E-SEWA: An Android Application to hire the Professionals for Maintenance Services

[1]Venu Kaushik, [2]Sahil Aggarwal, [3]Shikhar Gupta, [4] Isha Singh
[1,2,3,4]*HMRITM, Guru Gobind Singh Indraprastha University*
[4]*Assistant Professor, HMRITM, Guru Gobind Singh Indraprastha University*

Abstract - **In today's fast-paced world, smartphones are the only viable means of communication. People typically have difficulty arranging services for their household items, not just in India but in any country. And no one wants it done by a local worker; it should be done by a professional. And, as a result of the scarcity of such advancement in this industry, some new professionals have difficulty being hired for jobs where their skills are merely dusting off. And, in order to address this issue, it is critical to take the required steps to assist both workers and users, which can only be accomplished by creating a platform that acts as a bridge between the worked and user end sides by utilising trend technology. And in this case, our study presents the E-SEWA Android application. It'll be a fantastic start for all parties.**

Index Terms - **Polyhouse Automation, Communication.**

I.INTRODUCTION

Technology continues to be a significant catalyst for change in many aspects of business and communication. We still need someone who can address our difficulties connected to daily routine issues such as electrical, plumbing, electronics, and pest control in this fast-growing technology. And in order to handle this issue, we had to look for and speak with someone who could help us solve our problem, or we had to make an appointment. And we have no idea whether our problem will be fixed on time or not, whether we will be satisfied with their services, or how to contact them afterward if we have another problem. However, if there is an application that allows you to schedule an appointment, receive service at a specific time, and communicate with them thereafter, that would be ideal.

In this situation, our E-SEWA programme comes into play, which is a service that provides specialists in the field of household management. You don't need to go anywhere; simply log in to your account and look for a worker who can help you with your problem. This application satisfies all of the needs of a customer who wants to give home services online by connecting the user and the service provider.

Everyone, not only in India, but all throughout the world, is having difficulty getting workers.

This is a list of extant service-provider applications developed in India or elsewhere in the world.

A. *URBAN CLAP*— On November 10, 2014, the app, which is popular in India and the United Arab Emirates, was released to help people with their difficulties. You may order a wide range of home services with Urban Clap, including yoga teachers, cosmetics artists, plumbers, electricians, massage therapists, and more. This app connects you with a variety of professionals who can visit your home or office. Carpenters, plumbers, hair stylists, and other services are also provided, as well as yoga and educational tutors. Urban Clap offers over 100 services through its network of over 50,000 specialists. The organisation has operations in Delhi-NCR, Bengaluru, Hyderabad, Mumbai, Kolkata, Ahmedabad, Noida, and Faridabad, to name a few. The company won a Silver Award at the Abby Awards in the Gender Sensitivity Brand Film Category. The company was also purchased by Handy Home, and afterwards it was sold.

URBAN CLAP'S KEY FEATURES INCLUDE: -
1. A simple and clean user interface.
2. No cost to download
3. Locate and evaluate specialists
4. Finding and booking your worker is simple.

SUPPORTED DEVICES: -
1. Web-Based
2. Android

3. iPhone

B. *TaskRabbit*— TaskRabbit is a BOSTON-based online and mobile marketplace that combines local demand with freelance labour, allowing users to acquire help with everyday tasks like cleaning, moving, and handyman chores. The experts had been thoroughly vetted, and the tasks were promised. TaskRabbit is used in about 19 cities. The company debuted its first global market in London in November 2013. Over 60,000 independent contractors use the TaskRabbit platform. Contractors have various levels of education. 70% of the contractors have earned a bachelor's degree, 20% have earned a master's degree, and 5% have earned a PhD. For some folks, TaskRabbit has turned into a full-time job.

KEY FEATURES OF TASKRABBIT INCLUDE: -
1. Capable of communicating with tens of thousands of taskers
2. All jobs must be accomplished within a reasonable amount of time.
3. Use a chatbot to communicate.
4. You can pay with your phone using the software.

DEVICES SUPPORTED: -
1. Web-based
2. Android
3. iPhone

C. *Thumbtack*— In the United States, there is yet another application for home services. This app can assist you in locating the help you require. Thumbtack is a platform that helps you connect with experts in your region. Thumbtack can assist you with repairing a leaking room, planning a birthday party for your child, or repairing a damaged household item. Users may currently access over 1000 solutions and qualified specialists in each of the 50 US states through the website, earning credits in the process.
1. It was found in 2008.
2. The company's headquarters are in San Francisco.
3. Service area: 50 states in the United States
4. Registered Taskers: -250,000
5. Estimated annual revenue: -$170.6 million

THE PRIMARY FEATURES OF THUMBTACK INCLUDE:
1. Posting a job.
2. Payment integrations that are straightforward.
3. Make a search and a match.
4. Communications.
5. Ratings and reviews

II.TOOLS AND TECHNOLOGY USED

1. *IDE*— Android Studio is the official Integrated Development Environment (IDE) for Android application development, based on IntelliJ J IDEA. In addition to IntelliJ J's advanced code editor and development tools, Android Studio has extra features to help you be more productive when developing Android apps, such as:
1. An emulator that is both speedy and feature rich.
2. Gradle-based build system with a lot of flexibility
3. For all Android devices, a uniform development environment has been created.
4. Make changes to the push code and resources of your running app without having to restart it.
5. To aid in the development of future app features and the import of sample code, code templates and GitHub integration have been included.

2. *ANDROID SDK*— The Android Software Development Kit is a programming tool for producing mobile apps for the Android platform, which has surpassed Apple as the most popular smartphone platform.
1. The ANDROID SDK comes with all the necessary libraries.
2. Debugger.
3. An emulation device is a device that simulates the behaviour of another device.
4. Relevant documentation for the Android application programme interfaces (API).
5. An illustration of source code

3.*JAVA*—Java is a high-level, object-oriented programming language based on classes that aims to reduce implementation dependencies. It's a general-purpose programming language that allows programmers to write once and run anywhere (WORA), which means that compiled Java code may run on any platform that supports Java without the need to recompile it.

JAVA is distinguished by its familiarity and ease of use, as well as its ability to be followed and interpreted.

1. It can be used on any platform.
2. Robust.
3. Object-oriented.

4. *GOOGLE FIREBASE*— FIREBASE is a platform that provides backend-as-a-service (BaaS). It offers a number of tools and services to assist developers in creating high-quality apps, expanding their user base, and making money. It's based on the Google platform. Firebase is a NoSQL database service that stores data in JSON-like documents.

KEY FEATURES: -
1. Authentication.
2. Database that is updated in real time.
3. Hosting and a test lab
4. Notifications.

III.IMPLEMENTATION

This section shows how to use the Android E-SEWA application. It has two sections: one for users and one for administrators. The section for users discusses how they can enlist the assistance of experts to help them find the best solution to their problem. And it's all about how the admin panel can review all the complaints that our users have sent.
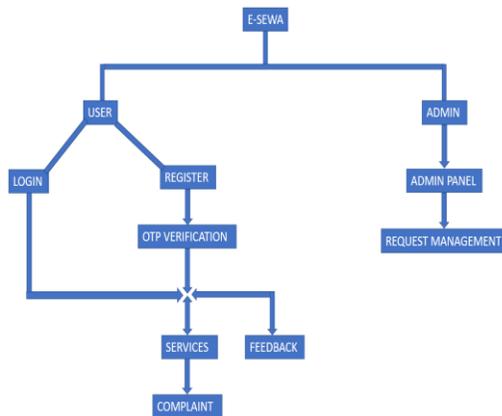

Fig 1: Diagram Representing Modular Design

The general arrangement shows how ESEWA works. This program contains many elements that will be presented to the user step by step, such as: About, Start Screen, Select, Sign Up/Sign In (if you are already registered), Main Activity (included) many sub activities like electrician, plumber, driver, carpenter, etc.), main activity (includes many side activities like electrician, plumber, driver, carpenter, etc. As the installation goes through, you will be greeted by a great start screen that will naturally draw your attention to us. Some information about us such as why you should choose them me, how you can hire us and the three steps to get qualified and professional staff and what we hope to achieve with this After completing the installation and some referrals, you will need to choose an input method, like using Login in or create an account if you haven't already. It is very simple and can be completed in just 34 steps, such as:

• Providing a name
• Providing a phone number
• Providing a password

You will now need a verification code to confirm that you are not a robot and you will receive a 6-digit verification code in just 2-3 seconds after completing the verification. Then, using your chosen password, enter your registered phone number. If you already have an account, you can log in using the Login In button, which will ask you to enter information such as your registered phone number and password. You will then be taken to the main activity page, which includes a variety of services such as electricians, plumbers and drivers, along with a short message that says "Connected successfully. You can select services from the main screen and in the lower right corner you will see a mailbox where you can leave comments about the program. You can also use the navigation panel to access some other content, such as intros and standard fare by various DIY enthusiasts. If you want to hire DIY enthusiasts, you can do so by clicking the HIRE button. Then you need to provide your exact address so our experts can find there you and solve your problem. And let us know how you'll pay, whether by UPI or cash after service. Now that you have completed your complaint method, send it to us and relax knowing that you will receive the best service possible.

IV.OUTCOMES

In this section we will see different images that will represent a small intro of the application, making it possible for us to understand the different parts of the application more clearly.
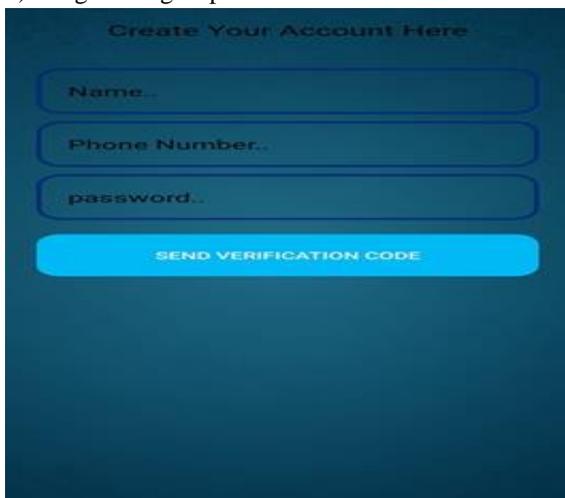
Introduction/Description: -

Here are a few steps that you will see before the start screen, showing why you should trust us. And then you can rent from here. Then what steps will you need to take to log into the app and get the best solution for your problem. Finally, it's a short message that tells us what we're targeting with this app, how the app will provide the service, and meet the user's needs.
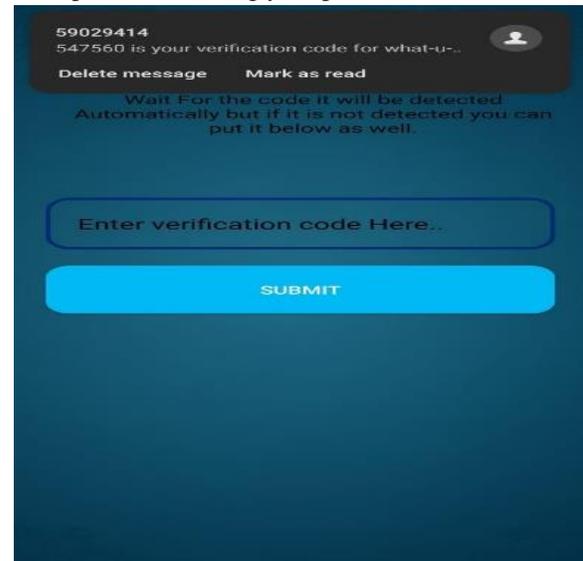
a) Splash Screen: -

The welcome screen is a graphic control element consisting of a window containing an image, a logo, and the current version of the software. You may see a splash screen while the game or program is starting. The splash page is the introduction page of the website. Splash screen of the ESEWA app will appear as soon you entered the application and will mirror for 3 seconds when you open it.

b) Sign-in/Sign-up: -

There will be options to create a new account or sign in if you already have one which, when clicked, will take you to the login or registration screen of your choice. In this section, we will create an account that requires a name, a phone number to receive a verification code in OTP format, and an account that requires a strong and secure password, then we will move on to the verification part.

Next part after creating your profile: -

Now you be needing a verification code in OTP format of 6 digit code. And for verifying that you are not a bot it will take you to the chrome verification process which will take nearly a few seconds to make it happen and all this is done through Google Firebase. You will now be able to access the full offer of the Services app. You can send us a feedback message by post.
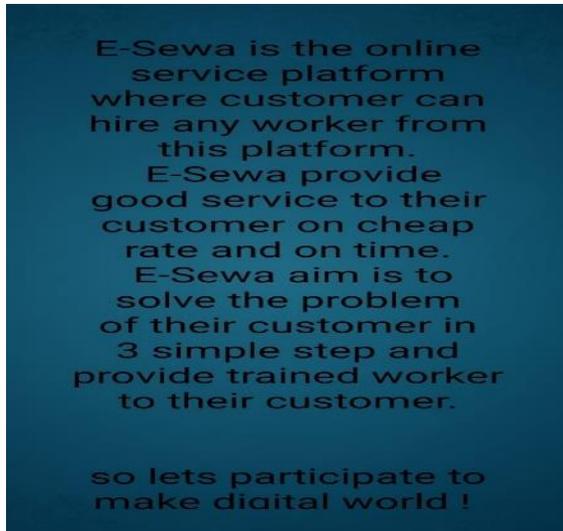
There are many services which are
1. Electrician
2. Plumber
3. Driver
4. Carpenter
5. AC Electrician
6. Computer Operator
7. Dumper
8. Interior Designer
9. Mason
10. Software Installer
11. Babysitter
12. Painter
13. Tutor
14. Guard

This is the main drop-down screen where you can hire multiple options for different categories of maintenance workers by pressing the hire button.
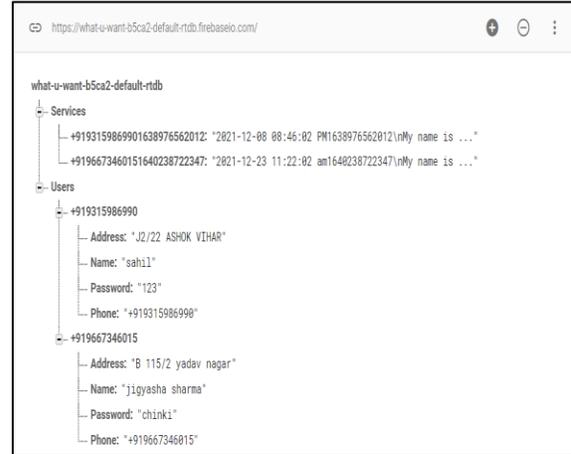
c) E-SEWA: -

In this we can see a navigation panel where there is another subsection i.e. About, Standard Fees, Sign Out. Let's now move on to the About subsection for its application information, Standard Fees, where all the basic standard fees are mentioned for all services. There is a standard fee for visiting your home, which will be adjusted once the service is complete.

d) ADMIN PANEL: -

Main feature of this application is ADMIN PANEL, where Admins can see all the complaint and request received. But this can be only done by putting on a special credential an Admin Panel will occurs.

V.FIREBASE

We used Firebase to store all the data entered by the user. It will store all the registration details with the username, the phone number the user will register with and their password.

Another thing is the service details which has many details like the date and time the claim is registered with the claim ID and your claim with the payment method.

VI.CONCLUSION & FUTURE SCOPE

This program is mainly designed to make everyone's job easier. You do not need to go out to receive service; instead, you can just go to this app and fix whatever problem you are having. The application is also a contributor and can compete with the existing online service applications, as this phase is increasingly geared towards online services.

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