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An Intelligent Crew Hiring and Scheduled Booking platform using AI

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Abstract - Man Hire is a digital marketplace designed to connect customers with reliable blue-collar workers such as plumbers, drivers, cleaners and electricians in real time. The objective of the platform is to reduce the inefficiencies of the unorganised labour market by using artificial intelligence and machine learning to match customers with suitable workers based on their location, skills, availability and ratings. The proposed system will verify workers to enhance trust and safety, introduce a fair and transparent pricing model to reduce conflicts, and enable secure digital payments for hassle-free transactions. The methodology involves developing a mobile application with AI-based recommendation algorithms, worker verification workflows and an integrated payment gateway. Expected results include reduced hiring time for customers, increased and more consistent job opportunities for workers, and improved overall service quality. The significance of Man Hire lies in its potential to formalise daily wage work, reduce dependence on middlemen, and create a more equitable and efficient ecosystem for both workers and customers.

Keywords: Man Hire, digital marketplace, daily wage workers, AI-based matching, labour market, gig economy.

1.INTRODUCTION

Man-Hire is a simple and easy-to-use app that helps people find workers for daily or short-term tasks, and it can be used for needs like cleaning, repairs, events and small projects while avoiding complete dependence on neigh bours or local contacts because users can search for workers directly in the app, view their basic details and choose the person who best fits their requirements, which makes the hiring process faster, clearer and more organized , and at the same time gives workers a proper platform to show their skills, find more job opportunities and build a good reputation through customer ratings and feedback, while security is maintained through safe login and data protection so that personal information remains private for both workers and users.

2. METHODOLOGY

The Man-Hire app starts with a very simple registration process, where both customers and workers can sign up using their email, phone number or social media accounts. After this,

workers create their profile by adding their skills, work experience and when they are available, so customers can clearly understand what kind of work they can do. When a customer needs help, they enter the job details in the app, and an AI system suggests the most suitable workers and sends them real-time notifications about the new job. Once a worker is selected, a personal chat box opens between the customer and the worker so they can discuss the work, timing and any other details easily. After the job is completed, the customer gives ratings and feedback based on punctuality, quality and beha viour, and the app uses this feedback to improve future suggestions. Secure digital payment options are also provided so that customers can pay workers safely and conveniently through the app.

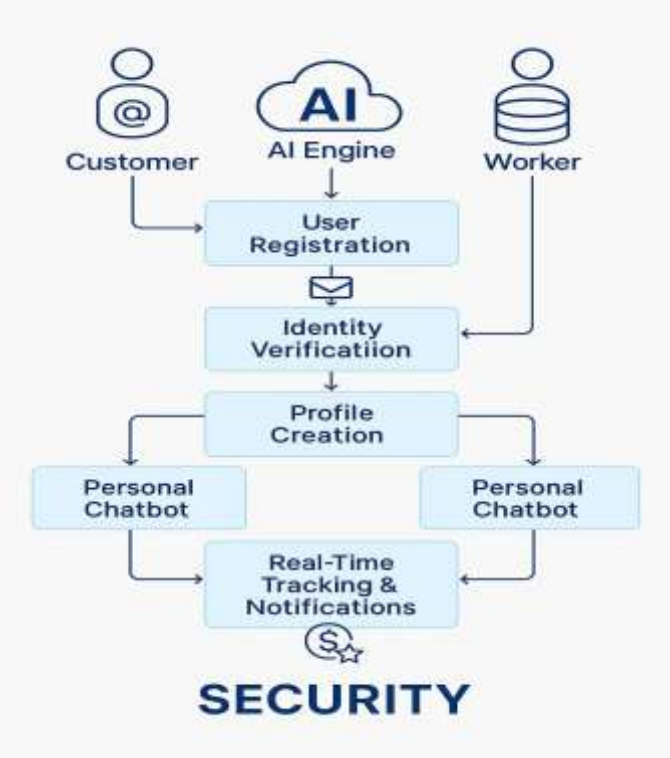

Fig 1: Architecture diagram

3. EXPERIEMENT AND RESULTS

Django is built entirely on top of the Python programming language, making Python the foundation on which all Django applications operate. Django uses Python's syntax, data types, libraries, and object-oriented principles to handle everything from URL routing and database interactions to business logic and template rendering. The framework's components— such as the ORM, views, models, and middleware—are all implemented using Python, and developers write all backend logic in Python code. Django also leverages Python's extensive ecosystem, allowing seamless integration with Python libraries for machine learning, data analysis, automation, and API development. Since Django's performance, functionality, and features evolve alongside Python's advancements, updates in Python directly enhance Django's capabilities, especially in areas like asynchronous processing, security, and performance optimization. Thus, Python provides the core programming environment, while Django acts as a powerful framework extending Python's strengths to build robust, scalable, and secure web applications.

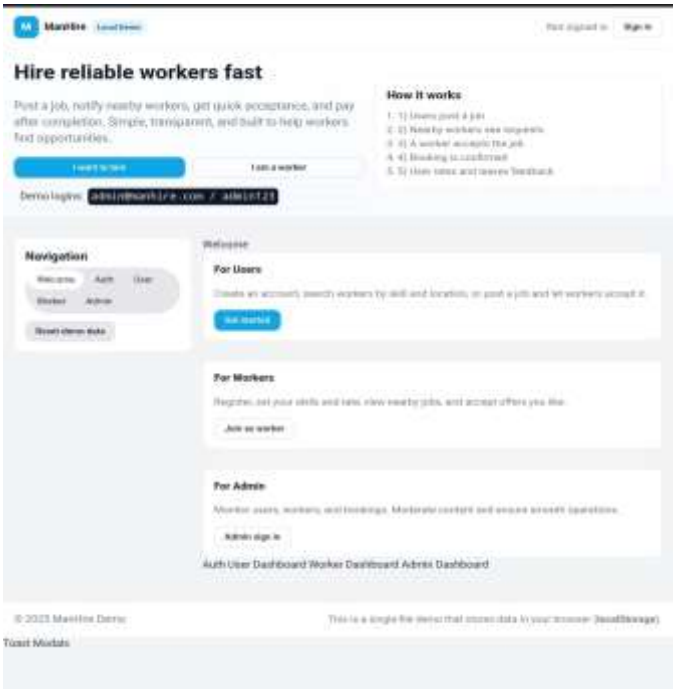

Fig 2: Output of the project

4. CONCLUSIONS

"Man Hire" is an AI-driven solution that revolutionizes labor hiring by offering a structured, transparent, and efficient booking system. It eliminates common issues such as delays, fraud, and unfair pricing.

REFERENCES

1 In 2021, Avinash Vishwakarma proposed a "Contract Labour Hiring System" in IRJET, but this work was not AI driven and the software features were quite limited.
2 In 2023, Mohd Saad introduced the "Hire IT Application: Transforming Labour Hiring with Innovative Technologies" in VFAST, yet the system did not include an integrated rating feature and lacked strong security measures.
3 In 2021, Kajal Bargat presented "Smart Mobile Application for Allowance Calculation, Opportunities and Labour Hiring on Site – Labour Dome" in IRJET, but the application did not support in-app payments and followed a contractor-centric design.
4 In 2019, Reshma Balakrishnan developed an "Advanced Labour Finding Web and Android Application" published in IRJET, although it suffered from language barriers and limited software capabilities.
5 In 2020, Saurabh Jawale worked on the "Works App" reported in IRJET, but this system lacked proper admin control and did not scale well as the number of users and services increased.