



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Daily-Wage Worker Hiring System

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Abstract: The Pandemic has been harsh to most of us, and among the people who have seen the worst of it, were the daily wage workers who not only have to protect themselves from the Virus but are also struggling to save their jobs. Unfortunately, despite of all the struggles and hard work many of the workers have lost their jobs. We want to provide a solution that could make a small difference in their lives that could make it easier to find a job. This idea would not be useful to only the workers, but also the common people like us who need their assist. This article addresses the idea that can be implemented to provide a web platform for the daily wage workers to find a job that could be either temporary or permanent based on the preference of the employee and the employer. The technologies/ tools that we are utilizing in the implementation of the system includes: ReactJS, NodeJS and MySQL. This website will reduce the problem of the workers to go in search of a job in the crowds which could increase the risk of coming in contact with the virus. They can find a job sitting at their homes without abiding the covid-19 protocols.

Index Terms - Pandemic, Daily wage worker, Jobs.

I. INTRODUCTION

The impact of COVID-19 pandemic on the daily wage workers and migrants has been largely unsettling. Wages have an important role in maintaining the livelihood and the well-being of the work force. There has been a severe crisis of employment opportunities in local labor markets. Getting work for even two days in a week is excruciatingly difficult. Daily wages too, for any work possible, have dipped by half. Searching for a job has not been an easy task for these workers due to the lockdown. Most of the communities have shut down their entrances for outsiders to avoid as much as the crowd possible. Even if the communities have not been shut down, the hired workers are not able to find a permanent job because the employers are firing them after a short period of time due to the multiple covid waves and fear. Daily-wage workers like Cooks, Maids, Electricians, Mechanics, Launderers, Iron wala's, Gardeners, Plumbers, Baby sitters / Nanny's, Senior citizen care or even student Tutors can use this platform to find a job in a faster and easier way and follow all the necessary precautions by maintaining social distancing. As much as we are able to do our household work, most of us need an assist to do the chores as we need to buy us some time and energy to do the other jobs that we do for a living. Hence, we can say that the need for a daily wage worker to get a job for their survival and the need for us to get an assist is mutual. This is going to be an extremely useful platform not only for daily-wage workers but also for the ones who are great at their job but do not have any attractive profile and for the ones who are willing to do a part time job for some extra money in hand.

For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firms and relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE - 100 Index is taken from yahoo finance.

II. EXISTING SYSTEMS

In most of the scenarios, an idea like this is implemented through agencies where the agencies quotes a higher price to the person hiring and pay the worker a lesser amount. This makes it an advantage to the agency alone and makes it a disadvantage to both the person hiring and the person getting hired. All these below websites use the concept of agencies where the admin of the enterprise get to interview the workers and quote the price:

1) <https://www.bookmybai.com/> - In this website, the complete control of the worker is in the hands of the agency. They have the policy that says that the employer can pay the money only if they are satisfied with the performance of the worker. This gives the employer to take a chance of this opportunity and make the worker do all the work and tell the agency that they have not performed well. This will result in a scenario where the worker would have done all the work but not get paid.

2) <https://www.jobnukkad.com/> - In this website, although they are not providing the option of maid replacement or full payment only if they are satisfied with the worker, the user has to pay a minimum amount of Rs. 499/- to make use of the website. This website usage is restricted to the cities Mumbai, Delhi, Gurgaon, Noida, Pune and Bangalore.

3) <https://www.indianmaidagency.in/> - In this website, the portal is limited to hiring only a maid and does not provide an option to hire the workers for other roles such as cooks, plumbers, baby sitters, etc.

III. LITERATURE SURVEY

Hiring is one of the important challenges in the context of online labour marketplace. Unlike traditional hiring, where workers are hired either as a full time employee or as a contractor, hiring from online marketplaces are done for individual jobs of short duration. Since the time of Covid and the lockdown, there has been a severe crisis of employment opportunities in local labour markets. In a three-month extensive field study undertaken by a research team at the Centre for New Economics Studies, OP Jindal Global University, have documented the stories of over 200 daily wage workers through a randomised survey in mazdoor mandis in Lucknow and Pune. Getting work for even two days in a week is excruciatingly difficult for the daily wage workers. Daily wages too, for any work possible, have dipped by half. There are a lot of websites like "helper4u.in", "www.bookmybai.com", "workindia.in", etc for hiring temporary workers or daily wage workers where the daily wage workers can be hired by anyone. [1,9] The social phenomenon of short term hiring of freelancers in crowdsourcing platforms is increasing very rapidly to achieve flexibility and cost savings. Chilton et al. [2,6] found that amount of time spent by a worker for selecting a task is comparable with the time spent on working on the task. Scnitzer et al. [3,6] conducted a survey to understand the kind of recommendation workers prefer while performing tasks on a micro-task platform. Difallah et al. [4,8] developed a system which uses social networks to build the worker's preference for worker-task matching. In supply driven marketplaces each freelancer advertises his/ her skills and capabilities with confidence, add details of his experience, etc., as services to attract clients and compete with other professionals in the pool. Clients will search and choose their favorite one from the services [5,7]

IV. PROPOSED SYSTEM

It is going to be a complete website that can be used by the daily wage workers to find a job and the employers (The customer or the user who is looking for an assist) who can hire the worker. The website primarily gives two options:

- 1) To login as a worker
- 2) To login as an employer

All the daily wage worker has to do is to create an account by using their email ID and password and undergo an Aadhaar verification process for security reasons, provide their details such as Name, Location, Age, Phone number, Religion, Photo, Gender, comfortable languages, experience, etc. The employer can create an account using their email ID and password and undergo an OTP verification process either through the mobile number or their email address. Once the employer is logged in, he/she can filter the available workers based on their requirement of Roles (Such as Cooks, maids, baby sitters, senior citizen care, Iron wala's, Plumbers, painters, carpenters, mechanics, etc.), Language (Based on the language they are comfortable with), Location, Age, Gender, Experience, etc. Both the Employer and the worker can provide their vaccine certificates and their covid negative certificates accordingly. Once the worker is chosen, the user gets an option to communicate with the worker either through the website or through their contact number and make the negotiations. Based on their understandings and preferences the worker can be either hired for a temporary period or as a fulltime employee.

V. TECHNOLOGY PLATFORMS

This project is going to be implemented using the technologies: ReactJs for front-end development (client-side), MySQL as the database, NodeJs for back- end development (server-side).

REACTJS: ReactJS is a declarative, efficient, and flexible JavaScript library for building reusable UI components. It is an open-source, component-based front end library responsible only for the view layer of the application. It was created by Jordan Walke, who was a software engineer at Facebook. It was initially developed and maintained by Facebook and was later used in its products like WhatsApp & Instagram. Facebook developed ReactJS in 2011 in its newsfeed section, but it was released to the public in the month of May 2013. Today, most of the websites are built using MVC (model view controller) architecture. In MVC architecture, React is the 'V' which stands for view, whereas the architecture is provided by the Redux or Flux. A ReactJS application is made up of multiple components, each component responsible for outputting a small, reusable piece of HTML code. The components are the heart of all React applications. These Components can be nested with other components to allow complex applications to be built of simple building blocks. ReactJS uses virtual DOM based mechanism to fill data in HTML DOM. The virtual DOM works fast as it only changes individual DOM elements instead of reloading complete DOM every time.

MYSQL: MySQL is an open-source relational database management system that works on many platforms. It provides multi-user access to support many storage engines and is backed by Oracle. So, you can buy a commercial license version from Oracle to get premium support services. The features of MySQL are as follows: Ease of Management – The software very easily gets downloaded and also uses an event scheduler to schedule the tasks automatically. Robust Transactional Support – Holds the ACID (Atomicity, Consistency, Isolation, Durability) property, and also allows distributed multi-version support. Comprehensive Application Development MySQL has plugin libraries to embed the database into any application. It also supports stored procedures, triggers, functions, views and many more for application development. You can refer to the RDS Tutorial, to understand Amazon's RDBMS. High Performance– Provides fast load utilities with distinct memory caches and table index partitioning. Low Total Cost Of Ownership – This reduces licensing costs and hardware expenditures. Open Source & 24 * 7 Support– This RDBMS can be used on any platform and offers 24*7 support for open source and enterprise edition. Secure Data Protection– MySQL supports powerful mechanisms to ensure that only authorized users have access to the databases. High Availability– MySQL can run high-speed master/slave replication configurations and it offers cluster servers. Scalability & Flexibility – With MySQL you can run deeply embedded applications and create data warehouses holding a humongous amount of data.

NODEJS: Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux. Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent. Features of Node.js Following are some of the important features that make Node.js the first choice of software architects. Asynchronous and Event Driven– All APIs of Node.js library are asynchronous, that is, non-blocking. It essentially means a Node.js based server never waits for an API to return data. The server moves to the next API after calling it and a notification mechanism of Events of Node.js helps the server to get a response from the previous API call. Very Fast– Being built on Google Chrome's V8 JavaScript Engine, Node.js library is very fast in code execution. Single Threaded

but Highly Scalable– Node.js uses a single threaded model with event looping. Event mechanism helps the server to respond in a nonblocking way and makes the server highly scalable as opposed to traditional servers which create limited threads to handle requests. Node.js uses a single threaded program and the same program can provide service to a much larger number of requests than traditional servers like Apache HTTP Server. No Buffering – Node.js applications never buffer any data. These applications simply output the data in chunks. License – Node.js is released under the MIT license

VI. ARCHITECTURAL DESIGN

The architectural design concept that focuses on the different components of the system and unifies them into a coherent complete whole as shown in figure 1. Communication across the different components was achieved using the three-tier architecture.

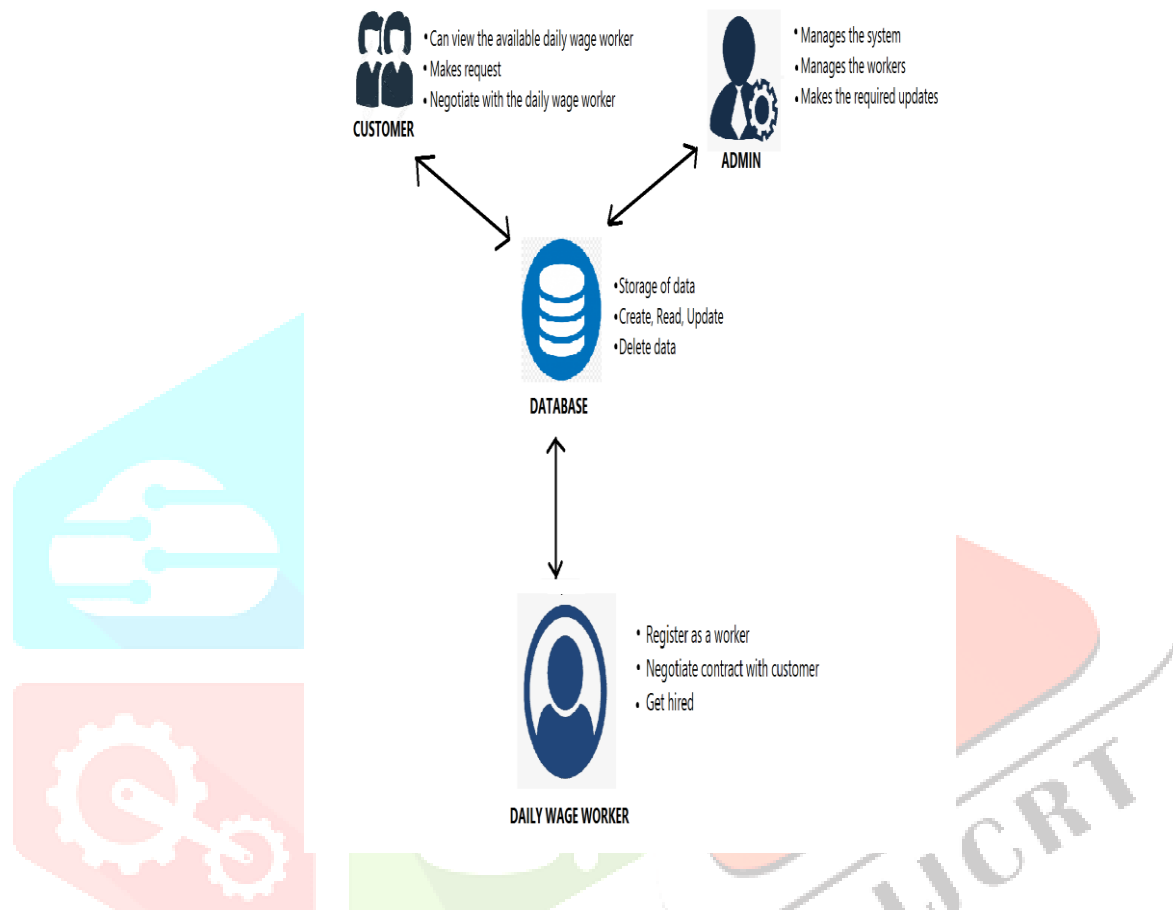


Figure 1: Architectural design for daily wage worker hiring system

VII. APPLICATION FEATURES

The daily-wage workers like Cooks, Maids, Electricians, Mechanics, Plumbers, Baby sitters /Nanny's, Senior citizen assists can upload their details and availability as shown in figure 2.

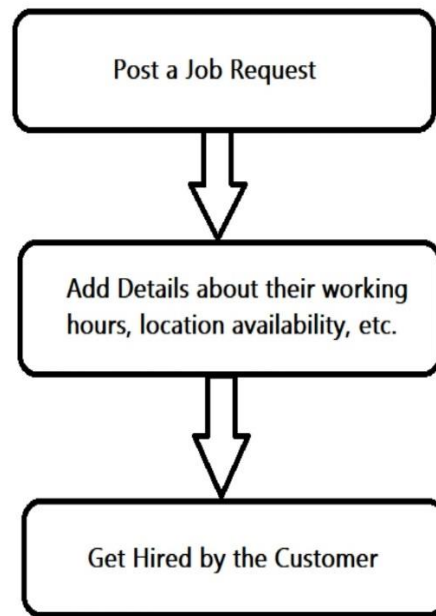


Figure 2: Flow of steps from employee point of view

- The Person in need of them can filter them based on their requirements like locations, language, availabilities, etc and hire the daily-wage workers as shown in figure 3.

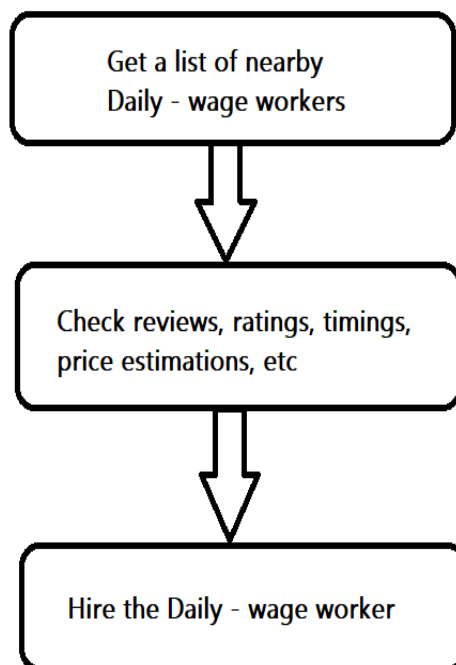


Figure 3: Flow of steps from employer point of view

- Once the worker is chosen, the employer can choose to hire the worker as a fulltime employee or temporary worker based on his/her preference and the employee can choose to do the same based on his/her availabilities and choose their mode of payment. The payment can be done either through cash in person or use the portal for it.

VIII. ER-MODEL

The below figure 4 shows the complete schema architecture of the database implementation.



Figure 4: ER Model of the database

IX. SYSTEM REQUIREMENTS

a. Hardware Requirement:

- i3 Processor Based Computer or higher
- Memory: 1 GB RAM
- Hard Drive: 50 GB
- Monitor

b. Software Requirement:

- Windows 7 or higher
- Visual studio 2010.
- SQL Server 2008 or higher.

X. FUNCTIONAL REQUIREMENTS

The proposed platform must be able to implement the following functions:

- The application should display the available workers with their bio-details.
- The application should enable potential employers to register themselves to access information about different maids.
- The application should store and categorize maids based on their different roles and locations.

XI. CONCLUSION

While all the existing systems stay relevant in the online hiring process between the common people (employers) and the daily wage workers (employees).

Having the right tool to facilitate the process is of paramount importance to both the daily wage workers and people like us, as such the proposed system shall provide a reliable web platform which will not require any pre-requisite installations and can be used on any device with minimal internet connection.

REFERENCES

- [1] A. G. Kazi, R. M. Yusoff, A. Khan, and S. Kazi, "The freelancer: A conceptual review," Sains Humanika, vol. 2, no. 3, pp. 1-7, 2014.
- [2] Chilton, Lydia B., et al. "Task search in a human computation market." Proceedings of the ACM SIGKDD workshop on human computation. ACM, 2010.
- [3] Schnitzer, Steffen, et al. "Demands on task recommendation in crowdsourcing platforms-the workers perspective." ACM RecSys 2015 CrowdRec Workshop, Vienna. 2015.
- [4] Difallah, Djellel Eddine, Gianluca Demartini, and Philippe Cudr-Mauroux. "Pick-a-crowd: tell me what you like, and i'll tell you what to do." Proceedings of the 22nd international conference on World Wide Web. ACM, 2013.
- [5] H. Ge, J. Caverlee, and K. Lee, "A Measurement Study of a Supply-Driven Crowdsourcing Marketplace," in Proceedings of the Ninth International AAAI Conference on Web and Social Media, Oxford, UK, 2015, pp. 120-129.
- [6] K. Abhinav, A. Dubey, S. Jain, G. Viridi, A. Kass and M. Mehta, "CrowdAdvisor: A Framework for Freelancer Assessment in Online Marketplace," 2017 IEEE/ACM 39th International Conference on Software Engineering: Software Engineering in Practice Track (ICSE-SEIP), 2017, pp. 93-102, doi: 10.1109/ICSE-SEIP.2017.23.

[7] W. Murad, S. Khusro, I. Alam and S. Ali, "Recommending Expert Freelancers To Buyers In Online Marketplaces," 2019 International Conference on Electrical, Communication, and Computer Engineering (ICECCE), 2019, pp. 1-6, doi: 10.1109/ICECCE47252.2019.8940679.

[8] design and implementation of a collaborative freelancers' sourcing platform design and implementation of a collaborative freelancers' sourcing platform

author: bernard shibwabo, strathmore university

[9] Future of Work in a Digital Era: The Potential and Challenges for Online Freelancing and Microwork in India

Authors: Rajat Kathuria, Mansi Kedia, Gangesh Varma, Kaushambi Bagchi, Saumitra Khullar Aut

