

Comprehensive Study of Mobile and Web Applications for on-Demand Services

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Abstract- With the rapid growth of digital solutions, on-demand service applications have emerged as valuable tools for addressing daily needs, such as home maintenance and freelancing tasks. This survey paper provides a comprehensive review of ten existing mobile and web-based applications designed to connect customers with service providers across a range of sectors. By examining each system's features, user experience, and limitations, this study highlights the commonalities and distinct approaches used to facilitate service matching. Key findings reveal that, while these applications effectively streamline access to services, they often face challenges such as limited service categories, regional restrictions, and issues with pricing transparency and real-time availability. Through a comparative analysis, this paper identifies trends, limitations, and potential improvements for future on-demand service platforms.

Index Terms- On-demand services, mobile applications, web applications, home services, service provider platforms, freelance services, service matching, real-time support, pricing transparency

I. INTRODUCTION

The rapid evolution of technology over the past decade has fundamentally reshaped how individuals approach everyday tasks, with mobile applications playing a pivotal role in this transformation. From ride-hailing to grocery delivery, many routine tasks can now be managed with just a few taps on a smartphone. This shift has brought unparalleled convenience, speed, and accessibility to consumers and has driven profound changes across numerous industries. Yet, despite these advances, certain service sectors—particularly home maintenance and repair—still face significant challenges in meeting modern consumer expectations.

Home maintenance issues, such as plumbing failures, electrical outages, and other repair needs, often require immediate attention and can place consumers under pressure to find reliable, trustworthy service providers quickly. Traditionally, individuals have relied on outdated methods like phone directories, word-of-mouth recommendations, or scattered online listings, resulting in a disjointed, time-consuming, and often stressful process. This lack of a centralized and streamlined approach to connecting customers with vetted local service providers creates friction, especially when urgent attention is needed.

Furthermore, the current system offers limited transparency in pricing, as traditional approaches generally lack options for price comparison or assurance of competitive rates. Customers, as a result, may struggle to make informed decisions and feel confident in the quality and cost-effectiveness of the services they select. The gap between the on-demand, seamless experiences that consumers expect and

the fragmented nature of the home repair industry highlights an opportunity for improvement.

In light of these challenges, several mobile and web-based applications have been developed to connect consumers with service providers across various sectors more effectively. This paper surveys and compares ten such applications, examining those that facilitate not only on-demand home services but also a range of other freelance and specialized service categories. By analyzing the features, strengths, and limitations of these platforms, this study aims to identify common issues, highlight best practices, and outline potential areas for future innovation. Using this paper to understand the current landscape of service applications, we hope to offer insights into how the industry can evolve to meet consumer expectations for convenience, transparency, and accessibility in the digital age.

II. LITERATURE REVIEW

Devisree G, et.al[1] proposed a cloud-based mobile application to hire unskilled workers, where an employer can choose the type of work required and post job requirements. Similarly, workers can select the type of work they are interested in and submit a request to the employer. If the worker's profile matches the job requirements, the employer can hire the worker. However, a drawback of this system is that the types of work are predefined, limiting both employers and workers to choose only from those specific categories.

Puneet V, et.al[2] proposed a web application based on Django, where data for specific categories of workers, such as carpenters and electricians, is preloaded into the database.

Users must log in to the website and select the service they require. Based on their selection, relevant details such as the worker's name, contact information, and location on a map are displayed, enabling users to contact them directly. However, a limitation of this application is that it only displays service provider details available within a fixed region.

K. Aravindhana, et al.[3] developed a system for on-demand home services, where users can request services from those offered. The admin assigns a service provider based on the requested services. Service providers can add their services to the portal and view the assigned services given by the admin. Here, the admin acts as an intermediary between the user and the service provider, which may cause delays in the confirmation of services.

Lily Puspa Dewi, et al.[4] proposed an application in which the services offered by freelancers are displayed along with their charges. Employees can post job details, including optional images, and choose a Freelancer from those who respond. Employees have the ability to edit or delete job posts and can also check how many views each post has received. Additionally, Employees and Freelancers can chat with each other. The only limitation of this application is that it focuses exclusively on online services.

Neale A. Dagdag, et al.[5] proposed an application named "E-Hub for Skilled Workers," where the user selects the type of service they require. The system displays a list of skilled workers located near the user's area. The user can choose their preferred skilled worker, who can then accept or decline the request. If the skilled worker accepts, the user confirms the booking. The skilled worker arrives at the user's address and performs the requested service, after which the user pays the skilled worker. The application also includes a feedback system. However, a drawback is that payment is only made after the service has been completed, which creates a risk that the customer may pay less than the agreed amount.

N.M. Karen C. Cababasay, et al.[6] proposed a mobile application where customers can book service providers based on their needs, and service providers can accept or decline the request. Additionally, service providers can list their services along with their availability. The only limitation is that service providers complete requests based on their availability, so real-time support may not always be available.

Allan Daryl A. Ancheta, et al.[7] proposed an application named "EL-service YU," where customers can book errand services, such as ride-hailing, deliveries, or personal errands, during their busy schedules. However, a drawback is that the details of the service provider are not given to the customer, which can raise security concerns.

Mahfuzulhoq Chowdhury, et al.[8] proposed an application for immediate assistance for people in Bangladesh. Users can request assistance through the application, and service providers can view the requests and list their services. The requests are handled as quickly as possible, with communication facilitated through in-app messaging. A limitation is that online services often take 5-7 days for goods delivery.

Eric B. Blancaflor, et al.[9] proposed a pet service application where users can request pet sitters based on the availability of service providers. The sitters can manage requests, including pet details, care instructions, and owner contact information. Users and sitters can communicate through in-app messaging, and there is also a feedback system. One drawback is that users may encounter unclear pricing structures, leading to misunderstandings about the costs.

Mamunur Rahman et al.[10] proposed an application named "Fit Online," where users can search for fitness services, select a service, make a payment, and receive a digital e-ticket. Vendors can create and customize business profiles, set availability, and add, update, and promote fitness services with descriptions and pricing. However, a limitation is that vendors may be unreliable or even fake.

III. DISCUSSION

The comparative analysis of the ten mobile and web-based applications reveals several common trends and limitations in the on-demand service sector. While these applications offer valuable solutions for connecting customers with service providers, they also face challenges that impact user experience and service quality. By examining these trends, we can identify areas for improvement and innovation in future service platforms.

One common limitation across many applications is the pre-defined nature of service categories, which restricts users to a fixed set of options. This can limit the flexibility and variety of services available, preventing users from accessing specialized or niche services. To address this, future applications could incorporate a more dynamic and customizable approach to service selection, allowing users to request specific services that may not fit within traditional categories.

Another key limitation is the lack of real-time support and availability in some applications. Users may face delays in service confirmation or may be unable to access immediate assistance when needed. To enhance user experience, future applications could implement features that provide real-time updates on service availability, enabling users to connect with service providers quickly and efficiently.

Additionally, issues with payment methods and pricing transparency are common challenges in many applications. Users may encounter unclear pricing structures, unreliable vendors, or payment delays, leading to misunderstandings and dissatisfaction. To improve trust and transparency, future applications could integrate secure payment gateways, clear pricing models, and user reviews to ensure that users can make informed decisions and feel confident in the services they select.

IV. CONCLUSION

In conclusion, the on-demand service sector has witnessed significant growth with the rise of mobile and web-based applications designed to bridge the gap between consumers and service providers. Our analysis of existing applications highlights both the advancements and persistent challenges within this sector. While these applications successfully address key consumer needs by providing accessible platforms for a variety of services, they also reveal areas requiring substantial improvement.

The limitations identified—such as rigid service categories, limited real-time support, and issues with pricing transparency—point to opportunities for future innovation. By enhancing flexibility in service selection, ensuring real-time availability, and improving transparency in payment and provider reliability, future applications can better meet the evolving expectations of users.

As the home services industry continues to evolve alongside advances in mobile technology, applications should offer a promising solution that aligns with the expectations of the digital age. By providing a convenient, transparent, and scalable platform for both customers and service providers, it represents a step forward in the digitization of services, catering to the demands of a modern, fast-paced world.

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