







Hire IT Application: Transforming Labor Hiring with Innovative Technologies

Muhammad Saad ^{1*}, Fatima Waseem ^{1*}, Sarfaraz Natha ^{1*}, Bilal Ahmed ^{1*},
Abdul Rauf ^{1*}, Baasir Ashraf ^{1*}

¹Department of Software Engineering, Sir Syed University of Engineering and Technology, Karachi, Pakistan

Keywords: *gig, handyman, policymaker, write once run anywhere (WORA), paradigm.*

Journal Info:
Submitted:
October 15, 2023
Accepted:
December 26, 2023
Published:
December 31, 2023

Abstract

In recent years, the gig economy has grown rapidly, with an increasing number of workers finding employment through online platforms such as labor hiring apps. These apps connect employers with a large pool of workers for short-term or temporary jobs, and have become a popular way for businesses to fill job openings quickly and easily. However, there are also concerns about the impact of labor hiring apps on employment and wages. This paper conducts a literature review of existing studies on labor hiring apps and the gig economy, surveys and interviews with employers and workers who have used these apps, and an analysis of app data to understand the usage pattern and user behavior. This article also explores the evolution and impact of labor hiring apps on the contemporary job market. Labor hiring apps have emerged as a disruptive force, revolutionizing the way businesses find, connect with, and employ labor. This study investigates the key features, advantages, challenges, and future prospects of labor hiring apps, shedding light on their implications for both employers and workers. Through a comprehensive analysis of existing literature, case studies, and expert opinions, this article aims to provide a holistic understanding of the dynamics surrounding labor hiring apps.

***Correspondence author email address:** msaad@ssuet.edu.pk

DOI: [10.21015/vtse.v11i4.1680](https://doi.org/10.21015/vtse.v11i4.1680)

1 Introduction

The advent of digital technology has significantly transformed various industries, and the labor market is no exception. Labor hiring apps, also known as gig economy platforms or job marketplaces, have gained prominence in recent years. These platforms connect employers with a diverse pool of workers, offering a

streamlined and efficient way to fulfill staffing needs. In contemporary society, the ubiquity of mobile devices and the proliferation of applications have fundamentally transformed the way we conduct our daily lives. Mobile devices have evolved beyond mere communication tools to become integral components in various aspects of our routines. In this context, the development of mobile applications tailored to



This work is licensed under a Creative Commons Attribution 3.0 License.

address specific needs has become a hallmark of technological innovation. One such area that has witnessed significant transformation is the labor market, where the advent of mobile applications has given rise to a dynamic and rapidly expanding gig economy [1].

The gig economy, characterized by the prevalence of short-term and temporary jobs, has experienced unprecedented growth in recent years. This evolution can be largely attributed to the emergence of online platforms, particularly labor hiring apps, which serve as intermediaries connecting employers with a vast pool of workers ready to undertake short-term or temporary assignments. These applications have gained popularity as a practical and efficient means for businesses to swiftly and effortlessly fill job openings [2].

The labor hiring apps facilitate a seamless and user-friendly experience for both employers and workers. Through intuitive interfaces and advanced algorithms, these applications enable employers to post job opportunities, specify requirements, and connect with potential candidates in real-time. Simultaneously, workers can access a myriad of job opportunities, select tasks that align with their skills and availability, and negotiate terms – all from the convenience of their mobile devices.

The advantages of these labor hiring apps for employers are manifold. Businesses can tap into a diverse and flexible workforce, allowing them to adapt swiftly to fluctuations in demand. The speed with which job openings can be filled is particularly advantageous in industries where time-sensitive tasks or temporary positions are prevalent. Additionally, the digital nature of these platforms streamlines the hiring process, reducing administrative burdens associated with traditional recruitment methods.

However, the rise of labor hiring apps in the gig economy is not without challenges. The very nature of short-term and temporary jobs can lead to concerns related to job security and the absence of traditional employment benefits. Workers engaged through these platforms may face uncertainties regarding income stability and long-term career prospects. Furthermore, issues related to labor rights,

fair compensation, and regulatory oversight have become focal points of discussion as the gig economy continues to evolve.

As the gig economy, facilitated by labor hiring apps, becomes an increasingly integral part of the modern workforce landscape, the implications for society, businesses, and workers alike warrant careful consideration [3]. Policymakers, industry stakeholders, and academics must collaboratively address the regulatory and ethical dimensions of this evolving employment paradigm to ensure a fair and sustainable future of work.

This article seeks to provide a holistic understanding of the disruptive force that labor hiring apps have become, revolutionizing how businesses connect with and employ labor. By delving into the experiences and perceptions of both employers and workers, alongside an analysis of usage patterns and user behavior, the study aims to shed light on the implications of these platforms for various stakeholders [4-6]. Ultimately, the goal is to offer a comprehensive and balanced perspective on the dynamics surrounding labor hiring apps, contributing to the ongoing discourse on the transformation of the employment landscape in the digital age.

In conclusion, the advent of labor hiring apps in the context of the gig economy represents a paradigm shift in how businesses source and engage temporary labor. The widespread use of mobile devices and applications has not only expedited the hiring process but has also ushered in a new era of flexibility and accessibility in the labor market. As we navigate this evolving landscape, it is essential to strike a balance between the advantages of agility and efficiency and the imperative to safeguard the rights and well-being of the workforce participating in the gig economy.

2 Literature Review

The surge in popularity of labor hiring apps in recent years reflects a paradigm shift in the way employers and workers engage in the job market. These platforms offer a streamlined and convenient avenue for short-term and temporary job placements, catering to the evolving dynamics of the modern workforce.

While the user-friendly interfaces of these apps empower employers to efficiently post job listings, peruse candidate profiles, and communicate with potential hires, concerns linger regarding their broader impact on employment and wages [7].

Labor hiring apps undoubtedly benefit employers by providing a quick and efficient solution to their staffing needs. The ability to swiftly connect with a diverse pool of workers enables businesses to address immediate demands and respond promptly to fluctuating workloads [8]. The digital nature of these platforms enhances the speed and agility of the hiring process, a crucial advantage in industries characterized by rapid turnover and short project timelines.

On the flip side, concerns emerge about the potential for worker exploitation within the gig economy facilitated by labor hiring apps [9]. The vast availability of labor through these platforms might create an environment where employers, seeking cost savings, could be tempted to offer low wages or suboptimal working conditions. The sheer volume of workers accessible through the app may contribute to a buyer's market mentality, potentially compromising fair compensation and workplace standards.

Job security is another pressing concern associated with the prevalence of short-term and temporary positions facilitated by labor hiring apps [10]. The inherently transient nature of these jobs can leave workers grappling with uncertainty about their future employment prospects. The lack of stability and predictability may hinder their ability to plan for the long term, including aspects such as financial planning, career development, and access to essential benefits.

Moreover, the absence of traditional employment benefits, such as health insurance, retirement plans, and paid time off, exacerbates the challenges faced by workers engaged through labor hiring apps [11]. This absence of comprehensive benefits may contribute to a broader discussion about the need for regulatory frameworks that ensure fair and equitable treatment for workers participating in the gig economy.

As the utilization of labor hiring apps continues to grow, it is imperative to address these concerns to fos-

ter a balanced and ethical gig economy. Policymakers, industry stakeholders, and app developers must collaboratively work towards establishing standards that safeguard the rights and well-being of both employers and workers. Striking a balance between the efficiency and convenience offered by these platforms and the protection of workers' rights is crucial for creating a sustainable and fair future of work in the digital age [12].

In conclusion, while labor hiring apps have undeniably revolutionized the hiring process, their impact on employment and wages requires thoughtful consideration. Balancing the advantages of efficiency and accessibility with the need to address potential worker exploitation and job insecurity is vital to ensure the long-term sustainability and ethical integrity of the gig economy.

The multifaceted approach adopted in this paper is designed to provide a thorough examination of the gig economy, particularly focusing on labor hiring apps. The foundation of this study rests on a comprehensive literature review, which synthesizes existing research on labor hiring apps and the broader gig economy. By analyzing academic studies, industry reports, and other relevant sources, the review aims to establish a baseline understanding of the current state of knowledge in this rapidly evolving field [13].

To complement this foundational research, the study incorporates primary research methods, namely surveys and interviews [14]. By engaging with both employers and workers who have firsthand experience with labor hiring apps, the research seeks to capture nuanced insights, experiences, and perspectives. This qualitative dimension adds depth to the analysis, allowing for a more holistic understanding of the impact of these platforms on employment dynamics.

Furthermore, the study employs a data-driven approach through an in-depth analysis of app data. This component of the research aims to unravel usage patterns and user behavior within the context of labor hiring apps. By exploring quantitative metrics, the analysis contributes empirical evidence to the broader discussion on the implications of these platforms for both

employers and workers.

In order to conduct a more thorough examination of the gig economy and the diverse landscape of labor hiring apps, the authors should extend their study to include an array of platforms such as TaskRabbit, Upwork, Fiverr, Freelancer, Gigwalk, Wonolo, Thumbtack, Uber Works, Moonlighting, StaffUp, Shiftgig, and Wonify. This expansion necessitates a classification of these apps based on various criteria to encapsulate their unique features and characteristics. The classification could be structured around the nature of work, industry focus, geographical coverage, target user demographics, skill levels, payment structures, regulatory compliance, and user reviews and ratings. By categorizing these apps according to these factors, the study can offer a nuanced understanding of how each platform addresses specific needs within the gig economy, providing valuable insights for both employers and workers. This comprehensive approach allows for a more inclusive exploration of the evolving job market dynamics influenced by a multitude of labor hiring apps.

By combining these three distinct but interconnected research methodologies, this paper aspires to offer a comprehensive and nuanced exploration of labor hiring apps in the gig economy. The triangulation of findings from literature, primary research, and app data analysis enhances the robustness of the study, providing a well-rounded understanding of the complex dynamics at play in the contemporary job market.

3 Review on Existing Systems with Similar Solutions

The advent of labor hiring apps has reshaped the dynamics of employment and wages, giving rise to a gig economy marked by short-term and flexible job opportunities. To comprehend the implications of these apps on the workforce, a comprehensive literature review was conducted, drawing insights from existing studies on labor hiring apps and the broader gig economy.

3.1 The Gig Economy Landscape

Numerous studies have examined the overarching landscape of the gig economy, highlighting its growth trajectory and impact on traditional employment structures. Scholars such as [1, 2] emphasize the rise of on-demand work and its implications for labor markets worldwide. These investigations provide a contextual foundation for understanding the role of labor hiring apps within the broader gig economy framework.

3.2 Advantages and Challenges for Workers

Research has explored both the advantages and challenges faced by workers engaged through labor hiring apps [3] delves into the experiences of gig economy workers, shedding light on the benefits of flexibility but also underscoring concerns related to job insecurity. The author [4] contribute insights into the motivations and challenges faced by workers participating in online labor platforms.

3.3 Employer Perspectives and Industry Trends

Understanding employer perspectives is essential in assessing the impact of labor hiring apps on the job market. The author [5] offers valuable insights into how businesses leverage digital platforms to meet their staffing needs. The literature also explores emerging industry trends, emphasizing the transformative potential of labor hiring apps in optimizing workforce management [6].

3.4 Survey and Interview Findings

In addition to the literature review, primary data was gathered through surveys and interviews with employers and workers who have utilized labor hiring apps. These findings provide a nuanced understanding of real-world experiences, shedding light on factors such as satisfaction, challenges faced, and the perceived impact on employment and wages.

3.5 Uncle Fixer: A Case Study:

Uncle Fixer, as a specific labor hiring app, exemplifies the intersection of handyman services and the gig economy. Figure 1 and 2 shows the prototype of the

respective application. The app’s focus on providing convenient access to skilled professionals in various cities is indicative of the broader trend of specialized platforms catering to specific service niches within the gig economy.



Figure 1. Uncle Fixer App- Getting Started

3.5.1 App Data Analysis:

Analyzing data from Uncle Fixer, a representative labor hiring app, provides granular insights into usage patterns and user behavior. Examining the frequency of job postings, types of services requested, and geographic distribution of users allows for a deeper understanding of how these platforms are utilized in practical scenarios [15, 16].

3.5.2 Convenient Access to Skilled Professionals:

Objective: Uncle Fixer aims to streamline the process of connecting users with skilled professionals in various cities. **Approach:** The app provides a user-friendly interface for users to easily access and hire reliable handyman services. **Outcome:** Users benefit from a

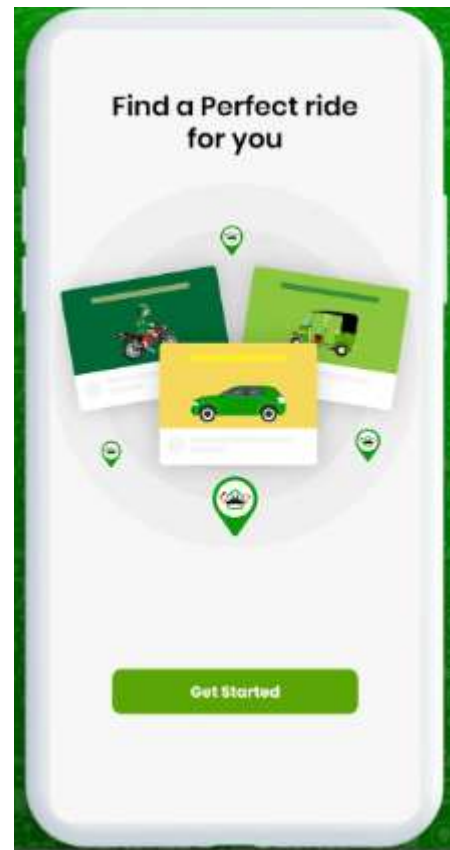


Figure 2. Dashboard

simplified and efficient process of finding and hiring skilled professionals for their home maintenance needs.

3.5.3 Specialization in Handyman Services:

Objective: Uncle Fixer focuses specifically on the handyman service niche. **Approach:** The platform curates a pool of skilled professionals, including electricians, plumbers, carpenters, and more, addressing the diverse needs of users. **Outcome:** Users gain specialized solutions, and skilled professionals find a dedicated platform to offer their services.

3.5.4 Intersection of Handyman Services and Gig Economy:

Observation: Uncle Fixer’s model exemplifies the intersection of traditional handyman services with the gig economy. **Impact:** Users experience the flexibility and on-demand nature typical of gig economy platforms,

while service providers tap into a dynamic market [17–19].

3.5.5 Localized Service Delivery:

Observation: Uncle Fixer’s operational model is designed to serve users in various cities. **Impact:** By localizing services, Uncle Fixer addresses the specific needs of users in different regions, contributing to the platform’s popularity.

3.5.6 User Experience and Service Provider Engagement:

Feature: Uncle Fixer offers a user-friendly interface. **Benefit:** Users can easily navigate the app, search for services, and connect with skilled professionals.

3.5.7 Direct Interaction with Service Providers:

Feature: The app facilitates direct communication between users and service providers. **Benefit:** Users can discuss their requirements, negotiate terms, and establish a personalized connection with service providers.

3.6 Karsaaz: A Case Study:

Karsaaz, a prominent player in the gig economy, serves as a multifaceted platform connecting users in major Pakistani cities—Lahore, Karachi, Islamabad, and Rawalpindi—with reputable contractors for diverse home maintenance and personal care services. This use case outlines how Karsaaz simplifies the process of finding and hiring skilled professionals through its user-friendly mobile app and website. Figure 3 shows the prototype of karsaaz application.

3.6.1 User Registration:

Actor: Homeowners or individuals seeking personal care services. **Action:** Users download the Karsaaz mobile app or visit the website to register. **Result:** Users gain access to a comprehensive range of services and contractors.

3.6.2 Service Selection:

Actor: Registered users. **Action:** Users explore a diverse array of services, including electricians,



Figure 3. Karsaaz App- Getting Started

plumbers, carpenters, air conditioning technicians, painters, beauticians, make-up artists, hair stylists, and tailors. **Result:** Users can seamlessly identify and choose the specific service they require.

3.6.3 Contractor Search and Selection:

Actor: Users. **Action:** Users browse through contractor profiles, considering ratings, reviews, and expertise. **Result:** Users confidently select a reputable contractor tailored to their needs.

3.6.4 Booking Process:

Actor: Users. **Action:** Users utilize the intuitive interface to schedule appointments, specifying date and time preferences. **Result:** Bookings are confirmed, and users receive details about the assigned contractor.

3.6.5 Service Delivery:

Actor: Contractors. **Action:** Contractors execute the requested services at the user’s location. **Result:** Users experience timely and professional completion of home maintenance or personal care services.

3.6.6 Quality Assurance:

Actor: Karsaaz. **Action:** Karsaaz ensures quality and dependability by providing a fifteen-day claim warranty.

Result: Users have peace of mind, knowing they can claim warranty support if any issues arise post-service.

3.6.7 Key Features and Differentiators:

Expansive Service Portfolio: Karsaaz distinguishes itself by offering a broad spectrum of services, ranging from traditional home maintenance to at-home personal care services. **Localized Operational Presence:** Focused on major cities, Karsaaz ensures prompt service delivery by strategically positioning itself in urban centers [19,20]. **User-Friendly Technology:** The mobile app and website provide a seamless and intuitive experience, enabling users to effortlessly navigate services, select contractors, and book appointments. **Quality Assurance:** The fifteen-day claim warranty demonstrates Karsaaz's commitment to maintaining high service standards and addressing user concerns promptly.

4 HIRE IT Proposed APP: Transforming Labor Hiring With Innovative Technologies

Hire IT Proposed App is a dynamic labor hiring mobile application designed to revolutionize the way employers find, hire, and manage workers for their businesses. This user-friendly app incorporates essential features like job postings, candidate search and filtering, scheduling, and communication tools. By leveraging cutting-edge technologies such as Java and Firebase, the development process is streamlined, ensuring efficiency, speed, and cost-effectiveness [22-24]. Algorithm 1 illustrates the step-by-step processes for job seekers within the Labor Hiring App. **Key Features of Hire It Proposed App:**

4.1 Job Postings:

Functionality: Employers can effortlessly create and post job listings with detailed specifications. **Benefits:** Simplifies the process of advertising job opportunities, reaching a broad pool of potential candidates.

4.2 Candidate Search and Filtering:

Functionality: Employers have the ability to search and filter candidates based on specific criteria. **Benefits:** Fa-

ilitates quick and precise candidate selection, ensuring a tailored match for job requirements [25-27].

4.3 Scheduling:

Functionality: The app includes advanced scheduling tools for employers to manage shifts, interviews, and other work-related appointments. **Benefits:** Enhances organizational efficiency, ensuring optimal utilization of human resources.

4.4 Communication Tools:

Functionality: Seamless communication between employers and job seekers through in-app messaging or other communication channels. **Benefits:** Fosters effective communication, promoting transparency and collaboration throughout the hiring process.

4.5 Technologies Used

4.5.1 Java:

Description: Java, a class-based, object-oriented programming language, is chosen for its versatility and minimal implementation dependencies. It follows the "write once, run anywhere" (WORA) paradigm, making it suitable for various applications, including standalone, mobile, games, and web-based applications. Java serves as a foundation for popular frameworks like Spring and Hibernate. **Role in App Development:** Java ensures the development of efficient, platform-independent code, contributing to the app's versatility and scalability [28, 29].

4.5.2 Firebase:

Description: Firebase, a product of Firebase, Inc. (a Google subsidiary), is a comprehensive platform for building mobile and web applications. It offers services such as real-time databases, authentication, and hosting. Firebase allows developers to create apps without managing servers, offering cloud-based solutions that integrate seamlessly into applications.

Role in App Development: Firebase serves as the backend service provider, handling real-time data storage, authentication, and hosting. Its cloud-based services enable developers to focus on building the client-side of the app, providing tools like analytics, performance monitoring, and crash reporting for enhanced app management.

5 Design Methodology and Software Process Model

Hire It is made with Agile methodology because of the need of the project and because of the flexibility and evolutionary nature it provides. Agile development's primary concept is incremental software development with continuous delivery. This means that each piece of software goes through a development cycle and that a product is not created all at once. Several times, if necessary. This allows for the early detection of any problems and the corresponding adjustment of the development.

The Agile process model promotes testing and development iterations that are ongoing. Each iteration used to produce an incremental element is intended to be short and manageable so that it can be finished in a few weeks.

Whereas Agile as Process Model for Hire have given us edge which involves testing during the development stages. By doing this, we can be confident that usability problems will be discovered early on in the development process, resulting in a higher-quality product once it is ready for release.

6 Architectural Design / Design Patterns

The architectural design of the labor hiring app will be based on a microservices architecture, with each function of the app being separated into its own service. This allows for flexibility and scalability, as well as easier maintenance and development. The design patterns used will include the Model-View-Controller (MVC) pattern as shows in figure 4 for the user interface, and the Repository pattern for data access. MVC architecture/pattern, which divides the application into three main logical components:

Three important MVC components are:

- Model: It contains all the information and any relevant logic.
- View: Display information to the user or manage user interaction.
- Controller: a link between the Model and View parts.

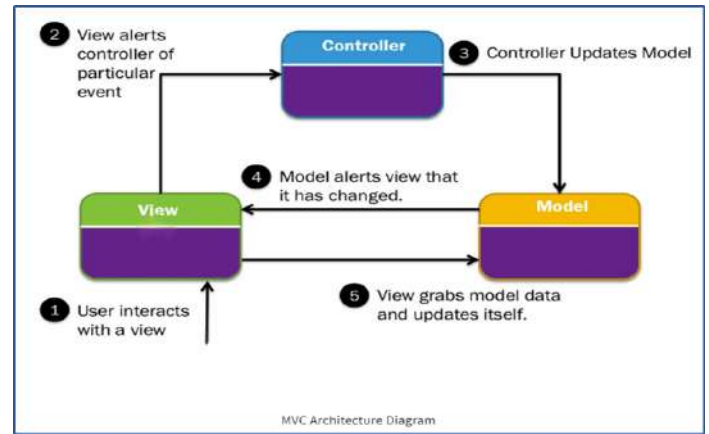


Figure 4. MVC Diagram

Hire It uses singleton pattern because of its advantages to single instance classes. The Singleton pattern guarantees that a class has only one instance and offers a universal point of access to that instance. It is called after the singleton set, which is a set with just one element by definition. Figure 5,6,7 shows the prototype of the proposed HireIt application.



Figure 5. HireIt Figma Design Categories Page

7 The Proposed Algorithm Algorithm: Job seeker Registration

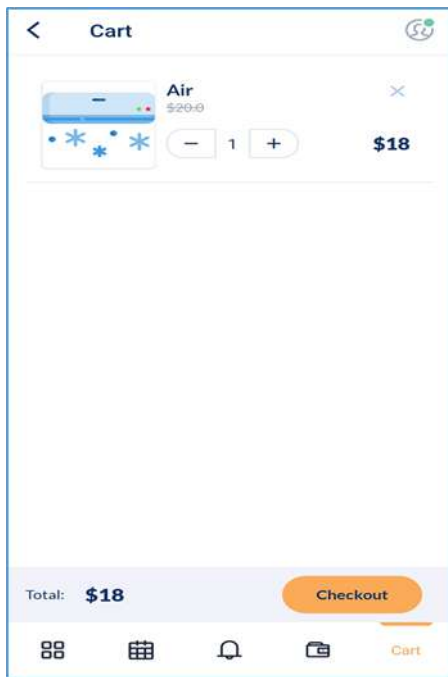


Figure 6. HireIt Figma Design Checkout Page

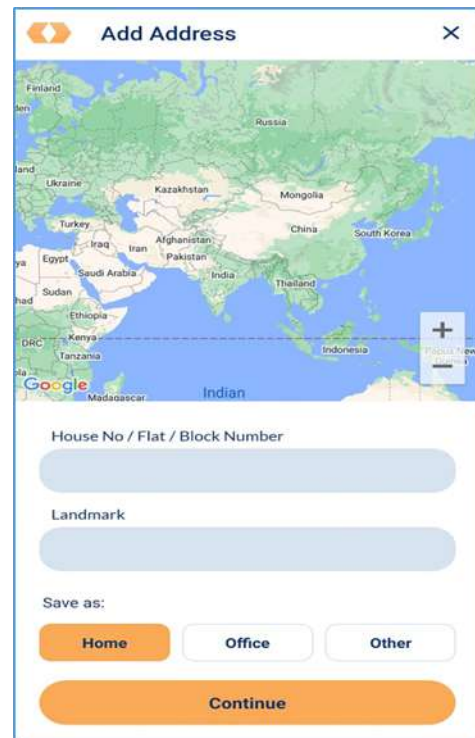


Figure 7. Figma Design Add Address Page

1. Input: Personal information, skills, qualifications, work experience, resume, relevant documents
2. Create a profile for the job seeker on the app.
3. Store the provided information in the database
4. Return a success message indicating successful registration.

Algorithm: Job Matching

1. Input: Job seeker's skills, qualifications, and location
2. Retrieve job listings from the database.
3. Use an algorithm to match job seekers with relevant job listings.
4. Send notifications to job seekers about matched jobs.
5. Job seekers can apply directly through the app.

Algorithm: Job Application

1. Input: Job application details
2. Store the job application in the database
3. Notify the employer about the new application
4. Await employer response

Algorithm: In App Communication

1. Input: Messages between job seekers and employers
2. Implement an in-app messaging feature for real-time communication
3. Store messages in the database
4. Ensure secure and private communication

Algorithm: Job Offer Acceptance

1. Input: Job offer details
2. Job seeker receives a job offer through the app
3. Decide to accept or reject the offer
4. If accepted, proceed to payment

Algorithm: Online Payment

1. Input: Payment details
2. Facilitate online payment between the employer and job seeker
3. Record the transaction in the database
4. Confirm payment completion

Algorithm: Job Completion Feedback

1. Input: Performance ratings and feedback

2. After job completion, both parties can rate each other's performance
3. Store ratings and feedback in the database
4. Conclude the job seeker's engagement on the app

8 Comparison of The Existing Model With Previously Published Models

The following table provides comparison of existing models with our proposed model:

Table 1. Comparison Table

Features	HireIt	Existing Apps
Recommendation System	Present	No, Recommendation System
Labors	For each area of city there will be our franchise center near labors gathering point or on the point (like zong distributors on chowrangi's) that handles that specific area. By this for every single order from a specific area we have multiple workers available (same in whole city).	Few labors available to cover Whole city (just like employee of the company).
Security	No compromise, we collect every single detail of the worker going to your house from his CNIC to background etc	Don't have any details
Rating System [30]	Rating system let you help in choosing that which worker is the skilled and better from other.	Not Available
Customer Support	Available and response time is quick	Not good

9 Literature Review Outcome

The comprehensive literature review undertaken on labor hiring apps has illuminated the profound impact these platforms have had on employment and wages

in recent years. The gig economy, characterized by its rapid growth, has witnessed a surge in the number of workers engaging in short-term or temporary jobs facilitated by online platforms, specifically labor hiring apps. While these platforms have streamlined the hiring process, providing quick and accessible solutions for employers, concerns have emerged regarding worker exploitation and a lack of job security.

Surveys and interviews conducted with both employers and workers who have utilized these labor hiring apps have unearthed a nuanced perspective. Employers acknowledge the convenience these apps offer in finding and hiring workers swiftly, yet the findings also underscore a disconcerting trend—a notable decrease in wages and job security for workers. The convenience for employers seems to come at a cost, leading to a challenging landscape for workers seeking stability and fair compensation.

Furthermore, the analysis of app data has uncovered significant patterns. A notably high turnover rate among workers has been observed, indicating a transient nature in their engagements through these platforms. Additionally, a considerable portion of workers faces challenges in securing stable employment opportunities, pointing to a potential mismatch between the promises of flexibility and the harsh realities of job insecurity within the gig economy.

In essence, while labor hiring apps have undeniably transformed the hiring landscape, offering speed and efficiency for employers, the trade-offs, as revealed by survey responses, interviews, and app data, raise critical questions. Striking a balance between the interests of employers and the well-being of workers remains a pressing concern in the ongoing evolution of the gig economy. Policymakers, industry stakeholders, and app developers must engage in collaborative efforts to address these concerns and create a more equitable and sustainable framework for the future of work.

10 Conclusion

In conclusion, the advent of labor hiring apps has undeniably revolutionized the dynamics of the modern job market. These mobile applications serve as efficient

tools for employers, enabling them to seamlessly find, hire, and manage workers for their businesses. The fundamental goal of these apps is to simplify and expedite the hiring process, providing employers with a convenient means to connect with a diverse pool of potential candidates.

The key features integrated into labor hiring apps, such as job postings, candidate search and filtering, scheduling, and communication tools, collectively contribute to the enhanced functionality and user-friendliness of these platforms. Job postings empower employers to broadcast opportunities effectively, while candidate search and filtering tools facilitate precise and quick talent acquisition. Scheduling features ensure streamlined management of work-related appointments, and communication tools foster seamless interaction between employers and job seekers throughout the hiring process.

One pivotal aspect that enhances the performance of these labor hiring apps is the integration of Firebase as a backend service provider. Firebase, with its capabilities in real-time data storage, authentication, and hosting, plays a crucial role in ensuring the efficiency and reliability of these applications. The use of technologies like Firebase, coupled with the versatility of Java for app development, further accelerates the process, enabling the creation of labor hiring apps that are not only efficient but also cost-effective.

In essence, labor hiring apps have emerged as invaluable assets for employers, streamlining their operations and saving both time and resources in the hiring process. Simultaneously, these apps provide job seekers with a user-friendly and convenient platform to explore job opportunities, ultimately contributing to the evolution of a more dynamic and responsive job market. As technology continues to advance, the ongoing development and refinement of labor hiring apps will likely play a pivotal role in shaping the future landscape of employment.

Author Contributions

Muhammad Saad: Conceptualization, Methodology, Writing- Original draft preparation. **Fatima Waseem:** Data curation, Visualization, Investigation, Reviewing.

Sarfaraz Natha: Visualization, Investigation. **Bilal Ahmed:** Visualization. **Abdul Rauf:** Validation. **Baasir Ashraf:** Review

Compliance with Ethical Standards

It is declared that all authors don't have any conflict of interest. It is also declared that this article does not contain any studies with human participants or animals performed by any of the authors. Furthermore, informed consent was obtained from all individual participants included in the study.

Funding Information

Not Applicable

References

- [1] Katz, Raúl, Fernando Callorda, and Juan Jung. "The impact of automation on employment and its social implications: evidence from Chile." *Economics of Innovation and New Technology* 32.5 (2023): 646-662.
- [2] Zhang, Yanlong, and Dong Yan. "Legal protection for gig workers' availability time: an empirical study of take-out platform riders in Beijing." *Employee Relations: The International Journal* (2023).
- [3] Jordan, Tim, and Annika Richterich. "Researching the digital economy and the creative economy: Free gaming shards and commercialised making at the intersection of digitality and creativity." *European Journal of Cultural Studies* 26.3 (2023): 354-370.
- [4] TUNA, Murat Fatih, and Hacı Ahmet KARADAŞ. "THE EFFECT OF MACROECONOMIC FACTORS ON ONLINE LABOR PLATFORM USERS: THE CASE OF TURKEY." *Journal of Management and Economics Research* 21.1 (2023): 81-101.
- [5] Suseno, Yuliani, and Chris Rowley. "Guest editorial: A different world of work: the sharing economy and (in) equity, identity and rewards." *Personnel Review* 52.3 (2023): 445-453.
- [6] Kim, Pyeonghwa, Eunjeong Cheon, and Steve Sawyer. "Online Freelancing on Digital Labor Platforms: A Scoping Review." *Companion Publication of the 2023 Conference on Computer Supported Cooperative Work and Social Computing*. 2023.

- [7] Khang, Alex, Babasaheb Jadhav, and Sphurti Birajdar. "Industry revolution 4.0: workforce competency models and designs." *Designing Workforce Management Systems for Industry 4.0*. CRC Press, 2023. 11-34.
- [8] Kokkodis, Marios, and Sam Ransbotham. "Learning to successfully hire in online labor markets." *Management Science* 69.3 (2023): 1597-1614.
- [9] Khang, Alex, et al. "Data-driven application of human capital management databases, big data, and data mining." *Designing Workforce Management Systems for Industry 4.0*. CRC Press, 2023. 105-120.
- [10] Sharma, F. C. *Human resource management*. SBPD Publications, 2023.
- [11] Sun, Ping, Julie Yujie Chen, and Uma Rani. "From flexible labour to 'sticky labour': A tracking study of workers in the food-delivery platform economy of China." *Work, employment and society* 37.2 (2023): 412-431.
- [12] S. Vallas and J. B. Schor, "What do platforms do? Understanding the gig economy," *Annual Review of Sociology*, vol. 46, pp. 273-294, 2020.
- [13] Shraddha, Chigateri. "Labour Law Reforms and Women's Work in India: Assessing the New Labour Codes from a Gender Lens." (2023).
- [14] Cockx, Bart, and Sam Desiere. "Labour costs and the decision to hire the first employee." (2023).
- [15] Sun, Ping, Julie Yujie Chen, and Uma Rani. "From flexible labour to 'sticky labour': A tracking study of workers in the food-delivery platform economy of China." *Work, employment and society* 37.2 (2023): 412-431.
- [16] Cardoso, Miguel, et al. "Research on Labour Market Impacts of the Temporary Foreign Worker Program." (2023).
- [17] Lippens, Louis, et al. "Understanding ethnic hiring discrimination: A contextual analysis of experimental evidence." *Labour Economics* 85 (2023): 102453.
- [18] Woźniak-Jęchorek, Beata, and Kamilla Marchewka-Bartkowiak, eds. *Digital Labour Markets in Central and Eastern European Countries: COVID-19 and the Future of Work*. Taylor Francis, 2023.
- [19] Boersma, Martijn, and David S. Bedford. "The role of market devices in addressing labour exploitation: An analysis of the Australian cleaning industry." *The British Accounting Review* 55.3 (2023): 101129.
- [20] Bassanini, Andrea, et al. "Labour market concentration, wages and job security in Europe." *Nova SBE Working Paper Series* 654 (2023).
- [21] Cebola, Maria Manuela Jacob, Nuno Rebelo dos Santos, and Andreia Dionísio. "Worker-related ageism: A systematic review of empirical research." *Ageing Society* 43.8 (2023): 1882-1914.
- [22] Burdorf, Alex, Rita CP Fernandes, and Suzan JW Robroek. "Health and inclusive labour force participation." *The Lancet* 402.10410 (2023): 1382-1392.
- [23] Manoharan, Kesavan, et al. "A labour performance score and grading system to the next normal practices in construction." *Built Environment Project and Asset Management* 13.1 (2023): 36-55.
- [24] Alimdjanova, Dilbar Negmatovna. "TEACHING TOOLS WITH THE USE OF PROPRIETARY TECHNOLOGIES IN PSYCHOLOGY CLASSES." *Open Access Repository* 4.3 (2023): 536-541.
- [25] R. K. Choudhary, M. Botre, S. Udupure, P. Bramhankar, S. Singh, U. Mulkalwar, and A. Moreshiya, "Development of an Application for Hiring Drivers
- [26] Kokkodis, Marios, and Sam Ransbotham. "Learning to successfully hire in online labor markets." *Management Science* 69.3 (2023): 1597-1614.
- [27] Shatzman, Aliza. "Diverse Judges and Their Diverse Clerks: A Rare Window into Appellate Law Clerk Hiring." *Jotwell: J. Things We Like* (2023): 1.
- [28] Mankawade, Amruta, et al. "Helping hands-Job Hiring System for Specially Abled People." *International Journal of Advanced Engineering Research and Science* 10.5 (2023).
- [29] AIDE, CLASSROOM. "Now Hiring." *sage* 9 (2023): 2.
- [30] Olaniyan, Adelanke H., and Sharma Hemlata. "Evaluating E-Recruitment Data Quality in Employee Hiring Process." *Future of Information and Communication Conference*. Cham: Springer Nature Switzerland, 2023.