

Service-Hub: An On-Demand Home Services Platform

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Abstract- Managing data for diverse types of home service providers can be challenging for users due to communication gaps between providers and recipients. This often leads to unexpected inconveniences for service recipients and missed opportunities for providers to showcase their skills effectively. ServiHub, an on-demand home services platform, bridges this gap by facilitating seamless two-way communication between service providers and recipients. The platform simplifies the process of finding the right service provider and ensures efficient job scheduling for providers. Additionally, a feedback-based rating system enhances the skills of service providers and ensures users receive improved and reliable services over time.

Index Terms- On-demand home services, home service platforms, Access and utilization, Comprehensive analysis.

I. INTRODUCTION

Being in the 21st century, the complexity of daily life is increasing with the advent of different socio-economic norms and practices. With the increase of complexity of daily life, physical engagement of people of different perspective is becoming very difficult, however in some cases it is quite impossible. In order to perform daily activities different types of assistance and service are required from different people. However, due to the communication gap between service receiver and service provider, people of both types are facing troubles to fulfill their goals. In India, people are also facing this problem. In order to facilitate the service receiver and service provider in marketing purpose various types of online marketing platform such as Bikroy.com [1], Olx.com [2], Sondhan.com [9], etc. are introduced.

II. LITERATURE REVIEW

The online marketing platform serves both the buyers and sellers community by establishing effective communication. In our regular life people look for different services and service provider wants to engage with service receivers. However, in India people in need of services especially for domestic purposes often have to face a toilsome experience to figure out proper service provider due to the lack of proper information accessibility and availability. For example, if the gas stove needs to be repaired, we need to contact with a technician, who can repair it. Service receivers are not mostly hassled because of non-availability

of service provider rather they are in need of proper information of service provider. On the other hand, service provider or technician cannot reach out the service receiver instantly and fails to get their jobs. However, in India, there is no sustainable integrated platform have been developed that

can act as a bridge between the service provider and service receiver, for not only a particular service but also for different types of household services. An integrated system providing the necessary information about the service provider can ensure the accessibility and availability of the information and reduce the torment of the service receiver. In this literature, we have devised a integrated platform acting as a bridge between service provider and service receiver shown in Figure 1, for necessary household service where a service receiver can get service for domestic purposes. The household chores are sub-categorized into different types such as electrical, mechanical, computer, etc. A service receiver seeking for service provider and the best suitable matched service provider's profile and contact information is provided to the receiver instantly through proposed system. It reduces the exhausting effort of the receiver of finding out the desired service provider. Based on our work, we have made the following contribution in this paper.

We have designed a platform working as a service repository that fills the communication gap between the service receiver and service provider.

Our system can suggest the most suitable service provider to a service receiver according to the location of receiver and provider.

A user feedback or rating system can be helpful for a receiver to evaluate the profile of a service provider. Though there are some under-developed systems like Sond-han.com

[9] to provide household services at doorstep in India. no real research works have been made to point out the differences of market of online services in first-world and third-world countries. Our study has the opportunity to find out those differences and build a online service providing system according to the needs of the people in India.

III RELATED WORKS

Numerous research work have been done based on this field and it is getting more popular to the researchers. They show their interests on finding the ins and outs in this sector and work to ameliorate the existing conditions in marketing sector. These research work are effective to develop the socio-economic conditions of the developing countries.



Figure 1: Architecture of service-hub

There are lots of research based on internet marketing. Researchers have delineated various features in this sector. Furrer and Sudharshan have performed their research to find out the scopes and problems in internet-based marketing [3]. They have proposed to develop a framework for finding out the problems standing along the way of successful internet-based marketing. The topics and features on internet marketing has been described in this research [4]. They have worked focusing mainly on the process, contents, and methods for successful internet marketing. Their work will be useful for further work in near future to solve different types of problems. Using the concept of integrated marketing, there is a number of works on increasing the efficacy of online marketing. Integrated marketing uses all tools in together required for marketing to improve the entire condition of marketing and all types of communication are adjoined properly [5].

IV. SYSTEM MODEL

Our proposed system has three versions namely service- hub (user version), technician-hub (technician version) and administrator version. Figure 3 and 4 show our proposed methodology and how our online system works respectively. In this section, we describe the subsystems in detail. Customer or service-receiver can order online service for household works. He can give feedback to the technicians who served them. Service-hub will be able to offer special offers to regular or special customers according to their rules and regulations. Technicians serve their customers through contact depending on problems and user locations. Technicians are also able to offer special offerings to service-hub. Admin(Controllor of online service) always assign

technicians. He is able to control the whole service, upgrade features etc. General people are also able to see general info and give feedback about their services.

Service-Hub (User Version)

Basically, user who wants to get online household service needs to create an account, otherwise he is not supposed to get any service. He has to give all the basic information- user name, password, address, contact number. An user can log in with his registered contact number and password. Besides, there is an option for updating the profile picture. For ordering service user has to-

- Choose the ordering sector like Figure 2 which is helpful for getting skilled technicians.
- Describe his problem regarding what service he wants to get.

Give the specific address where he wants to be served.

Figure 2: Types of services

After ordering, Google Map with his nearest service provider(technician) of our service-hub will be shown. He can choose by who he wants to be served. One can also view the service history like when, where, by who the order is served. He will be notified if the technician accepts his request. He can rate technician which is beneficial for service ratings.

Technician-Hub (Technician Version)

Technician should have an account. He has to give all basic information like user account as well as his rate. Admin has to permit technician's account, otherwise he cannot log in. Technician can view and accept online order based on location. If a technician accepts any order, user will be notified then. Now he is bound to finish that order.

Admin-Hub (Administrator Version)

For admin there are two options: (1) add technician and (2) view statistics.

- If any technician wants to be added, admin can accept or decline the request.
- When a technician finishes his work, user can rate him. Admin can view all the statistics- location wise (Uttara, Shahbagh etc.), type wise (Electrical, Mechanical etc.). By these ratings admin is able to know user satisfaction about service-hub.

V. SYSTEM IMPLEMENTATION

As a part of our study we have implemented this application with its three versions on android platform. The initial design presented is mostly intuition driven. We here implemented our primary design followed by the user's primary household problems according to three versions of service. Our primary locations are Motijheel, Shahbagh, and Uttara and primary service orders are electrical, computer, mechanical, etc.

User Version

The user has to create an account. If there is already an account, the user can log in and view his profile. In the user account he can order, update picture, view notification and see his history. A user can rate any particular technician only after that user has taken any service from that technician. This stops the probability of any user providing fake ratings to a technician.

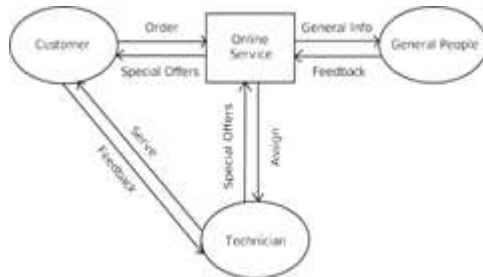


Figure 3: Proposed methodology of our system

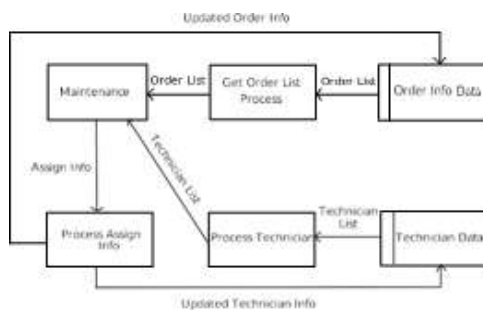


Figure 4: Data flow diagram of our system

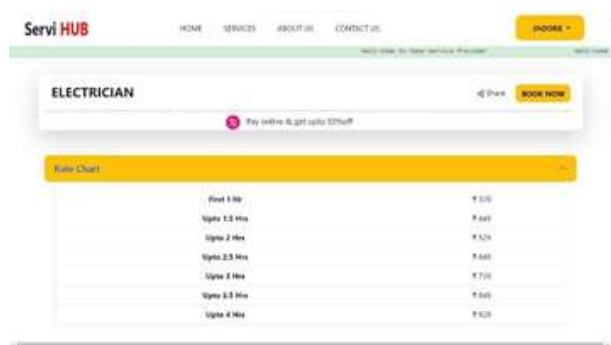


Figure 5: User rating and online order

Technical Version

Technicians can also create accounts permitted by admin. After being logged in, technicians can view the profile just like users. Technicians can view the recent orders from the account. After he has taken the order, the user will get a notification. Initially, the model will utilize default factors sourced from the IPCC database to ensure uniformity among project submissions. Consistency in the application. When the job is finished, the technician will mark the job as 'Finished'. Then the user can rate the technician.

Admin Version

Technicians can also create accounts permitted by admin. After being logged in Admin can accept or decline the requests by technicians. Admin can also view location wise and type wise statistics. If a specific location is selected then it will show statistics of all types of services in that location.

Again, in case of specific type, statistics of that type in all locations will be shown.



Figure 6: User Registration

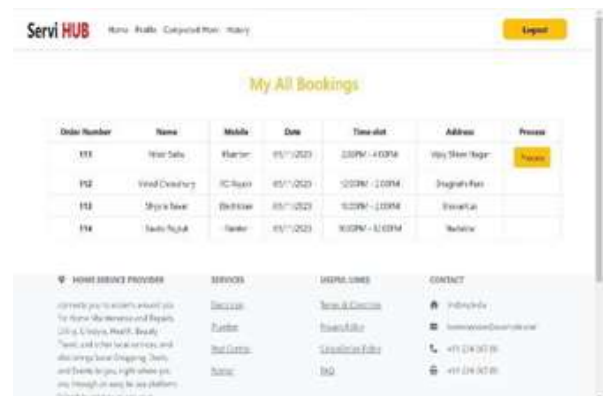


Figure 7: View orders

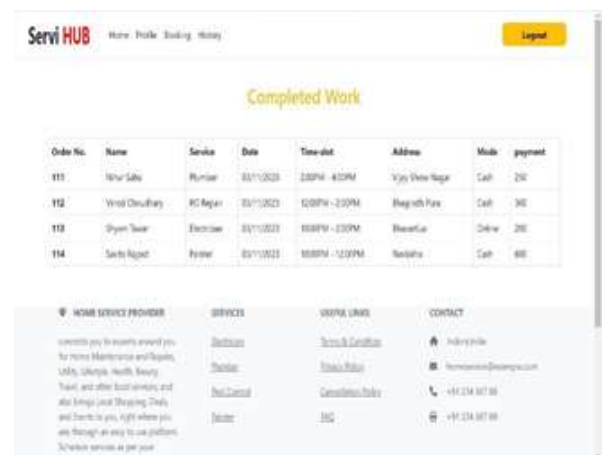


Figure 8: Finishing the taken orders



Figure 9: AdminHub : View History

Properly Sub-Categorized Services

Basically our system is divided into 3 parts - administration service, technician service, service-hub(user service).

Search with Problems and Location

In our proposed system user can search their necessary household services with locations. This is why Google Map is Figure 11: Search through Google Map added. As it is highly geographically targeted; receivers and providers know that they are talking to people who are within walking distance of their products or service like Figure 11. It is highly cost efficient [6]. Searching with problems involves in searching of customer's desired household service specifically like electricity, sanitation, masonry, carpentry, automobiles. It is efficacious for searching technicians according to their provided services. This would be of immense advantage, as it would help to build user database without too much extra efforts [7].

Reviewing Option

We have conducted this study to customer reviews. The purpose of the survey is to understand how service-hub influences our consumers as reviews impact rankings and user satisfaction. Reviews can increase conversion among receiver-receiver, receiver-technician, technician- technician and technician-admin. Service-hub offers an opportunity to have regularly updated, relevant and valuable content of our system [8], [10].



Figure 10: Process of two-way communication



Figure 11: Search through Google Map

Reporting and Blocking

In any misconduct of an user or a technician, admin can block the account of that user or technician. User and technician have the option to report a account on any kind of abuse. Admin will review the report and may block that account for a fixed time based on the exacerbation of misconduct.

VI. ORDER ANALYSIS

We have hosted a partial implementation of our system for around one week. Table I shows the number of orders of three types by users in different locations.

Table I: Order Reviewing

Type based	Location based		
	Motijnhel	Uttara	Shahtbagh
Electrical	0	8	1
Computer	1	3	4
Mechanical	1	0	1

Futre Work

We have primarily implemented necessary services which are described before. In order to improve the design of this platform, we will conduct a survey to better understand the needs of our general people in managing daily household services. In near future, we will implement other necessary service recommendations and online bidding after surveying and reviewing user satisfaction.

VII. CONCLUSION

Our study has the purpose of providing a platform for acquiring and managing the daily life services to people at their doorstep. We have implemented primary necessary service and are trying to implement online bidding. The goal of our online service platform is to make a channel between service-provider and service-receiver by pushing up necessary services. It can help in improving the lives of millions of people specially living in the third-world countries. The goal applies to general people as well as community organizations to have their online discussions with service providers. In this

study, we have focused on providing services in low cost and time. Therefore, we propose a solution focusing primarily on the people of India as a third-world country. We have initially implemented all the three versions of our applications and have studied user reviews. We have a plan to introduce it to other countries after implementing it more efficiently and for broad area type. Such a cost-saving online service system is very important and significantly impacts the lives of people from the all walks of life.

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