Skill-Sharing and Micro Learning Platform

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ABSTRACT

The rapid evolution of digital learning demands flexible, accessible, and skill-oriented platforms that support continuous growth. Traditional learning models often lack adaptability and impose constraints related to cost, time, and geographical limitations. This paper presents a Skill-Sharing and Micro-Learning Platform designed to deliver short, focused learning modules while enabling peer-to-peer knowledge exchange. The system integrates micro-learning videos, personalized recommendations, and interactive feedback mechanisms to enhance learner engagement and retention. Through its community-driven design, the platform encourages both learners and skilled contributors to participate actively, thereby democratizing education and promoting lifelong learning. The proposed solution demonstrates how micro-learning, combined with peer collaboration, can create a scalable and inclusive digital learning ecosystem.

Keywords — Micro-Learning, Peer-to-Peer Learning, Skill-Sharing Platform, Digital Education, Personalized Learning, E-Learning Systems

I. INTRODUCTION

Digital transformation has reshaped the expectations and requirements of modern learners. With industries continuously evolving, individuals must frequently acquire new skills to remain relevant. Conventional learning approaches—long courses, rigid academic structures, and lack of personalization—often fail to address these dynamic needs. Micro-learning has emerged as an effective alternative, offering short, concise learning units that improve retention and fit seamlessly into busy schedules.

Peer-to-peer learning further enhances this model by allowing individuals to teach and learn directly from one another, creating a collaborative and practical learning environment. The proposed platform merges these two approaches, providing a structured system where experts share skill-based micro-modules and learners access bite-sized content tailored to their interests.

This paper outlines the design, features, and outcomes of the Skill-Sharing and Micro-Learning Platform, emphasizing its role in fostering accessibility, community engagement, and personalized learning**.**

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II. RELATED WORK

Research on micro-learning demonstrates its strong potential to enhance engagement, retention, and flexibility across educational and professional contexts. Studies show that short-form content improves understanding of soft skills, communication, and conceptual clarity. Likewise, peer-driven learning environments promote collaboration, practical knowledge exchange, and community growth.

Existing literature highlights:

- Mobile micro-learning applications, which enhance peer feedback and improve learner performance.
- Soft-skill development studies, showing increased participation and engagement through micro-modules.
- Peer-to-peer skill exchange systems, emphasizing decentralized and community-based learning.
- AI-assisted short educational videos, improving learner attention and recall.
- Frameworks for micro-learning design, addressing issues like fragmented content and emphasizing personalization.

III. PROPOSED SYSTEM

A. System Overview

The Skill-Sharing and Micro-Learning Platform is designed as an accessible ecosystem where users can assume the roles of both learners and contributors. It delivers micro-videos, personalized recommendations, interactive discussions, and structured content management.

The platform follows a three-tier architecture consisting of:

1. Presentation Layer – User interface for learners, experts, and admin roles.
2. Application Layer – Backend logic managing authentication, content delivery, user interaction, and recommendations.
3. Data Layer – MySQL database storing user details, uploaded content, comments, engagement metrics, and categories.

B. Key Features

- Peer-to-Peer Skill Sharing: Users can both learn and contribute, fostering a community-based ecosystem.
- Micro-Learning Content Delivery: Short video modules enhance quick understanding and retention.
- Personalized Learning Paths: Recommendations based on user interests, behaviour, and progress.
- Interactive Tools: Comments, feedback, and engagement analytics support active learning.
- Scalability: Modular architecture enables future expansion, including advanced analytics and AI models.

C. Data Collection Process

The system gathers:

- Registration details (interests, role type, learning preferences)
- Uploaded micro-learning modules (videos, descriptions)
- User engagement behaviour (views, feedback, comments)
- Search patterns and navigational behaviour
- Community interactions, supporting content validation and improvement This structured dataset supports personalization and continuous platform refinement.

IV. RESULTS AND DISCUSSION

The platform was tested across all functional modules to validate usability, stability, and performance. The implemented system successfully supported learners, experts, and administrators through intuitive workflows, secure authentication, and seamless content interaction.

Observed Outcomes:

- Smooth access to categorized micro-learning content
- Effective search and filtering with informative UI prompts
- Structured expert dashboards for content management
- Administrative monitoring of user activities

- Stable performance with consistent feedback integration

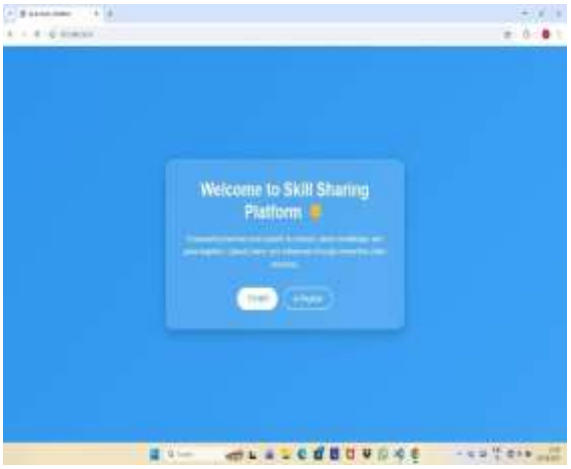

Fig 1.1 Login/Register Page

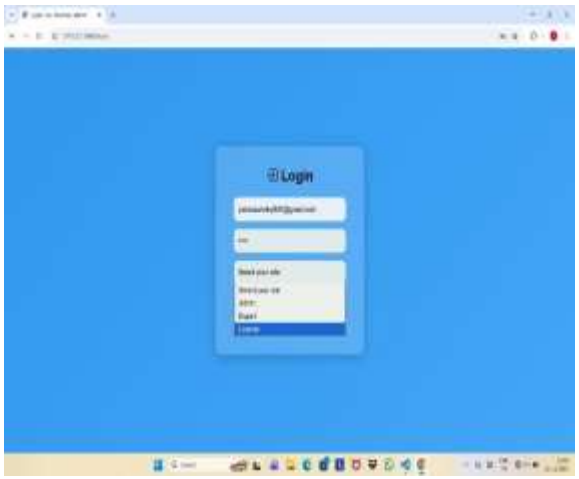

Fig 1.2 Learner Login

Fig 1.3 Learner Dashboard

Fig 1.4 Learner Dashboard if no result found

Fig 1.5 Expert login

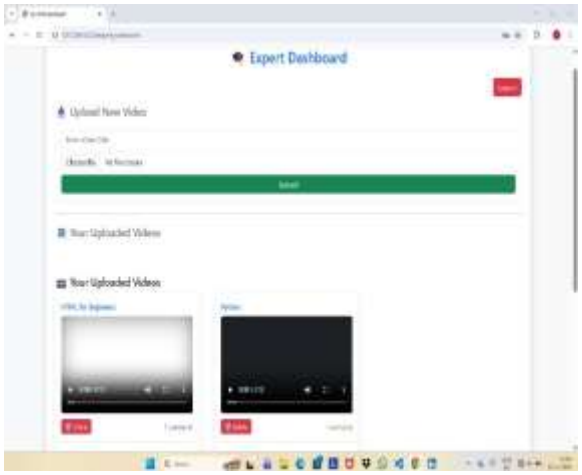

Fig 1.6 Expert Dashboard

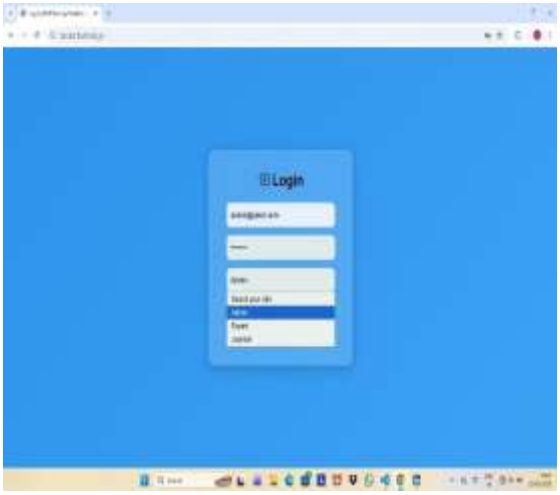

Fig 1.7 Admin Login

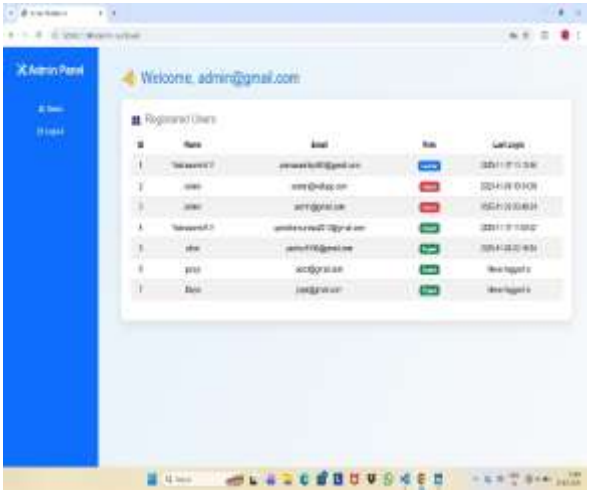

Fig 1.8 Admin Dashboard

V. CONCLUSION

The Skill-Sharing and Micro-Learning Platform successfully demonstrates how short, focused lessons paired with peer-to-peer learning can enhance digital education. The system is accessible, scalable, and supports a collaborative environment for continuous skill development. It effectively bridges the gap between traditional learning and modern upskilling needs.

A. Pros

- Easy-to-use interface
- Faster learning through micro-modules
- Peer interaction boosts engagement
- Supports personalized content navigation

B. Cons

- Limited initial content variety
- Requires strong internet connection
- No real-time expert interaction yet
- Basic recommendation system (non-AI)

C. Applications

- Academic institutions
- Skill-training centers
- Professional upskilling
- Online learning communities

D. Future Enhancements

- AI-based recommendation engine
- Gamification features
- Mobile application
- Real-time live mentoring
- Advanced analytics for user performance

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