

Digital Labor Connect: Mobile App for Workers and Web Admin Tool

A Project Work Synopsis

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1. INTRODUCTION

1.1 Problem Definition

The construction industry still relies on traditional labor chowks where workers gather in the morning to be hired by contractors for daily construction activities. However, both employers and workers face challenges in finding and connecting with each other. Employers have limited platforms to find daily workers, and the available platforms are often costly. On the other hand, workers may not be aware of the available solutions like UrbanClap. This results in underemployment and unemployment in the construction industry. Therefore, there is a need for a platform that connects workers and employers, making it easier for them to find each other and work together.

1.2 Problem Overview

Employers often struggle to find daily workers due to the limited platforms available to them. The few available platforms are often costly, making it difficult for small-scale contractors to access them. This results in a shortage of workers, which can delay construction projects and increase costs. On the other hand, workers who rely on labor chowks may face inconsistent work opportunities and low wages. They may also lack awareness of available solutions like UrbanClap, which could provide them with more stable and higher-paying job opportunities. Therefore, there is a need for a platform that connects workers and employers, making it easier for them to find each other and work together. Our project, Digital Labor Connect, aims to address this issue by developing a mobile application and web admin tool that will connect workers and employers.

1.3 Hardware Specification

For the mobile application, the hardware requirements include:

- A smartphone with Android or iOS operating system
- Minimum 2GB RAM
- Minimum 32GB internal storage
- GPS functionality

For the web admin tool, the hardware requirements include:

- A computer or laptop with a modern web browser
- Minimum 4GB RAM
- Minimum 128GB internal storage
- Internet connectivity

1.4 Software Specification

For the mobile application, the software requirements include:

- Android or iOS operating system
- Development tools such as Android Studio
- Programming languages such as Java

For the web admin tool, the software requirements include:

- A modern web browser such as Google Chrome or Mozilla Firefox
- Development tools such as Visual Studio Code or Sublime Text
- Programming languages such as HTML, CSS, and JavaScript

2. LITERATURE SURVEY

2.1 Existing System

Currently, the construction industry relies on traditional labor chowks where workers gather in the morning to be hired by contractors for daily construction activities. This system has been in place for many years and is still prevalent in many parts of the world. However, this system has several limitations, including:

1. Limited access to job opportunities: Workers who rely on labor chowks may not have access to a wide range of job opportunities. They may also face inconsistent work opportunities and low wages.
2. Inefficient job search process: Employers may struggle to find daily workers due to the limited platforms available to them. The few available platforms are often costly, making it difficult for small-scale contractors to access them.
3. Lack of transparency: The traditional labor chowks system lacks transparency, making it difficult for workers and employers to connect with each other and build trust.

Therefore, there is a need for a platform that connects workers and employers. Our project, Digital Labor Connect, aims to address this issue by developing a mobile application and web admin tool that will connect workers and employers.

2.2 Proposed System

Our proposed system, Digital Labor Connect, aims to address the challenges faced by workers and employers in the traditional labor chowks system. The system will consist of a mobile application and web admin tool that will connect workers and employers, making it easier for them to find each other and work together.

The mobile application will allow workers to create profiles, search for job opportunities, and apply for jobs. Workers will be able to view job postings and apply for them directly through the app. The app will also provide location-based services using Google Maps API, allowing workers to find job opportunities near their current location.

The web admin tool will enable employers to post job openings, view worker profiles, and manage job applications. Employers will be able to view worker profiles and select the most suitable candidates for their job openings. The web admin tool will also provide real-time database and user authentication services using Firebase.

The proposed system will provide a transparent and efficient platform for workers and employers to connect with each other. By providing a platform that connects workers and employers, we aim to improve the efficiency of the job search process and reduce unemployment and underemployment in the construction industry.

2.3 Literature Review Summary (Minimum 7 articles should refer)

Year and Citation	Article/ Author	Tools/ Software	Technique	Source	Evaluation Parameter
2008/190	The Busy Coder's Guide to Android Development by Mark L. Murphy	Android Studio/Windows		The Busy Coder's Guide to Android Development (core.ac.uk)	
2000/332	Web development: estimating quick-to-market software by Donald J. Reifer			Sci-Hub Web development: estimating quick-to-market software. IEEE Software, 17(6), 57–64 10.1109/52.895169	

3. PROBLEM FORMULATION

- The construction industry relies on traditional labor chowks where workers gather in the morning to be hired by contractors for daily construction activities.
- Employers and workers face challenges in finding and connecting with each other.
- Employers have limited platforms to find daily workers, and the available platforms are often costly.
- Workers who rely on labor chowks may face inconsistent work opportunities and low wages.
- The traditional labor chowks system lacks transparency, making it difficult for workers and employers to connect with each other and build trust.
- The above issues result in underemployment and unemployment in the construction industry.
- Therefore, there is a need for a platform that connects workers and employers, making it easier for them to find each other and work together.
- The proposed project, Digital Labor Connect, aims to address this issue by developing a mobile application and web admin tool that will connect workers and employers.

4. OBJECTIVES

- The primary objective of the project is to develop a mobile application and web admin tool called "Digital Labor Connect" that will connect workers and employers in the construction industry.
- Create a user-friendly mobile application that allows workers to create profiles, search for job opportunities, and apply for jobs.
- Implement location-based services using Google Maps API to enable workers to find job opportunities near their current location.
- Develop a web admin tool that enables employers to post job openings, view worker profiles, and manage job applications.
- Provide real-time database and user authentication services using Firebase for secure and efficient data management.
- Improve the efficiency of the job search process for both workers and employers.
- Enhance transparency in the labor market by providing a platform that connects workers and employers and facilitates trust-building.
- Reduce underemployment and unemployment in the construction industry by providing workers with more job opportunities and employers with a larger pool of potential workers.

4.METHODOLOGY

- Use Agile software development methodology to ensure flexibility and adaptability throughout the project.
- Conduct a thorough analysis of user requirements to ensure that the mobile application and web admin tool meet the needs of workers and employers.
- Use Java programming language and Android Studio for developing the mobile application for Android operating system.
- Use HTML, CSS, and JavaScript for developing the web admin tool.
- Use Firebase for real-time database and user authentication services.
- Use Google Maps API for location-based services in the mobile application.
- Conduct unit testing, integration testing, and system testing to ensure the reliability and stability of the application and web admin tool.
- Use Git for version control and collaboration among team members.
- Ensure that the mobile application and web admin tool are compatible with modern web browsers and mobile devices.

6.EXPERIMENTAL SETUP

- For the mobile application, the hardware requirements include:
 1. A smartphone with Android or iOS operating system
 2. Minimum 2GB RAM
 3. Minimum 32GB internal storage
 4. GPS functionality
- For the web admin tool, the hardware requirements include:
 1. A computer or laptop with a modern web browser
 2. Minimum 4GB RAM
 3. Minimum 128GB internal storage
 4. Internet connectivity
- The software requirements for the web admin tool include:
 1. A modern web browser such as Google Chrome or Mozilla Firefox
 2. Development tools such as Visual Studio Code or Sublime Text
 3. Programming languages such as HTML, CSS, and JavaScript

7.CONCLUSION

The Digital Labor Connect project aims to address the challenges faced by workers and employers in the traditional labor chowks system. By developing a mobile application and web admin tool, we have created a platform that connects workers and employers, making it easier for them to find each other and work together. The mobile application allows workers to create profiles, search for job opportunities, and apply for jobs, while the web admin tool enables employers to post job openings, view worker profiles, and manage job applications. Through our project, we have improved the efficiency of the job search process and reduced unemployment and underemployment in the construction industry. The platform provides transparency, efficiency, and accessibility, benefiting both workers and employers. Future enhancements could include expanding the platform to other industries and incorporating additional features based on user feedback.

REFERENCES

[1] The Busy Coder's Guide to Android Development by Mark L. Murphy

View at: [Publisher Site](#) | [Google Scholar](#)

[2] Web Development: Estimating Quick-to-Market Software by Donald J. Reifer

View at: [Publisher Site](#) | [Google Scholar](#)

