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A Smart Peer-to-Peer Learning Platform (SKILLZAAR)

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Abstract: *In the modern educational landscape, collaborative and skill-based learning has become crucial for student development. Skillzaar is an innovative web-based platform designed to facilitate peer-to-peer learning, allowing students to connect, share knowledge, and learn various skills from one another. The platform includes features such as skill exchange listings, a dashboard for progress tracking, a badge reward system, and tools like live video calling and a collaborative whiteboard. It not only enhances learning flexibility but also encourages students to teach, communicate, and grow in a self-driven ecosystem. By integrating such tools, Skillzaar aims to revolutionize how students engage with learning and skill development beyond traditional classrooms.*

Keywords: Skillzaar, Peer-to-Peer Learning, Badges, Video Call, Whiteboard, Skill Exchange

I. INTRODUCTION

Skillzaar is built with the idea that students can be both learners and teachers. Traditional education often lacks personalized and skill-based interaction, which Skillzaar bridges by offering a platform for students to teach skills they excel at and learn from others. It creates a connected environment of self-paced, collaborative, and interest-driven education. Students can register, create skill posts, and explore other users' skills for interactive sessions via video call and whiteboard features.

- Peer-to-peer learning platform
- Skill exchange between students
- Built-in video call & whiteboard
- Badge system (Silver, Gold, Platinum, Diamond)
- Personalized user dashboard
- Community-driven and collaborative
- Simple and user-friendly UI
- Supports both technical & non-technical skills

Lack of Peer Interaction:
Platforms like Coursera, Udemy, and Skillshare are expert-centric. Students have no option to teach or collaborate directly with each other.

No Real-time Tools:
These platforms usually rely on pre-recorded videos. There is no built-in support for live teaching with tools like whiteboards or direct video chat between learners.

Paid Learning Systems:
Many existing platforms are paid and limit access to only those who can afford them. Free, student-friendly skill-sharing platforms are rare.

No Badge or Motivation System:
Most systems don't include features that reward students for participating, teaching, or learning, which can reduce motivation and engagement.

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Challenges Faced by Students Before Skillzaar

- Students had to search on multiple platforms for learning specific skills.
- No trusted system existed for learning from friends or classmates in a structured way.
- There was no dashboard to track their learning or teaching progress.
- Many talented students never got the chance to teach or share their knowledge with others.
- No reward system to appreciate students' efforts or contributions.

What Skillzaar Solves:

- Skillzaar fills all these gaps by creating a dedicated peer-to-peer learning platform, where:
- Students can teach and learn.
- Sessions happen live through video call and whiteboard.
- Gamification via badges motivates participation.
- Learning is completely free and community-supported.

II. PROPOSED SYSTEM

The proposed system, **Skillzaar**, is a student-focused peer-to-peer learning platform designed to connect learners and skill-sharers in a simple, interactive, and rewarding way. The goal is to make education more collaborative, skill-oriented, and accessible to everyone, without relying on formal courses or paid content.

Core Objectives of the Proposed System:

- To allow students to share and gain skills from each other through a web-based platform.
- To provide real-time collaboration tools like video calling and a digital whiteboard.
- To track user activity and encourage engagement through a badge reward system.
- To offer a central dashboard for users to manage their profile, sessions, and rewards.
- To keep the interface simple, responsive, and user-friendly, even for beginners.

III. SYSTEM DESIGN

System Design is the process of defining the structure, components, and interaction of modules that together build the complete software system. In the case of **Skillzaar**, system design ensures that all features like user registration, skill-sharing, video calling, whiteboard usage, and badge rewards are connected and work smoothly

Purpose of System Design

- To create a clear structure for how the platform will operate.
- To ensure smooth interaction between users and the system.
- To make the platform scalable, secure, and easy to use.
- To reduce errors and simplify future updates or improvements.

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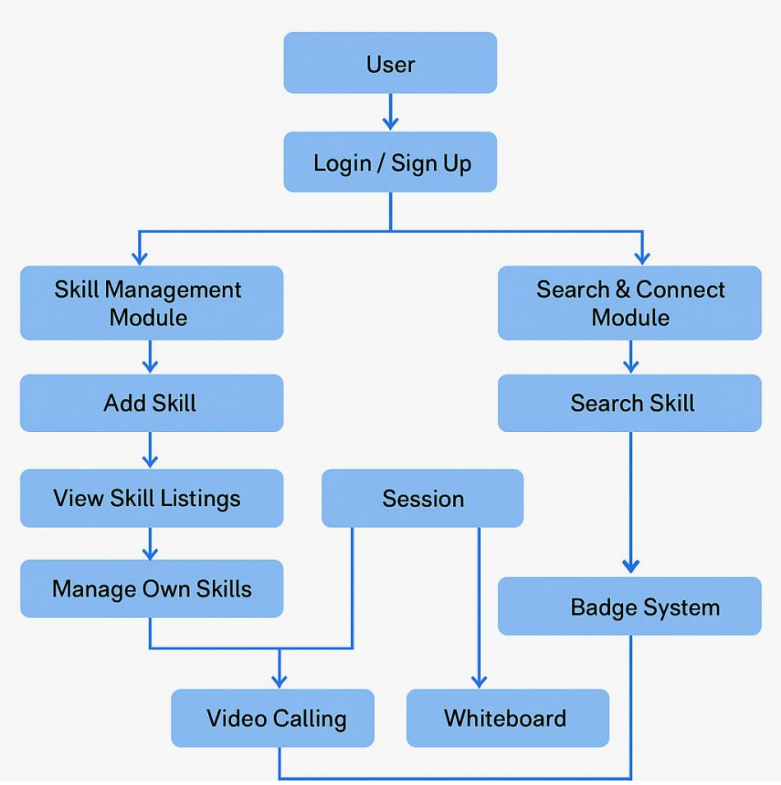

Types of System Design Used in Skillzaar

1. High-Level Design (HLD):

This part shows the **overall system architecture** – how different modules like frontend, backend, and database interact. It gives a bird's-eye view of the whole platform.

In Skillzaar:

- The frontend is designed using **HTML, CSS, JS**.
- Backend/server handles requests and database updates.
- All features like dashboard, sessions, badges are connected here.

2. Low-Level Design (LLD):

This focuses on **each individual module in detail**, such as how the login system works, how a video call is initiated, or how a badge is awarded.

In Skillzaar:

- Each function (e.g. Skill Request, Session Handling) is broken into sub-parts.
- It also includes input/output and logic flow inside modules.

Major Components of System Design in Skillzaar

- **User Interface Design** – Frontend design where users interact with the platform.
- **Database Design** – Stores user info, skill listings, session logs, badge data.
- **Control Logic** – Handles login logic, skill request validation, session matching.
- **Reward System Logic** – Tracks and updates badge levels based on performance
- **Real-time Communication** – Manages video calls and live whiteboard use.

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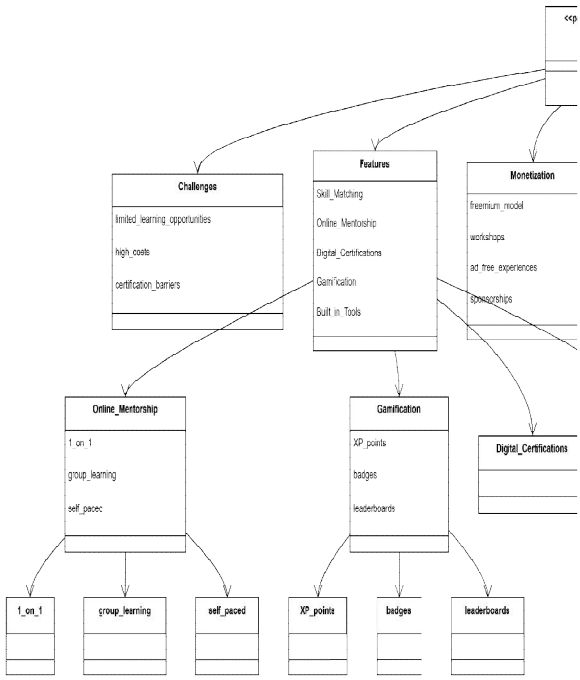
Benefits of Proper System Design

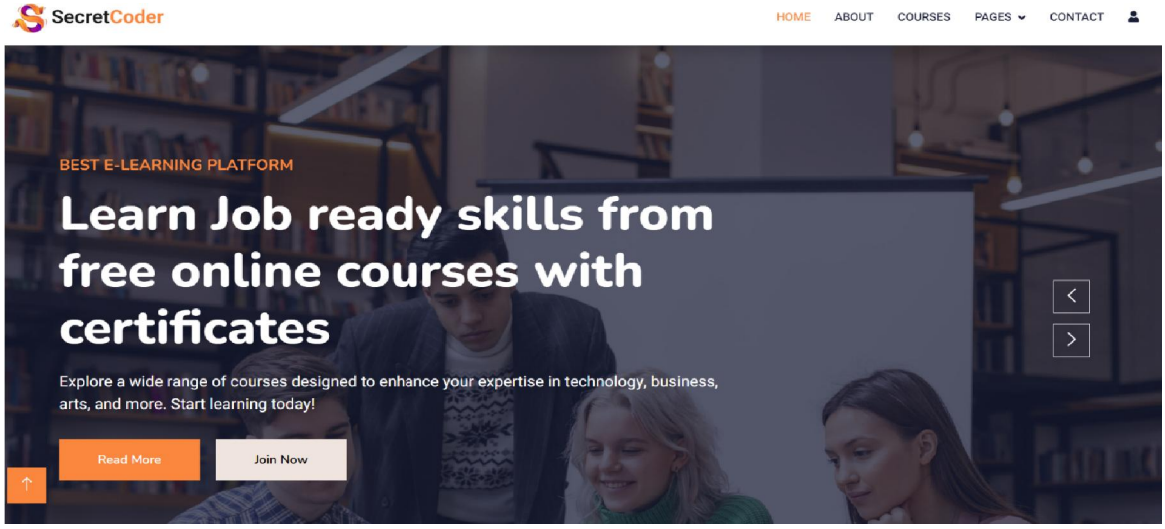
- Makes the application **user-friendly and efficient**.
- Reduces chances of **errors or system crashes**.
- Ensures **data security and performance**.
- Helps in **future upgrades and maintenance**



IV. RESULT AND ANALYSIS

Screenshots to be included:

Home Page



Whiteboard in Action

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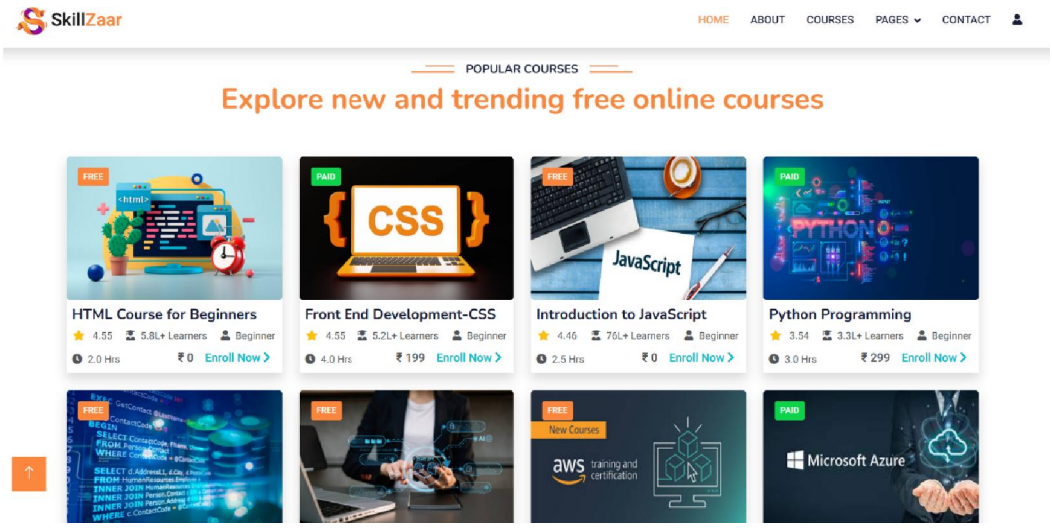
Collaborative Whiteboard

Dashboard Summary

This system was tested with a group of students. Results showed higher participation, increased skill sharing, and user satisfaction due to gamification.

Courses:



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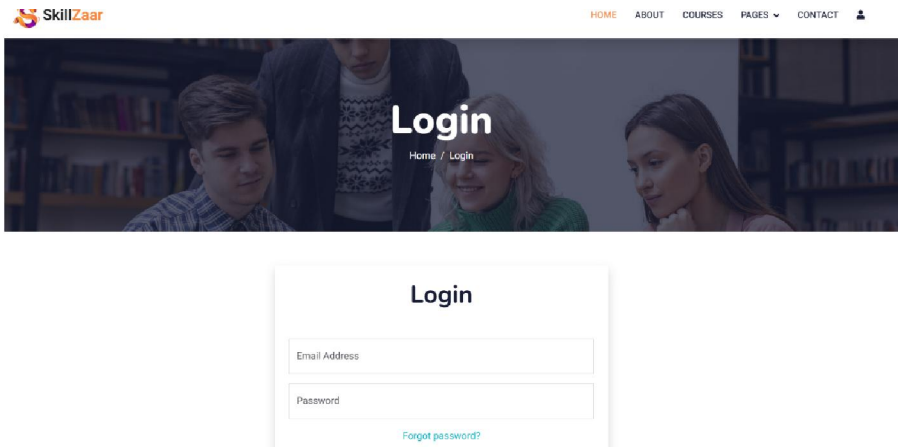

V. CONCLUSION

The development of Skillzaar – A Peer-to-Peer Learning and Skill Exchange Platform has been a significant step towards redefining the way students learn, teach, and grow together. The main goal of Skillzaar was to build a collaborative platform that connects learners with skilled individuals in a flexible, user-driven environment. With features like real-time video calling, a collaborative whiteboard, and an engaging badge reward system, the platform motivates users to actively participate and improve their skills.

Through the course of this project, we successfully designed and implemented:

- A responsive and interactive user interface.
- Secure registration and login system for users.
- A smart dashboard where users can list their skills or request sessions.
- A video conferencing system integrated for live learning sessions.
- A whiteboard tool for visual explanations and real-time collaboration.
- A badge hierarchy system to reward active and high-performing users (Gold, Silver, Platinum, Diamond).

The platform is not only focused on learning but also on peer engagement and community growth, which makes it stand out from traditional learning apps. The system architecture ensures scalability, maintainability, and ease of use.

REFERENCES

[1]. Chongjun Fan, Peng Zhang, Qin Liu, Jianzheng Yang, "Research on ERP Teaching Model Reform for Application-oriented Talents Education", International Education Studies, Vol. 4, No. 2; May 2011.

[2]. Nurzety Aqtar Ahmad Azuan, "Clinic Management System Outpatients Management System", Bachelor Thesis, Computer Technology, March 2005.,

[3]. K. L. Tan, "Gamification in e-Learning Platforms", International Journal of Computer Theory and Engineering (IJCTE), 2019.

[4]. Pratiksha S. et al., "Peer Learning: Benefits & Approaches", IEEE Education Society Conference, 2020.,

[5]. John D., "Designing Smart Education Platforms", Springer Publications, 2018.

[6]. Skillzaar Development Team, Internal Design Documentation and User Testing Feedback, 2025.

[7]. WebRTC Developer Guide, https://webrtc.org/ – Accessed March 2025.

[8]. Jitsi Meet API Documentation, https://jitsi.github.io/handbook/docs/dev-guide/dev-guide-iframe/ – Accessed April 2025.