

# The Solution to Unemployment in Rural and Urban Areas

Hritik Srivastav, Durgesh Rao, Vaibhav Suman  
Android Developer, ML Engineer

**Abstract-** Unemployment is a persistent issue for many Individuals. It is a serious predicament that has persisted for years. The government continues to introduce various schemes, but no permanent solution has been found. Daily wage laborers in the unorganized sector face significant issues due to irregular working hours and wages. I have attempted to address this problem by developing an Android app that connects daily wage workers with employers (who need manpower in construction, farming, fishing head loading, home-based work, etc.)

**Index Terms-** Unorganized sector, Unemployment, Employers, Daily wages workers, Economy, Man Power, Android app, Android Studio, Android SDK Firebase data storage, SMS Alert, Visit Profile, Fair wages, Bank Acc. etc.

## I. INTRODUCTION

Labor is divided into two categories:

- Organized.
- Un – Organized.

In India, 83% of the labor sector falls under the unorganized sector, comprising a large number of people who lack regular work to meet their needs. Refer to Figure 1.



Figure 1 (Image source: Google)

The Unorganized sector suffers from cycles of seasonal employment and many of its workers face numerous daily hurdles due to the lack of a stable and sustainable employment path.

Notably, there is no direct relationship between employers and workers (daily wage workers, home-based workers, etc.)

Here, “My Rojgar App” which I have developed, will directly connect employer with the workers.

Whenever and wherever workers are required, employers will be able to contact them as per their profile without any brokerage charges.



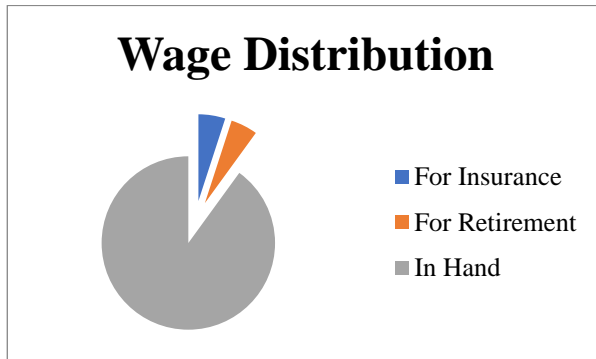
Figure 2 (Image source: Google)

Benefits for daily wage workers and those people who are associated with unorganized sector:

- Fair wages, paid on time
- Flexible working hours with extra payment for overtime
- There will be no external pressure on Workers
- Workers will have control over their work without the need to wander for opportunities.
- Annual increment.
- Medical insurance cover of 100k and life Insurance up to ₹200k.

### Note

- 10% from their wage will be taken by our app (my Rojgar app)
- 5% will be taken to
- Cover their insurance.(as per Mentioned above)
- Remaining 5% will be fixed for their retirement.



## II. LITERATURE REVIEW

There are many daily wage workers in rural and urban areas that face a lot of problems due to lack of work and unstable work.

Sometimes it happens that they have nothing to do. Due to this instability of work, they could not save money for their future plans like health insurance, retirement etc.

After joining the app, workers will be able to get work so that they can save money, make some investments for the future, etc.

My Rojgar app based on android operating system is an admin based app which will be controlled and managed by the admin.

This app uses Firebase Real time database to store users' data.

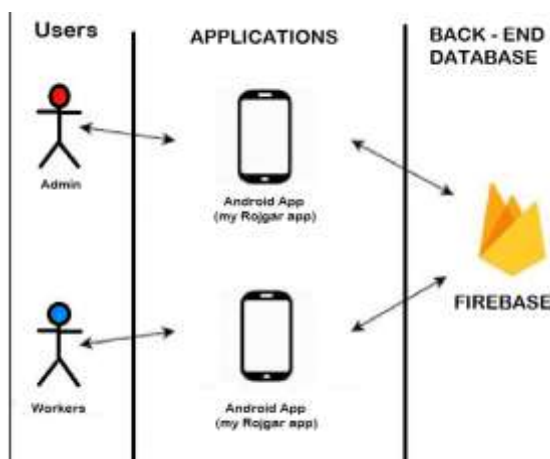


Figure 3 (Data fetching process)

## III. RESEARCH METHODS

### 1. App Uses

#### For Workers

Workers must install the app from the Play Store, create their profile, and after successful registration, they will receive a

confirmation code on their registered mobile number to generate their WAN (Worker's Account Number).

WAN will be their unique identification.

The following information will be collected from Workers:

- Full name
- Age
- Address
- Blood group (if available)
- Passport size photo.
- Mobile number (for SMS alert)

#### Note

In case worker is illiterate and unable to create their profile through app then a member of our team will help them to complete their registration using toll free number.

They don't need to install any app. simply they can register themselves and receive calls from employers.

#### For Employers

Similarly, Employers have to install the app from play store and after installation they have to register themselves as an Employer. Whenever an employer logs into the app, they must select the language and work area according to their needs. After that, the employer will be able to find and contact workers.

### 2. Tools and Technology used

- Android Studio.
- Firebase Realtime Database.
- Firebase Cloud messaging.
- Firebase Authentication.
- Firebase Cloud Storage.

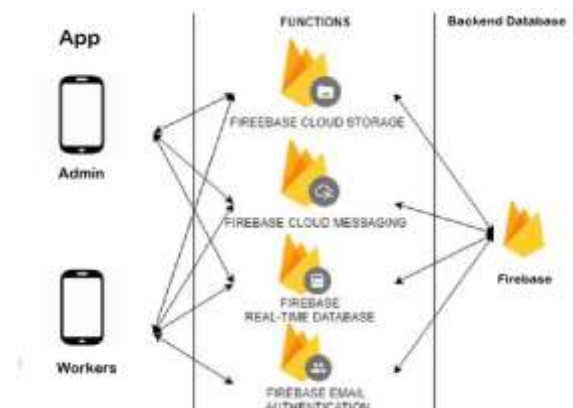


Figure 4 (Tools used)

#### Android Studio

Android studio is the official IDE for developing android applications. In Android Studio, a user can develop various

applications for Android TV, wearable devices, Android tablets, Android phones, etc.

In May 2013 Google and JetBrains developed Android studio specially for Android Development. It is open source and compatible with Windows, macOS, Linux, and Chrome OS.



**Firestore Real Time Database**

The Firestore Real time Database is a cloud-hosted NoSQL database that allows us to store and sync data between admin and users in real time. Firestore Real time database is a solution that stores data in the cloud and provides an easy way to sync data between various devices. FRD (Firestore Real time Database) is powered by the Google firestore platform, and is just a single piece in an otherwise large puzzle.

Real time means that any changes in data are reflected immediately across all platforms and devices within milliseconds.

Firestore Real time database is used in this app to store, modify, and access user's data.

Refer to Figure 1.5.

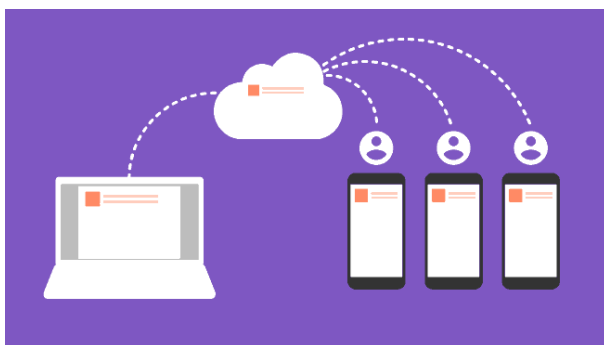


Figure 5 (Firestore Real time Database)

**Firestore Cloud Messaging**

FCM (Firestore cloud messaging) is also implemented to allow users to communicate within app for their queries. Firestore Cloud Messaging (FCM) is a cross-platform messaging solution that lets you reliably send messages at no cost.

Firestore cloud messaging includes two main components for sending and receiving:

- A trusted environment like cloud functions for firestore or an app's server on which to build, target, and send messages.
- A client app that receives messages via the corresponding platform-specific transport service.

**Firestore Authentication**

Firestore Authentication is used to validate and allow user to login in the "My Rojgar app". The app needs to know the identity of a user. Knowing a user's identity allows the app to securely save user data in the cloud and provide the same personalized experience across all of the user's devices.

Firestore Authentication provides backend services, and ready-made UI libraries to authenticate users to the app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook, Twitter, and more.

Take a look at fig.1.6 to know how Firestore Authentication works.

To sign a user into an app, first get authentication credentials from the user. These credentials can be the user's email address and password or mPIN. Then, pass these credentials to the Firestore Authentication SDK. Then, the backend services will verify those credentials and return a response to the client.

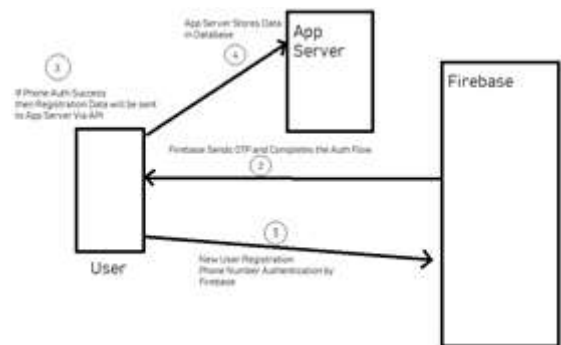


Figure 6 (Firestore Authentication diagram)

**Firestore Cloud Storage**

We require cloud storage to store user's profile picture and other information.

So, here I have used Firestore Cloud Storage.

To store data on Firestore cloud storage we need Firestore SDKs for Cloud Storage to upload and download files directly from clients. If the network connection is poor, the client is

able to retry the operation right where it left off, saving your user's time and bandwidth.

Cloud Storage for Firebase stores our files in a Google cloud storage bucket, making them accessible through both Firebase and Google Cloud. This allows us the flexibility to upload and download files from mobile clients via the Firebase SDKs for Cloud Storage. Refer to Figure 1.7 and 1.8 to know exactly how it works.

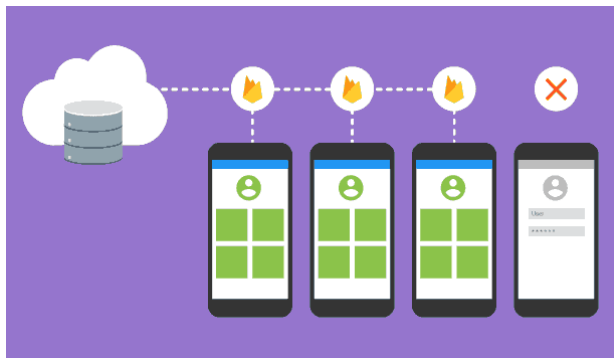


Figure 7 (Firebase Cloud Storage)



Figure 8 (Firebase Cloud Storage)

#### IV. RESULT AND DISCUSSION

Consequently, examining the problems caused by unemployment gives an idea of how “My Rojgar App” can bring significant change to the unorganized sector.

Young people after a long time of idleness will find the wrong way to earn money. Due to lack of work, it is also possible that our younger generation may get addicted to alcohol. It will also affect our economy. The problem of unemployment gives rise to the problem of poverty.

If the problem of unemployment is solved then it will help in development of our country. With Population of a 1.44 billion, the unemployment rate is increasing day by day. There is a boom of software companies, Outsourcing companies in India, but still facing the problem of unemployment because those who are daily wage laborers and small laborers are deprived of this technology.



Figure 9 (Image source: Google)

#### V. RESULT IMPLICATIONS

After launching the app, we will face some hurdles such as making users aware of the app. So we will advertise our app on YouTube or on Television etc. After that, those who are educated will be able to register themselves, but what about those who can't even write their names? There is a solution for this too. Take a look below.

For those who are not educated, there will be another way of registration.

We will start a toll-free call service with a toll-free number so that users can easily make calls and register themselves in the app. After successful registration, user's data will be saved on the app's servers, which will generate a profile and a WAN (Worker's Account number). WAN will be their unique identification. Now their profile will be visible to the employers. So the employers can easily contact the workers by calling as per their requirements.

Additionally, local engaged to assist with the registration process, ensuring broader reach and inclusivity. This comprehensive approach aims to bridge the digital divide and empower the uneducated segment efficiently.

#### VI. CONCLUSION

Overall, this app is expected to be a boon for daily wage workers and others in the unorganized sector. If we look at the daily routine of a worker, in the morning, the worker starts thinking whether they will get work today or not.

Even if work is found, proper wages are not given and more work is demanded.

If they get injured while working, there is no health insurance. They have to pay for medical expenses from their own wages (which is already like cumin in a camel's mouth).

So what about the solution?

This app will be the solution of their every problem. After joining this app, daily wage laborers will also be able to live their lives like the people of organized sector.

### **REFERENCES**

1. Mehta, P. (n.d.). Suggestions to Solve Unemployment Problem Article Shared. Retrieved April 30, 2020
2. Giri, V. (1973, January 01). Labour Problems in Indian Industry, third edition. Retrieved May 10, 2020
3. India Unemployment Rate 2018-2020 Data: 2021-2022 Forecast: Calendar: Historical. (n.d.). Retrieved June 10, 2020
4. Akhter Ali, Mohd&Kamraju, M.(2020). Agrarian Crisis and Its Consequences on Farmers: A Case Study of Warangal District.