Android App for Household Services

Smita R. Agre[1], Pranjal M. Ahire[2], Mansi R. Dhokale [3] Bhagyashri M. Patil[4]

Prof.D.D.Survase

Department of computer engineering of JESITMR institute of technology, Nashik

Abstract - **Dealing with household services like plumbing, pest control, carpentry, electricity, etc. is major problem in the urban areas where people are busy in their daily activities. It is also difficult because of non-availability of service-providers around a certain region/ area or locality. So, in such a situation developing an Android App is very useful which can provide all the basic household services at fingertip. As we all know, how apps have changed our lives in all aspects. So, taking this into consideration, an app is developed which will provide all the basic household services like plumbing, carpentry, electricity, etc., which will help the users in all the aspects. This app is developed using different programming languages like Java, C, etc. and using different approaches. In this application, any user after creating his profile can look up for any type of household services. The user gets a list view of all the service-providers of that particular service. Also, the user can apply filter to the list so that he/she gets a list of service providers around that particular region/ area. The user can make online payments through this pp only. It is fully secure. After completion of the job, user can also give feedback for the service. The service providers get jobs by this app, so they get employed also. This app is very useful as it provides all the services within this app only. The app is user-friendly and provides a safer environment for both the customers and service-providers.**

keywords - **Android app, Household Services,XML,ER-diagram.**

I.INTRODUCTION

- Basic household problems like pest control, [2]carpentry- repairing furniture, electricity problems, water problems- repairing the tap, etc. are very common which needs to be solved in a priority basis for the proper living.
- In this new era, advancing technology and busy life, we still have to search for the person who solves these problems of our daily life like Plumbing, carpentry, mechanical, electrical, electronic problem, pest control etc.
- So, my Android App solves this problem. The Android App is— Android App for Household Services.
- This app provides information about basic service providers like carpenters, plumbers, barbers, electrician, etc. around a certain region / area.
- With this App one can look for these service providers whenever necessary and can book order or call them and can give details of their grievance so that they can come and solve their problem
- This app is beneficiary both for persons requiring these service providers and also for the service providers as people can contact them without going anywhere which as a result saves their time and for the service providers in a way that they get jobs / orders sitting in homes.

This app is elasted with several features. Some of them are as follows—

1. This app provides details of all the service [4] providers which are required in daily life like carpenters, plumbers,electricians, etc.
2. This app is beneficial for both the persons requiring service as well as the service providers.
3. For persons requiring service in a way that they can get details of the service providers around their locality as well as around any region / area. Secondly, it saves their time as they get services sitting at home itself.
4. For the service providers in a sense that they get jobs/ orders sitting at homes.
5. This app filters out the results of these service providers according to the region / area.
6. It gives all the details of the persons providing services like name, age, address, mobile no., job experience, previous records, no. of complaints, etc.

This app provides option for filling the feedback form after they get the required services to tell others whether the person is good or not in his/ her job.[5]

The main aim of the research is to develop an android app which solves the problem of managing basic household services. Yet, there are some existing solutions available, but my research is somewhat innovative and interesting as one get all the benefits ranging from searching, accuracy, making appointments to payments in a single app. The app is elasted with many innovative features as one can navigate/ track the service providers just like the satellite view of the Google Maps. The database of the app is very strong as one can store huge volume of data and also can access previous records with ease. Other than this also, various features are present in the app which make it innovative. The interface of the app is developed in a way that all the people of every age group can use it very easily.

So, the main aim is to develop a user- friendly app which can be used by all the people of any age group and as well as all the community with proper ease and safety.

The app is developed in the IDE named Android Studio. Here, the code of app is written along with XML file which contains its layout design.

Android Studio—

Android Studio is the standard/official IDE for the development of the Android Apps. With this, one can code their apps in the main file using Java language and can provide interface to the app using XML file namely manifest.xml.[7]

Several other IDE are also there. As Android Studio is the standard IDE for Android App Development and hence it is preferred over other IDE's.

II. LITERATURE REVIEW

Household Services are the basic needs of life. If these services are not provided at time, then it affects our lifestyle.[9]

So, proper solution to these problems is necessary. In this busy life, it is not possible for everyone to go out and look for service providers in order to solve the Problem. This process is very time taking also as it involves physical work also.[6]

Sometimes, it is also very difficult to get service providers in a locality as there may be chances that he is very far away, maybe we will not able to contact him, his price is very high, etc.. In order to overcome these problems, this app is very useful as one can look for service providers of any service and book appointments.

This is beneficial both for service providers and users as well. For users in a way, as they get service by sitting at home only and by just one click and for service providers in a way that they get employed and earn money.

The app is very useful to all the persons and individuals. The app can be easily used by all the people of every age group. As all the features are present in a single app so, one finds it very useful in the present scenario.

Yet there are various other apps already available in the market. But this android app is different from all of them as this app is elasted with various features. Some of them are-

1. This app provides details of all the service providers which are required in daily life like carpenters, plumbers, barbers, electricians, pest control, etc.

2. This app is beneficial for both the persons requiring service as well as the service providers.

3. For persons requiring service in a way that they can get details of the service providers around their locality as well as around any region / area. Secondly, it saves their time as they get services sitting at home itself.[8]

4. For the service providers in a sense that they get jobs/ orders sitting at homes.

5. This app filters out the results of these service providers according to the region / area.

6. It gives all the details of the persons providing services like name, age, address, mobile no., job experience, previous records, no. of complaints, etc.

7. This app provides option for filling the feedback form after they get the required services to tell others whether the person is good or not in his/ her job.

This app overcomes various drawbacks available in previous apps and also it provides many services in a single app.

1. This app provides details of various types of service providers like carpenters, plumbers, electricians, etc. which other apps does not provide.
2. This app allows users to login/ sign up as a person requiring service or a person providing service.
3. This app allows payment via Online Payment Mode or Cash-on-Delivery Mode.[10]

III. PROBLEM FORMULATION

The problem is about developing an app which provides all the basic household services to all the people with ease.

The user has to create his ID in the app and after that he can look for any type of services like plumbing, pest control, electricity, carpentry, etc. The user is provided with a list of service providers of that service. Then user can check the profile of service provider and then can book appointment according to his choice.

The user can make online payment through this app and after successful completion of job the user can give feedback also.

Before developing this app, firstly we have to consider the problem for which we need to develop this app. So, the problem statement is—[11]

- How about developing an app which provides details of all the service providers like electrician, carpenter, plumber, cleaner and sweeper, etc. This will save time as we will get all the details and orders sitting at home.
- Just think of how easy this is for all of us, users can get all the service providers sitting at home and these all-service providers can get jobs and can earn their livelihood just because of this app.

IV. METHODOLOGY

The Android App is created using the IDE Android Studio. The source code of the app is written in Java language. With Java compiler, the Java source codes are converted into Java class files. All the resources of this file are packed in .apk file and this file can be installed in any device. [12]

The whole information is stored in the server and the database. One can access the information by

Connecting to the server. The database is so large that it can handle large and all type of data.

Firstly, the objective is set and then according to that coding of the app is done so that it meets the requirements of all the people. The app is coded and then it is checked that whether it meets all the requirements, whether it is according to the set standards.

Login and Registration- User can login to the accountif already made registration else has to make registration, then login.

Search Service- User can look for a service which he wants.

Book Appointment- User can book appointment with service provider so that he can come and solve his problem.

Payment- Customer can make payment to the service provider after completion of job.

Feedback- Customer can give feedback for the service-provider.

**Logout**- User can logout from the app as well.
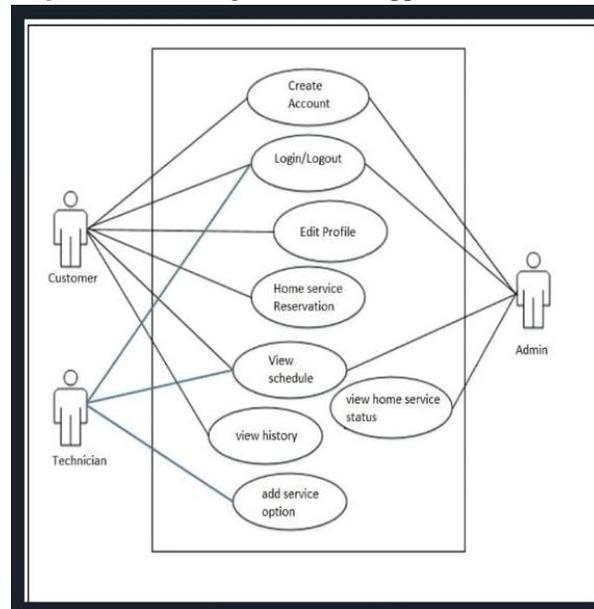
Fig.1- Block Diagram of the Proposed System

This block diagram shows the actual way followed in this app. As we can see, the user makes a request to the server and gets connected to the database. If user is new, then he has to make registration and then can proceed. Then, user makes a request for a service. If his request is accepted then his job gets completed. So, the user gets the service and after completion of job can give feedback as well.

The other side shows the block system for the service provider. In the same way like user, service provider has to make request to the server and if he is new then has to make new registration. The service provider gets a message of the requests made by various users and then accepts these requests and completes the job. After completion of job. He gets payment and his feedback is collected. [13]

The other diagram is ER-diagram of the proposed system. It shows how different attributes are related to various entities and so on.
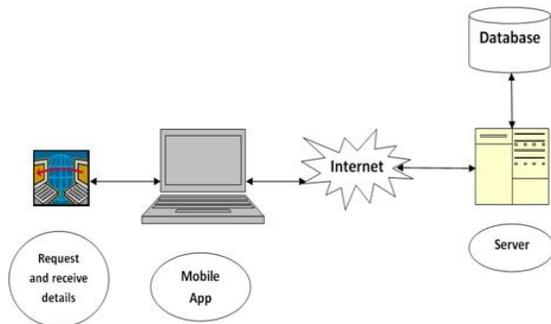

Fig.2- Architectural Diagram of the Proposed System for the App

This image shows the architectural design of the app. We can see that app is connected to the database where all the information like service provider details, customer details, etc. are stored. The database is so large that it can handle large amount of data.
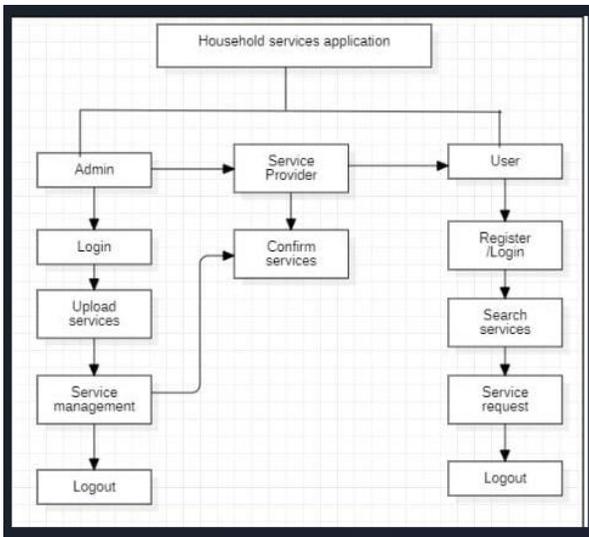

Fig.3-Facilities available to the customer/ Use-CaseDiagram for Customer

This use case diagram shows what are the various facilities available to the customers in this app.
As we can see, customer can—
1. Do registration in order to become a member of this app.
2. After successfully registering, he can login to the app.
3. Customer can search for a service and view the services.
4. Customer can book/register for a service for which he is looking for.
5. Customer can make online payments through this app.
6. Customer can make a reply to the service provider.
7. Customer can give the feedback for the service provided.
8.
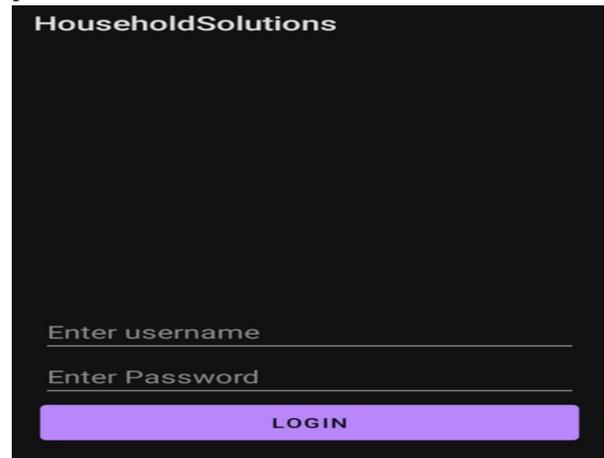
Fig.4- Login Page of the App

The screenshot is of login page. When the user clicks on login he is directed to the login page. There user has to enter the username and password for successful login. Other login options are also available like login with Facebook or login with google.

User can login with his Gmail account or by his Facebook profile after successfully registering in the app.

If the user is new, then he has to click on sign-up shown in the last, and then complete registration with his username and password.
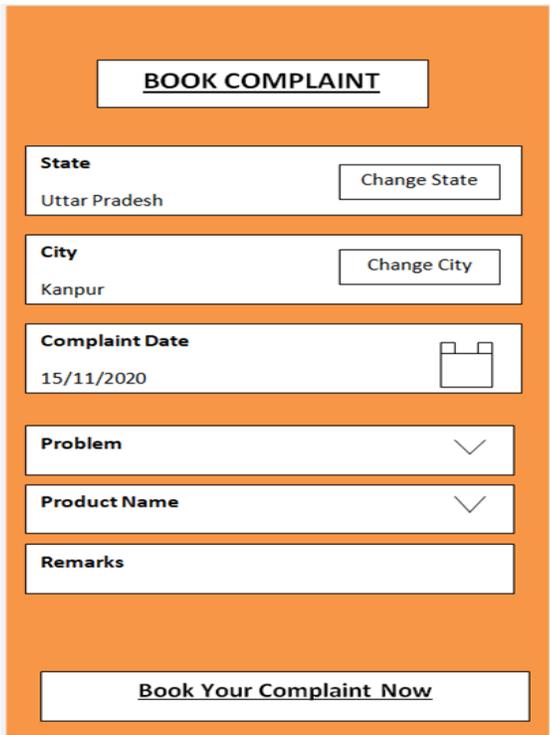
Fig.5- Complaint Booking Page of the App

This screenshot is of complaint booking page. Whenever a user has to make any complaint, he has to go on "Book Complaint" page and click on that. The page will open like this. [15]

The user has to select the state, city, and date of the complaint. Then he has to select or describe his problem and finally click on book complaint now icon.

Fig.6- Appointment Booking Page of the App

This image is of appointment booking page. Suppose user wants leaning service in his house. Then, he chooses this service and among the list of service providers he chooses one of the service provider and decides cost.

So, the above image shows this where the details like name, address, contact no. and expected cost comes. It is just like brief-summary. [14]

V. CONCLUSION

An Android Application is developed which provides almost all the basic household services. This android application provides a user- friendly and safe environment and interface for booking the basic services. It is secure as it generates the QR code which is unique for customer and service provider. It will provide regular and timely notifications, so that the user gets updated always.

So, this app is very useful to all the persons and in all aspects. It provides all the basic household services at a reasonable and affordable cost and with much ease.

Future Works--

The following features can make this app very effective --

In future, the main focus is to provide the better interface for the app. It will also provide the satellite view of the service providers and the customers, as it is provided in Google Maps. The online database storage will be made large in size so that it can be used in a better way.

It will also provide monthly statistical reports of the users and customers as well in the form of graphs and charts, which shows how much they used the app, i.e., active time and their activities in the past months.

Map navigation can make the app better. It will help the service providers to find the location of user and vice-versa. It will spot the location of both the users and service providers similar to Google maps.

REFERENCES

[1] Dr. A. K. Singh," Household Services Management and Booking", IEEE Conference, Management System, Vol no.-2, PP-125-128, ISN- 187-165, ISO- 234:261, 08/01/2005.

[2] D. Kumar, "Research on Android App Development", Scopus Journal, Manag. Services, Vol no. - 15, PP-105-108, 05/08/2016.

[3] Dr. Ashok Talwar, "Research Paper on Android App Development", IEEE Conference, Vol no- 18, ISSN-245-228, ISO- 125:162, 25/02/2012.

[4] Tom Alice, Bob Parker, "How to create an app?"

[5] Peter Bob, "Research Paper Journal on App Development" Scopus Conf., ISSN-223-252, and ISO-276:278 08/12/2008.

[6] Pradeep Singh, "App Development", Service Booking System, Dream Press, ISN- 187-145, Aug 2015.

[7] Harsh Kothari "A knowledge-based system for Android Development" IEEE Conf. on Android App and Computing Facilities, 16/12/2003.

[8] Ved Singh, "Design and Implementation of Android App", IEEE Conf., Java Handling Android Studio, 26/04/2013.

[9] Karan, "Research Paper on Household Services", IEEE International Conference on Information Technology, ISSN-145-128, ISO- 225:262, 07/02/2016.

[10] Dr. Chetrepal, "Android App Development from beginning", Scopus Journal, Vol no-6, PP- 345- 365, ISN-123-156, ISO- 345:386, 09/02/2018.

[11] B. L. Rao, "Android Studio Programming from Beginning", 19/03/2009.

[12] Naveen Pandit, "Research Paper Journal for Android Projects", Suscom, Mang. Household Services, PP- 345-187, Vol no.-23, 18/01/2020.

[13] Android Studio Projects for Beginners Step by Step Guide.

[14] Pradeep Kant- "Android App for Household Services", IEEE Conference on Computer and Information Technology, ISSN-245-228, ISO- 125:162, Vol no-25, 05/01/2015.

[15] Nirmal Rao "Research on the development of Android Projects", IEEE Conf, ISSN-245-228, ISO- 125:162, Vol no.-18, PP- 245-254, 03/02/2015.