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AgriGo - A Job Portal for Farmers

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Abstract: ***The Daily Workers Service Application is an app-based digital platform that will link farmers and daily wage workers in the agricultural sector. Through the digitalization of the traditionally informal and fragmented process of worker recruitment, the application brings about the automation of job listings and workforce deployment. Farmers will be able to create postings stating compensation, form of work, duration, and location, while workers may browse for possibilities that match their skills and proximity, thereby encouraging timely and reliable matchings. Built using the Kotlin Android platform, the app has a responsive and easy-to-use interface for two-way communication and transparency. The platform eliminates the use of word-of-mouth or middlemen, reducing the cost of hiring and delays. Further, it generates organized features such as tracking job history and clarity of role, encouraging accountability and fairness. The platform also lays the foundation for future innovations like in-app payment systems, worker authentication, multi-language support, and performance measurement metrics. As a scalable solution to a long-standing rural employment problem, the Daily Workers Service App is a beacon of how technology can re-engineer old worker systems into efficient, accessible, and equitable digital systems.***
Keywords: Job postings, hiring platform, workforce management, Kotlin, agricultural jobs.

I. INTRODUCTION

Efficiency in agriculture is the secret to economic growth and food security. However, rural communities usually suffer from a lack of equilibrium in the demand and supply of workers due to the absence of an efficient job allocation system. Farmers are frequently unable to get the right kind of workers during peak seasons, and workers are unable to find employment suited to their skills and availability. Such inefficiencies reduce productivity, increase the cost of doing business, and negatively impact the livelihood of both groups [1][2][3]. The AgriGo application resolves these issues by offering a centralized, user-centric mobile platform that bridges farm producers with casual workers. It accelerates the recruitment process, enhances the supply of work, and makes the traditionally informal agricultural worker market transparent. Through the implementation of its structured format, the platform not only enhances efficiency but also holds people accountable, fosters trust, and ensures organized worker management [2][3][4].

Disorganization is not unique to agricultural employment [5]. For instance, existing water complaint management is usually plagued by fragmentation and non-standardization, thus slowing down the resolution of user complaints. Inefficient reporting and case tracking in partial or unclear reports lead to protracted problems like leaks or water contamination. This project imagines a larger platform that, aside from managing employment, can also solve such community service gaps by facilitating location-based reporting, complaint tracking, and enhanced service delivery [5]. The overall objective of this project is to offer an accessible electronic system connecting farmers as employers to potential workers. Core functions of this system are job promotion, worker identification systems, efficient hiring processes, and traceability of employment history. All these functions minimize time and effort in the hiring process and bookkeeping as well as maximize transparency and traceability of employment processes [6]. Above all, the app is intended to extend its use beyond the farm sector. It is intended to be a multi-functional service centre with various functions like hotel reservation, transportation, event planning, and food ordering coordination [5]. To the user, this translates into the capability of handling a wide variety of needs through a single point, including real-time notification, communication paths, service evaluation, and user profile management [6]. To the service providers, it offers interaction tools, scheduling management, and client communication, hence enhancing the rural and semi-urban digital service ecosystem [7]. This platform has a high potential to address two very crucial problems: rural unemployment and inefficient worker distribution. By bringing the informal sector of employment to the digital world and organizing it, it helps farmers access a larger pool of workers—particularly during the busy seasons—and provides workers with opportunities for stable job access. The broader implications include rural development, economic stability, and national food security. In the future, the system will be designed to grow with upcoming features like AI-powered job matching, language support, offline mode, digital payment integration, training modules for workers, and analytics dashboards [6]. These will transform the platform to make it more intelligent, inclusive, and resistant to real-world problems [7]. Through being in touch with user needs and technology trends, the project plans to be effective and sustainable in the long term [8].

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II. LITERATURE SURVEY

In recent years, the increasing penetration of smartphones and mobile internet has significantly influenced service delivery across various sectors, including employment. Digital platforms have emerged as effective tools for addressing the fragmented and informal nature of the daily wage worker market, particularly in countries like India where millions rely on such jobs for their livelihood.

Several mobile-based solutions have been proposed to bridge the gap between workers and employers. One notable trend is the development of platforms that allow unskilled or semi-skilled workers to register, browse job opportunities, and receive direct employment offers without the involvement of intermediaries. These applications typically incorporate features such as location-based job listings, user authentication, and offline capabilities to accommodate rural users with limited internet access [1].

To streamline workforce management and improve job accessibility, automation and systematization of workforce allocation have become focal points in contemporary research. Some platforms emphasize end-to-end job handling — from posting and application to feedback and job history tracking. These systems also aim to prevent exploitation by ensuring transparency in compensation, work conditions, and performance evaluation [2].

Another direction explored in the literature is the use of mobile applications specifically designed to connect local workers with urban and semi-urban service providers. These solutions prioritize user experience by offering multilingual interfaces, chat facilities, and GPS-enabled service tracking. Such features enhance usability and ensure wider adoption among users with limited technological literacy [3][4].

Additionally, the incorporation of user-centric design principles, including intuitive interfaces and real-time notifications, plays a crucial role in the success of employment platforms. Some applications have expanded their focus beyond just employment by integrating booking services for household and utility tasks, further enhancing user engagement [5].

From a technical standpoint, several implementations leverage Android development frameworks and follow agile methodologies to rapidly build and test prototypes. Books like the Android Cookbook and Android Studio Development Essentials provide comprehensive guidance on building scalable mobile apps, ensuring optimal performance, memory management, and modular development practices [6][7][8]. Collectively, the reviewed literature highlights the importance of integrating technology into workforce management, especially in rural and unorganized sectors. These studies provide valuable insights that have informed the development of AgriGo — a platform that aims to extend these principles specifically to agricultural workforce markets.

III.AGRIGO

AgriGo is a mobile-based digital platform designed to streamline the connection between employers and agricultural workers. The core functionality of the application centres on allowing employers to post job opportunities while enabling workers to conveniently browse and accept these jobs based on their skills and availability. Through structured job management, history tracking, and timely notifications, the system addresses long-standing inefficiencies in traditional hiring mechanisms. By digitizing the job allocation process, AgriGo effectively reduces hiring delays and enhances accessibility for both farmers and workers.

Function and non-functional requirements

Requirement's analysis is very critical process that enables the success of a system or software project to be assessed. Requirements are generally split into two types: Functional and non-functional requirements.

1) Functional Requirements: Functional requirements define the specific behaviours and operations the system must support, based on direct expectations from the end users. These are often observable in the final implementation and essential for fulfilling the application's core purpose. In the AgriGo platform, users can register and authenticate themselves either as farmers or as workers using valid credentials. Once logged in, farmers are empowered to post job listings, access the list of registered workers, and review historical job engagements. Correspondingly, workers have access to available job postings, the ability to accept suitable roles, and a personal dashboard that tracks their job history. Post-registration, workers are also able to view job locations directly on the application interface [1][2].

2) Non-functional requirements: In contrast to functionality, non-functional requirements govern the overall quality attributes of the system. These characteristics may not be directly visible to the end user but critically influence user satisfaction and platform performance. The AgriGo application features an intuitive and user-friendly interface, specifically designed with rural accessibility in mind. It ensures secure data storage and user authentication using basic encryption standards. From a performance perspective, the app maintains an optimized load time, averaging under three seconds per page. It is engineered for reliability, with minimal crash rates, and is built to scale efficiently as the user base expands. Additionally, a modular backend design supports smooth updates and ensures high system availability—except during scheduled maintenance intervals [3][4].

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A. Block Diagram

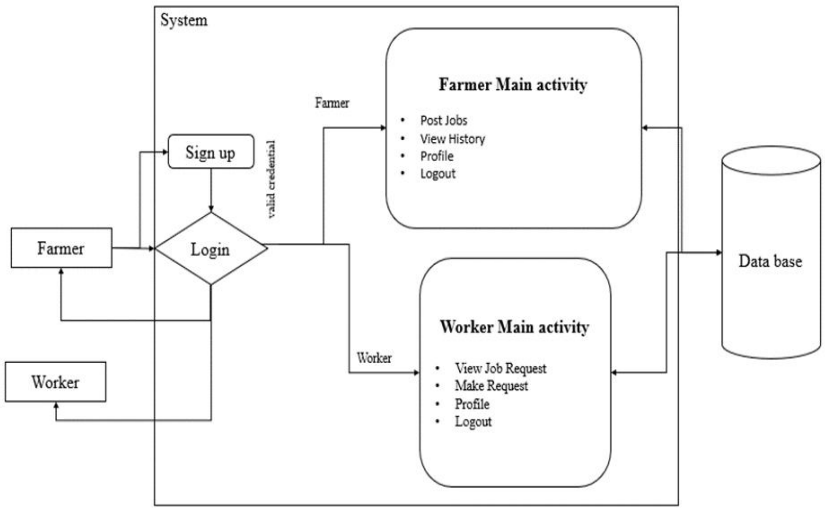

Fig.1 Block Diagram for AgriGo

B. User Access Flow

The platform distinguishes between two primary user types: farmers and workers. First-time users begin by creating an account through the Sign-up page. Upon successful registration, they gain access to the system through the Login page.

C. Login Authentication

At the point of login, the system verifies credentials against stored data. Once authenticated:

- A farmer is directed to the Farmer Main Activity screen.
- A worker is redirected to the Worker Main Activity section.

D. Role-Based Interface Features

Farmer Main Activity

This section offers a suite of tools catered to employers:

- Post Jobs: Enables farmers to submit new job listings for various agricultural needs.
- View History: Displays the history of job postings and associated workers.
- Profile Management: Allows editing of personal and account-related information.
- Logout: Provides a secure exit from the system.

Worker Main Activity

Designed for daily wage workers, this area provides:

- View Job Requests: Workers can browse currently available opportunities.
- Make Request: Allows them to express interest or apply for selected jobs.
- Profile Management: Offers capabilities to update individual details.
- Logout: Securely logs the user out of the application.

IV. RESULTS

A. Farmer Functionality Results

Farmers were able to log in and navigate the application with ease. The job posting module allowed for real-time submission of job offers, which became instantly visible to nearby workers. Notifications were triggered appropriately to alert workers of new opportunities. The app also successfully stored job histories, allowing farmers to rehire past workers or review their ratings before offering a new position. The intuitive dashboard simplified job management and worker selection, providing features such as worker profiles and job tracking status.

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B. Worker Functionality Results

Daily workers, upon registration, were able to input details such as name, area of expertise, availability, and preferred work radius. Based on this data, the system displayed relevant job listings in real time. Upon selecting a job, they could communicate with the employer via a built-in messaging system. The job acceptance process was smooth and involved status updates visible to both parties. Workers could also track completed jobs and receive ratings and feedback from employers, enabling better visibility and potential for future hiring.

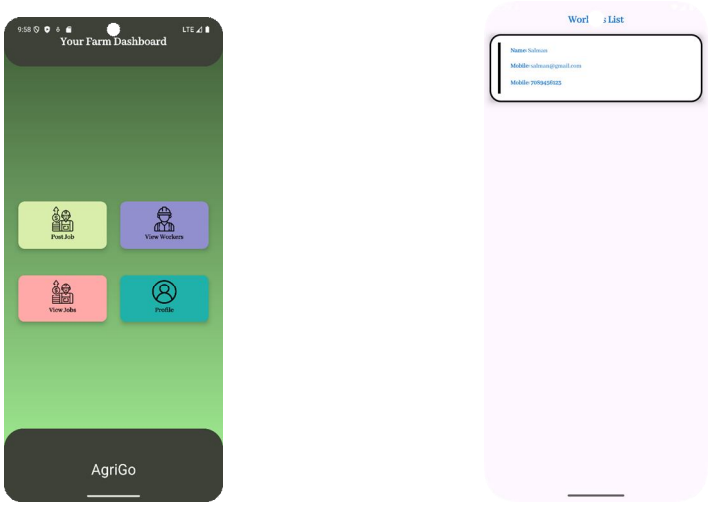

Fig.2 Farmer Side Dashboard

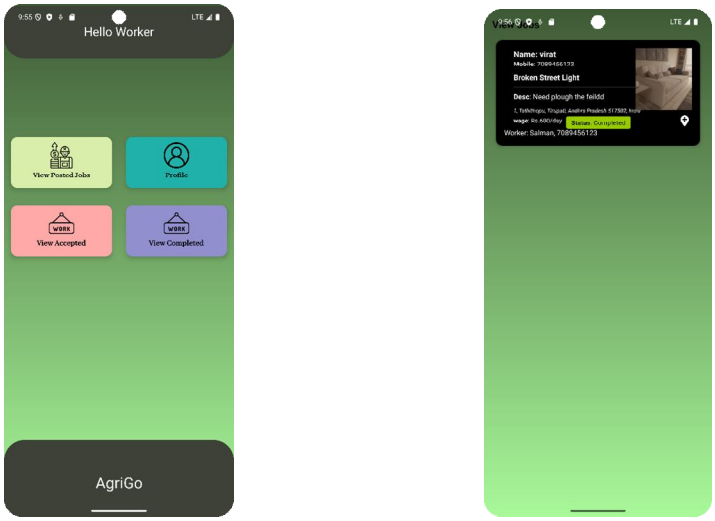

Fig.3 Worker Side Dashboard

C. Interface & Usability Results

User feedback gathered during prototype testing indicated high levels of satisfaction with the UI/UX. The app's multilingual support (though limited during the test phase) was positively received, especially in rural settings where users preferred regional languages. The navigation flow was logical and reduced the learning curve, even for users with minimal digital literacy.

D. Overall System Efficiency and Performance

The application performed well under simulated real-time usage with multiple user accounts active simultaneously. Response time for job loading and user authentication was within acceptable limits for standard mobile internet connections. Data syncing between farmer and worker modules occurred without loss of information or delay. Memory usage and battery consumption were found to be optimized for mid-range Android devices, making it suitable for users in rural areas with basic smartphones.

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V. CONCLUSION AND FUTURE SCOPE

A. *Conclusion*

The Daily Workers Service Application is a systematic and technology-driven solution to age-old inefficiencies in farm worker management. By digitizing the job allocation mechanism, it reduces reliance on traditional channels like informal word-of-mouth or middlemen and allows for a quicker and more transparent hiring process. The easy-to-use interface of the application allows farmers to easily define job requirements and makes it easier for workers to find and accept available jobs that best suit their skills and location preferences—hence enhancing accountability and order through mechanisms like status tracking and employment history.

B. *Future Scope*

Apart from driving operational effectiveness to the forefront, the application also facilitates digital empowerment in rural areas by making employment opportunities more accessible and organized. With increasing smartphone penetration, this platform has the potential to bridge employment gaps and create economic inclusion. Sophisticated features such as secure digital payments, verification processes of workers, multi-lingual capabilities, and AI-based job matching in the future can even have the potential to elevate the system to make it scalable and an efficient means towards overall rural development.

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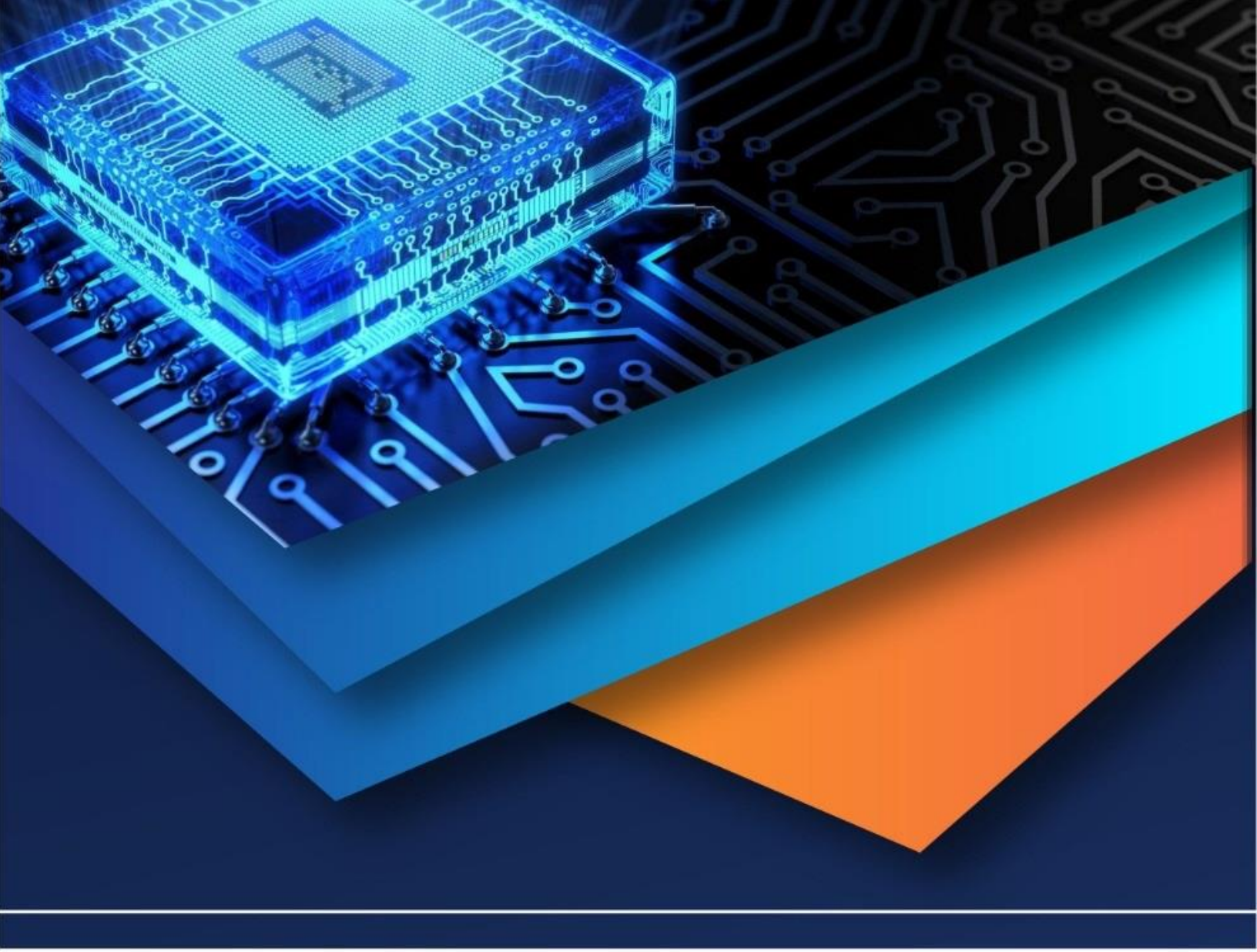

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