Survey on Digitalizing Blue-collar Worker Services

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Abstract: In today's busy life schedule, dealing with household services like plumbing, carpentry, electricity, etc., is a major challenge. Household service providers can effectively tackle this problem by offering basic services that are required for the proper running and maintenance of the household. In this case, developing a mobile application capable of providing all basic household services would be ideal. In this paper, it is proposed to develop "WorkIT" a platform that provides customers with easier and faster access to all available service providers based on their needs.

IndexTerms - **Blue-collar worker services, Household services, Mobile application, Service beneficiary, Service provider.**

I. INTRODUCTION

The main purpose of the paper is to develop a mobile application that handles basic household service management tasks. The proposed system is innovative and provides an edge over existing solutions [1]-[15] because it combines all the features such as searching service providers, posting service requirements, interacting with service providers, and booking services into a single app. The app is beneficial for both service beneficiaries and service providers. Users can log in as either a service beneficiary or a service provider in this application. The service beneficiary receives a list of all service providers who offer specific services, and he or she can also use a filter to get a list of service providers in that particular region. After completing the task, the user can provide feedback on the service provider's performance. The app is extremely useful because it combines all of the services into a single app.

The proposed system addresses issues encountered when hiring blue-collar workers who perform manual labor and are paid on an hourly or piecework basis. The primary goal of the proposed system is to develop an application that will connect the target users. Service providers and service beneficiaries are both target users. Services beneficiaries can post about their service needs, and service providers will bid on those posts. The service beneficiaries can review the bid request as well as the service providers' profiles and decide whether to accept the proposed offer. Furthermore, the service beneficiaries and service providers can communicate to gain a better understanding of the specifications of the task. Service providers can also upload images as posts on the platform referring to previous services they provided; this will assist service beneficiaries in hiring the right service provider. After completing the assigned task successfully, service beneficiaries can rate the service provider's work on their profile. As a result, the platform helps to bridge the gap between service providers and service beneficiaries.

II. REVIEW OF PREVIOUS STUDIES

Agrawal, D.K.K., Goel, T., Gariya, T. and Saxena, V. [1] presented a solution called "AtDoorStep - An Innovative Online Application for Household Services" which will help workers, small businessmen, retailers, etc. to connect to the customers by removing all the mediators between them and thus cost would be fair. Service providers are authenticated using Aadhaar (KYC) to avoid fraud and false identity. The framework is designed such that the application can be used by both the customer and the worker, who may not have a high level of education. Workers can even specify their per-hour wage so that the customer can book them accordingly. The ones not mentioning the allowance, and their work charges will be specified by the application. The service would start only when the customer enters the OTP in the application given by the worker at their doorstep in order to ensure the genuineness of the service provider.

Nikam Poonam R., Gunjal Trupti T., Jadhav Priti V., Parakhe Sonali K., and Ms. Prachi S. Tambe [2] created a platform for household services like painting, pest control, home cleaning, plumbing, electrical works, and carpentry services. It is a marketplace for household services with standardized rates and no need for customers to bargain over prices. Customers provide the details about the services required along with pictures and proceed with the payment. Servicemen from the organization will reach out to deliver the service once it has been booked and confirmed. Once the service is completed, customers have to rate and provide feedback for the overall service. A return policy or re-service may be offered to customers who are dissatisfied with the service they received, for valid reasons.

Aastha Malvi, Apoorwa Gawande, Richa Udaypurey, Sonal Dahare, and Shivam Tekpure [3] developed a system "Online Technician Service Provider (TSP) for Home Services" which aims to fulfill client requirements by connecting users and service providers online. This web portal has 3 types of users - Admin, who has authority to access customers and technician accounts,

Technician, who is the service provider and customer, who will avail the services. It also provides a bulk-mart module and vehicle rent module which allows customers or technicians to purchase a product in bulk and to book a vehicle for rent respectively. A confirmation acknowledgment containing all of the details of the selected services is sent to the user following the completion of the payment. Technicians will arrive at the customer and provide the service once the appointment has been made and confirmed. Once the service is completed, if the customers are unsatisfied with the service provided then with some valid reasons a return policy is approved, or a re-service may be done to make the user feel convenient with the service.

G.H.A.J. Sarathkumara [4] claims that it is difficult to find the most suitable service provider for the relevant service. Even if one finds someone to give the service, in certain cases, the individual does not have the necessary skill set or expertise, and hence supervision is required. The developed system is a mobile responsive web-based application named "Mister Fix" that allows people to find the best service provider for their household services in a short period of time depending on the location. "Mister Fix" has 3 portals namely the service provider's portal, the service seeker's portal, and the admin portal. Service seekers post service requests and online payment is made following which service providers will receive a notification and they can accept or reject the request. The admin portal can be used to assign supervisors to a relevant service provider if supervision is needed by any of the service seekers. The system also offers pre-estimated budgets, which may assist service seekers in estimating the overall cost.

M. A. Berlin, B. Ganesh, C. Venkata Sai, and K. Maneesh Reddy [5] implemented an Android app-based system for performing construction-related services such as plumbing, cleaning, painting, coloring, and other housekeeping tasks. Whenever a client is requesting a construction-related home service, the mobile app first retrieves the location of the client through the GPS system. The client can be able to choose the required service from the list of available services. The limitation of this application is that it is available only on Android OS.

Bandekar, S. and Avril, D. [6] developed "Domestic Android Application for Home Services" which catered to the requirements of a client who wants to provide domestic home services online by bringing together the users and service providers. It has a wide scope for integration of maps which allows users to drag and drop to another location. Users and service providers must register on the app. Once a user specifies his or her request for a service, the user's location is fetched using GPS, which retrieves the latitude and longitude. Based on the user's current location, the application attempts to find the nearest service provider by retrieving the service provider's latitude and longitude, and then the nearest service provider is assigned to the requested user via SMS to fulfill the user's request.

Kamakshi Gupta, Aniket Tewari, and Rohit Basra [7] developed an Android application for Household Services which provides information about basic service providers like carpenters, plumbers, barbers, electricians, etc. around a certain region. When needed, one can look for these service providers and book an order or call them with details of their tasks so that they can come and solve their problem. In this application, the user makes a request to the server and gets connected to the database. If the user is new to the application, he or she must register in order to become a member. Customers can search for a service, view the services that are available, and book a service that they require. Customers can use the application to make online payments and respond to service providers. Based on the work performed, customers can provide valuable feedback to the service provider. It generates a QR code that is unique to both the customer and the service provider. Users receive timely notifications via this app, ensuring that regular updates are available. It easily provides all of the basic household services at a reasonable and affordable cost.

Mr. Swapneel Vaidya, Ms. Shraddha Khadye, and Ms. Sonika Khanduri [8] presented a system called "Meteir - A Service Provider Android Application" that provides a medium for domestic work. The user can book highly skilled professionals and have their services completed on time with a single click. To meet the needs of the users, the system incorporates various services such as those of an electrician, carpenter, mehendi artist, photographer, cleaner, pest control, and so on. Metier provides two logins, one for the user and one for the service provider. During registration, all relevant information about the user is recorded. The uploaded documents by the servicer are scrutinized by the admin, and the eligible servicer is registered on the app as a servicer. The customer's location is determined, and the services in the traced locality are retrieved from the database and displayed to the customer. The customer selects the services they want and submits a request to the servicer. He or she can then contact the servicer and manage the rest of the process. The payment is made using the Paytm API, which is integrated into the application. Based on the work performed, the customer provides feedback to the servicer. Metier makes use of Google Maps and is very useful for the user's real-time movement. The service provider can also be rated by the user.

N. M. Indravasan, Adarsh G, Shruthi C, Shanthi K, and Dadapeer [9] built a system that offers a wide range of services such as plumbers, movers, and packers, cleaners, electricians, painters, taxi service laundry, and many others. To book a service, a very simple process is followed, and the system sends a confirmation email about the chosen service. People can select the specificity of the service required by uploading an image of the desired specification. After that, the customer who wants to use the services should go through the registration and login process. If necessary, a customer can upload a file describing the services. Once the request has been completed, the customer can proceed to the payment process and confirm service. After the service has been completed, the customer can rate the service. In the worst-case scenario, if the customer is dissatisfied with the service, they can initiate the return policy process.

The system "Mazdoor - Online Application for Household Services" developed by Kunal Bhalgat, Sayali Dessai, Rajeshri Mayanaikar, Aaditya Pradeshi, and Bhagyashree Dhakulkar [10] aims to help customers connect with daily wage workers. The main goal is to help customers find useful service providers such as plumbers and electricians. Anyone, whether a customer or a service provider, can register through the portal by providing basic information such as an email address, password, age, gender, and phone number. While filling out the details, the service provider must include additional information such as their Aadhar card number and educational qualifications. After completing the registration process, an OTP is generated and used for verification. Customers can narrow down the service providers by mentioning their location. The customer requests a service and then pays for it when it is completed. The reviews posted by customers help to rate the service providers and can be viewed by the admin so that any complaints can be addressed. Both the customer and the service provider receive a request confirmation. There are three different login systems for admins, users, and service providers. When a customer logs into the system, he or she can search for the service that is required. When a service provider logs in, he or she can edit their profiles and access requests for specific services. When the admin uses the system, he or she has access to all information policy data and can edit or delete items.

Kesar Gadiya, Tanishq Kundiya, Avadooth Dhumal, Akshad Kalashetti, and Prof. Sunil Sonawane [11] created a website that allows customers to find services such as plumbing, electrical works, mechanical issues, pest management, and machine repair. It

also offers facilities like security, online payment, and map navigation. The system consists of actors consisting of a service provider and a customer. The administrator has initial rights to access and modify the application. Customers request the services they require. After creating an invitation, the customer can contact the service provider. To substantiate the service, the customer must go through the payment method and rate the customer service after completing the service. Once the service is completed, and in worst case scenario, if customers do not appear to be satisfied with the service they receive, they will fill out the feedback, and if the consumer remains unsatisfied with the service within three days, the customer will receive a refund or may apply for a subsequent service using the return policy method.

Marina Allahyar, Abdulraof Naseh, Yasamin Naeemi, and Abdul Rahman Ahmad Dahlan [12] developed "UniqueService Platform - Trusted Service Platform" for housework. It is a website and mobile app that people can use anywhere to find jobs and workers who meet their needs. It intends to create a conceptual business model to assist needy people by providing an effective service provider app via a mobile and web-based platform. The methodologies used are benchmarking, business model canvas, four lenses innovation, and value proposition design. The organization serves as a link between service providers and service seekers. Customers can register, log in, and book a service, after which they can select their current location. After booking a specific service, the customer can rate the work and provide valuable feedback.

Kamal Dharani, Sania Bhatti, Amirita Dewani, Eman Rajput, and Areeba Ayaz [13] developed "Renovate-It", a system that can communicate with the user and experts with various skills. It includes Google Maps and features such as navigation and current location to enable geo-based searching and hiring. Users can use markers on Google Maps to select a group of workers. The app has four worker categories: decorators, electricians, mechanics, and plumbers. The Android app was created using the agile software engineering methodology. After installing the app, users must register and log in. The customer's main activity interface includes Google Maps with four floating buttons (decorators, electricians, mechanics, and plumbers) and an order button that remains disabled until the user selects one of the four. Users can order the activity based on their needs. An order with a brief description is written and sent via push notification to all nearby groups of workers chosen by the customer.

Nurul Ain Syamina Binti Noorafandi et al. [14] developed the "ServicePort" system to help people find local service workers for household maintenance, as well as a platform that allows service providers to promote their jobs through digital platforms. It is a business model that provides a web and mobile app through which people can hire professional home services such as plumbers, electricians, gardeners, cleaners, and others. The app, which is available in all Malaysian states, allows the community to choose their preferred home service experts. The digital platform employs four modules: login, booking a service, selecting a specific location, and payment.

The authors, Shrestha Sharma, Nabhya Jha, Nimal Nainan, and Shweta Tripathi [15] developed a portal "Consumer-Service Provider Connect" that allows users to either provide or seek services. Consumers and service providers can both post their specific needs and seek each other out. The jobs could be for a short or long period of time. Customers can choose from a wide range of service providers, such as teachers, plumbers, electricians, carpenters, and others. A new user must register by providing appropriate credentials, whereas existing users can log in directly by entering their email address and password. New users must first identify themselves as either a customer or service provider, after which a registration form will be displayed. Service providers must enter the service that they will offer. If the entered data is correct, the dashboard page appears; otherwise, a page stating that the details are incorrect with a link to log in again appears. Customers can view and edit their profiles. Customers will first search the available service list for the required service. If the service is not available in this system, the consumer can look for another option. The customer must then specify the service's details (such as the date, time, and description). Requests will be sent to all service providers registered in the system after clicking the submit button. The customer will be assigned to the service provider who accepts the consumer's request first.

Pathak, R., and Salunkhe, P. [16] investigated Urban Clap customer expectations and satisfaction levels in beauty services with a focus on Pune. Urban Clap is a service marketplace app that connects customers with service professionals. Their strategy is to connect as many customers to the Urban Clap platform as possible in order to make their customers' lives easier and more comfortable. There is a significant correlation between customer expectations and satisfaction with the beauty services offered. However, service quality could be improved further by ensuring that service providers arrive on time, that a toolkit with all necessary accessories is provided, and that service providers have a thorough understanding of the products they use. Thus, the success of Urban Clap's business is heavily reliant on its ability to meet the expectations of its customers.

Table 1 Comparison of research papers on a proposed system for online home service providers

Ref No.	Publisher and Year	Technologies Used	Proposed System	Advantages	Disadvantages	Conclusion
[1]	Journal of Xi'an University of Architecture & Technology, 2020	Flutter, Spring, MongoDB, Firebase, Google API	"AtDoorStep" application contains three modules: Registration, Booking, and Service Module. Customers can sign up for an account, log in, and make service reservations. Once the booking is complete, the request is sent, and the customer is given information about the employee who will be reporting for duty. Only when a customer enters the OTP given by the worker and it matches, workers can begin	Workers are verified and their Aadhaar card will be linked with the "AtDoorStep" app to avoid fraud and false identity. Customers have to enter OTP provided by the service provider this ensures the genuineness	Workers are unable to entice clients by displaying their prior work. Customers and staff must use external communication channels since the "AtDoorStep" app does not offer an in-app chat feature.	The "AtDoorStep" app concentrates on getting rid of middlemen between customers and service providers, which lowers the cost.

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			providing services. On the part of the service provider, all employees will undergo verification, and their Aadhar cards will be connected to the "AtDoorStep" app. They must register themselves, stating the type of work they do, the services they can offer clients, and the per-hour rate they will be paid.	of the service provider.		
[2]	International Research Journal of Engineering and Technology, 2019	-	Customers can register, book a service by providing service information and an image, and confirm the booking by making a payment. Following this, servicemen from the company will approach to provide the service. Customers evaluate and comment on the overall service after it is finished.	To eliminate haggling between clients and service providers, standard market rates are advocated. If the consumer is dissatisfied with the service, a return or re-service policy is offered.	Since a middleman is involved, there is potential for commission, which means that employees might receive inadequate pay or customers might be charged high prices.	The developed solution aims at providing household services at a standardized price without having customers search for the service provider on an app.
[3]	International Journal of Engineering Applied Sciences and Technology, 2020	MySQL Database, MySQL JDBC Driver Connector 8.0, JSP (JDK_8.01 toolkit) Java (j2se, j2ee)	Application users can be categorized as administrator, customer, or technician. Admin has access rights to customers. Users can log in and make service requests through the service request module, which is provided by technicians. Using the Confirm Service Module, technicians can verify services. Customers or technicians can buy goods in bulk using the bulk-mart module. They can reserve a rental vehicle using the vehicle rent module as well. As soon as the payment is made, the user receives an acknowledgment, and technicians head over to the client to provide the service. After the service is finished, clients rate the technicians and offer valuable feedback.	Provides users with additional functionalities through modules like the bulk-mart module, the vehicle rent module, and the payment module.	There is no in-app chat feature to communicate with providers about job requirements. No verification of the technician is done.	The main benefit of the system is that it gives customers and technicians a location-based platform to connect and schedule services.
[4]	Digital Library of University of Colombo School of Computing, 2020	WAMP Server, phpMyAdmin, MySQL Server, PHP, HTML5,	The application "Mister Fix" has 3 portals namely Service Provider's portal, Service seeker's portal, and Admin portal. Service seekers post service requests following which	Assigns supervisors to monitor the service provider's work.	There is no portal for supervisors and hence supervisors have to be	"Mister Fix" provides a platform to service providers and service seekers.

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		CSS3, JS, jQuery	service providers will receive notification and they can accept or reject the request. The admin assigns supervisors to the service provider if service seekers request it.		assigned by the administrator.	Along with it, clients may ask for supervisors with industry knowledge who can monitor service providers' performance.
[5]	Annals of R.S.C.B, 2021	PHP framework, Android SDK, Redis, Python, Java	An app that allows customers to communicate with service providers offering construction-related services. Online booking is available for both slots and types of services. ensuring client fulfillment.	The app is simple to use. Excellent customer service is provided by skilled workers. Payment options are flexible.	There is no map integration. The app is exclusively available for Android users.	An app for offering plumbing, cleaning, electrical repair, and maintenance, building maintenance and painting, and other construction-related online home services. Work allocation, login pages designed for the admin and client, and a customer feedback module were integrated.
[6]	International Journal of Computer Applications, 2016	Android SDK, Eclipse, Java, MySQL	The app requires both users and service providers to register. Once the user specifies his service request, his location is retrieved using GPS, which returns the latitude and longitude. Based on his current location, the application will try to find the nearest service provider by retrieving the service provider's latitude and longitude, and the nearest service provider is then assigned to the requested user by sending SMS to cater to the users' request.	Users can rate and comment on the service provider. Users can look up the service type, enter a date and time, and then look up the service provider.	The application lacks an in-app chat feature through which customers and service providers can communicate with one another. Customers cannot view reviews or ratings posted by previous customers. The app is only available for Android users.	This application offers domestic home services such as electrical services, plumbing services, and carpentry services to users. This application uses GPS to determine the user's location and dynamically assigns the nearest service provider based on his current location. As a result, this application appears to be more

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						dynamic, effective, and efficient.
[7]	IJIRT, 2021	Android Studio, Java	Customers can search for a service, view the services that are available, and book a service that they require. Customers can use the app to make online payments. Based on the work performed, customers can provide valuable feedback to the service provider. To verify service providers, the application generates a QR code that is unique to both the customer and the service provider. Users receive timely notifications via this app, ensuring that regular updates are available. It easily provides all of the basic household services at a reasonable and affordable cost.	The app is easy to use. This app allows users to fill out a feedback form after receiving the required services in order to tell others whether the person is good or bad at his or her job. It offers all basic household services at a reasonable and affordable cost, as well as with great ease.	There is no in-app chat system for customers and service providers.	An Android application is being developed to provide nearly all of the basic household services. This Android application offers a user-friendly and secure environment as well as an interface for booking basic services. It is safe because it authenticates service providers by creating a QR code that is unique to both the customer and the service provider. It will send out regular and timely notifications to keep the user up to date. As a result, this app is extremely beneficial to everyone in every way.
[8]	IJERT, 2021	JavaScript, Android Studio	"Metier" provides two logins, one for the user and one for the service provider. The uploaded documents by the service provider are reviewed by the admin, and the eligible service provider is registered on the app. The customer's location is determined, and the service provider in the determined locality is retrieved from the database and displayed to the customer. The customer selects the services they want and submits a request to the	It has two login systems for the user and the service provider. The app's user interface is simple to use and understand. This application makes use of Google Maps and is useful for the user's real-time movement.	Installation of the app should be easy so that a number of users can install the app. Other payment methods are not included other than Paytm.	The app's goal is to satisfy both customers and service providers. The design of user registration, tracking customer location, and retrieving information about available services to the user were

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			servicer. He or she can then contact the service provider and manage the remaining activities. The payment is made using the Paytm API, which is integrated into the application. The customer then provides feedback on the service provider's work. "Metier" uses Google Maps. The service provider can also be rated by the user.	After receiving the service, the user makes payment through the system's integrated Paytm API and can also rate the service provider.		studied and implemented.
[9]	IJERT, 2018	WordPress, PHP, SQL	The system includes three actors: an administrator, a service provider, and a customer. Admin has access and modification rights to the website but must log in to do so. Customers who wish to use the services must first register and log in. If necessary, a customer can upload a file that describes the services. Once the request has been completed, he or she can proceed to the payment process and confirm service after the service has been completed. In the worst-case scenario, if the customer is dissatisfied with the service, they can proceed with the return policy process. Finally, a service provider should also go through the registration and login process and they should proceed with files uploaded and once the service is confirmed they are informed to provide the service and when done after service if the customer is dissatisfied with it based on the customers review if required, they should provide the re-service.	If the customer is not satisfied with the work done by the service provider, the return policy is implemented.	Other than MasterCard users, the app lacks a payment system method. Because there is no direct communication between the customer and the service provider, a chat system could be used.	The proposed system offers several services by bringing service specialists to your door easing the burden of finding in-house solutions for services. Users can access well-qualified professionals in home cleaning, plumbing, furniture maintenance, electrical work, appliance repair, house painting, vehicle service, and many other services from anywhere and at any time.
[10]	IJSRCSEIT, 2021	Flutter, Firebase	This website is open to all users, whether they are customers or service providers. Along with the basic information, the service provider must fill out some additional fields, such as their Aadhar card number and the services they offer, such as plumbing, electrician, carpenter, plumber, and	There are three types of login systems: user, admin, and service provider. It is secure because after the service provider fills out all of the	The system lacks a map navigation system that allows the user's current location to be tracked. A chat system between the service provider and	The application makes it easier to find an appropriate service provider by providing detailed information about the

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			site worker. When the user completes all of the fields, an OTP is generated and used to verify the user's account. The location can be used to find service providers. When a user requires a specific service, they can submit a request. After submitting the request, the user is directed to the system's payment module. The user and the service provider both receive confirmation of the request. The user can post their complaints and feedback about the services provided. The reviews posted by customers help to rate the service providers and can be viewed by the admin so that any complaints can be addressed.	details, an OTP is sent to ensure that all of the details are filled out by the service provider. The user can provide useful feedback on the service provided by the service provider. Admin has the authority to change or delete any information. Regional languages such as Marathi and Hindi are supported by the app.	the user can be implemented to clear up any confusion about the service.	service provider, allowing users to meet their service requirements. The system is extremely useful because it allows users to contact skilled laborers with a single click.
[11]	IJRASET, 2022	Flutter, Firebase	The system is made up of actors who include an employee and a customer. The administrator has the initial access and modification rights to the application. Customers will request the services that are available to them. Once an invitation has been created, the consumer can contact the employee. Once the employee receives the request, they must travel to the geographic location where the requested service is provided. To substantiate the service, the consumer must go through the payment method and rate the consumer service after completing the service. Once the service is completed, and in worst case scenario, if customers are dissatisfied with the service they received, they can fill out a feedback form, and if the customer remains dissatisfied with the service, the consumer will receive a refund or apply for future service within three days using the return policy method.	The customer can pay for the service provided by the service provider while also providing valuable feedback on the service provided. If the customer is dissatisfied with the work done by the service provider, a refund is provided to the customer within three days using the comeback policy method, and the customer can reorder a new service.	There is no direct communication between the customer and the service provider; therefore, there is no chat system.	The system is designed in such a way that its capability can be expanded in response to user demands for essential services.

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[12]	International Journal of Computer Science and Information Technology Research, 2016	-	The developed system is a website and mobile app that people can use anywhere to find jobs and workers who meet their needs. It intends to create a conceptual business model to assist needy people by providing an effective service provider app via a mobile and web-based platform. The organization serves as a link between service providers and service seekers. Customers can register, login, and book a service, after which they can select their current location. After booking a specific service, the customer can rate the work and provide valuable feedback.	Customers can rate the work of service providers.	Only android users can use the app. App lacks navigation of maps to search for available services. Chat systems for communication can be utilized for clearing queries from the customer side.	The app is useful and beneficial to society, particularly in terms of better and more efficient time management.
[13]	International Conference on Computing, Mathematics and Engineering Technologies, 2018	Android SDK, MySQL, JavaScript, PHP, HTML, CSS, Bootstrap, FCM	The developed system is an Android app that can communicate with the user and experts with various skills. Users can use markers on Google Maps to select a group of workers. The app categorizes workers into four categories: decorators, electricians, mechanics, and plumbers. The main activity of the customer's interface contains Google Maps with four floating buttons (Decorators, Electricians, Mechanics, Plumbers) and an order button that remains disabled until the user selects one of the four floating buttons. Users can customize the activity to their specific needs. In the form of a Push notification, an order with a brief description is written and sent to all nearby groups of workers chosen by the customer.	The application includes Google Maps and features such as navigation and current location to enable geo-based searching and hiring. It is convenient for a large group of people to use.	Customers are unable to pay service providers online. Customers cannot rate service providers based on the quality of their work. Fake account recognition is not possible. It is less secure because it lacks strong authentication.	People's lives have become more exhausting and hectic in the technological era. "Renovate-It" is an app that assists customers in locating technical and skilled workers in their area.
[14]	International Islamic University Malaysia	-	The system's goal is to help people find local service workers for household maintenance, as well as to provide a platform for service providers to promote their jobs through digital platforms. It is a business model that provides a web and mobile app through which people can hire	Customers can book a specific service from the Malaysian state community. Simple to use and convenient.	Maps can be added to track service providers in real-time. There is also scope for various payment gateways through which customers can	The app for Malaysian state users to search for service providers was implemented.

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			professional home services such as plumbers, electricians, gardeners, cleaners, and others. The app, which is available in all Malaysian states, allows the community to choose their preferred home service experts. The digital platform employs four modules: login, booking a service, selecting a specific location, and payment.		pay service providers for their work.	
[15]	International Journal of Scientific Research & Engineering Trends, 2021	Android, Java	Consumers and service providers can post their specific needs and find each other. Customers would have access to a variety of service providers, including electricians, plumbers, teachers, carpenters, and so on. Service providers must enter the service that they will offer. Consumers will first look through the available service list for the required service. The consumer must then specify the service's specifics. Requests will be sent to all service providers registered in the system after clicking the submit button.	Customers can make changes to their profiles. Customers can reserve the services they require with a single click.	There is no way to pay the service providers for their efforts through the app. Maps can be added to track service providers in real-time.	Such apps increase employment opportunities in society. The app attempts to solve the ever-increasing problem of labor finding by bridging the gap between customers and skilled laborers with a single click from anywhere.

III. PROPOSED METHODS

The proposed system "WorkIT" primary goal is to create a mobile application that provides basic household service management tasks. By transitioning from a website to a mobile application, the accessibility and convenience of the platform can be greatly enhanced [1]. A mobile application allows users to access the services anytime, anywhere, providing a more seamless and user-friendly experience.

"WorkIT" leverages a comprehensive stack of cutting-edge technologies to provide a seamless user experience. Flutter, a powerful cross-platform application framework, ensures a visually appealing and responsive front-end interface. The scalability and speed of Node.js and Express.js enable robust backend development, ensuring efficient data processing and seamless communication between the client and server. The use of Firebase for authentication services [1, 10] provides users with increased security and convenience, allowing them to log in securely using their phone numbers and OTP. Cloudinary provides a dependable and scalable solution for image storage. It streamlines the process of uploading, managing, and delivering images, resulting in a more consistent user experience when interacting with visual content within the application. MongoDB, a NoSQL database that is both flexible and scalable, ensures efficient data storage and retrieval. It allows for seamless data management, allowing the application to effectively handle user profiles, service listings, and various other data entities. By leveraging these technologies, "WorkIT" delivers a robust, secure, and user-friendly application that empowers service providers and enhances their overall experience, paving the way for efficient communication, seamless transactions, and streamlined workflows.

This application has two actors: the service provider and the service beneficiary. The application allows service providers to create a profile based on their skills. Service beneficiaries can register on the application and post job requirements.

To facilitate user access, the application employs a phone number-based authentication method. Upon entering their phone number, users will receive an OTP which they can utilize to log into the application securely. This approach proves especially beneficial for service providers who may not possess an email address or find the process of remembering passwords to be tedious [9]. This system provides a separate user interface for service beneficiaries and service providers, allowing for a better user experience and ease of use. Users can choose to be a 'Service Beneficiary' or a 'Service Provider' after successfully logging in or signing up.

Service beneficiaries can post job requirements as well as an image of the service they want. Potential service providers will be able to see these job postings. If the service provider is interested in any of the job postings, he or she may submit a bid along with the proposed offer. The service beneficiary will review the proposed offer as well as the service provider's profile, which includes past work done by the service provider, reviews on his or her profile, and so on, before deciding whether or not to accept the offer. If

the service recipient accepts the proposed offer, the chat system will be activated, allowing them to further discuss the project requirements and plan out the subsequent actions.

Once the plan has been finalized, service beneficiaries will assign the job to the service provider, indicating the start and end dates. When the service provider arrives at the location, the service beneficiary can generate an OTP through the application, which will be received by the service provider and used to verify the service provider. After the job is completed, the service beneficiary will review and pay the service provider via the application.

Service providers can create an appealing portfolio by posting images with captions of previous work. Users can make changes to their profiles. This includes uploading a profile picture, providing basic information such as gender and date of birth, and providing contact information such as phone number and address. To enhance usability and accommodate service providers with limited familiarity with mobile devices, a crucial aspect is allowing users to seamlessly switch between modes, such as from service provider to service beneficiary or vice versa. This adaptability optimizes the user experience. It is of utmost importance to strategically integrate an understanding of potential users' mobile browsing habits into the design and development process of the user interface. By offering distinct user interfaces tailored to different application actors, the application becomes more intuitive and effectively addresses a prominent drawback found in existing solutions [1]-[15].

Fig. 1 represents flowchart for service provider and Fig. 2 represents flowchart for service beneficiary.
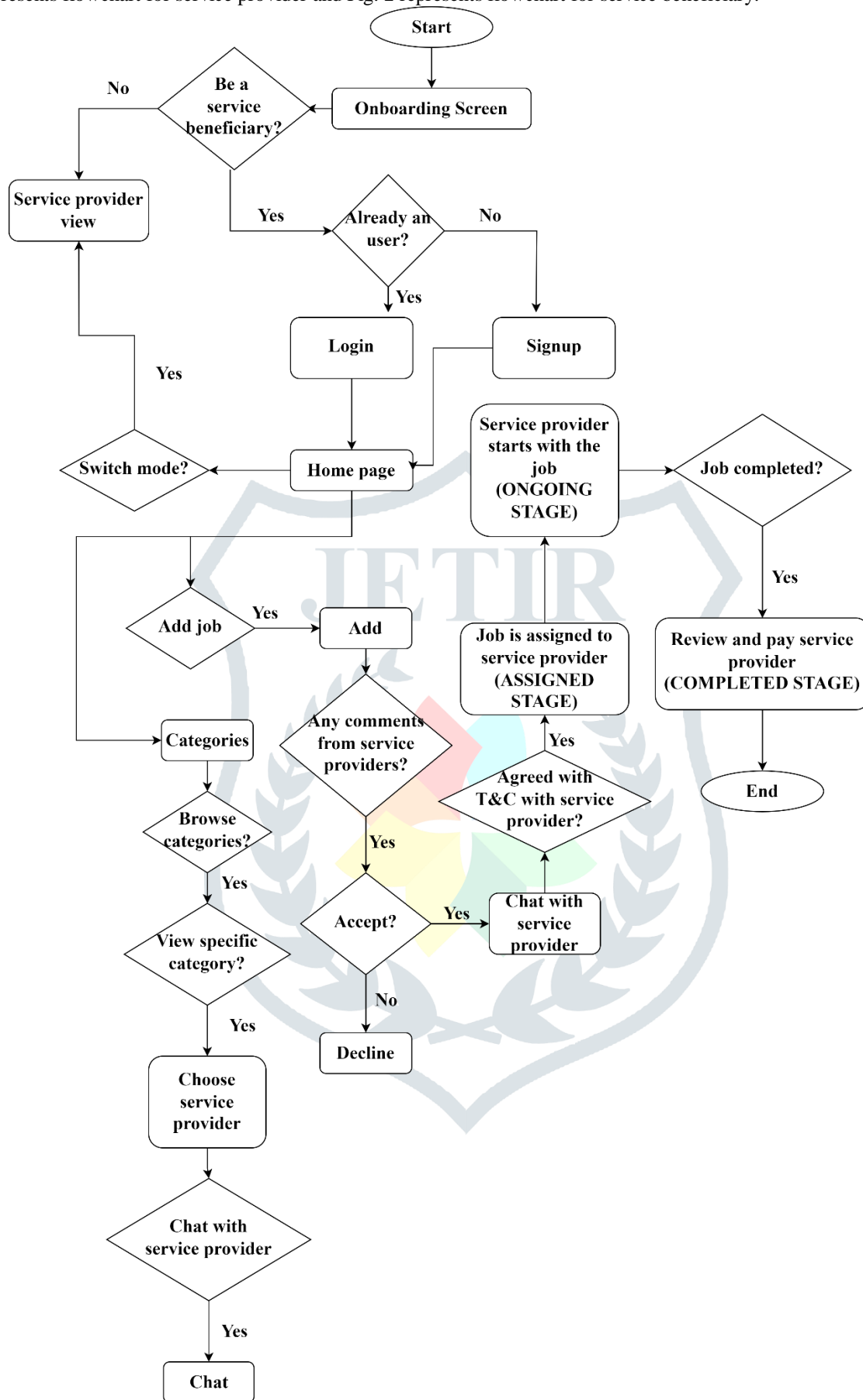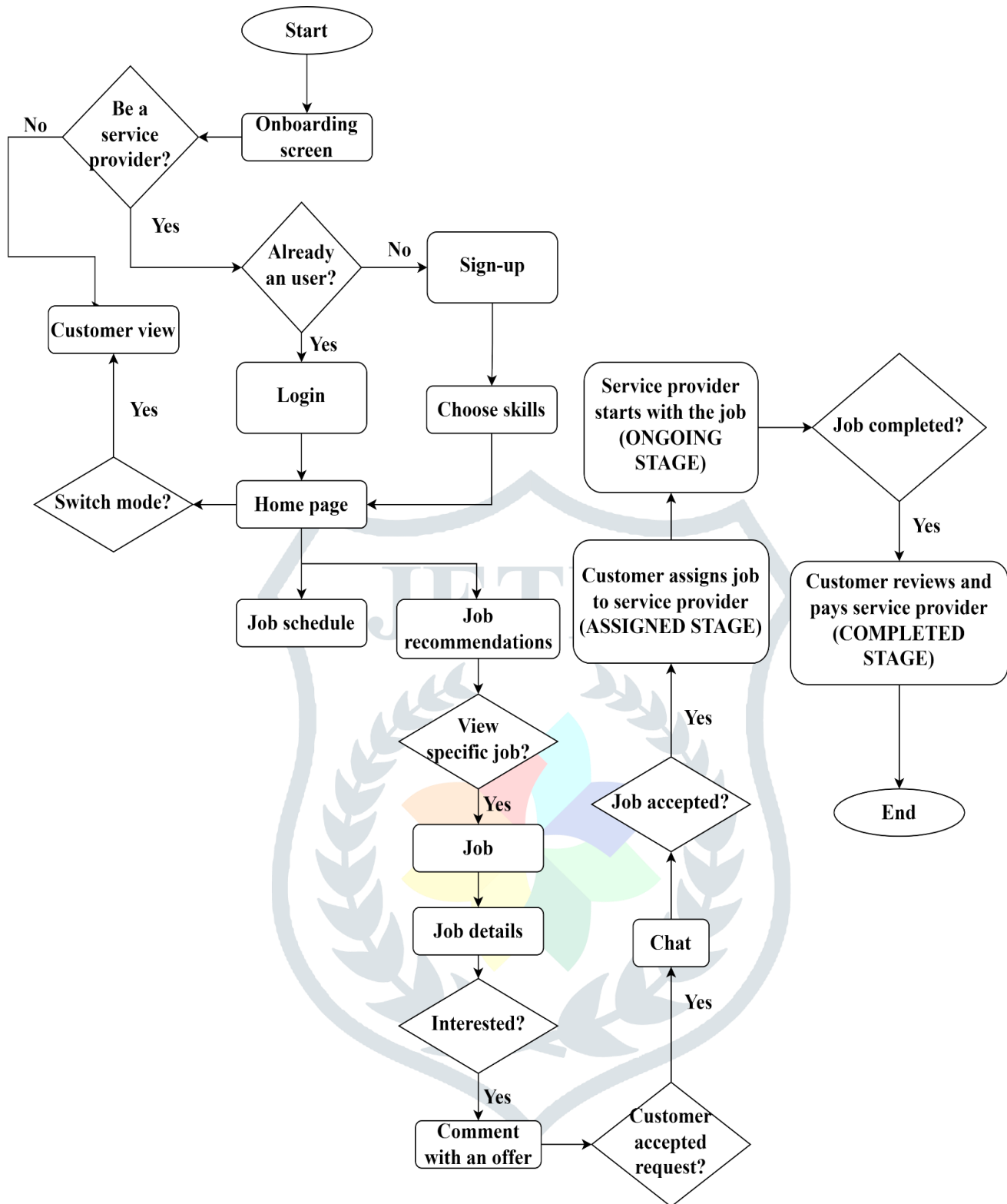

Figure 1 Flowchart for Service Beneficiary

Figure 2 Flowchart for Service Provider

IV. CONCLUSION

The existing solutions [1]-[15] offer internet-based home assistance for booking services. They provide a decent easy-to-use interface to check out all the services. However, there are some limitations such as no direct communication between the customer and the service provider [7] and having a middleman between customer and service provider [2] could be eliminated by providing an in-app chat feature. Instead of a website [11], a mobile application is more convenient to use and accessible anywhere anytime. Service providers can have a portfolio of all their work and reviews from their previous customers. Service beneficiaries can post details about the service they need and based on service type and location the probable service providers can revert back with a quotation. Service beneficiaries can also directly approach service providers based on their portfolio and can rate the service provider based on their work. Hence, the proposed system "WorkIT" provides a platform for both customers and service providers to eliminate major challenges and provide solutions at the tip of a finger.

V. ACKNOWLEDGMENT

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