activities and learning sessions.
Similarities: Helps users engage in hobby-related events and meet like-minded individuals.
Differences: Focuses more on physical spaces rather than mentor matching.

8. Discord (Hobby & Learning Communities)
Purpose: Provides communities for various interests where people share knowledge, collaborate, and find mentors.
Similarities: Real-time communication with hobby-based mentors.
Differences: Chat-based, lacks structured mentor recommendation features.

V. BENEFITS

1.Hobby-Based Recommendations: Users receive personalized suggestions for mentors, peers, events, and community activities based on their hobbies and skill levels using collaborative filtering.

2.Progress Dashboard: Users can track their hobby progression through skill assessment tools, milestones, and achievements.

3.Real-Time Communication: Integrated **chat**, video calls, and group discussions allow users to connect with mentors or collaborate with peers.

4.Content Sharing: Users can upload and share multimedia content (images, videos, or blog posts) related to their hobbies to inspire and engage the community.

5.Event Management: Users can join or create hobby-related events such as workshops, competitions, or meetups.

VI. CONCLUSION

The proposed hobby connection platform provides a unique and personalized approach to social engagement and mentorship in hobby communities. By connecting users based on shared interests and skill levels, the platform fosters meaningful relationships and supports personal growth. With its data-driven insights and collaborative features, this platform not only enriches user experiences but also contributes to skill development and community building.

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