



# International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

*(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)*



**Impact Factor: 8.699**

**Volume 14, Issue 5, May 2025**

# Migrant Connect: A Comprehensive Portal for Migrant Labor Support in Tamil Nadu

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**ABSTRACT:** MigrantConnect is a comprehensive MERN-stack web platform designed to address the multifaceted challenges faced by migrant workers in Tamil Nadu. These workers often struggle with issues such as lack of proper documentation, difficulty accessing government welfare schemes, and minimal transparency in their employment and mobility records. MigrantConnect provides a sustainable solution by assigning each worker a unique digital ID, which facilitates precise data management, streamlined registration processes, and efficient delivery of services. The platform acts as a centralized hub, integrating critical support systems such as job matching services, legal assistance, healthcare access, and a grievance redressal mechanism. This integration not only empowers migrant workers by improving their access to essential resources but also enables authorities to track and manage migration patterns, employment trends, and social support distribution more effectively. Through real-time data analytics and an intuitive user interface, the platform enhances administrative oversight, reduces bureaucratic delays, and fosters greater transparency and accountability in labor governance.

**KEYWORDS:** : Migrant Care, Next.js, Convex, Firebase, Administrator, Announcement.

## I. INTRODUCTION

Migration plays a crucial role in the socio-economic framework of India, particularly in states like Tamil Nadu, which are significant centers for employment in industries such as construction, textiles, and services. Annually, numerous workers leave rural and economically disadvantaged areas in pursuit of improved livelihoods. Nevertheless, despite their vital contributions to the state's economy, migrant workers encounter numerous challenges that impede their well-being and socio-economic integration. These obstacles include the absence of formal identification and documentation, which limits their access to essential government welfare programs, healthcare services, job opportunities, and legal protections. Additionally, the lack of a centralized platform or data system makes it difficult for the government and support organizations to monitor the movement, employment history, and welfare status of these workers. This leads to administrative inefficiencies, disjointed service delivery, and insufficient targeted interventions for this vulnerable demographic.

To tackle these urgent issues, the initiative named "MigrantConnect: A Comprehensive Portal for Migrant Labor Support in Tamil Nadu" has been established as an innovative digital solution. MigrantConnect is a web-based platform developed using the MERN stack (MongoDB, Express.js, React.js, Node.js), specifically aimed at enhancing the registration, monitoring, and support of migrant laborers within the state. Central to this system is the allocation of a unique digital ID to each registered worker, facilitating precise data management and effortless access to various welfare and support services. The platform operates as a centralized service portal that incorporates essential features such as job listings, legal assistance, healthcare support, and grievance resolution, all customized to address the specific requirements of migrant workers. By integrating these services, the system not only empowers workers by enhancing their access to critical resources but also provides administrators with the necessary tools to effectively manage and support this population.

### Objectives

The main aim of the MigrantConnect initiative is to create a thorough and user-friendly digital platform that tackles the various challenges encountered by migrant laborers in Tamil Nadu. This project intends to simplify the registration



process for migrant workers by providing them with a unique digital ID, which facilitates precise tracking of their personal, employment, and welfare-related data. A significant objective is to guarantee that these workers can conveniently access vital services such as job opportunities, legal assistance, healthcare, and grievance resolution through a unified, centralized system. By consolidating these essential services, the platform aspires to empower migrant workers with improved access to their rights and resources, while simultaneously enhancing the administrative efficiency of government agencies and NGOs in delivering focused support. Furthermore, the project emphasizes the importance of promoting transparency, accountability, and real-time data analysis to assist policymakers in comprehending migration patterns, enhancing service delivery, and formulating more effective labor welfare policies. In conclusion, the goal is to establish an inclusive digital ecosystem that fosters the social and economic integration of migrant workers, ensuring their dignity, protection, and well-being in a swiftly changing urban and industrial environment.

## **II. EXISTING SYSTEM**

Currently, there is no centralized or integrated platform available to support the welfare and rights of migrant workers in Tamil Nadu. Although various government schemes, health services, legal assistance programs, and employment opportunities are in place, they are scattered across different departments and often remain inaccessible due to a lack of awareness, language barriers, or inadequate digital infrastructure. Migrant workers encounter considerable difficulties in accessing these services, primarily because they frequently lack proper documentation and a digital identity. Consequently, their presence, employment status, health conditions, and eligibility for welfare remain largely unrecognized by the system. The lack of real-time data and integrated monitoring mechanisms results in bureaucratic delays, inefficiencies in service delivery, and insufficient administrative oversight. NGOs and government agencies find it challenging to effectively track and support migrant workers due to the absence of unified digital records and the need for better interdepartmental coordination.

## **III. PROPOSED SYSTEM**

The proposed system, MigrantConnect, serves as a comprehensive digital solution that rectifies the deficiencies of the current framework. It is a MERN-stack web application specifically designed to function as an all-encompassing support platform for migrant workers in Tamil Nadu. The objective of the system is to register migrant workers and provide them with a unique digital ID, facilitating accurate identification, tracking, and the provision of welfare services. MigrantConnect consolidates job matching capabilities, legal support, healthcare access, and a grievance redressal mechanism through a single portal. The platform also offers real-time data analytics for government authorities, which aids in enhanced policy-making, better oversight, and the efficient allocation of resources. Furthermore, MigrantConnect is designed with a mobile-responsive, multilingual interface to promote inclusivity and ease of access for users with limited digital literacy. NGOs, employers, and government field agents are also able to assist with the registration process and data updates. The portal not only empowers migrant workers by enhancing visibility and accessibility but also streamlines governance and ensures transparency in the delivery of labor-related services.

## **IV. METHODOLOGY**

### **OVERVIEW OF THE PROJECT**

Migrant Connect is a web-based application developed using the MERN stack to provide an integrated, secure, and user-friendly platform that addresses the key challenges faced by migrant laborers in Tamil Nadu. Migrant workers often experience difficulty in accessing government welfare schemes, managing employment records, handling grievances, and staying informed about available social services. These issues are exacerbated by poor documentation, language barriers, and the lack of a centralized database for tracking and supporting migrant workers across districts and sectors. The platform aims to solve these challenges by assigning a unique digital ID to each registered worker, which allows for streamlined documentation, efficient service delivery, and real-time tracking. It brings together employers, migrant workers, and administrators in a unified system that supports transparency, accountability, and empowerment. MigrantConnect integrates several key services, including registration and profile management, job matching, access to government/NGO schemes, grievance redressal, and location tracking. These services are distributed across dedicated modules that work in harmony to create a robust, reliable, and inclusive support system.

Through data analytics, the platform also helps authorities visualize migration trends, identify policy gaps, and plan better labor interventions.

**MODULES**

- User Management Module
- Registration Module
- Profile & Employment Module
- Job Portal Module
- Scheme & Service Module
- Grievance Redressal Module
- Real-Time Tracking Module
- Admin Dashboard Module

**MODULES DESCRIPTION****USER MANAGEMENT MODULE**

This module handles the authentication and role-based access for all users in the system. The platform defines three roles: Superadmin, Company/Employer, and Migrant Worker. Using JWT (JSON Web Tokens), secure login sessions are maintained. Each user is assigned permissions according to their role, ensuring that sensitive operations like grievance handling or job posting are restricted to authorized personnel.

**KEY FEATURES**

- Secure login and registration
- Role-based access control
- Password encryption and session management

**REGISTRATION MODULE**

This module allows migrant workers to register themselves on the platform using a digital form. It captures vital personal details such as name, age, skill set, contact number, native address, and current location. Workers can upload identity proofs (Aadhaar, ration card, etc.), work history, and educational qualifications. Submissions are routed to administrators for verification.

**KEY FEATURES:**

- Digital form with multilingual support
- Document upload system
- Admin approval workflow for registration validation

**PROFILE & EMPLOYMENT MODULE**

After successful verification, workers can access and update their personal profiles and employment history. This module maintains a record of work locations, employers, duration of employment, wages, and contract status. Employers can also verify or suggest updates to worker employment records.

**KEY FEATURES**

- Editable profile dashboard
- Employment history tracking
- Employer-linked verification support

**JOB PORTAL MODULE**

This module bridges the gap between companies and migrant workers. Employers can post job listings with specific location, skill, and duration requirements. Migrant workers can browse listings based on their skill set, apply directly, and track their application status. Admins can moderate posts to prevent fraud.

**KEY FEATURES:**

- Job postings and filtering
- Application submission and tracking
- Notification system for job matches

**SCHEME & SERVICE MODULE**

This module displays a curated list of government and NGO welfare schemes applicable to migrant workers. It includes eligibility criteria, required documents, and links for direct application. Where possible, forms can be filled directly through the platform for integrated application.

**KEY FEATURES**

- Categorized schemes (health, education, ration, insurance)
- Direct application support

**GRIEVANCE REDRESSAL MODULE**

A critical feature, this module allows migrant workers to lodge complaints related to employment abuse, non-payment of wages, living conditions, or other issues. Workers can attach documents or images as evidence. Complaints are tracked, and admins can respond through an internal messaging interface.

**KEY FEATURES**

- Complaint registration with attachments
- Status tracking and response notification
- Admin resolution dashboard

**REAL-TIME TRACKING MODULE**

Using the device's location API, workers can optionally check in from their work site or accommodation. This helps in real-time monitoring of worker movements and can be useful during emergencies, lockdowns, or health interventions. The system displays maps of worker clusters or camp areas for easy visualization by authorities.

**KEY FEATURES**

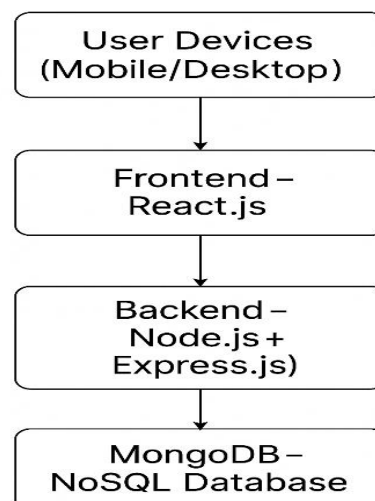
- Geo-location check-in system
- Worker mapping and clustering
- Real-time updates for authorized viewers

**ADMIN DASHBOARD**

The admin dashboard provides an overview of system activities and analytics. It includes metrics on registrations, job postings, grievances resolved, and service usage. Trend charts offer insight into migration patterns, common complaints, and high-demand job areas. This data helps authorities improve welfare planning and resource allocation.

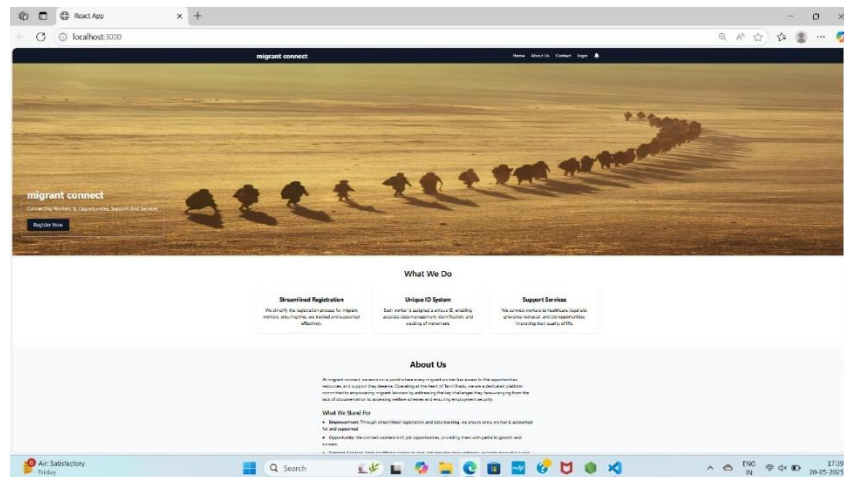
**KEY FEATURES:**

- Visual analytics with graphs and charts
- Real-time activity feed

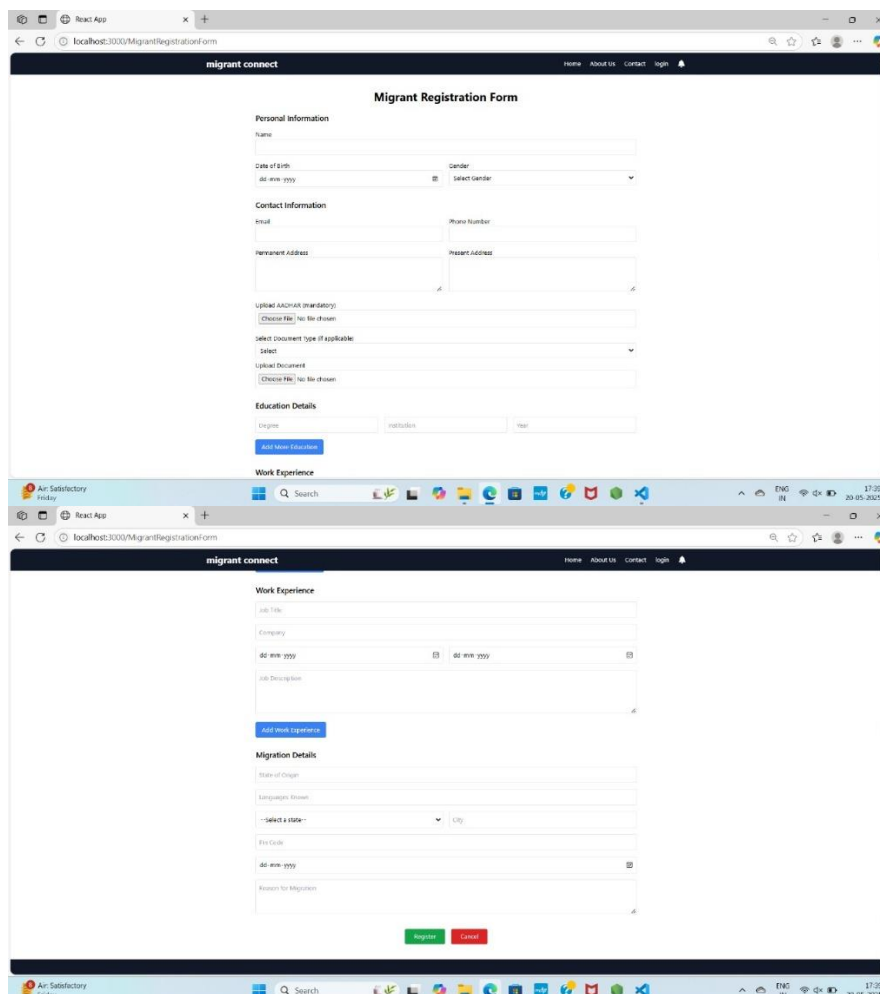
**IV.SYSTEM ARCHTECTURE**

## V. EXPERIMENTAL RESULTS

### MIGRANT LOGIN



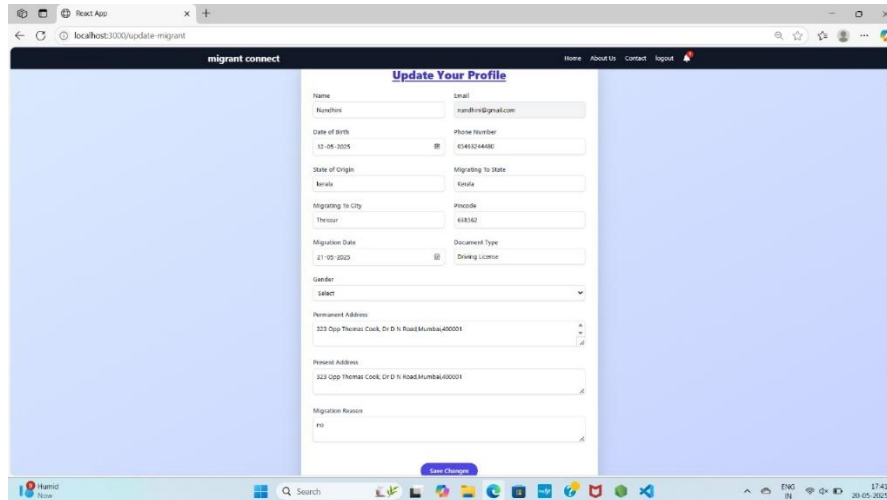
### MIGRANT FORM



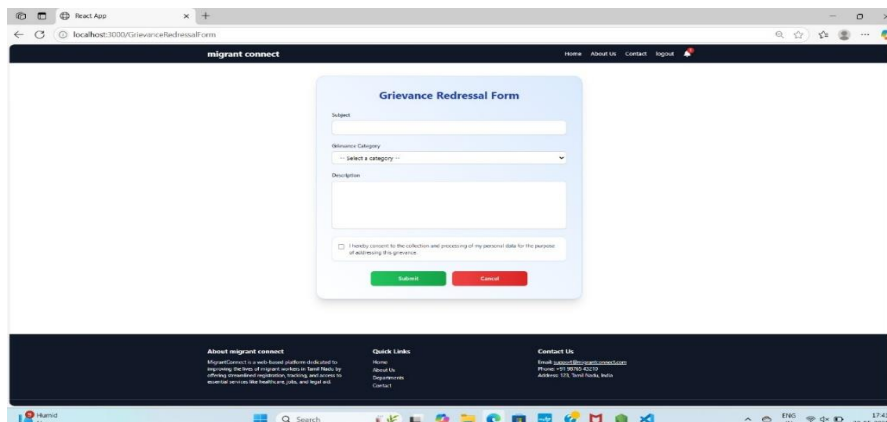




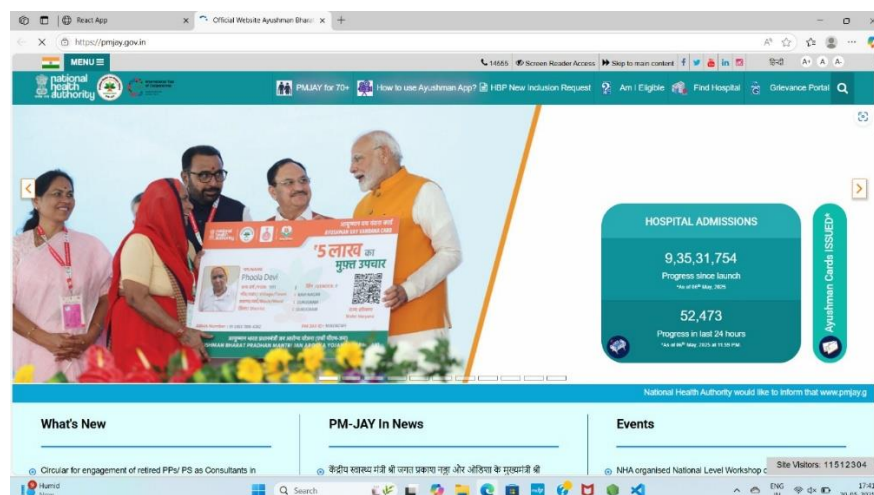
### PROFILE UPDATE



### GRIEVANCE REDRESSAL FORM

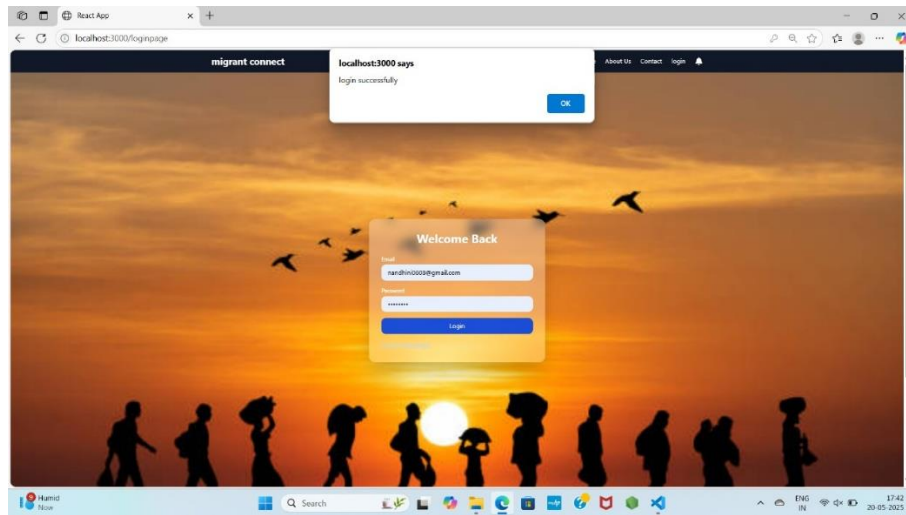


### MEDICAL FOEM WEBSITE

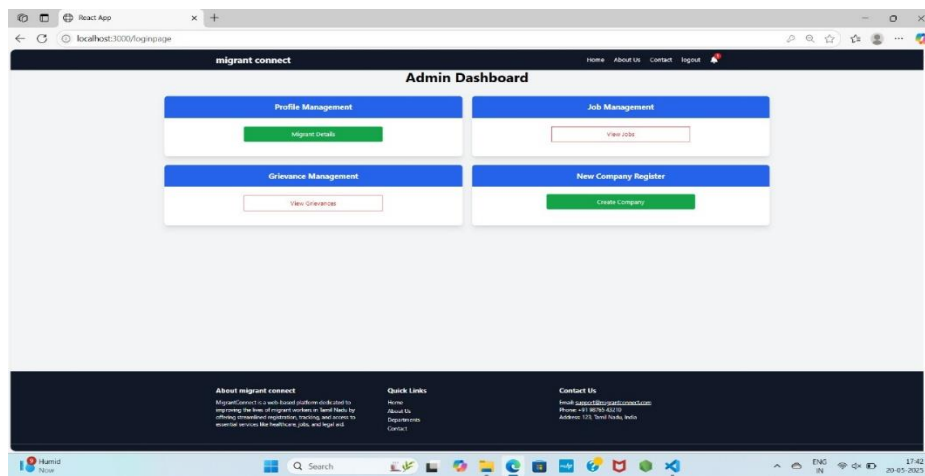




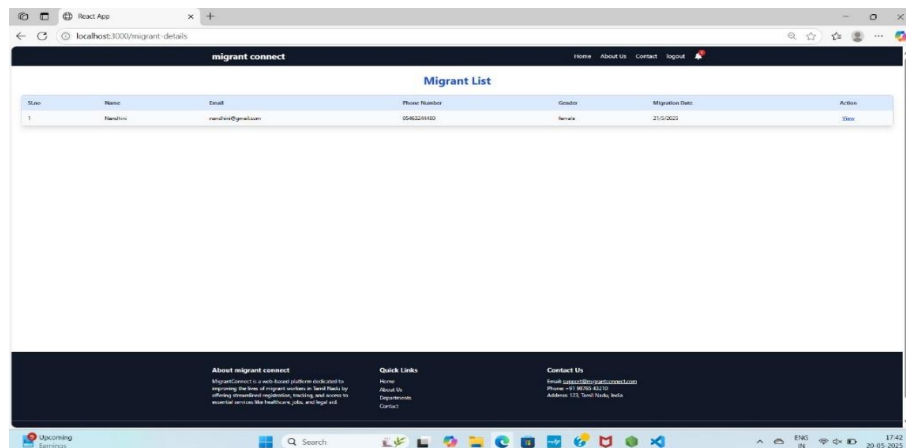
## ADMIN LOGIN



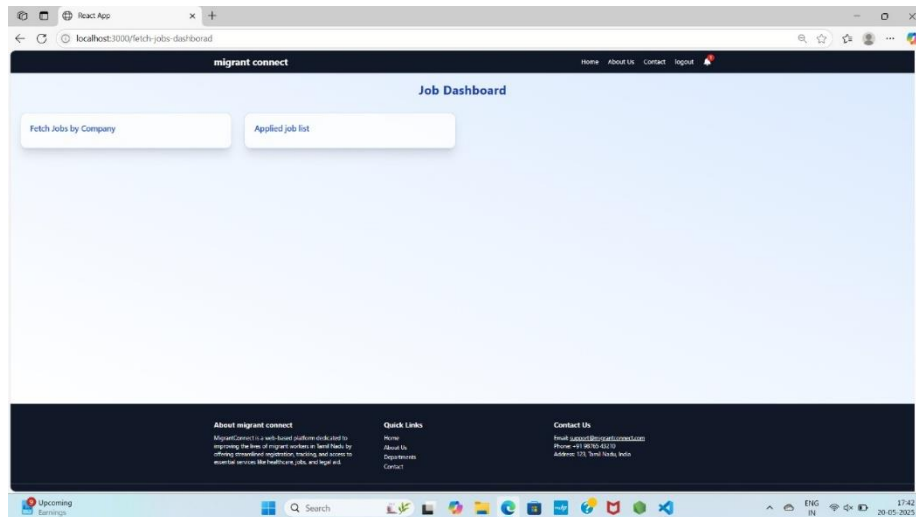
## ADMIN DASHBOARD



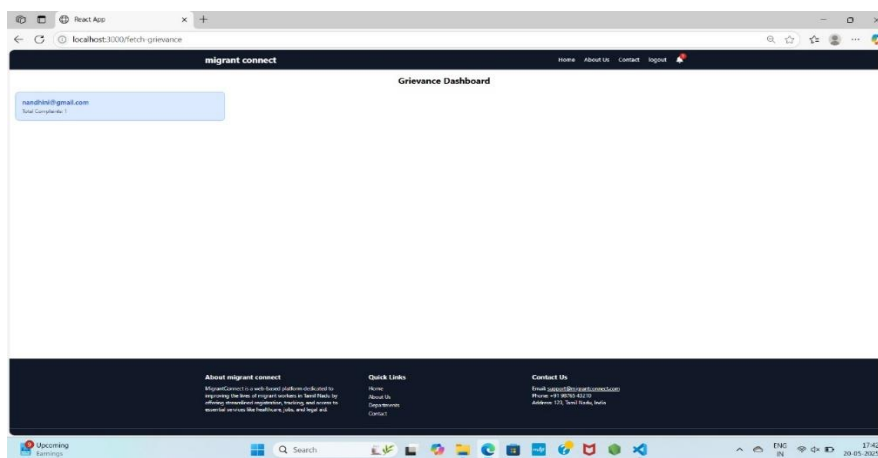
## MIGRANT LIST



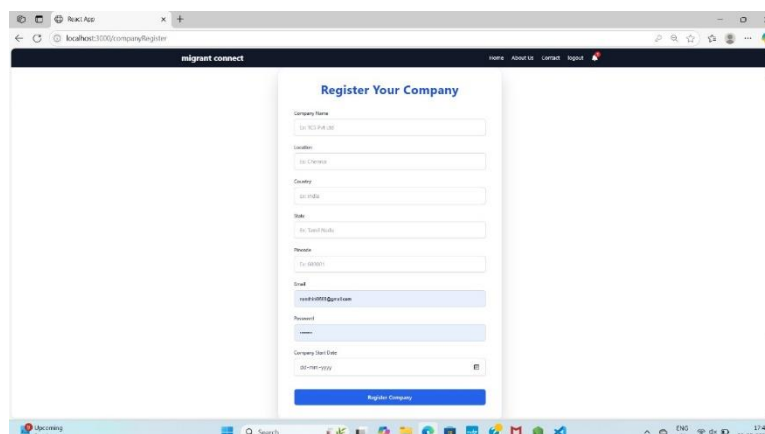
### JOB DASHBOARD



### GRIEVANCE DASHBPARD



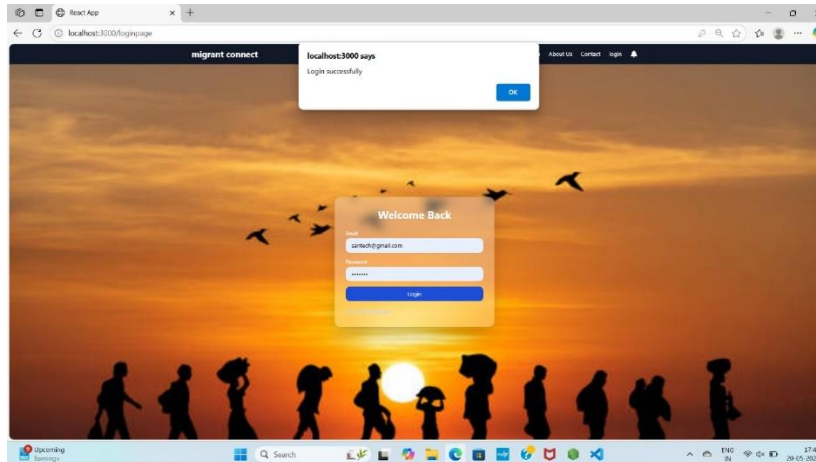
### COMPANY REGISTER



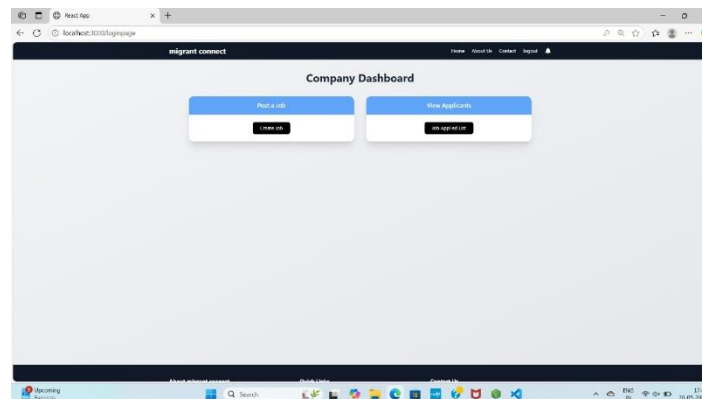
**Volume 14, Issue 5, May 2025**

**|DOI: 10.15680/IJIRSET.2025.1405438**

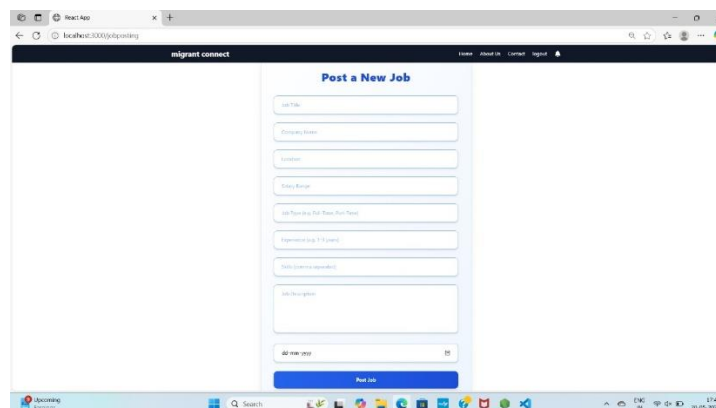
### COMPANY LOGIN



### COMPANY DASHBOARD

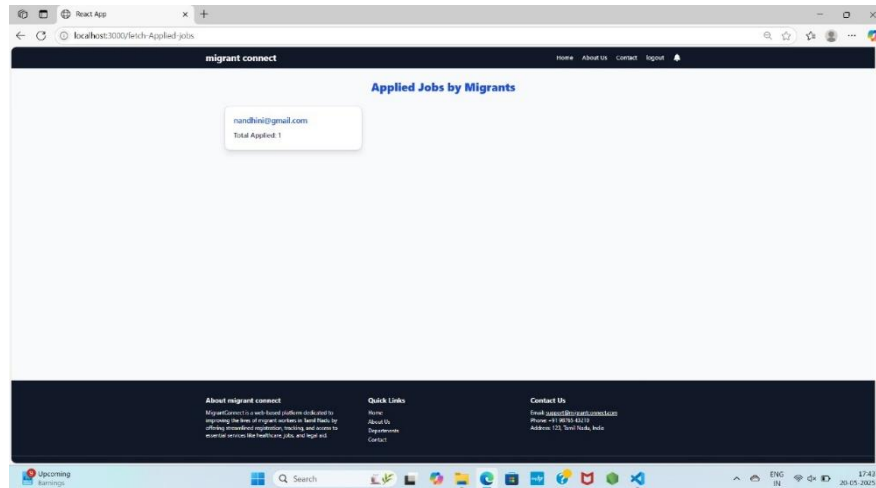


### POST A JOB FORM





## APPLIED OBS BY MIGRANT



## VI. CONCLUSION

MigrantConnect demonstrates the critical role of integrated digital platforms in addressing the complex challenges faced by migrant labor communities. The system's design incorporates a robust framework that begins with digital identity creation and extends through job access, legal support, healthcare, and complaint resolution. This holistic approach ensures that workers can engage with essential services in a transparent and organized manner. Through the use of data-driven insights, MigrantConnect not only reflects past user interactions but also anticipates future needs.

The platform's core modules were developed through a detailed analysis of user requirements, system dependencies, and administrative challenges. By leveraging a modern MERN (MongoDB, Express.js, React.js, Node.js) stack, the platform ensures scalable performance and a responsive interface, enhancing both user experience and administrative control. Ultimately, the system promotes accountability, improves service accessibility, and supports evidence-based policymaking for labor welfare.

## VII. FUTURE WORK

Future development of MigrantConnect will focus on iterative enhancement of its personalized features and service modules. Regular system evaluations—through feedback loops and performance metrics—will be key in identifying user behavior trends and areas for improvement. Expanding the platform to accommodate new services, such as skill certification, education access, or financial literacy training, is a significant part of the roadmap.

Compliance with data protection standards will continue to be a top priority, ensuring ethical data collection and usage. Moreover, the integration of AI tools to optimize job matches, predict service demand, and monitor migration trends will further enhance the system's utility. With continuous stakeholder engagement and technological updates, MigrantConnect is positioned to become a transformative tool for inclusive development and digital governance in Tamil Nadu.

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