



## EMPOWER SKILLED ILLITERATE PEOPLE THROUGH WEB APPLICATION

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### ABSTRACT

In current days, there are innumerable Web apps helpful for literates but very few for skilled illiterates to work, so for those skilled illiterate people need a guidance in finding their willing work. The idea EMPOWER ILLITERATE helps in suggesting the skilled illiterate people to find work. Here there will be an interface provided for both the client and the hiring employee such that to hire the skilled worker the employee, can contact through the respective phone number. The provided interface is made up of with the simple Web Development knowledge HTML, CSS, Java script/PHP and using an Apache Http Server. The entire information or the data provided by worker and the process of hiring is stored in the database using MYSQL database management system. This EMPOWER ILLITERATE makes the hiring person and the worker task easier in getting job accompanied by the hiring manager. Our idea is to provide a framework for medium connecting people who are looking for work and those who are looking to hire workers. There are many illiterates who have good skill in carpentry, farming, driving, etc but unable to find work. Skilled people who are searching for work need to specify their skill and phone number on our platform. Those who want to hire can contact workers through the phone number. This web application provides a platform for both hire and hirer. As illiterate people are unaware of internet they are instructed to go nearby helping centers like (mee-seva, make in India, digital India or any) for registering. Phone number plays an important role because we are dealing with uneducated people.

### 1 INTRODUCTION

The reading abilities needed by a person in today's world to properly participate in all spheres of his personal, social, economic, and political life continue to evolve under circumstances that become more complex. Information and communication technologies (ICTs) have given rise to new types of literacy that are "multiple, multimodal, and multifaceted." (Corio et al., 2008). People feel it vital to improve reading abilities that can enable them to traverse texts with various formats, degrees of expression, and argumentation styles in order to access the fast pervasive computer and avoid being excluded from a society that advances based on ICTs.

This ambitious work, which is grounded in empirical research, aims to provide a synthesis of recent concepts in the adult literacy field. It is divided into two sections: a definition of empowerment in the context of literacy and a discussion of the research on the effects of literacy on empowerment. In this essay, I take the stance that literacy is a set of cognitive abilities required to interpret written communication. In addition to being used for effective functioning in one's environment, these skills can also be used for personal and social transformation (OECD & Statistics Canada,



1995). These skills are developed in specific social contexts and practises (Cope & Kalantzis, 2000).

Information and communication technology is a subset of technology that is essential for integrating phones, wireless technology, and other associated applications to improve peoples' quality of life [1]. A smart phone acts as a conduit to spread knowledge to everyone, to their advantage. Nowadays, people use mobile-based applications to acquire the information they need, which is highly beneficial to them.

The advent of the mobile phone has revolutionised contact with the outside world. According to statistics on mobile phone usage, people in 40 different nations use non-smart phones at a rate of roughly 45% and smart phones at a rate of 43%, respectively [2]. There are a sizable proportion of smart phone users (43%), who are from developing nations. Therefore, in addition to making phone calls and sending texts, smart phone users also use other applications. The use of mobile devices in Bangladesh is also impressive. In Bangladesh, out of 163 million inhabitants (2016, World Bank), around 152.527 million are subscribers to various mobile operators, according to BTRC statistics from July 2018 [3]. About 88.687 million of these subscribers use the internet [4].

Our concern extends to Bangladesh's illiterate and rural populations, where the adult literacy rate is approximately 72.76% [5] and approximately 64% of the population lives in rural areas [6]. Rural and uneducated individuals who don't utilise the mobile app will miss out on the advantages of ICT, which will result in the development of the digital divide. Digital divide refers to the fact that some individuals will have access to the newest technologies, such as mobile phones, computers, and the internet, while others will not [7]. Any society will be unable to progress fairly if the issue of the digital divide persists. A sizeable portion of the population and area will continue to lag behind in utilising and benefiting from technology. Therefore, it is highly advised to properly bridge to the development in every aspect by offering useable apps that are adopted by all people.

ICT-based applications are being used to improve lives in poor nations like Bangladesh. Numerous people are using the programmes to meet their basic needs. However, the majority of applications used in Bangladesh are text-based and primarily written in English, despite the country's high prevalence of illiteracy. It goes without saying that users must have a basic understanding of reading, writing, and the terminologies used in applications in order to use them. Therefore, a sizable portion of those who cannot read properly may not use ICT. Therefore, the goal of this research project is to create a mobile application for job hunting for illiterate individuals in India in order to close the digital gap. An android-based mobile application was created to search for and apply for jobs in order to meet this research goal. The means of interaction were created for the Bangladeshi illiterate population using pictography, text, icons, and speech.

The remainder of this essay is divided into the following sections. Section II provides a brief summary of related works. In section III, the participant profile, research methodology, and study results are covered. The design and development of the job search application are detailed in section IV. Section V discusses the assessment of this application, and Section VI contains the conclusions and recommendations for further study. Determining What Empowerment Is

Empowerment has been given several definitions, which is typical of concepts with broad meanings like democracy and globalisation. The set of emotions, knowledge, and skills that result in the capacity to participate in one's social environment and have an impact on the political system must be defined as empowerment in the context of adult literacy, where nonliterate adults reflect ongoing and cumulative processes of regional, ethnic, social class, or gendered marginalisation. The four components of this ability can be broken down into the following: the cognitive, or the awareness of one's social reality and the mechanisms underlying its operation; the economic, or the availability of independent sources of support, which promotes greater decision-making autonomy; and the physical, or access to one's environment. the political dimension, or the capacity to influence the institutions and policies of one's community or country; and the psychological dimension, or the conviction that people are capable of acting on their own behalf and deserving of better conditions. (Stromquist, 1995). Although these four dimensions cannot be described in a linear order, it appears that the psychological component, which operates on a personal level, frequently serves as a key prerequisite for the other three dimensions.



## 2 LITERATURE SURVEY AND RELATED WORK

The timetabling problem has been successfully handled in several years using genetic algorithm techniques. This strategy is based on regional search techniques, including genetic algorithms. These techniques represent constraints as some value of functions, which are minimised in relation to an initial workable solution by a heuristic search for better solutions. Declaratively stating the constraints in a plain manner makes them part of the program, which is its main benefit. This makes it simple to adjust the software, which is essential when dealing with scheduling issues. The constraints are managed through a backtracking search system combined with a constraint propagation system that shrinks the domains of variables.

[1]Chipchase,J (2005) Understanding Non-Literacy as a Communication Barrier with Mobile Phones.<http://research.nokia.com/bluesky/non-literacy-001-2005/index.html> was retrieved on September 15, 2008.

[2]Chipchase J.(2006). Reading, writing, and design. From <http://research.nokia.com/bluesky/non-literacy-001-2005/index.html>, in UIAH.

[3]Parikh, T.S (2006) Using paper papers and mobile phones to collect microfinance data in rural India is a novel strategy that is being evaluated. Human Factors in Computing Systems, an ACM Conference (CHI). The authors are Parikh, Ghosh, and Chavan. (2003a). Design Factors for a Financial Management System Designed for Semiliterate, Rural Users.Human Factors in Computing Systems, an ACM Conference(CHI). The authors are Parikh, Ghosh, and Chavan. (2003b). Design studies for an Indian rural microcredit groups' financial management system. Universal Usability Conference at the ACM.

[4]Sherwani, J., et al.(2007) HealthLine: Low-literacy Users Can Access Health Information Through Speech. International Conference on Information, Communication, and Development.

[5]Donner, J. (2008) A Review of the Literature on Research Methods for Mobile Use in the Developing World. Society of Information, 24(3). Donnell, J. (2007). Journal of Computer-Mediated Communication, vol. 13, no. 1, 2007 The Rules of Beeping: Exchanging Messages Via Intentional "Missed Calls" on Mobile Phones

[6]Medhi, I.(2009) illiterate users' best audio-visual depictions. World Wide Web Conference International.User interfaces without text for uneducated and semiliterate users. 37–50 in Information Technologies and International Development, 4(1). The International Conference on Information and Communication Technologies and Development has full-context videos for novice, illiterate PC users.

[7]Ratan, A. L.(2009) Microsoft Research Technical Report, November 2009, "Using technology to deliver financial services to low-income households: A preliminary study of Eko customers in India." Welfare, Agency, and ICT for Development, Microsoft Research Technical Report, June 2008. Using technology to deliver financial services to low-income households: a preliminary assessment of Equity Bank and M-PESA users in Kenya. International Conference on Information, Communication, and Development.

[8]Sambasivan, N., (2010) Technology Use at an Intermediate Level in Developing Communities. ACM Conference on Human Factors in Computing Systems, In Proceedings (CHI).

[9]Sambasivan, N., (2010) Advanced Technology Use in Developing Areas. Human Factors in Computing Systems, In Proceedings, ACM (CHI).

[10]Smyth, T.,(2010). If There Is a Will Mobile Media Sharing in Urban India: There Is a Way. at Human Factors in Computing Systems, an ACM conference.



### 3 Implementation Study

#### MODULES

##### Admin

The administrator will log in using his or her user name and password and post several jobs based on what the business and the employee are looking for.

##### Employer

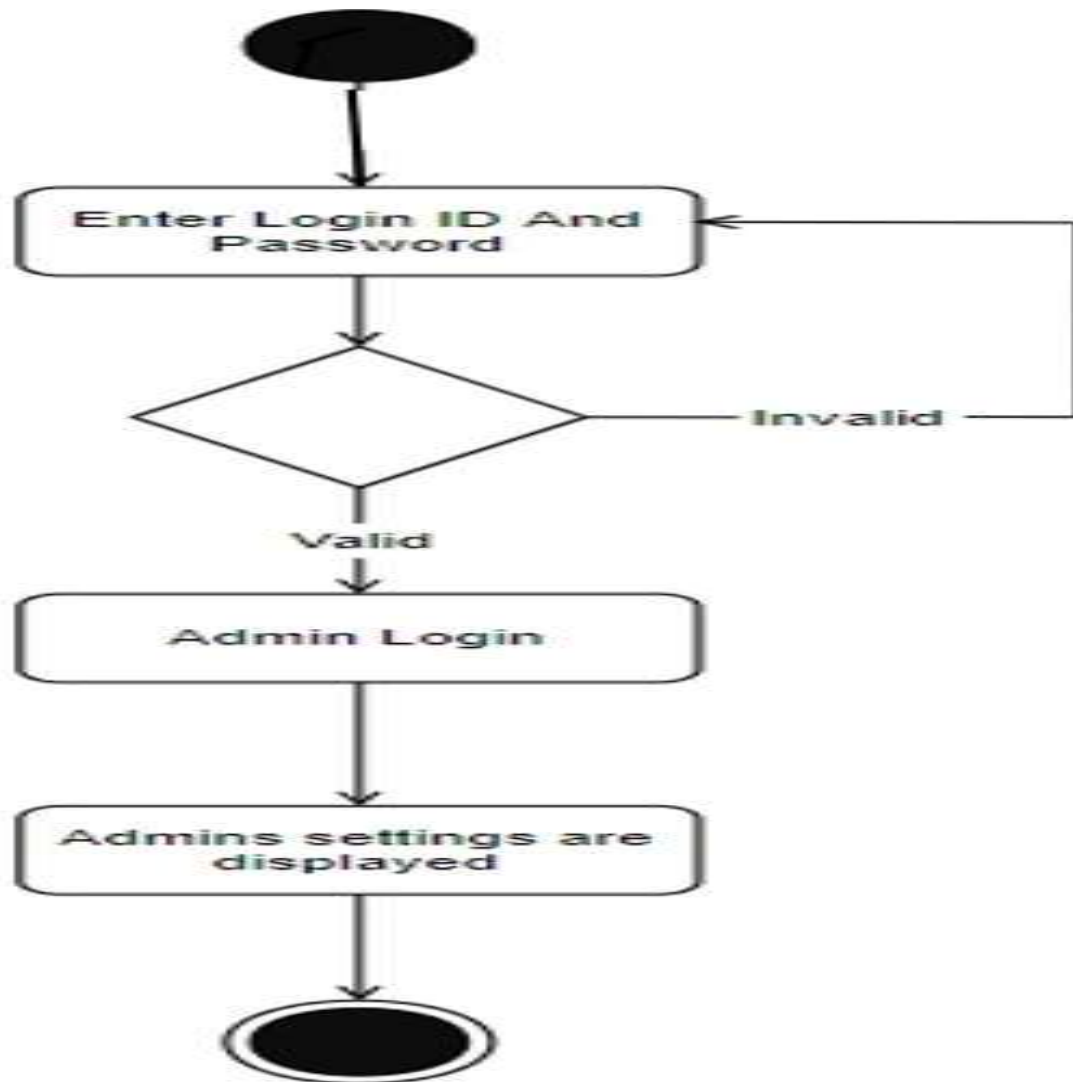
Here, the employer must first register an account using his or her email address and a strong password before searching for employees according to their requirements.

##### Worker

Here, the worker must register on the worker signup page by providing their name, mobile number, and password (which is also their mobile number), after which they should choose a job depending on their skill set.

### 4 Proposed Work

The entire information or the data provided by worker and the process of hiring is stored in the database using MySQL database management system. This EMPOWER ILLITERATE makes the hiring person and the worker task easier in getting job accompanied by the hiring manager. Our idea is to provide a framework for medium connecting people who are looking for work and those who are looking to hire workers. There are many illiterates who have good skill in carpentry ,farming ,driving ..etc but unable to find work Skilled people who are searching for work need to specify their skill and phone number on our platform Those who want to hire can contact workers through the phone number.This web application provides a platform for both hire and hirer. As illiterate people are unaware of internet they are instructed to go nearby helping centers like (mee-seva ,make in India,digital India or any) for registering. Phone number plays an important role because we are dealing with uneducated people.



Architecture Diagram

## 4 METHODOLOGIES

### CONNECTIVITY

On any platform, clients can use TCP/IP sockets to connect to the MySQL server. Clients can connect through named pipes to Windows NT family (NT, 2000, XP, or 2003) systems. Clients can connect to Unix computers via Unix domain socket files. If launched with the --shared-memory option, MySQL 4.1 and higher Windows servers also allow shared-memory connections. Using the --protocol=memory option, clients can establish connections over shared memory.

### LOCALIZATION

Clients can get error messages from the server in a variety of languages. See "Setting the Error Message Language" in Section 5.11.2. Support for latin1 (cp1252), german, big5, ujis, and other character sets is complete. For example, table and column names may contain the Scandinavian characters "ä" and "ö." As of MySQL 4.1, Unicode support is available.

The acronym XAMPP is made up of the letters X for Cross-Platform, A for Apache, M for MySQL, and P for PHP and Perl, respectively. One of the most popular cross-platform web servers, XAMPP enables programmers to design



and test their code on a local web server. It was created by the Apache Friends, and users can edit or change the native source code. It is an open-source collection of online solutions that includes modules, a command-line executable for Apache distribution on a variety of servers, and more.

## 6 RESULTS AND DISCUSSION SCREENSHOTS

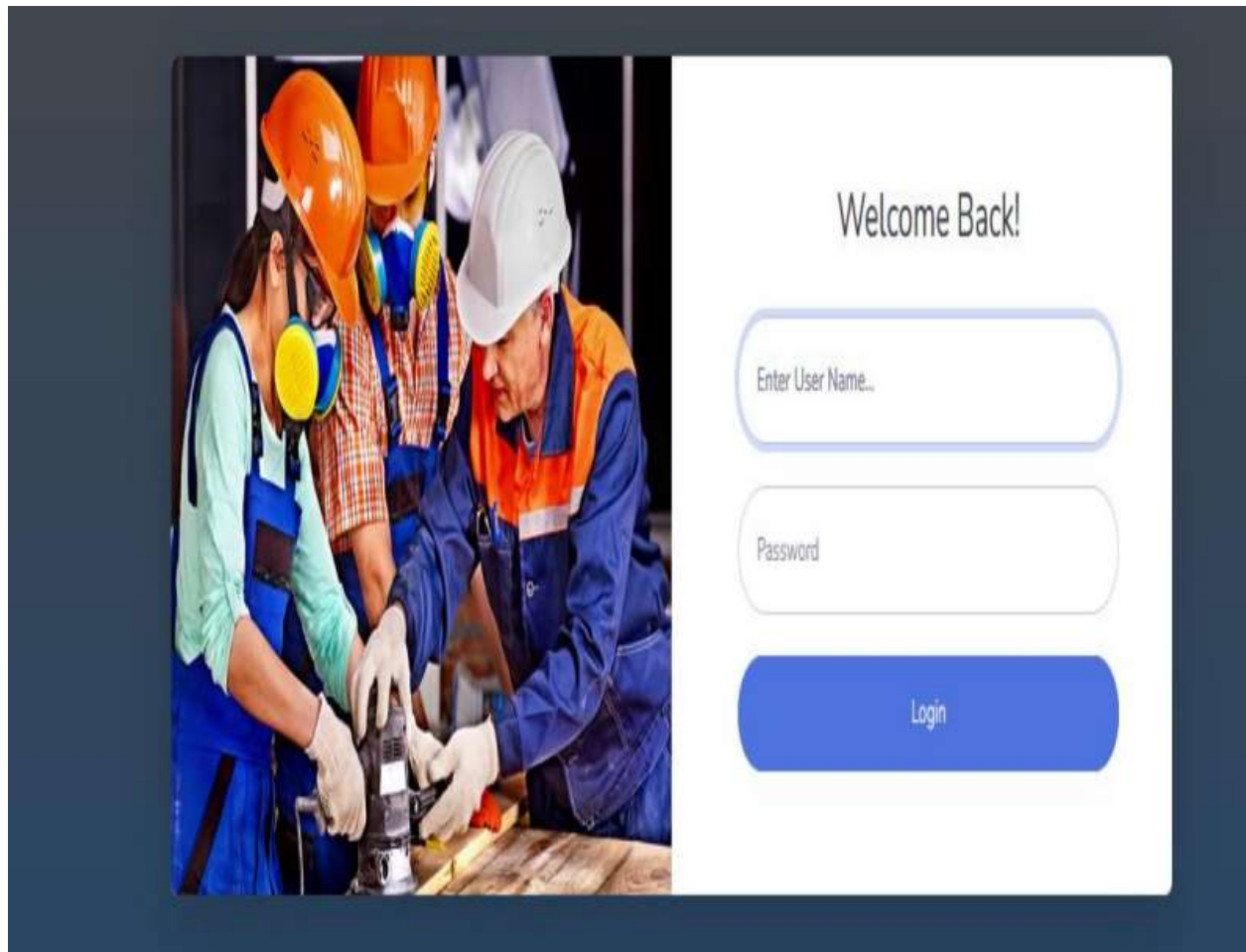


Fig-1: Admin page

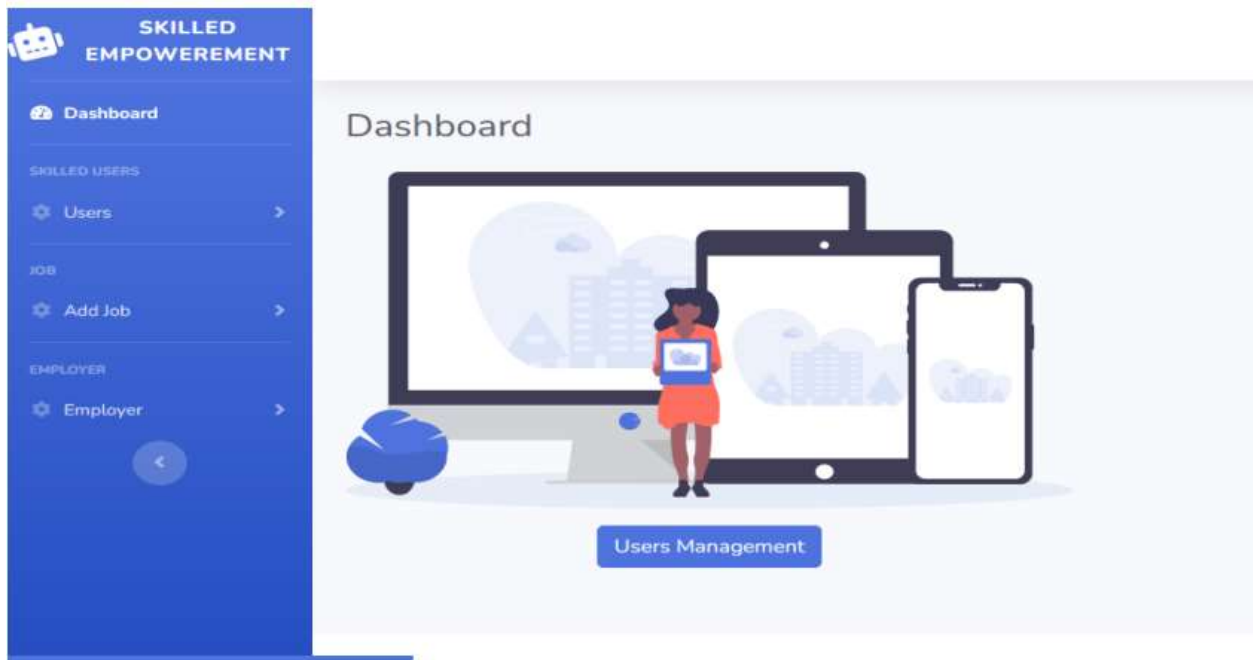


Fig-2: Dashboard-1

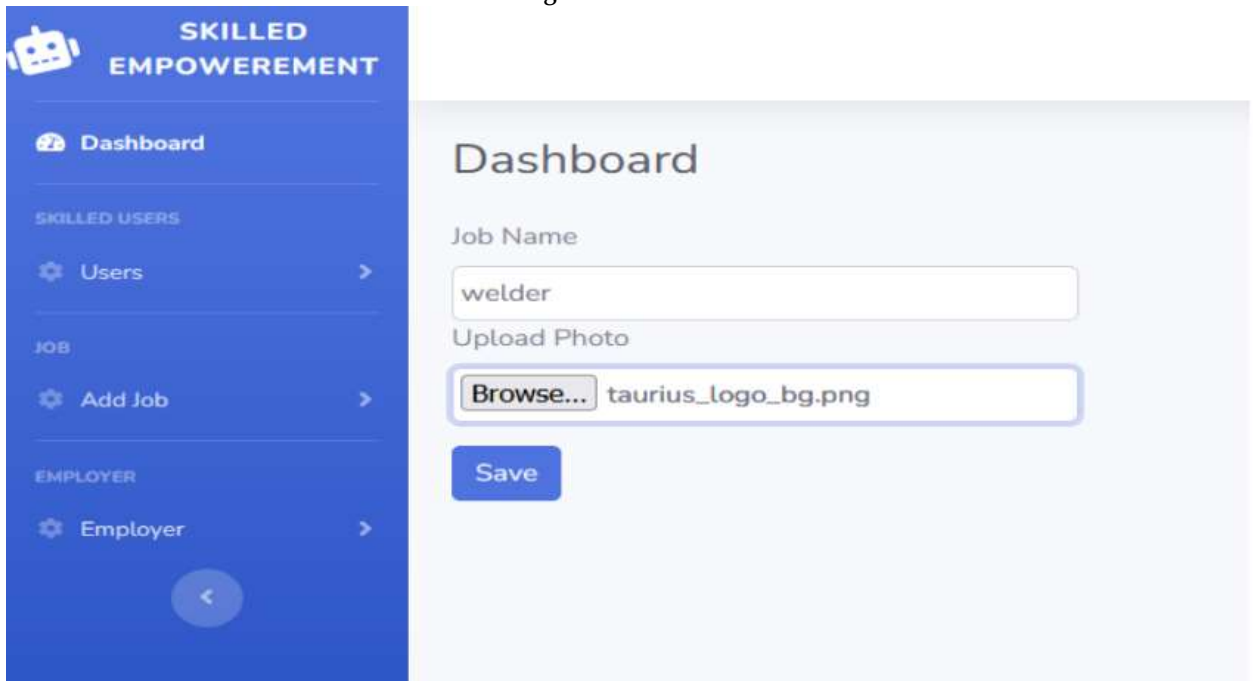


Fig-3: Dashboard-2

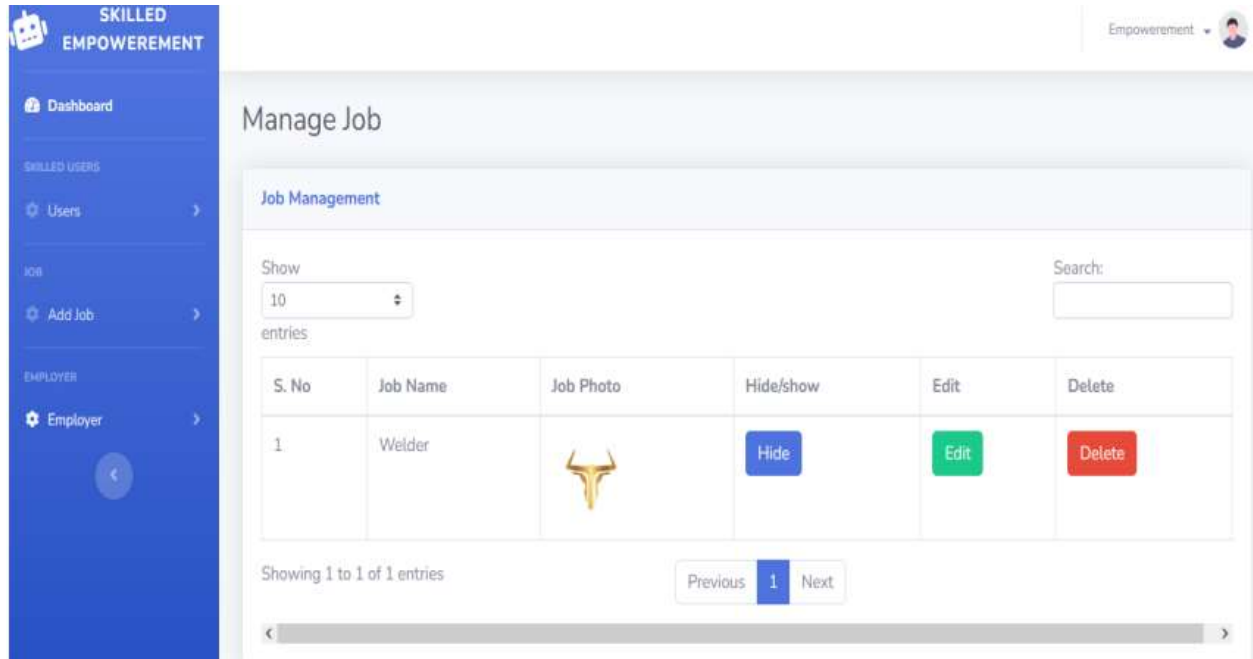


Fig-4: Dashboard-3

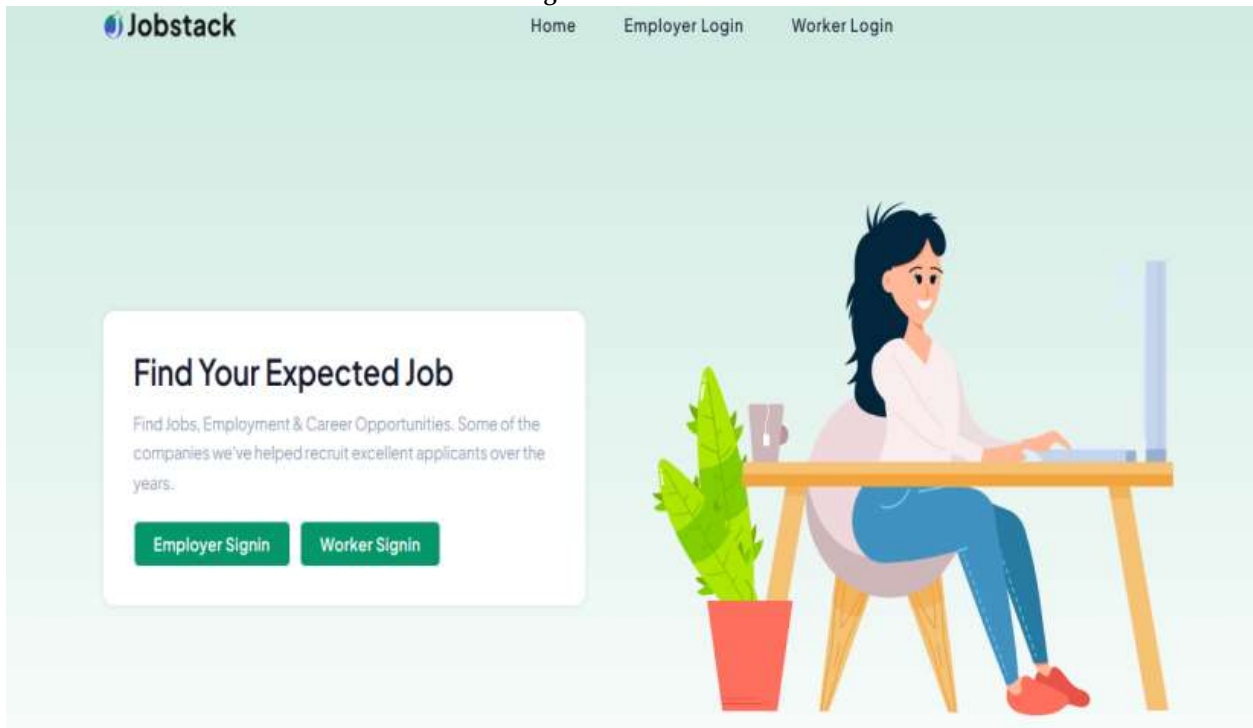


Fig-5: Empower page





The screenshot shows the 'Signup' form for Jobstack. At the top is the Jobstack logo. Below it, the title 'Signup' is displayed. The form consists of four input fields: 'Your Name:' with a placeholder 'Your Name', 'Email Address:' with a placeholder 'name@example.com', 'Password:' with a placeholder 'Password:', and 'Number:' with a placeholder 'Phone Number:'. A green 'Register' button is positioned below the fields. At the bottom, there is a link: 'Already have an account ? **Sign in**'.

Fig-6: Employer signup

The screenshot shows the 'Login' form for Jobstack. At the top is the Jobstack logo. Below it, the title 'Login' is displayed. The form consists of two input fields: 'Email:' with a placeholder 'Email' and 'Password:' with a placeholder 'Password:'. A green 'Login / Sign In' button is positioned below the fields. At the bottom, there is a link: 'Don't have an account ? **Sign Up**'.

Fig-7: Employer login



The screenshot shows a 'Signup' form with the following fields and elements:

- Signup** (Section Header)
- 
- 
- 
- 
- Select Job:**
- 
- 
- Text below the button: "Already have an account? [Sign in](#)"

Fig-8: Worker signup

The screenshot shows a 'Your Details' form with the following fields and elements:

- Your Details** (Section Header)
- 
- 
- 
- 
- Select Job:**
- 
- 
-

Fig-9: Worker login

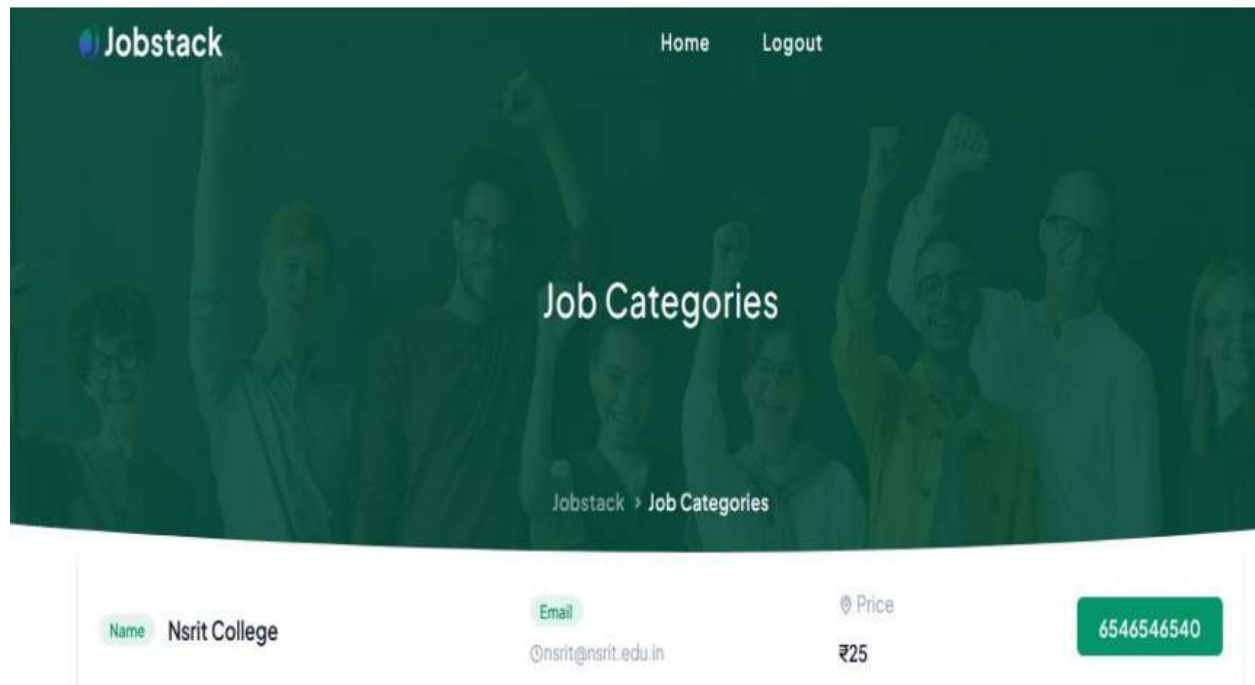


Fig-10: Categories page

## 7. CONCLUSION AND FUTURE WORK

In this study, a mobile application for job searching for India's illiterate population was planned and developed. Two empirical user studies were carried out: one to assess the needs of illiterate individuals with regard to job search and their intention to use a mobile application, and the other to gauge the effectiveness of the generated application's usability. The evaluation study revealed that participants used the applications successfully and efficiently to fulfil their jobs. They were also satisfied and very interested in recommending and utilising the applications in the future. These findings suggest that a useable and practical application can encourage participants who lack literacy to use and adopt IT tools, which will help close India's digital divide. A few restrictions apply to the research as well. The evaluation study only enrolled a smaller pool of participants. Once more, the evaluation study was only carried out in a lab setting. Future research might concentrate on enlisting numerous people from various professional groups in order to get over these constraints. Another text-based application for the same purpose may be created in the future. A comparison experiment will then be done to determine which text-based programme performs better than applications with intuitive user interfaces. (that includes intuitive icons, symbols, pictography, and voice).

## 8. REFERENCES

1. Chipchase, J. Understanding Non - Literacy as a Barrier to Mobile Phone Communication. Retrieved September 15, 2008, from <http://research.nokia.com/bluesky/nonliteracy-001-2005/index.html>
2. Parikh, T.S. Mobile phones and paper documents: Evaluating a new approach for capturing microfinance data in rural India. In ACM Conference on Human Factors in Computing Systems (CHI) <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=BD>
3. Sherwani, J., et al. "Information and communications technology," accessed: 2018-08-30. [Online]. Available: [https://en.wikipedia.org/wiki/Information\\_and\\_communications\\_technology](https://en.wikipedia.org/wiki/Information_and_communications_technology)



4. Donner, J. Mobile Cell Phones and Poverty Reduction : Technology Spending Patterns and Poverty - level Change Among Households in Uganda, Master's Dissertation, University of KwaZulu-Natal, Durban. [http://www.w3.org/2008/02/MS4D\\_WS/papers/position\\_paperdiga-2008.pdf](http://www.w3.org/2008/02/MS4D_WS/papers/position_paperdiga-2008.pdf). Retrieved on 12/12/2009.
5. Medhi, I. "Mobile phone subscribers in bangladesh july, 2018. — btrc," 2018, accessed: 2018-08-30. [Online]. Available: <http://www.btrc.gov.bd/content/mobile-phone-subscribersbangladesh-july-2018>
6. "Internet subscribers in bangladesh july, 2018. — btrc," 2018, accessed: 2018-08-30. [Online]. Available: <http://www.btrc.gov.bd/content/internet-subscribers-bangladesh-july2018>
7. "Bangladesh- literacy rate," 2016, accessed: 2018-08-30. [Online]. Available:<https://countryeconomy.com/demography/literacy-rate/bangladesh> "Rural population (% of total population)," accessed: 2018-08-30. [Online]. Available:
8. D. M. West, "Digital divide: Improving internet access in the developing world through affordable services and diverse content," Brookings Institution, 2015.
9. P. Biernacki, D. Waldorf "Snowball sampling: Problems and techniques of chain referral sampling", Sociological methods & research, 10, 2,1981 141–163, 1981.
10. I. Medhi, A. Sagar, and K. Toyama, "Text-free user interfaces for illiterate and semi-literate users," in Information and Communication Technologies and Development, 2006. ICTD'06. International Conference on. IEEE, 2006, pp. 72–82
11. I. Medhi, A. Prasad, and K. Toyama, "Optimal audio-visual representations for illiterate users of computers," in Proceedings of the 16th international conference on World Wide Web, 2007, pp. 873–882
12. I. A. Khan, S. S. Hussain, S. Z. A. Shah, T. Iqbal, and M. Shafi, "Job search website for illiterate users of pakistan," Telematics and Informatics, vol. 34, no. 2, pp. 481–489, 2017
13. M. Goetze and T. Strothotte, "An approach to help functionally illiterate people with graphical reading aids," in Smart Graphics Symposium UK. Citeseer, 2001, pp. 21–23.
14. M. P. Huenerfauth, "Design approaches for developing user-interfaces accessible to illiterate users," University College Dublin, Ireland, 2002
15. F. Akther, "Ict-based informal learning approach for semi literate and illiterate people in rural areas of bangladesh," in Proceedings of the 7th International Conference on Networked Learning, 2010
16. S. I. Ahmed, M. Zaber, and S. Guha, "Usage of the memory of mobile phones by illiterate people," in Proceedings of the 3rd ACM Symposium on Computing for Development. ACM, 2013, pp. 42:1–42:2.
17. S. I. Ahmed, M. H. Zaber, M. B. Morshed, M. H. B. Ismail, D. Cosley, and S. J. Jackson, "Suhrid: A collaborative mobile phone interface for low literate people," in Proceedings of the 2015 Annual Symposium on Computing for Development. ACM, 2015, pp. 95–103
18. M. Isomursu, J. Hiki, A. Wallin, and H. Ailisto, "Experiences from a touch-based interaction and digitally enhanced meal-delivery service for the elderly," Advances in



Human-Computer Interaction, vol. 2008, no. 931701, 2008

19. I. Standard, "Ergonomic requirements for office work with visual display terminals (vdts)- part 11: Guidance on usability. iso standard 9241-11: 1998," International Organization for Standardization, 1998