

"Worker Unison Mobile Application"

Rohit Bendre, Ashlesha Devkate, Mandavkar Vivek

Computer engineering Dept. Smt. Indira Gandhi College of Engineering

Abstract - People working in the unorganised sector are very much difficult to hire because despite having a specific skillset they lack organized methods of communication, as the name suggests. For instance, construction labours gather around at a place in large numbers, and If a contractor knows about this place, he/she will go to the place and hire construction labours on a large scale. Here, if the contractor knows about the place only then will the labours get hired else they will have to return to their houses empty handed, the lack of communication of place/location here is the problem and it's the same with most of the people with different skillsets in the unorganised sector. The recent study of the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) and PLFS (Public Labour Force Survey) suggests that 93% of people from the unorganised sector were unemployed during the worldwide COVID -19 pandemic situation. Our application provides a simplistic user interface for the people from the unorganised sector to bridge this gap of lack of communication and get themselves hired.

I. INTRODUCTION

Flutter is Google's portable cross platform UI toolkit that permits code reuse across different platforms like Android, iOS, web and desktop i.e. make beautiful and efficient native applications from a single codebase. Flutter is free and open source and is used by developers, organizations worldwide. It allows the application to interface directly with the underlying platform service. The motto is to enable developers to drop-ship high performance applications which are compatible with different platforms. Thus, Our mobile application is made with this very framework, Flutter.

People working in the unorganised sector are very much difficult to hire because despite having a specific skillset they lack organized methods of communication, as the name suggests. For instance, construction labours gather around at a place in large numbers, and If a contractor knows about this place, he/she will go to the place and hire construction labours on a large scale. Here, if the contractor knows about the place only then will the labours get hired else they will have to return to their houses empty handed, the lack of communication of place/location here is the problem and it's the same with

most of the people with different skillsets in the unorganised sector.

The recent study of the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) and PLFS (Public Labour Force Survey) suggests that 93% of people from the unorganised sector were unemployed during the worldwide COVID -19 pandemic situation. Our application provides a simplistic user interface for the people from the unorganised sector to bridge this gap of lack of communication and get themselves hired. Our application provides features that enable both the workers as well as the companies or individuals who want to get hired and hire respectively. Our mobile application broadly focuses on the unorganised sector and their employment, workers from unorganised sector like carpenter, Mason, tailor, electrician, plumber and many more. Also, using our mobile application, a particular individual can hire a worker for a specific job in his house or a company or government can hire workers in bulk in order to work at a big site, big projects etc.

II. LITERATURE SURVEY

In this paper, "Labor grid: For effective labor migration" 2012 Third International Conference on Emerging Applications of Information technology; the author of this paper talks over various issues like unemployment, unnecessary migration, poor sanitation and the technology that is required to intercept these issues. This paper proposes a system where in it achieves work type and location based migration with promised rate. The proposed architecture's realisation is based on an implementation of a prototype. The proposed architecture has devised work type and location driven grid system to amass information using IVRS/ web interface. The convenience of labours and contractors was kept in mind while designing the proposed system by providing simplistic and user friendly interface. With the interaction of embedded technologies the issue of malpractice can be evaded primarily. One of the crucial issues of inadequate sanitation can be solved by implementing evaluative prevention methods of respective diseases.

In this paper, "Awaaj Otalo A field study of an interactive voice Forum for small farmers in Rural India", CHI 2010. N. Patel, D. Chittamuru, A. Jain, P. Dave and T. Parikh, give a recapitulation of related search work in the

context of relevant technologies. N. Patel et al. Talks about an interactive voice application for small scale farmers in Gujarat. The spoken Web project piloted by IBM was the initial motivation for them to initiate the LG labour Grid [3] [4]. A. Kumar et al. [1] talks about World Wide Telecom Web (WWTW) having potential to enable and enrich the unprivileged population to accommodate and become a part of the emerging next generation. The Spoken Web (SW) technology can allow and permit the local communities to create locally relevant content and interact with e commerce websites using spoken word over the telephone. The proposed architecture Labor Grid allows labor communities to add locally relevant content with the use of IVRS to the central registry of the system, using the VoiceXML technologies (Voice Extensible Markup Language)

[5] [6]. The proposed system provides an interface where in the user can create a profile for labors and labors can access the IVRS using a toll free number, through variety of ways including voice recognition system.

In his paper , P. Cheng et al. [7] talks through about the implementation of healthcare message alerting system (HMAS) on a healthcare short message service (HSMS) engine and the distributed healthcare oriented service environment (DiHOSE). It is a case study on service oriented healthcare message alerting architecture by P. Cheng. Its aim is to generate healthcare alerts for the labors based on the input given by the labors and disease information stored in the database.

Kormo jobs : find your next job , is a mobile application where one can find various entry level job postings. An individual can schedule his/her interviews with the employers , make their own curriculum vitae (CV) , find jobs and progress their career. The mobile application has two following features :

1. Discover jobs nearby , In this feature , one can choose different states in which he/she currently resides in or wishes to work in , so once the state is chosen , the mobile application shows all the jobs present in that state.

2. Complete your profile , This feature asks one to login using either email address or Google account.

Hirect is a mobile application primarily focused on topmost internet startup hiring. In this mobile application, the people seeking jobs and the people recruiting for the jobs are matched appropriately and accurately. Then they can further start chatting with each other, from anywhere, anytime. Basically hirect is a chat like hiring application where applicants can directly talk to the recruiters. Browse through matching candidates

and job listings, but this mobile application is meant for the use of job applicants in organised sector.

III. PROBLEM STATEMENT

To build a mobile application that provides employment to the unorganised sector of workers like labours, masons, plumbers, tailors etc using flutter. Build an android application that would allow the workers to make their profile, Apply for jobs on GET HIRED section and allow the big companies, government contractors or any individual person to hire those workers in the HIRE section. As we know the unorganised sector of employment consists of mostly people that are not educated but have exceptional skills in their particular domain. So it might happen that there maybe a communication gap between the person who wants to hire the workers and the workers. As far as the language barrier is considered , the application provides 3 different languages to use the mobile application. The workers can use the application in whatever language they are comfortable with : Hindi , Marathi or English.

III.I Objectives

It has a Splash screen. It has a Registration page for user. It has a Login page for user. There is an option for Language selection. There is an option of Get hired. There is an option of Hire. There is an option of Small scale work. There is an option of Large scale work. There is an option of Profile creation (CV) of four different types namely Get Hired- Small Scale, Get Hired- Large Scale, Hire - Small Scale and Hire - Large Scale. We have consider various types of skills. Google maps has been integrated to input the location of the registered user. User can search for the required occupation by selecting an occupation from the dropdown button where all the considered skillsets appear. The user from the Get Hired has the freedom of accepting or rejecting the job request of the user from Hire and vice-versa. A 14 digit health id is being taken from the users of Get Hired section. We will consider software quality like security, scalability etc. Accommodation and working hours of workers and Duration of the project is also ensured.

III.II Scope

It will provide a platform to workers to get employed. It will provide a platform for government and big companies to hire workers on a large scale. It will help minimizing the communication gap between the employer and the employee. It provides the work experience , specific skillset and various other information regarding an individual worker It will maximize the employment rate of the unorganised sector i.e. Worker.

IV. PROPOSED WORK

IV.I System Design

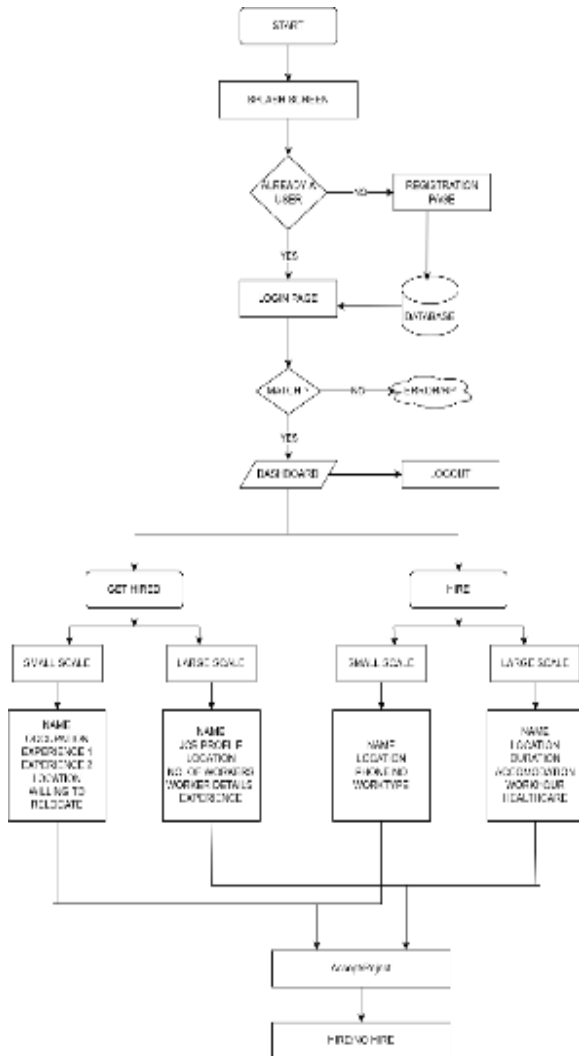


Fig 1. Flowchart

IV.II System Architecture

Flutter is a UI toolkit created by Google. It is used to build multiple-platform mobile applications for Android iOS and desktop applications. UIs built with Flutter always depend on the backend technology stack for core functionalities like authentication and access control. One of these backend technologies is the Flask framework. Flask is a light framework that gives features in abundance without external libraries.

The transfer of data from the client-side of an application and server-side is made possible by an API. Data can also be transferred from one backend server to another using APIs. For instance, our project's login and

register endpoint built for authentication using Python's Flask.

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics or we can call it a glue language to connect existing components together.

MySQL is well known as the world's most widely used open-source database (back-end). It is the most supportive database for PHP as PHP- MySQL is the most frequently used open-source scripting database pair. The user-interface which WAMP, LAMP and XAMPP servers provide for MySQL is easiest and reduces our work to a large extent.

A Flask is a Mobile Application Framework that is built with Flexibility and Speed In the Mind. Flask is Built in Python, which many data Scientists are familiar with. Flask takes care of the Environment and Project setup involved in web Applications Allowing the Developer to focus on their application rather than thinking about HTTP, routing, dataset etc. Flask allows Data Scientists to create simple Single page Applications and one should Help or look into if they want to create Products for Consumers Flask is a micro web framework written in Python. its second most stars on GitHub among Python web-development frameworks, only slightly behind Django, and was voted the foremost popular web framework within the Python Developers Survey 2018.

These are some Important features of the Flask:

1. it is a Development Server
2. Debugger
3. RESTful request dispatching
4. Unicode Based
5. Flask have google app engine Compatibility

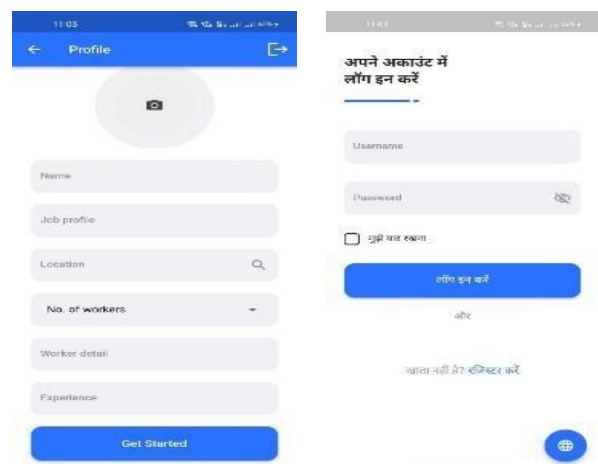


Fig 2. Graphical User Interface

V. RESULTS

According to Statista, Flutter is the most-used cross-platform mobile framework around the world. Flutter is an excellent solution for coders wanting to deploy a multi platform mobile application. It allows the developer/ coders to finish their cross platform projects much faster and with much less redundant development. Also a single codebase not only means less work but also means less room for making errors.

Flutter is said to be a strong competition to React Native. Flutter works on a minimum API level of 11 in mobile phones. React native uses programming languages like javascript which is the most popular programming language as a result of which it already has a large community of users. Flutter also happens to be faster than React Native - there's no need to go through a JavaScript bridge, and thanks to the use of Dagger it's easy to write & compile code at a much faster rate. Though flutter is new, it has gained popularity due to its versatility and high performance.

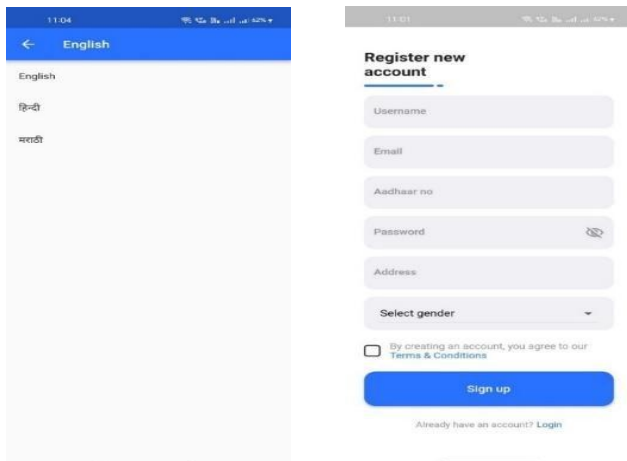


Fig 3. Language selection GUI

VI. CONCLUSION

In this paper, the proposed mobile application architecture is made using Flutter framework by Google. The results will be increasing employment rate in the unorganized sectors i.e. workers. This mobile application will provide a platform for both the workers as well as government and big companies so that workers can get themselves hired. This mobile application resolves the issue of communication and unorganized methods of getting employed and the communication gap between the workers and the employers is minimized. It will provide a platform for government and big companies to hire workers on a large scale. It provides the work experience, specific skillset and various other

information regarding an individual worker to the employer which will maximize the employment rate of the unorganized sector.

VII. FUTURE SCOPE

This mobile application can be used by any individual who wishes to get employed and big companies to directly hire workers for their construction purposes etc. Also government can use this mobile application for connecting to contractors for construction tenders of highway, pipeline etc. Every language will be added. We can integrate our application with the government provided E-shram cards and health cards for the people working in the unorganized sector.

VIII. REFERENCES

- [1] A. Kumar, N. Rajput, D. Chakraborty, S. Agarwal and A. Nanavati, "WWTW : The World Wide Telecom Web" ACM SIGCOMM Workshop on Networked Systems for Developing Regions (NSDR), 2007, Article No. 7
- [2] N. Patel, D. Chittamuru, A. Jain, P. Dave and T. Parikh, "Awaaj OtaloA Field Study of an Interactive Voice Forum for Small Farmers in Rural India", CHI' 2010.
- [3] S. Agarwal, A. Kumar, A. Nanavati and N. Rajput, "VoiKiosk: Increasing Reachability of Kiosks in Developing Regions," Proceedings of the 17th international conference on World Wide Web, 2008, p.1123-1124.
- [4] S. Agarwal, D. Chakraborty, A. Kumar, A. Nanavati and N. Rajput, "HSTP : Hyperspeech Transfer Protocol" in eighteenth conference on Hypertext and HyperMedia, 2007, pp. 67-76
- [5] VoiceXML Documentation. [Online]. Available: <https://evolution.voxeo.com/docs/evolution-overview.jsp>
- [6] Voxeo(2010)_VoiceXML_Grammers.[Online]. Available: <https://evolution.voxeo.com/library/granmar/library.jsp>
- [7] P. Cheng, F. Lai and J. Lai, "A Service-Oriented Healthcare Message Alerting Architecture in an Asia Medical Center," International Journal of Environmental Research and Public Health 2009, 6, pp. 1870-1881.

[8] V. Dave, R. Bhadauriya, N. Darji, S. Chaudhary and G. Gohil, "Labor grid: For effective labor migration," 2012 Third International Conference on Emerging Applications of Information Technology, 2012, pp. 227-230, doi:10.1109/EAIT.2012.6407902.

[9] Rozwadowski, W. (n.d.). Flutter architectural overview. <https://www.futuremind.com/blog/pros-cons-flutter-mobile-development>.
<https://flutter.dev/docs/resources/architectural-overview>.

[10] Flutter mobile application development Documentation [Online]. Available : <https://flutter.dev/>

[11] Python Spyder mobile-application-database Documentation [Online]. Available : <https://docs.spyder-ide.org/current/index.html>