Mobile Application for Finding Skilled Workers for Daily Chores

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Abstract— The growth of booking services, purchasing products over the internet has gained immense popularity in recent years. People find it more convenient to book services from the comfort of their homes. Considering this fact, the proposed Skilled Workers Management mobile application creates a platform for all the skilled workers to connect directly with their customers and cater to their needs at their homes. It will help the laborers assimilate to the ongoing trend. The main focus of our project is making it user-oriented. This application can be used from anywhere and anytime according to one's convenience. It is easy-to-use for workers who have basic knowledge of technology to understand the working of the application due to a user-friendly interface.

Index Terms— Android app, Flutter framework, Handyman, Home services, M-commerce, Mobile application for daily chores, Skilled workers.

1 Introduction

THE profuse use of mobile applications has made them a part and parcel of our lives. Merging of Technology and Communication has created an environment where we can access services, information, etc at our fingertips. Faster wireless networking standards allow wireless devices to use more e-commerce applications, and consequently, permit wider access to mobile commerce (m-commerce). M-commerce has been defined as "a special branch of e-commerce, in which mobile devices and their network connection medium are used to buy, sell, and promote products, services, and information". The rise of online services over the last decade has shown a remarkable effect on the 'brick and mortar' retailers. Though it has imposed a great threat to the labor agencies, etc. This is mainly due to the ease or luxury to book and get hired without much difficulty. The online service marketing niche in India is at a budding stage

We intend to give an option to get job opportunities through the use of a mobile application. It aims to respond to the expected growing demand for skills as various sectors continue to develop, modernize, and grow. People will be able to find any type of skilled worker to work for them, in this way, the work of the customer is done quickly, and the worker gets paid for his job.

The objective of our project is to offer help to all kinds of home-service workers to find jobs easily such that there won't be a need for them to go and search for work. The customers will be able to find any type of skilled workers in minimal time. The application will be incredibly useful and relatively easy for all users.

The app includes the following features:

- Registration facility for the skilled workers as well users for authorized access to the system.
- The users will be able to provide feedback and check reviews.
- The system will show a list of the skilled workers who are located near the user's area.
- The user can select the skilled worker they prefer based on ratings provided by others users.

2 Literature Review

E-commerce is the new way of doing business . It has allowed companies to promote and sell products overseas. Mobile devices with internet connectivity have helped companies reach consumers in diverse ways. Mobility of people and technology are key factors of the economy.

It is becoming difficult for skilled workers to find jobs. Also, it is difficult for customers to find skilled workers. Having a common platform for workers and recruiters is a need, where the worker can upload their skills and the recruiter can view it. Such applications come handy as they can be used from anywhere and everywhere.

Technological advancements provide opportunities to make life easier and a lot better. People are facing difficulties in finding and hiring skilled workers for maintenance services for their homes and offices. To overcome this problem, it is important to develop a platform in order to bridge the gap between the skilled workers and users.

The current process, skilled workers normally go through in job searching which involves preparation of resume and then sending out applications to companies directly. There is also an option to submit resumes to manpower agencies where they are going to be part of manpower pooling.[2] These

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traditional ways may limit the skilled worker to only a small number of prospective employers.

24 hour service is not available which is a downfall considering current conditions. Also, these applications are only available in metropolitan areas making it difficult for people living in semi-urban and rural parts of the country. Some websites and mobile applications track all your searches and this information can be used against you. Your location is with these websites and although rare, can be potentially misused.

3 Proposed System

It offers an alternative option for the skilled workers in getting job opportunities through the implementation of this mobile application which will enable them to connect to their potential customers.

3.1 Architecture

The user needs to verify his mobile number so that the system can authenticate the user. Once the user is authenticated, he can then search for various home services available such as plumbing, carpentry, etc.
Once the user selects the category of work the list of workers will be displayed in order of nearest worker. The user can then select the worker, details like the rates per hour, contact number and reviews will be displayed.
The user can call the worker and hire him for service. On completion of the service the user can write reviews for the worker which will be displayed on the workers profile.
The administrator will verify the workers and add the workers details to the list.
J48 decision tree is a predictive machine learning model and an implementation of the C4.5 algorithm under the WEKA data mining platform.
C4.5 builds decision trees from a set of training data. At each node of the tree, C4.5 chooses the attribute of the data that most effectively splits its sets into subsets enriched in one class. The attribute with the highest information gain is chosen to make a decision.
This algorithm has a few base cases:

- All the samples in the list belong to the same class. When this happens, it simply creates a leaf node for the decision tree saying to choose that class.
- None of the features provide any information gain. In this case, C4.5 creates a decision node higher up the tree using the expected value of the class. Instance of previously-unseen class encountered. Again, C4.5 creates a decision node higher up the tree using the expected value.
- Pseudocode, the general algorithm for building decision trees is:
  - Check for the above base cases.
  - For each attribute a, find the normalized information gain ratio from splitting on a.
  - Let a_best be the attribute with the highest normalized information gain.
  - Create a decision node that splits on a_best.
  - Recurse on the sublists obtained by splitting on a_best, and add those nodes as children of nodes

3.2 Process Design

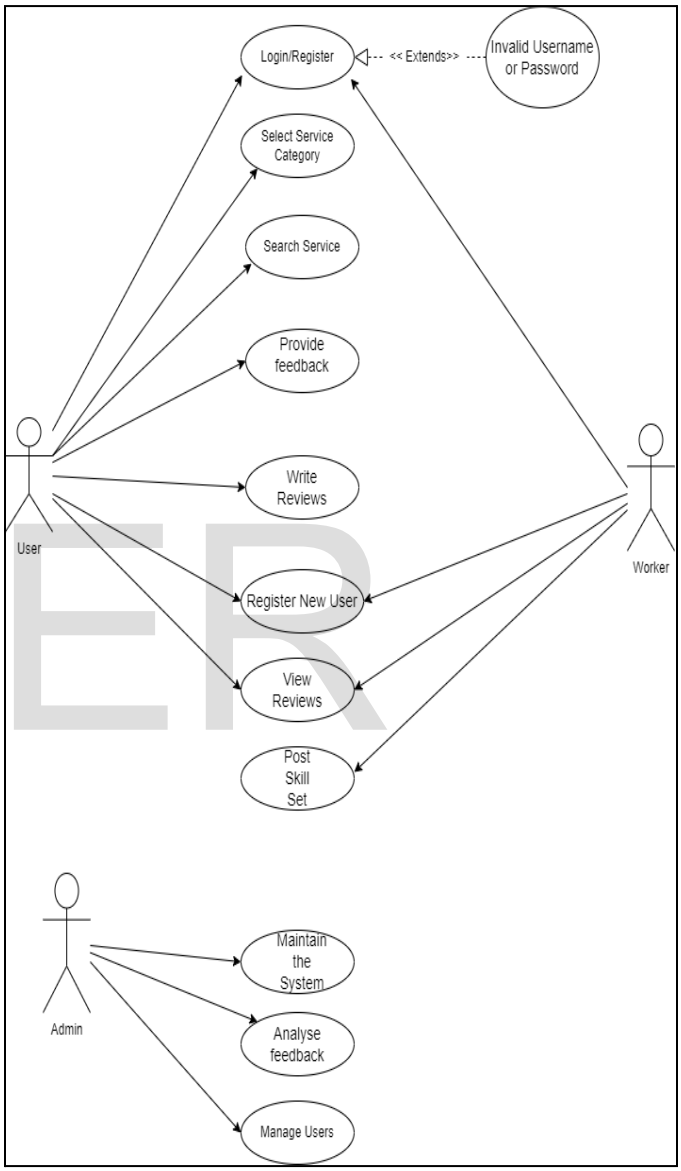

Fig.1 Use Case Diagram

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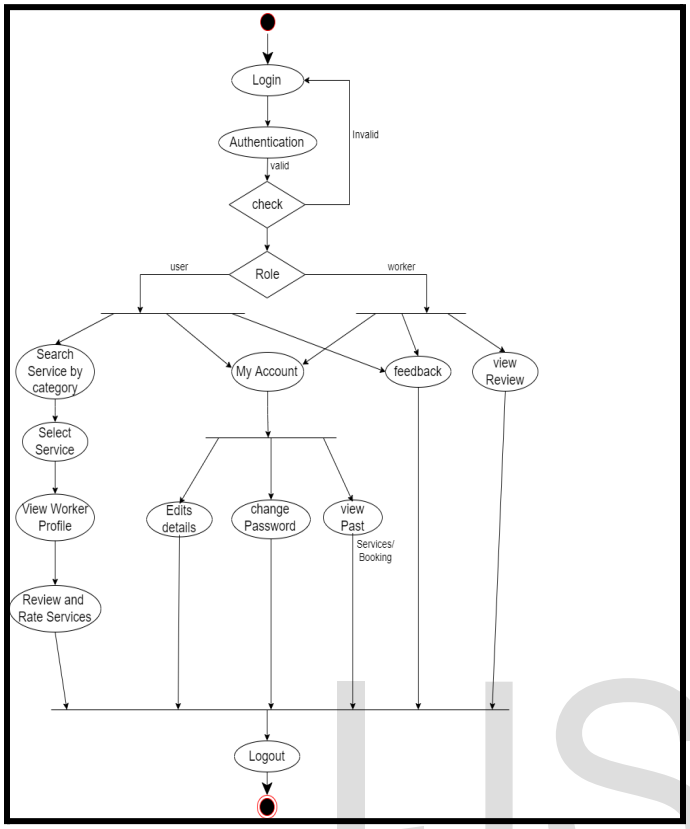

Fig.2 ActivityDiagram

As shown in Figure. 2 Activity diagram is used to model business processes and workflows. These diagrams are used in software modeling as well as business modeling.

Login: Allow the entry of only authorized users through a valid phone number.

Homepage: To view the available Skilled workers, grouped by categories.

Reviews Page: To allow the customer to view the reviews of the Skilled workers.

My Account: To allow the customer to enter user details and control application settings.

Feedback: To allow the user to give feedback about the application.

Review and Rate Service: To allow the user to rate the worker after the service has been performed.

4 Results And Discussions

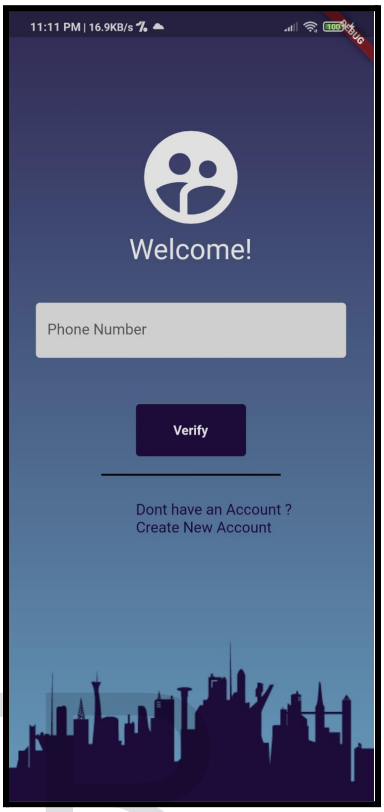

Fig. 3 Landing Page

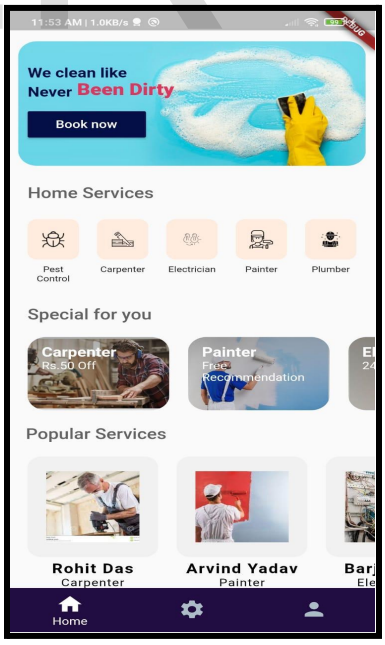

Fig. 4 Home Page

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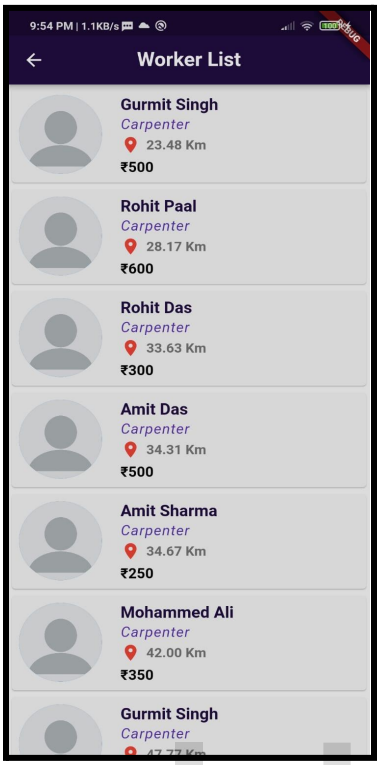

Fig 5 Category-wise Worker List

Fig 6 Skilled-worker Profile

5 Conclusions

This mobile application is an android application which provides online service ease for home services. It uses GPS to fetch the user's location and provides a list of service providers near his location. Thus making this application more dynamic, efficient and effective.

The application can further be enhanced by allowing the users to drag and drop to another location which will help the users request services at another location. For more security a QR code generated can be integrated by which the service provider can verify the user's identity and vice-versa. This application can be developed for the iOS platform.

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