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**TIEORA: CONNECTING TALENT WITH REAL OPPORTUNITIES**

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platform. The application aims to bridge the gap

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## **ABSTRACT**

Tiera is a mobile-based intelligent job opportunity platform that connects students, skilled workers, professionals and senior citizens with employers and clients in their nearby areas. It acts as a third-party bridge, enabling users to find and offer jobs from local services to professional roles. The main problem addressed is the lack of a unified platform that supports all kinds of workers, as most existing systems focus only on corporate jobs. Tiera uses GPS and Google Maps APIs to help users find jobs or workers within a chosen radius, such as 3 km or 5 km. It also integrates AI-based skill matching to recommend relevant opportunities based on profiles and preferences. The platform supports two logins job seekers and employers and provides real-time chat and notifications for easy communication. Its Groupal feature allows users to form or join teams for collaborative work. Built using Flutter and Firebase, the app ensures scalability, accessibility and real-time performance. Tiera promotes inclusivity, local employment and digital empowerment. In conclusion, it serves as a smart and practical employment solution for all sections of society.

**KEYWORD:** Tiera, Job opportunity platform, Mobile application, AI-based skill matching, GPS, Google Maps API, Employment, Professionals, Skilled workers, Real-time chat, Collaboration, Flutter, Firebase.

## **I. INTRODUCTION**

In today's rapidly evolving digital world, employment platforms play a crucial role in

connecting job seekers with potential employers. Despite the availability of numerous online job portals, many existing systems are often complex, time-consuming, and not well-suited for local or skill-based hiring. Job seekers frequently face difficulties in finding relevant opportunities, while employers struggle to identify suitable candidates quickly and efficiently. These challenges highlight the need for a more accessible, user-friendly, and effective recruitment solution.

To address these issues, Tieora has been developed as a mobile-based job marketplace between talent and employment opportunities by providing a simple and efficient medium for interaction between job seekers and employers. Unlike traditional recruitment systems that rely heavily on resumes and lengthy application processes, Tieora focuses on profile-based hiring, allowing users to showcase their skills, experience, and availability directly through the platform.

The system incorporates modern technologies such as Flutter and Firebase to provide secure authentication, real-time data synchronization, and seamless communication. Job seekers can discover opportunities based on their location, skills, and preferences, while employers can post jobs, manage applications, and communicate directly with candidates. The integration of real-time messaging and location-based filtering enhances the overall hiring experience and reduces the time required for recruitment.

In this project, the sensors are used to collect the Realtime data like soil moisture, temperature and humidity also the crop-specific coefficient ( $K_c$ ) and weather forecast are used to calculate accurate water requirement. Unlike older systems, that rely only on the moisture levels, this system considers multiple factors to improve the irrigation

Furthermore, Tieora is designed to support both skilled professionals and blue-collar workers, making employment opportunities more accessible to a wider audience. The platform emphasizes simplicity, scalability, and usability, ensuring that users can easily navigate and utilize its features. By leveraging modern mobile technologies and cloud services, Tieora provides a reliable and efficient solution for modern recruitment challenges, ultimately improving employment accessibility and hiring efficiency.

## II. LITERATURE SURVEY

Digital job marketplaces and recruitment platforms have been widely studied to improve

employment accessibility and hiring efficiency. In [1], a digital employment platform was proposed to connect skilled workers with job opportunities through an online portal. The system improved accessibility and reduced recruitment time but lacked real-time communication and personalized job recommendations.

Patil et al., “Enhancing Employment Opportunities for Skilled Workers through Digital Platforms,” 2025.

In [2], an online skill development platform was introduced to bridge the gap between education and employment by providing training and certification programs. While the platform enhanced skill acquisition, it did not offer direct job matching or recruitment support for users.

Kulshrestha, “*Skill Development Platforms and Their Impact on Employability,*” 2024.

A location-based employment system was presented in [3] using GPS filtering to connect job seekers with nearby opportunities. The approach improved local job discovery but lacked integrated communication features and advanced filtering mechanisms for accurate matching.

Sharma and Gupta, “*Location-Based Employment System Using GPS Technology,*” 2024

In [4], an AI-driven job recommendation system was developed using recommendation algorithms to suggest suitable jobs based on user profiles and preferences. The system improved recommendation accuracy but required large datasets and lacked real-time interaction between employers and candidates.

Mehra et al., “*AI-Based Job Recommendation System for Recruitment Platforms,*” 2023.

An online freelancing platform was studied in [5] to facilitate project-based hiring and remote work opportunities. Although it provided a wide range of employment options, the hiring process was often complex and highly competitive for new users.

Kumar et al., “*Online Freelancing Platforms and Digital Workforce Management,*” 2023.

A mobile job portal system was proposed in [6] to simplify job searching through smartphone applications. The system improved accessibility and convenience but lacked advanced features such as intelligent job recommendations and real-time communication.

Verma et al., “*Mobile Job Portal System for Employment Services,*” 2022.

A smart recruitment system was introduced in [7] using automated candidate-job matching techniques. The system improved recruitment efficiency but did not provide location-based

filtering or integrated messaging functionality.

Singh et al., “*Smart Recruitment System Using Automated Job Matching*,” 2022.

The analysis of these studies reveals that existing systems often lack a combination of location-based job discovery, real-time communication, profile-based hiring, and intelligent recommendations. To address these gaps, the proposed Tieora platform integrates these features into a single mobile application, providing a simple, efficient, and scalable solution for modern recruitment needs.

### III. RELATED WORK

In recent years, many digital job portals and recruitment platforms have been developed to connect job seekers with employers. Some platforms focus on providing online job listings, while others use advanced technologies such as AI-based recommendations, location-based matching, and mobile applications to improve the hiring process.

From our study, we found that many existing recruitment systems focus on only one aspect of hiring. Some platforms provide job recommendations based on skills, while others offer location-based job discovery or online communication. Although these systems improve recruitment to some extent, they often lack a combination of essential features required for efficient hiring. Many platforms also have complex interfaces, lengthy application procedures, and limited support for local and blue-collar job opportunities.

Because of these limitations, the hiring process can become slow and inefficient. Job seekers may find it difficult to discover relevant opportunities, while employers may struggle to identify suitable candidates quickly. In addition, many existing systems do not provide seamless real-time communication, making the recruitment process less interactive and more time-consuming.

In our project, we aimed to overcome these challenges by developing Tieora, a mobile-based job marketplace platform. The system combines location-based job discovery, profile-based hiring, real-time messaging, and intelligent job matching within a single application. By using Flutter and Firebase, the platform provides secure authentication, real-time data synchronization, and a user-friendly experience for both job seekers and employers.

We also incorporated features such as profile management, job filtering, application tracking, and instant communication to improve hiring efficiency. These features reduce dependency on traditional resumes and simplify the recruitment process. The integration of location-based services helps users discover nearby opportunities, making the platform more useful for local

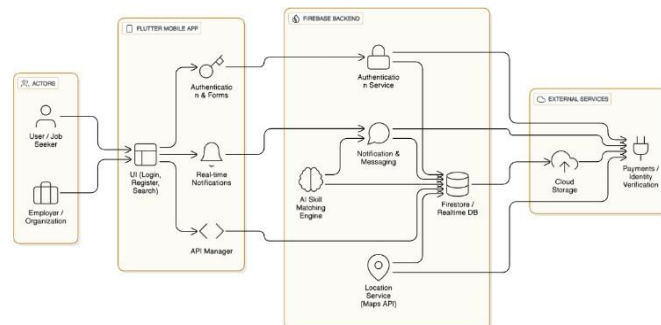
employment.

Overall, compared to existing systems, Tiora provides a more comprehensive and practical solution for recruitment. It combines multiple important functionalities into a single platform, improves accessibility, enhances user experience, and creates a faster and more efficient hiring process for both job seekers and employers.

#### IV. PROPOSED SYSTEM

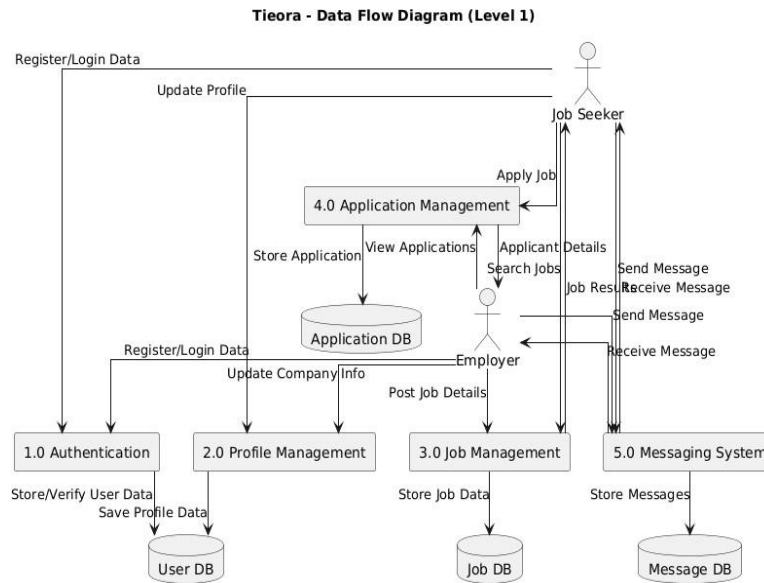
The System Design of the Tiora platform defines the architectural framework and interaction flow between its various components. It translates the system’s functional requirements into a structured technical layout that ensures efficiency, scalability, and secure communication between users, employers, and the platform.

The architecture is divided into four core layers: the User Interface Layer for user interaction, the Application Layer for managing logic and APIs, the AI Layer for recommendation and skill matching, and the Database Layer for storing user, job, and analytics data. These layers work in synchronization to provide a seamless and intelligent job-matching experience across devices.



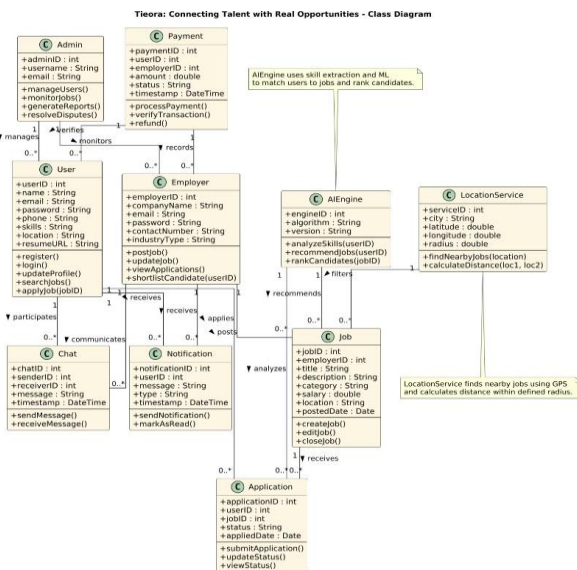
**Fig 1. System Architecture Diagram.**

The design incorporates diagrams such as the System Architecture and Data Flow Diagram (DFD) to illustrate how data travels between modules from user registration and profile creation to AI-driven job recommendations and feedback management.



The Use Case Diagram represents the functional requirements of the Tieora system by illustrating the interactions between users and the application. It provides a high-level view of how different actors, such as Job Seekers and Employers, interact with the system to perform various activities. The diagram helps in identifying the major functionalities offered by the platform and the relationships between users and system processes.

In the Tieora platform, job seekers can register, log in, manage their profiles, search for jobs, apply for opportunities, and communicate with employers. Similarly, employers can create accounts, post jobs, manage applications, review candidate profiles, and interact with job seekers. The Use Case Diagram provides a clear understanding of user requirements and serves as a foundation for system design and development.



**Fig 2. Use Case Diagram.**

## V. FUNCTIONAL SCOPE

The Tieora platform has significant potential for future enhancements and expansion. As the demand for digital recruitment solutions continues to grow, additional features can be integrated to improve user experience, increase hiring efficiency, and support a larger user base. The current system provides essential functionalities such as job posting, job searching, application management, and real-time communication; however, there are several opportunities for further development.

One of the major future enhancements is the implementation of an advanced AI-based recommendation system. By analyzing user skills, experience, interests, and previous activities, the system can provide highly personalized job recommendations and candidate suggestions. Machine learning algorithms can also be used to predict hiring trends, improve matching accuracy, and help employers identify the most suitable candidates more efficiently.

Another important enhancement is the integration of push notifications using Firebase Cloud Messaging (FCM). This feature would enable users to receive instant updates regarding new job postings, application status changes, interview invitations, and messages. Additional features such as resume upload, document verification, video interview support, and company profile verification can further strengthen the platform and improve trust between employers and job seekers.

In the future, Tieora can also be expanded into a complete employment ecosystem by supporting internship opportunities, freelance projects, skill development programs, and career guidance services. Advanced location-based search, multilingual support, analytics dashboards, and an administrative panel for monitoring platform activities can further improve system functionality. These enhancements will make Tieora more scalable, intelligent, and capable of serving a wider range of users and industries.

## VI. COMPARISON WITH THE EXISTING SYSTEM.

There are multiple types of recruitment and job portal systems available today, each designed to connect job seekers and employers in different ways. However, many existing systems have limitations that affect hiring efficiency, accessibility, and user experience.

- **Traditional Job Portals**

Traditional job portals primarily rely on resume- based applications and manual candidate screening. Job seekers are required to create detailed resumes and apply individually for jobs, while employers spend significant time reviewing applications. This process is often slow and inefficient.

- **Freelancing Platforms**

Freelancing platforms focus on project-based work and remote opportunities. While they provide access to a large number of jobs, the hiring process is highly competitive and often involves bidding systems, making it difficult for new users to secure opportunities.

- **Location-Based Job Platforms**

Some employment platforms use location services to display nearby job opportunities. Although they improve local job discovery, they often lack real- time communication and advanced profile-based matching features, limiting their effectiveness.

- **AI-Based Recruitment Systems**

Many modern recruitment systems use artificial intelligence to recommend jobs and candidates. These systems improve matching accuracy but generally require large datasets and complex algorithms. Most of them also lack integrated communication features and may not be suitable for local or blue-collar employment.

- **Proposed System**

The proposed Tieora platform combines multiple essential features into a single mobile application. It provides location-based job discovery, profile-based hiring, real-time messaging, and intelligent job matching to simplify the recruitment process. Unlike traditional systems, Tieora reduces dependency on resumes by allowing users to showcase their skills and experience through profiles.

The platform also enables direct communication between job seekers and employers, reducing hiring delays and improving engagement. Built using Flutter and Firebase, Tieora offers secure authentication, real-time data synchronization, and scalable performance.

Additionally, the system is designed to support both skilled professionals and blue-collar workers, making employment opportunities more accessible and efficient for a wider range of users.

Overall, compared to existing recruitment systems, Tieora provides a more practical, user-friendly, and comprehensive solution that enhances hiring efficiency and improves the overall user experience.

## VII. PROJECT IMPLEMENTATION

The implementation phase of the Tieora project focuses on converting the system design and requirements into a fully functional mobile application. This phase involved developing and integrating all core modules required for the job marketplace platform. The application was built using Flutter, which provides a cross-platform development environment and a responsive user interface. Firebase services were used as the backend infrastructure to handle user authentication, database management, real-time communication, and cloud storage. The implementation followed a modular architecture to ensure scalability, maintainability, and efficient system performance.

The development process began with the implementation of the user authentication module using Firebase Authentication. This module enables secure registration and login functionality for both job seekers and employers. After authentication, users can create and manage their profiles by providing details such as skills, experience, location, and contact information. The profile management module serves as the foundation for profile-based hiring, allowing employers to evaluate candidates without relying solely on traditional resumes. User data is stored securely in Cloud Firestore and synchronized in real time across devices.

The job management functionality was implemented to support job posting, job searching, and application processing. Employers can create and manage job listings by specifying details such as job title, description, salary, location, and requirements. Job seekers can browse available opportunities using filters such as location, category, and job type. Once a suitable job is found, users can submit applications directly through the platform. The application management module records all application data in Firestore and allows employers to review candidates and update application status efficiently.

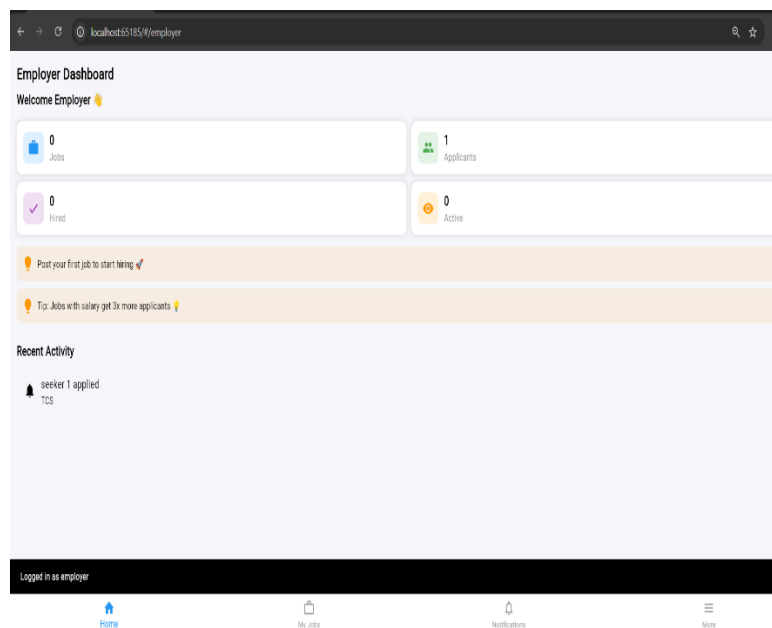
A real-time messaging module was also implemented to facilitate direct communication between job seekers and employers. Firebase Firestore's real-time capabilities ensure instant message delivery and synchronization. Additionally, location-based services were integrated to improve job discovery by displaying nearby opportunities. Throughout the implementation

process, each module was tested individually and then integrated into the complete system. The final application provides a secure, scalable, and user-friendly environment that simplifies recruitment, improves hiring efficiency, and enhances accessibility to employment opportunities.

## VII. Software Testing

Software testing was conducted to verify that all modules of the Tieora system function correctly and meet the specified requirements. The testing process focused on validating key functionalities such as user registration, login, profile management, job posting, job searching, application submission, and real-time messaging. Both valid and invalid input scenarios were tested to ensure system reliability and accuracy.

Various testing techniques, including unit testing, integration testing, system testing, and user acceptance testing, were performed to identify and eliminate defects. The testing process ensured that different modules interacted correctly and that the overall system performed efficiently under normal operating conditions. Special attention was given to authentication, database operations, and real-time communication features.

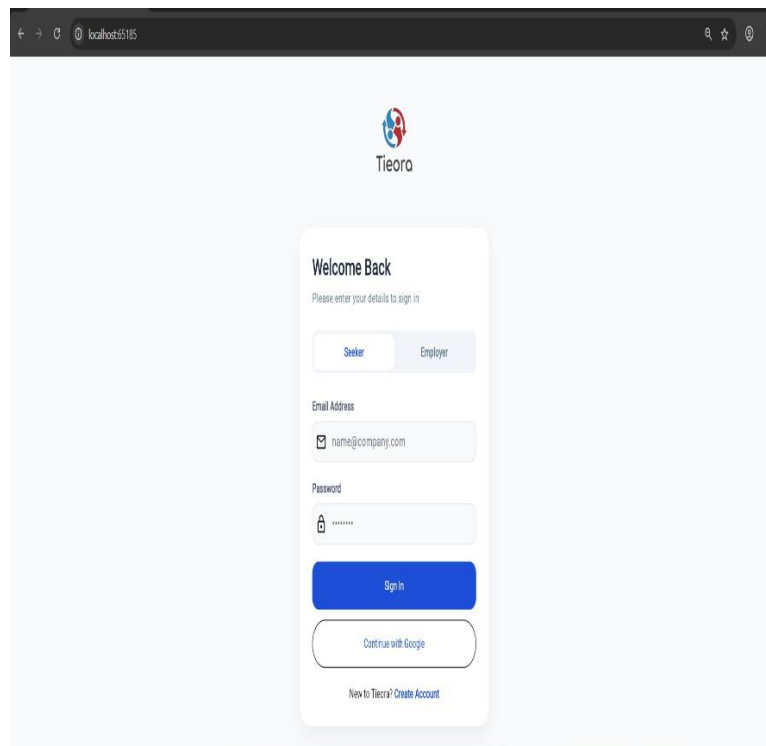


The results of testing showed that the Tieora platform operates reliably with minimal errors and satisfactory performance. All major functionalities worked as expected, providing a smooth user experience for both job seekers and employers. Overall, software testing helped improve system quality, stability, security, and user satisfaction before deployment.

## VIII. OUTPUT RESULT

### 1. Login Page

The Login Page is the entry point of the Tieora application. It allows job seekers and employers to securely access the system using their registered email and password. The page validates user credentials through Firebase Authentication and redirects users to their respective dashboards based on their roles.

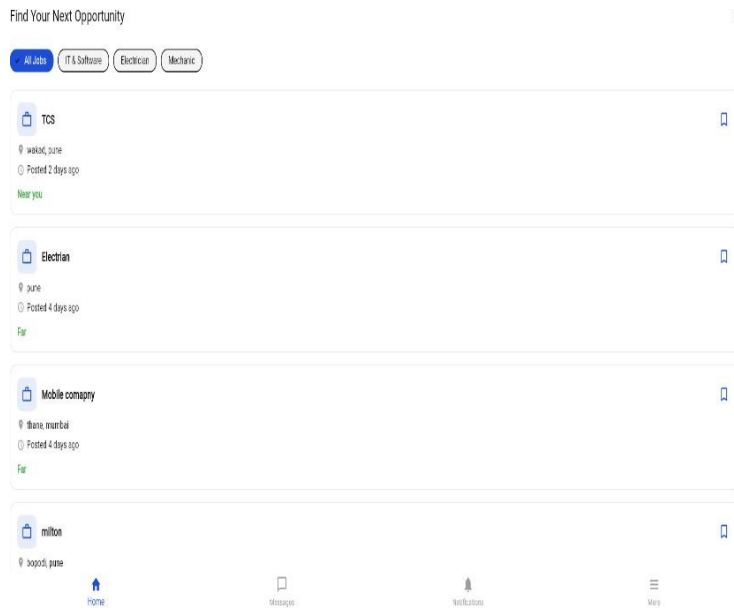


### 2. Employer Dashboard

The Employer Dashboard provides employers with a centralized interface to manage recruitment activities. Employers can view job postings, monitor applications, manage candidates, and access hiring-related information. This dashboard helps employers efficiently track and control the recruitment process.

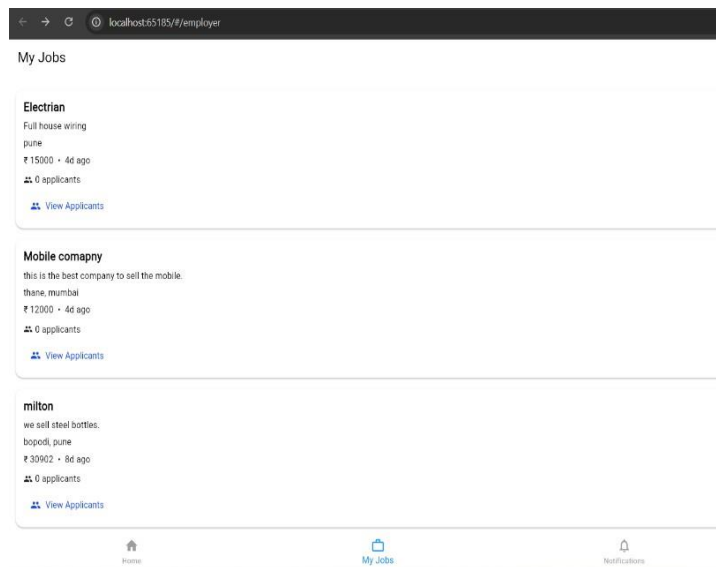
### 3. Job Seeker Dashboard

The Job Seeker Dashboard serves as the main interface for job seekers after successful login. It displays available job opportunities, recommended jobs, and application updates. Users can browse jobs, manage their profiles, and access various features related to job searching and applications.



#### 4. My Jobs Screen

The My Jobs section allows users to view and manage jobs they have applied for or posted. Job seekers can track the status of their applications, while employers can monitor the performance of their job listings. This feature provides a clear overview of all job-related activities within the platform.



### IX. CONCLUSION

Tieora is a role-based job marketplace mobile application designed to simplify the recruitment process for job seekers and employers. The platform is developed using Flutter and Firebase, ensuring secure authentication, real-time updates, and scalable performance. It enables users to discover and apply for jobs efficiently through a simple and user-friendly

interface. Tieora supports both local blue-collar and IT job opportunities, making it accessible to a wide range of users. The system also provides real-time communication between users, improving the hiring process. Overall, it offers a fast, accessible, and efficient solution for modern employment needs.

## X. REFERENCES

1. S. Patil, Y. Patil, A. Wadekar, and V. Ramteke, "Enhancing Employment Opportunities for Skilled Workers using Digital Platforms," 2025.
2. Kulshrestha, "A Study on Skill Development Through Open and Digital Platforms," 2025.
3. S. Heeks et al., "Digital Platforms and Development: A Survey of the Literature," 2024.
4. S. Haand S. Kim, "Bridging the Digital Skills Gap: Technology Adaptability in Vocational Education and Training," 2024.
5. Mashayekhi, Y.; Li, N.; Kang, B.; Lijffijt, J.; De Bie, T. A challenge-based survey of e-recruitment recommendation systems. *ACM Comput. Surv.* 2024.
6. E. Palumbo, G. Rizzo, and R. Troncy, "Entity2rec: Learning user-item relatedness from knowledge graphs for top-n item recommendation," in *RecSys*, 2017.
7. Roy, D.; Dutta, M. A systematic review and research perspective on recommender systems. *J. Big Data* 2022.
8. Z. Yang and S. Dong, "Hagerec: Hierarchical attention graph convolutional network incorporating knowledge graph for explainable recommendation," *Knowledge- Based Systems*, 2020.
9. M. Fowler, "NoSQL Databases: A Brief Guide," ThoughtWorks, 2012.