International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

ON-STEP SERVICES – CONNECTING EXPERTS ON HANDS

1st Dr. R. Ramakrishnan[1], 2nd S. Harshini[2]*

1Associate Professor, Department of computer Applications, Sri Manakula Vinayagar Engineering College (Autonomous),Puducherry 605008, India

2Post Graduate student, Department of computer Applications, Sri Manakula Vinayagar Engineering College (Autonomous),Puducherry 605008, India

harshinisri.harsha10@gmail.com

*Corresponding author's email address: harshinisrinivasan282003@gmail.com

ABSTRACT

The project titled **"On-Step Services – Connecting Experts on Hands"** is a web-based platform developed to connect customers with skilled freelancers who offer various services directly at the customer's location. The project addresses a common gap in today's digital service marketplace, where people often struggle to find reliable professionals for household, technical, educational, or personal needs on short notice. By creating a centralized system that links service seekers with freelance providers, the project aims to offer convenience, transparency, and trust in service delivery. With the rise of the gig economy and the increasing preference for on-demand services, this platform serves as a digital bridge that benefits both customers and freelancers by offering opportunities, visibility, and streamlined service access.

The platform is designed to accommodate a wide range of services such as plumbing, electrical repairs, home cleaning, beauty and wellness, tutoring, personal training, computer support, and more. Customers can browse categories, view detailed profiles of freelancers, check their availability, and book services directly from the platform. Freelancers, in turn, can register on the site, list their services, update availability, manage bookings, and receive payments through a secure system. The solution provides a user-friendly interface for both parties, minimizing the complexity of communication and ensuring a smooth, end-to-end experience.

One of the core objectives of this project is to **empower freelancers** by providing them with a digital platform where they can showcase their skills, gain visibility, and earn income independently without relying on traditional employment models. Many skilled professionals, especially in semi-urban or urban areas, often lack the digital infrastructure or resources to reach

potential clients. This platform acts as a virtual marketplace that helps them promote their services and build customer trust through reviews, ratings, and profile credibility. On the other hand, for customers, the project simplifies the search for qualified service providers, removes the hassle of offline negotiations, and enhances the overall convenience through doorstep delivery of services.

From a technical perspective, this project has been developed using the **MERN stack** — a modern web development framework consisting of **React.js** for the frontend, **Node.js and Express.js** for the backend, and **MySQL** as the database. The frontend offers a responsive and dynamic user interface, allowing real-time interactions, smooth navigation, and modern visual design. The backend is built using a layered architecture (Controller, Service, and Model layers), which improves code organization, scalability, and maintainability. The database stores essential information such as user details, freelancer profiles, service

Keywords: React.js, Node.js, Express.js, MySQL, Controller, Service, and Model layers

1. INTRODUCTION

The project titled **"On-Step Services – Connecting Experts on Hands"** is a web-based platform developed to connect customers with skilled freelancers who offer various services directly at the customer's location. The project addresses a common gap in today's digital service marketplace, where people often struggle to find reliable professionals for household, technical, educational, or personal needs on short notice. By creating a centralized system that links service seekers with freelance providers, the project aims to offer convenience, transparency, and trust in service delivery. With the rise of the gig economy and the increasing preference for on-demand services, this platform serves as a digital bridge that benefits both customers and freelancers by offering opportunities, visibility, and streamlined service access.

The platform is designed to accommodate a wide range of services such as plumbing, electrical repairs, home cleaning, beauty and wellness, tutoring, personal training, computer support, and more. Customers can browse categories, view detailed profiles of freelancers, check their availability, and book services directly from the platform. Freelancers, in turn, can register on the site, list their services, update availability, manage bookings, and

receive payments through a secure system. The solution provides a user-friendly interface for both parties, minimizing the complexity of communication and ensuring a smooth, end-to-end experience.

One of the core objectives of this project is to **empower freelancers** by providing them with a digital platform where they can showcase their skills, gain visibility, and earn income independently without relying on traditional employment models. Many skilled professionals, especially in semi-urban or urban areas, often lack the digital infrastructure or resources to reach potential clients. This platform acts as a virtual marketplace that helps them promote their services and build customer trust through reviews, ratings, and profile credibility. On the other hand, for customers, the project simplifies the search for qualified service providers, removes the hassle of offline negotiations, and enhances the overall convenience through doorstep delivery of services.

2. LITERATURE SURVEY

- **Introduction to Service Platforms:** In recent years, doorstep service platforms have revolutionized the way services are delivered to customers. From beauty care and home cleaning to electrical repairs and tutoring, these platforms aim to bring skilled professionals directly to users' homes. Research studies highlight the increasing demand for convenience, personalization, and real-time service, which is fueling the rise of such platforms. Literature points to platforms like UrbanClap (now Urban Company), TaskRabbit, and Handy as pioneers, where matching algorithms, user feedback, and trust-based systems are critical components.
- **Freelance Economy and Gig Platforms:** The rise of the freelance economy—often referred to as the gig economy—has enabled professionals to work independently while connecting with clients via digital platforms. Academic papers suggest that freelance-based service delivery enhances flexibility and cost-effectiveness for both service providers and customers. Research emphasizes the role of technology in managing freelance workflows, scheduling, ratings, and payment processes. Studies also explore the impact of these platforms on employment patterns, user experience, and service quality.
- **Role of Technology in Doorstep Services:** Various studies have analyzed how modern technology such as mobile applications,

cloud computing, and geolocation services enable seamless doorstep service delivery. Backend systems handle freelancer profiles, customer data, order tracking, and real-time updates. Literature supports the use of layered architecture (frontend, backend, and database) for scalability. Research also suggests that well-structured UI/UX design improves customer satisfaction and retention. Security, data privacy, and system reliability are recurring themes in technical analyses.

- **Challenges and Solutions in On-Demand Platform:** Several researchers have highlighted the challenges faced in implementing and managing doorstep service platforms. Common issues include managing user trust, handling complaints, ensuring service quality, an avoiding fraud. Studies propose solutions such as secure authentication, robust feedback systems, transparent pricing, and automated dispute resolution mechanisms. AI and ML have been suggested in literature to improve service-person matching, predict user behavior, and enhance overall efficiency.
- **Comparative Analysis of Existing Systems:** Comparative studies between platforms like Urban Company, HouseJoy, and smaller regional players provide insights into what features customers value most: timely service, verified professionals, and fair pricing.

3. METHODOLOGY

PROPOSED SYSTEM

The proposed system aims to create a robust, user-friendly, and scalable platform called "On-Step Services – Connecting Experts on Hand," which will bridge the gaps found in existing service platforms. This system will leverage advanced technologies and incorporate features designed to empower freelancers and provide customers with a seamless service experience. By focusing on localization, freelancer autonomy, real-time tracking, and trust-building mechanisms, the platform will offer a more personalized, secure, and efficient service delivery for users in both urban and non-urban areas. Unlike traditional platforms, this service will cater specifically to freelancers, allowing them to independently manage their schedules, pricing, and service offerings, while ensuring that customers receive high-quality services at competitive rates.

The platform will use a multi-layered architecture built on React for the frontend, Node.js with Express for the backend, and a MySQL database for robust data management. By adopting cloud-based infrastructure, the system will ensure

scalability and flexibility, allowing it to grow with the demand. Through real-time updates, AI-powered service recommendations, secure payment systems, and user ratings, the platform will foster trust and create a reliable service marketplace. Additionally, machine learning algorithms will help provide intelligent matching between customers and freelancers, ensuring both efficiency and customer satisfaction.

One of the key innovations of the proposed system is to empower freelancers by giving them full control over their work. Freelancers will have the autonomy to Unlike existing platforms that impose fixed prices, freelancers can define their rates based on the complexity and duration of the service, along with any other special requirements they may have.

Freelancers will be able to block off dates and times when they are unavailable, preventing overbooking or burnout. A built-in calendar system will help them manage their schedule and track service bookings. Freelancers can list the specific services they provide, add detailed descriptions, and even upload certifications or portfolios to establish credibility. The platform will allow users to filter services by skill level, experience, and expertise, ensuring the right professional is matched to the right task.

ARCHITECTURAL DIAGRAM

The architectural diagram of a system provides a visual representation of the overall structure of the software, including its major components and how they interact with each other. For the project, the architecture ensures seamless interaction between three main user roles: Customers, Freelancers, and Administrators. It defines the layers, modules, and communication paths, helping developers understand how data flows across the system and how various functions are separated logically.

This project typically follows a three-tier architecture, which includes the Presentation Layer, Business Logic Layer, and Data Access Layer. The presentation layer handles the user interface (UI), allowing users to log in, view services, book appointments, and make payments. It interacts with the business logic layer, which processes user requests, applies rules, and coordinates with the database layer. This layered approach improves modularity and maintainability, making the system easier to scale and update.

International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

At the heart of the architecture is the Application Server, which manages business logic and orchestrates communication between the frontend (React or similar framework) and the backend (Node.js/Express.js). The server handles authentication, service listings, booking management, freelancer availability, and admin tasks such as complaint resolution and report generation. The Database Server (MySQL, for instance) stores all critical data including user information, services, bookings, payments, and feedback.

The system also integrates with external services such as email/SMS APIs for sending confirmations, and payment gateways for secure transactions. These components are illustrated in the architectural diagram to show third-party dependencies. To enhance performance and reliability, caching mechanisms or cloud services (like AWS or Firebase) can also be incorporated into the architecture. Security is ensured through authentication protocols and encrypted communications between components.

In conclusion, the architectural diagram plays a pivotal role in the planning and development of the "Services at Doorstep by Freelancers" system. It lays the groundwork for collaboration among developers, testers, and designers by providing a clear understanding of system components and their responsibilities. A well-structured architecture not only helps in organizing code and improving performance but also ensures that the system is robust, scalable, and easy to maintain over time.

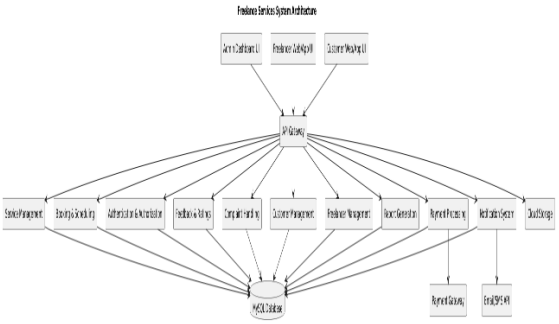


Fig 1- Architecture Diagram

3. USE CASE ILLUSTRATION

A use case describes how a user (or "actor") interacts with a system to achieve a specific goal. In software engineering, use cases help developers and stakeholders understand how the system should behave in different scenarios. For the "On-Step

International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

Services – Connecting Experts on Hands" project, use cases represent the core interactions between users—such as customers, freelancers, and administrators—and the platform.

Each use case outlines the actor, the steps involved, and the expected outcome. For example, a customer might search for a service, view freelancer profiles, book a service, and make an online payment. A freelancer might log in, view new job requests, update their availability, and mark tasks as complete. Meanwhile, an admin might manage user accounts, approve or reject freelancers, monitor transactions, and generate reports.

Use cases help in system planning, testing, and validation. They guide the design process by focusing on what users need and how the system can deliver those needs efficiently. They also form the basis for writing user stories and acceptance criteria during development and quality assurance.

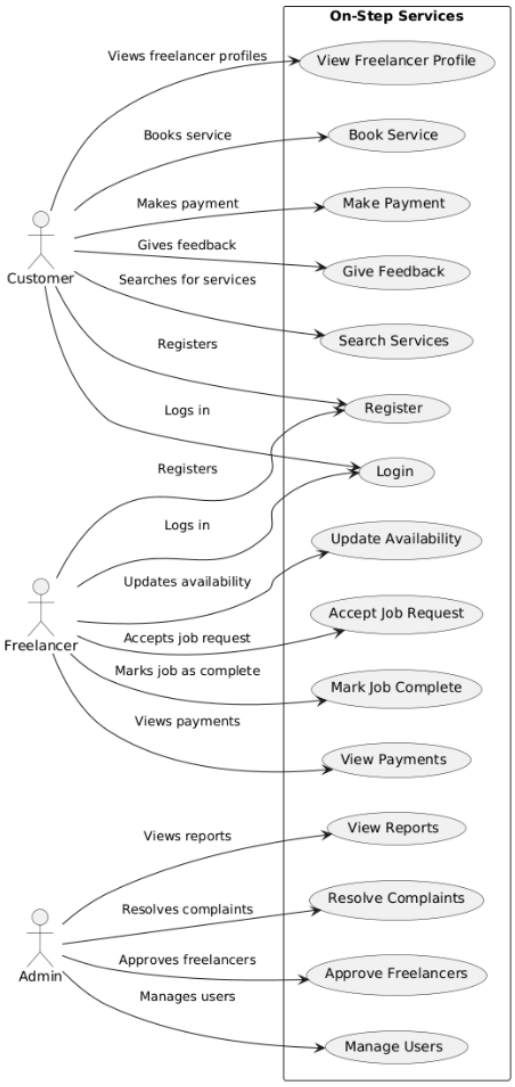


Fig 2 – Use Case Diagram

4. DISCUSSION AND RESULT

1. Overview of Implementation: The project "Service at Doorstep by Freelancers" was implemented using a layered architecture that separates concerns into frontend, backend, and database layers. React.js and Tailwind CSS were used to create a responsive and user-friendly frontend interface. Node.js and Express.js

powered the backend logic, managing requests from different users like customers, freelancers, and admins.

MySQL was used as the relational database for storing user profiles, service details, bookings, and feedback. This architecture provided modularity and maintainability throughout the development cycle.

2. User Interaction and Functionality: During testing, the platform successfully allowed users to register, log in, browse services, and book appointments with freelancers. Freelancers could manage their availability and receive customer requests. Admins were able to view all system activities, manage service categories, and handle customer complaints. The form validations, real-time updates, and feedback system worked as expected, enhancing user engagement. The application also displayed clear confirmation messages and status updates for orders placed, making the experience intuitive.

3. System Accuracy and Performance: The system's performance was measured based on how accurately and quickly it matched customers with freelancers. Response times were optimal due to the lightweight frontend and efficient backend routing. The CRUD operations—especially booking services, storing feedback, and resolving complaints—were executed without errors. SQL joins and indexing improved query speed for retrieving service and order data. Overall, the system achieved high accuracy in recording transactions and maintaining consistent data integrity.

4. Security and Data Handling: The system used input sanitization and authentication logic to prevent unauthorized access. Passwords were stored securely, and role-based access control (admin, customer, freelancer) was effectively implemented. Data privacy was respected, ensuring that users could only see their personal and booking information. Feedback and complaint handling modules were also secured against spam inputs. These security implementations were discussed and tested during validation testing

International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

6. RESULTS:

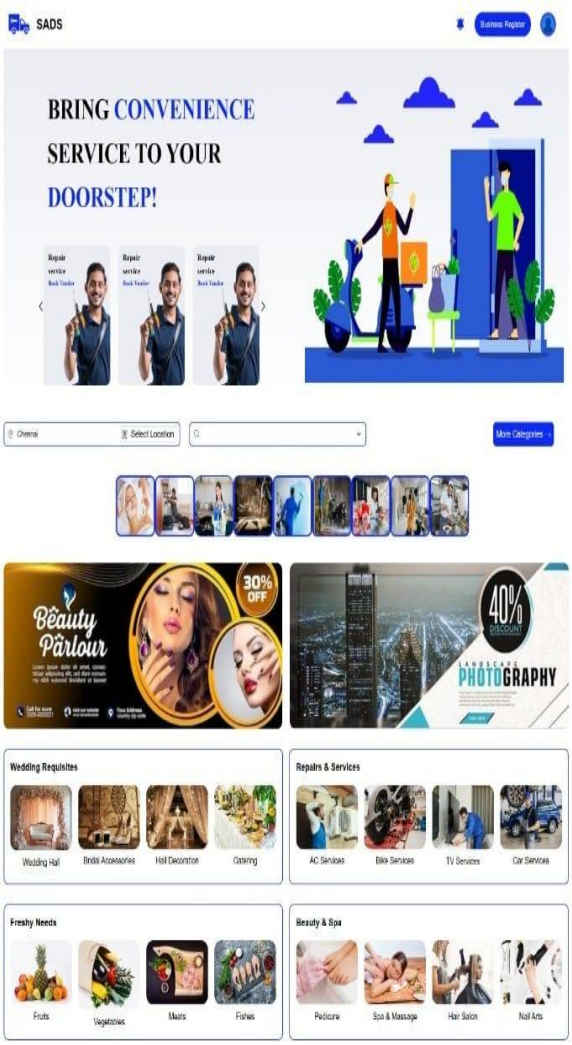


Fig 6.1 User Admin Dashboard

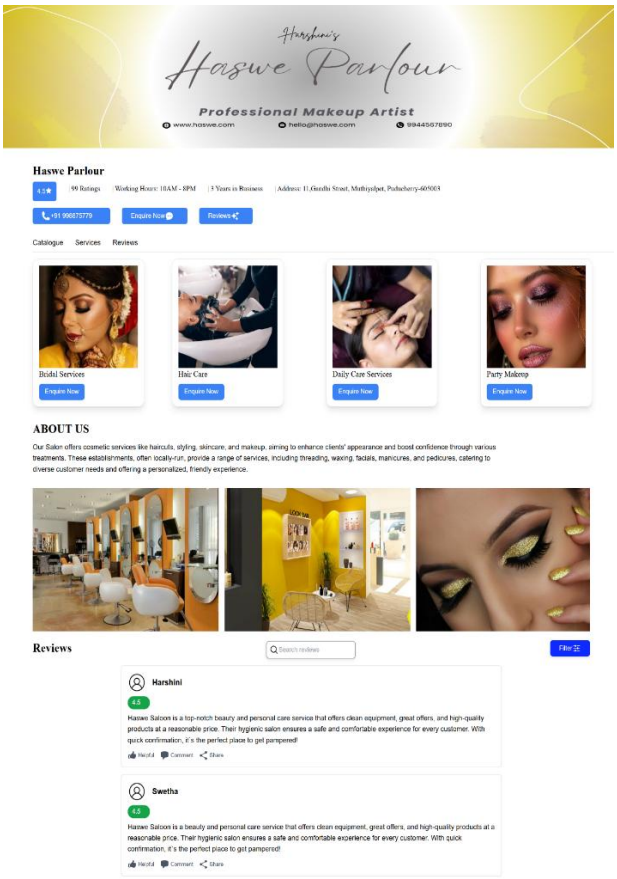


Fig 6.2 Service Page

International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

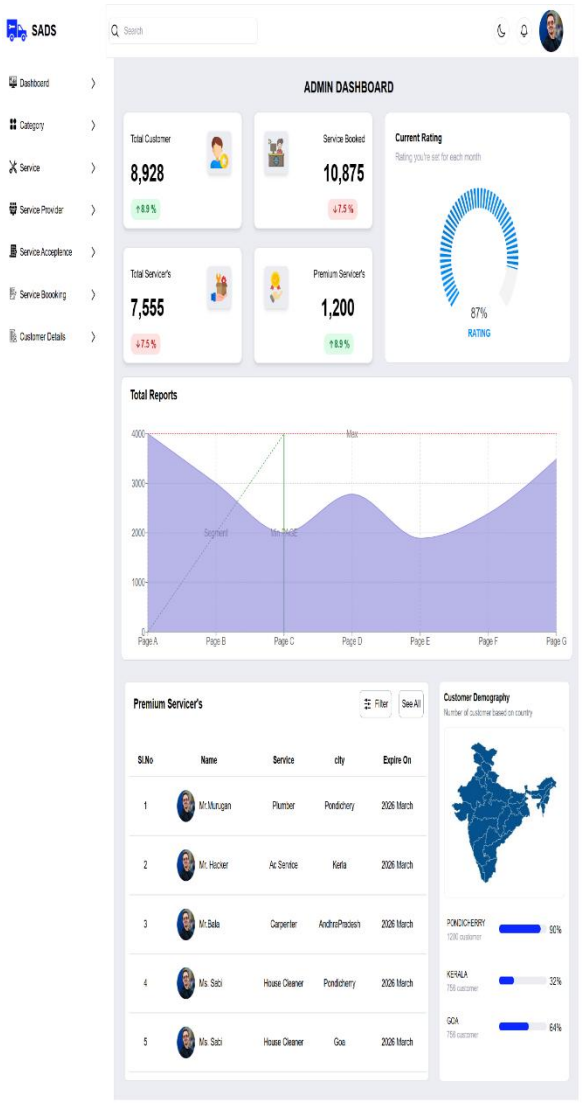


Fig 6.3 Admin Dashboard

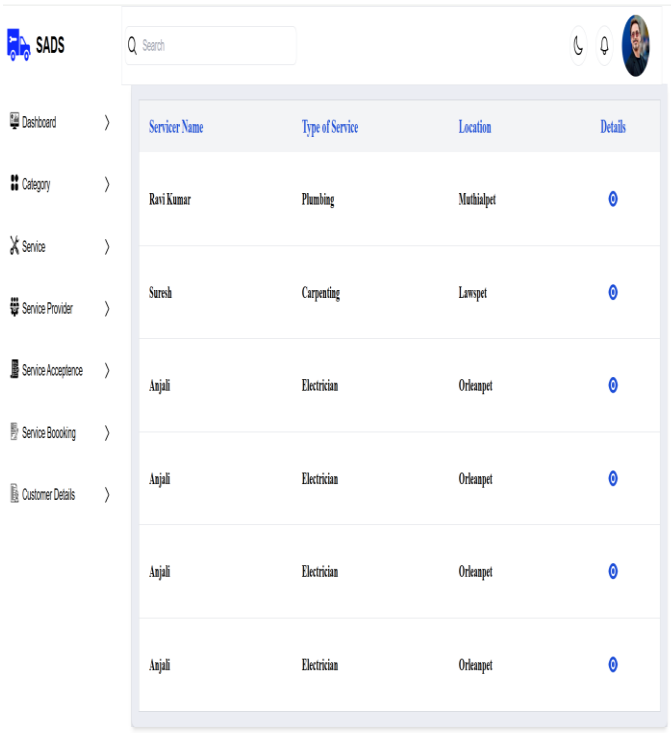
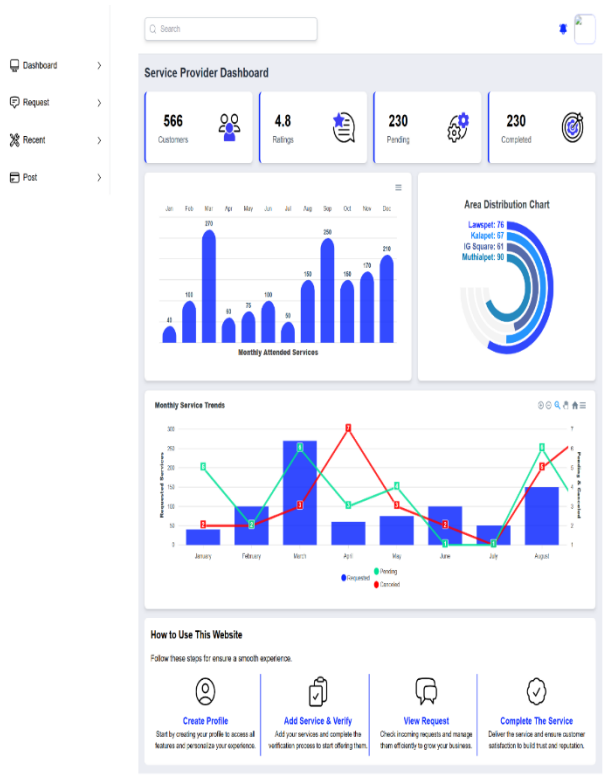


Fig 6.5 Service Acceptance Page



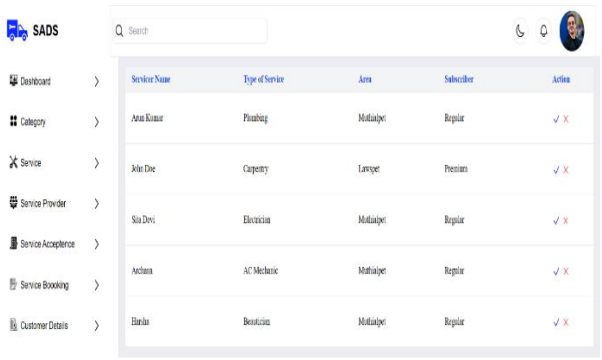


Fig 6.4 Service Provider Page

International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 06 | June – 2025 DOI: 10.55041/ISJEM04074
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

Fig 6.6 Service Provider Dashboard

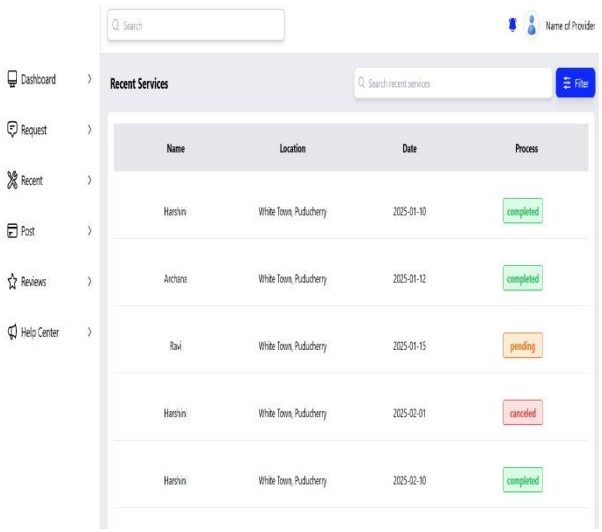


Fig 6.7 Service Request Page

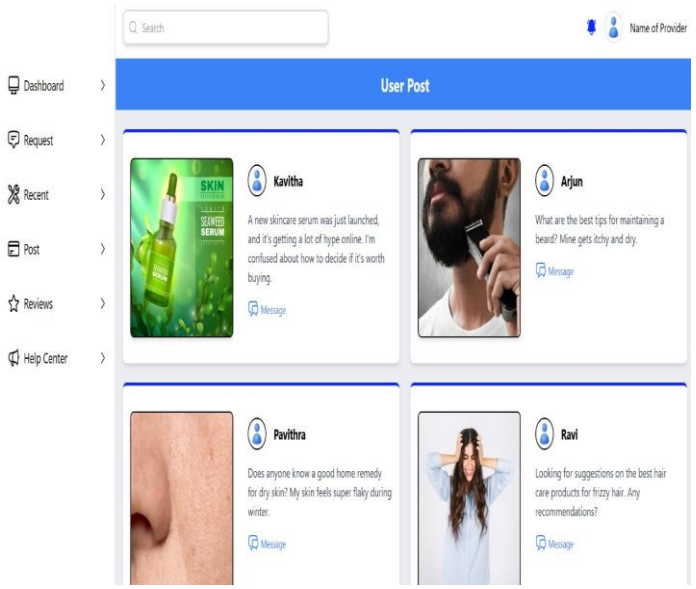


Fig 6.9 Users Post page

7. CONCLUSION

The " On-Step Services – Connecting Experts on Hands " project was designed to bridge the gap between customers seeking home-based services and freelancers who offer those services. The system provides a centralized platform that facilitates easy interaction, service booking, secure payments, and feedback management. From user registration to service completion, every functionality was implemented with user convenience and business logic in mind. The project has successfully addressed key issues present in traditional service models, such as lack of transparency, delays in service booking, and limited accessibility.

From a technical perspective, this project integrates a robust backend using Node.js and Express, a responsive frontend using React and Tailwind CSS, and a structured MySQL database. The layered architecture ensured separation of concerns, enabling better maintainability and scalability. Features like real-time status updates, secure payment options, and role-based access (admin, freelancer, and customer) added depth and reliability to the system.

8. FUTURE ENHANCEMENT

One of the most impactful future enhancements would be the development of a dedicated mobile application for both Android and iOS platforms. A mobile app would increase accessibility and allow users to book services or accept job requests on the go. Features like push notifications, location-based alerts, and mobile wallet integration would further improve the user experience. Freelancers could also use the app to track job requests, update their availability in real-time, and communicate with customers more efficiently.

Integrating Artificial Intelligence (AI) for personalized service recommendations can elevate the platform's usability. By analyzing user behavior, search history, feedback, and service ratings, the system can suggest relevant services or freelancers that best match the customer's needs. This not only enhances the user experience but also increases engagement and satisfaction. AI-driven insights can also help freelancers optimize their availability based on demand trends.

To reach a wider audience, especially in linguistically diverse regions, the platform can incorporate multilingual support. Allowing users to interact with the system in their native language will make the application more inclusive and user-friendly. This enhancement will be particularly useful for elderly users and people in rural areas who may not be fluent in English. Regional support in terms of location-based service filtering and language will strengthen user trust and usability.

9. REFERENCES

A. B. Patil and V. D. Mytri (2018) developed an Android-based application aimed at providing home services like plumbing, electrical repair, and cleaning directly to the user's doorstep. Their system focused on ease of use and included features such as GPS-based location tracking and SMS notifications sent to both customers and service providers. The primary innovation in their work was the real-time location detection integrated with booking functionality, allowing users to track and schedule services with accuracy and receive updates promptly.

K. V. Kavitha and M. Gomathi (2017) proposed a web-based platform for delivering on-demand services through freelancers. Their system allowed customers to view available service providers, book appointments, and leave reviews based on their experiences. The innovation in their system was the implementation of a review-based filtering model that helped users select freelancers based on rating history and feedback, thereby increasing transparency and trust in a freelancer-dominated environment.

A. G. Jadhav and his team (2020) created a hybrid mobile application for home services that connected users to verified professionals. Their work was notable for integrating a digital identity verification feature for service providers, ensuring authenticity before allowing freelancers onto the platform. Additionally, they introduced a token-based appointment booking system, which helped avoid service overlap and scheduling conflicts, thus improving service reliability.

Nidhi Pandey and Shikha Agarwal (2019) focused on the design and implementation of a mobile application that facilitated on-demand home services. They used Firebase for real-time data updates and developed a chat system to enable communication between customers and service providers. Their major contribution was the implementation of seamless two-way communication within the application, enhancing user experience and enabling clear instructions and feedback during service transactions.

Bhavana Kumari and P. S. Rani (2021) worked on a full-stack web application that enabled users to connect with freelance service workers for daily tasks. The unique aspect of their system was the inclusion of a dynamic pricing feature that adjusted service charges based on freelancer availability and urgency of the request. This innovation provided customers with flexible cost options while encouraging more freelancers to take on high-priority tasks during peak times.

time.