

Home Solutions

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Abstract- Home Solutions is a user-friendly mobile application designed to simplify the booking and management of household services such as plumbing, electrical work, and cleaning. Built with Java and SQLite, the app allows secure user registration, service search, online bookings, and real-time complaint tracking. To ensure safety, all service personnel undergo police verification before approval. The system includes a review and rating feature, where repeated low ratings (2 or 3 stars) trigger automatic warnings to the service provider. Admins manage users and services via a dashboard, while customers receive alerts for status updates. The project aims to deliver a safe, efficient, and accessible service solution for users across regions.

Keywords: Household Services, Complaint Management, Service Booking, Java, SQLite, Police Verification, Mobile Application.

I. INTRODUCTION

The Home Solutions project is a mobile application aimed at modernizing the process of managing and accessing household services. Traditionally, booking a service person such as an electrician or plumber involves time-consuming phone calls, unclear service charges, and no record of complaint status. This project seeks to eliminate these inefficiencies by introducing a structured and responsive system where users can search for services, raise complaints, and track their resolutions in real-time. The system supports two primary roles: Administrators, who oversee the platform's operations and user management, and Customers, who register to use household services. Users can log in through the mobile app, browse available service providers in their locality, raise complaints or service requests, and receive updates via email or mobile alerts. Administrators manage service personnel records, approve user registrations, and handle escalated complaints. As part of the onboarding process, every service person is subject to verification by the admin, including police verification, to ensure customer safety and trust.

A key feature of the system is the review and rating mechanism, where customers can provide feedback

after a service is completed. Service personnel can view the reviews given by customers, allowing for transparency and accountability. If a customer provides a low rating (e.g., 2 or 3 stars), the system automatically issues a warning to the service person, encouraging improved performance and maintaining service quality.

This application is particularly tailored for accessibility, ensuring ease of use even for non-technical users by including tooltips, prompts, and search filters. The core design also emphasizes reliability and data integrity, offering a secure and scalable solution for managing high volumes of customer requests across different locations, making it suitable for deployment across various regions and cities.

By automating the booking, complaint handling, and feedback processes, Home Solutions enhances the overall service experience for both customers and service providers. It replaces traditional, fragmented methods with a modern, efficient, and secure approach, ultimately contributing to a more organized and trustworthy household service ecosystem.

II. LITERATURE REVIEW

Home Solution System

The Home Solutions mobile application represents a significant leap forward in how service industries manage customer complaints and ensure the professionalism and reliability of service personnel. In an industry where customer satisfaction is crucial, this system aims to streamline the process by allowing both users and administrators to easily manage and monitor service interactions. The system integrates user accounts, with distinct roles for both regular users and administrators. The admin has full control over managing the users' access and credentials, ensuring that only authorized individuals can make changes to the system. To access the program, registered users must log in securely by providing their username and password, both of which are validated against the database. Once logged in, users are granted access to modify their personal details, such as updating contact information or changing their password, ensuring that their data is always up to date. This process of user authentication and data modification is handled seamlessly, with changes being immediately reflected in the database to ensure real-time updates and consistency across the system [1]. A key functionality of the program is its ability to allow users to view detailed information about service personnel operating in different locations. By selecting a specific location from a dropdown menu, users can access a list of relevant service personnel for that area. This information is displayed in a read-only format to ensure data integrity and security. To allow for greater flexibility and responsiveness, the system also enables the admin to add new service personnel directly through the app's admin interface, with changes reflected dynamically. However, these additions are temporary and will be refreshed with the original values when the program is restarted. This feature provides the admin with the ability to update the system in real-time without requiring a complete system restart [2]. One of the most critical features of the system

is the management of service personnel's qualifications and security checks. The admin holds the responsibility for verifying that all service personnel have passed necessary police verification checks before they are approved to perform services. This verification process is an essential aspect of ensuring the safety and trustworthiness of service personnel, particularly when they are entering customers' homes or places of business. By allowing the admin to track these qualifications and updates, the system ensures that only certified and qualified individuals are permitted to engage in service delivery. Furthermore, this function promotes accountability and transparency, ensuring that both service personnel and customers can trust the validity of the service personnel working with them [3]. The system also incorporates a review mechanism where customers can rate the service personnel based on their performance. After a service has been completed, customers are encouraged to provide feedback by rating their service experience. These ratings are then made visible to the service personnel, who can use the feedback to improve their performance. In instances where a service person receives a rating of 2 or 3 stars, the system will automatically issue a warning to the service person. This feedback system creates an environment where service personnel are motivated to maintain high standards of performance, as their job satisfaction and success are directly linked to positive customer reviews. Additionally, this system adds a layer of accountability, ensuring that service personnel are always aware of their performance and can act on any feedback to improve [4]. For administrative control, the p provides admins with the ability to modify or delete user accounts, as well as edit details such as usernames, passwords, and titles of registered users. Only users with admin privileges can access these features, ensuring that the security and integrity of the system are maintained at all times. Additionally, the system features a straightforward registration process for new users. Unregistered users must undergo a registration process where their details are reviewed and approved by the admin before they are granted

access to the mobile app. This ensures that only verified individuals can access the system, further securing the platform from unauthorized access [5]. In conclusion, the Home Solutions mobile application is a comprehensive system that offers a user-friendly interface combined with a robust backend designed to manage service personnel data, customer complaints, and reviews efficiently. It not only facilitates the smooth management of user accounts and service personnel details but also promotes accountability and professionalism by incorporating features such as police verification, customer reviews, and real-time complaint resolution. The ability for administrators to have full control over the program, along with the automated feedback system for service personnel, makes this app an invaluable tool for ensuring high standards of service and customer satisfaction [6].

III. RESEARCH

This study aims to explore the role and effectiveness of digital platforms in transforming traditional household service systems, focusing specifically on the development and application of the Home Solutions mobile application. The primary objective of the research is to assess how technology can improve service booking, complaint handling, and overall customer satisfaction in household services such as plumbing, electrical work, cleaning, and carpentry. The study also evaluates the importance of safety measures—such as police verification of service personnel—and user feedback mechanisms in building a trustworthy service environment.

To better understand user expectations and service challenges, a structured survey was conducted involving 30 participants, including customers, service providers, and local administrators. The survey comprised both closed and open-ended questions aimed at identifying gaps in existing service delivery methods and gathering feedback on proposed system features such as real-time

tracking, booking automation, and alert notifications.

A qualitative approach was adopted to analyze the responses. The collected data was categorized and reviewed to extract common user needs, concerns, and suggestions. Feedback emphasized the need for transparent pricing, verified professionals, and the ability to monitor complaints. The inclusion of a rating system—where low customer ratings generate automatic warnings for service personnel—was widely supported as a way to enforce accountability.

To aid in the analysis and visualization of qualitative patterns, tools such as Microsoft Excel and Google Forms' analytics features were utilized. These helped identify trends and supported the refinement of system features during the development process. The research findings played a critical role in shaping the application's architecture, user interface, and admin functionalities, ensuring that the final system meets real-world requirements and improves the overall experience for both customers and service providers.

IV. METHODOOGY

To develop the Home Solutions mobile application, a user-centered and modular development approach was adopted to ensure efficiency, reliability, and usability for both customers and administrators. The methodology focused on solving real-world problems in household service booking and complaint management, particularly for users with limited technical knowledge.

The mobile application was developed using Java for the front end and SQLite for the local database backend. The design emphasized a smooth and responsive user experience across Android devices. The development cycle followed a phased model consisting of requirement analysis, system design, coding, testing, and deployment.

A core feature of the app is the service provider verification process. Every service person who wishes to register on the platform is subject to police verification, handled and approved by the admin through the application's admin panel. This step is critical for ensuring customer safety and trust in the platform.

The system also includes a rating and review mechanism. After each service, customers rate the service provider based on their satisfaction. If a service person receives a rating of 2 or 3 stars, the app automatically flags the provider with a warning alert, which is recorded in the admin dashboard for monitoring. This mechanism encourages service quality and accountability.

To enhance customer engagement, the application integrates real-time notifications and alerts that inform users of complaint updates, booking confirmations, and service schedules. This feature minimizes miscommunication and ensures a smooth user experience.

The application architecture is modular, separating the roles of the admin, customer, and service person. Customers can browse service categories, view service provider profiles, book services, and post complaints through an easy-to-use interface. Administrators manage user registrations, complaint records, and generate service reports from within their admin dashboard. Service persons can view bookings, receive customer reviews, and respond to service requests through their interface. Extensive testing was carried out at each development phase to validate functionality, usability, and performance. Special care was taken to ensure that the interface remained intuitive and that error handling was clear and instructive for all user types, including non-technical users.

By combining structured development practices, security verification measures, and responsive design principles, the Home Solutions mobile application effectively modernizes the way

household services are managed and delivered, ensuring safety, efficiency, and user satisfaction.

IV. IMPLEMENTATION

User Authentication & Role Management

This module implements a secure login system and role-based access control for three types of users: customers, service persons, and administrators. Upon registration, each user is assigned a role that dictates their access and functionality. Customers can book services and raise complaints; service persons manage bookings and view reviews; and administrators oversee registrations, complaint responses, and service listings. Passwords are stored securely, and login sessions are protected to prevent unauthorized access. The admin also reviews and approves service persons only after verifying their background, including police verification, ensuring safety and trust on the platform.



Service Management Module

This module allows administrators to add, update, and categorize various household services such as plumbing, electrical, carpentry, cleaning, etc. Each service includes key details like name, description, service charges, available hours, and location. These details are used to populate the user interface where customers can browse and book services. The data is stored in a normalized SQLite database for efficient retrieval and updates.

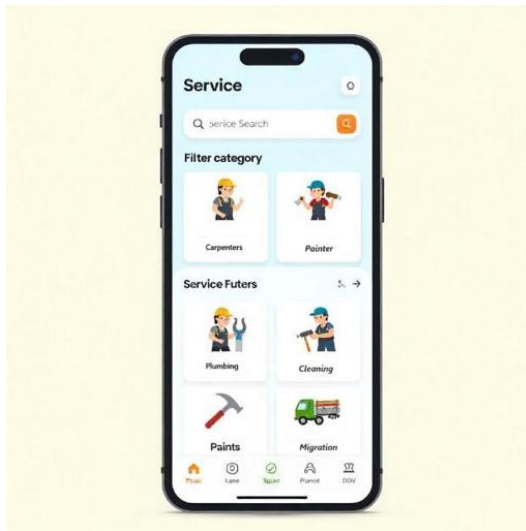


actions. The system sends automated alerts and emails to customers regarding complaint status, technician visit schedules, or delay notifications. Alerts also inform admins of complaints pending action.



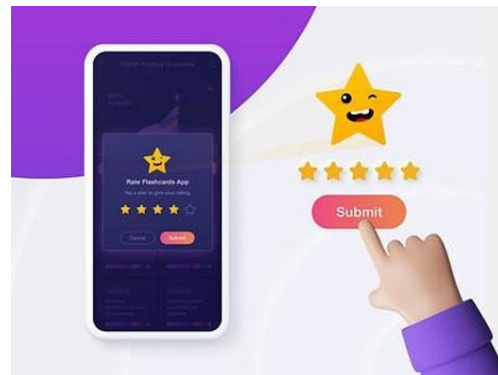
Service Search & Booking Module

This module allows customers to search for service persons based on their city or area. The results display verified service providers along with their ratings, availability, and estimated charges. Once a booking is made, the service person receives a notification, and the system logs the transaction. Booking details are stored for future references and reports.



Review, Rating & Warning System

After a service is completed, customers are prompted to submit a review and rate the service provider (1–5 stars). These ratings are stored publicly on the provider's profile. If a service person receives repeated low ratings (2 or 3 stars), the system automatically issues a warning visible in their dashboard. This encourages quality improvement and accountability.



Complaint & Alert Management Module

Customers can raise complaints through the app interface, specifying service type, provider, and issue details. Once submitted, the complaint is tracked by the admin, who assigns follow-up

Admin Verification & Monitoring Module

Before a service person is allowed to work through the app, the admin must verify their documents and police clearance. This module enables the admin to review, approve, or reject service provider applications. It also tracks service performance, customer complaints, and warnings to monitor quality. Fraudulent users or inactive accounts can be disabled from the admin panel.



Reports & Analytics Module

This module generates detailed reports for admin use, including total bookings, completed services, user ratings, and complaint status summaries. Visual analytics such as bar charts or pie graphs are presented in the dashboard, helping administrators understand trends and improve platform management.



V. CONCLUSION

This study explores the development and implementation of the Home Solutions mobile application as a modern solution for managing household services. The application demonstrates significant advantages, including improved service booking efficiency, real-time complaint tracking, enhanced user safety through police verification, and accountability through a structured rating and feedback system. Users benefit from a more transparent and accessible platform to find verified

service providers, while administrators gain tools to oversee operations and maintain service quality.

While the application addresses many of the common issues in traditional service management—such as lack of communication, unverified personnel, and delayed resolutions—it also highlights challenges, particularly in ensuring consistent user engagement and timely service responses in all regions. Additionally, reliance on mobile access may pose limitations for users without smartphones or internet connectivity.

Despite these challenges, the system offers a strong foundation for scalable and secure service delivery. Future improvements could include multilingual support, integration with location-based services, and AI-driven recommendations based on user history. As the demand for digital solutions in local services continues to grow, mobile applications like Home Solutions are expected to play a vital role in bridging the gap between customers and trusted service providers, enhancing convenience, safety, and user satisfaction.

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