Quick Fix – Home Services

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Abstract: In today's fast-paced world, homeowners struggle to find reliable service providers for household maintenance and repair. Quick Fix-Home Services is a web-based platform designed to bridge this gap by offering a centralized and user-friendly solution for booking professional home services. Unlike traditional service-finding methods, Quick Fix integrates real-time booking, technician management, and an admin oversight system to enhance efficiency. This paper explores the design, development, and functionality of Quick Fix, highlighting its advantages over existing service platforms and discussing potential future improvements.

Keywords: Home services platform, user registration, technician management, service booking, feedback system, technician authorization, admin oversight, service history, service quality, user feedback, technician profiles, platform integrity, service efficiency.

1. INTRODUCTION

The increasing demand for quick and reliable home service solutions has led to the emergence of digital platforms that connect users with skilled technicians. Many existing platforms lack proper service verification, real-time tracking, and a streamlined booking process. Quick Fix-Home Services addresses these issues by providing a structured, automated, and transparent system that ensures service quality and user satisfaction.

1.1. Motivation

The" Quick Fix-Home Services" platform is motivated by the need to enhance the efficiency and reliability of home service management in an increasingly digital world. By integrating a user-friendly interface that allows users to easily book and track appointments while simultaneously providing technicians with tools to manage their profiles and service history, the platform aims to streamline the home service experience. The inclusion of robust administrative oversight ensures that only qualified professionals are engaged, thus upholding high standards of service quality and accountability. This holistic approach not only simplifies the process for all stakeholders involved but also fosters a trustworthy and transparent environment where service excellence is consistently achieved.

1.2. Problem Statement

Users often struggle to find reliable and qualified technicians for home services due to the absence of an organized system. The lack of a centralized platform makes it challenging for users to book services, track their requests, and provide feedback on the service received. Technicians face difficulties in managing their service requests, updating their profiles, and maintaining a record of their work history. Administrators also lack effective tools to oversee technician authorization and ensure the quality of services provided.

The" Quick Fix-Home Services" platform addresses these issues by providing a structured and user-friendly environment that connects users with qualified technicians. The platform streamlines the booking process, enables users to track their service requests in real-time, and facilitates easy feedback submission. For technicians, it offers a seamless way to manage service requests, update their profiles, and keep track of their work history. Administrators benefit from robust tools for monitoring technician performance and ensuring service quality. This centralized approach enhances the overall efficiency, reliability, and satisfaction in home service management.

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1.3. Objective of the Project

The" Quick Fix-Home Services" platform aims to connect users with skilled technicians efficiently, simplifying the booking process and providing robust feedback systems for transparency. It offers technicians tools to manage requests and track service history, while administrators oversee and regulate service quality. This integrated approach ensures a reliable, user-friendly experience for both users and professionals.

1.4. Scope

The" Quick Fix-Home Services" platform manages the entire home service process, including user and technician registration, service booking, and feedback. It supports profile management and service tracking while allowing administrators to oversee technician authorization and service quality. This integration ensures a seamless, efficient experience and high service standards for all users.

1.5. Project Introduction

The" Quick Fix-Home Services" platform is designed to enhance and streamline the management of home service needs by connecting users with skilled technicians efficiently. This innovative system addresses the common challenges faced by individuals seeking reliable home services, providing a robust solution for booking, tracking, and reviewing service engagements. The platform integrates three primary stakeholders: users, technicians, and administrators, each playing a vital role in ensuring seamless operation and high-quality service delivery.

2. LITERATURE REVIEW

Several home service platforms have been developed to bridge the gap between service seekers and providers. Studies indicate that digital service platforms improve efficiency, service reliability, and user satisfaction. However, many existing solutions lack proper technician verification, structured service management, and seamless payment integration. This paper reviews existing home service platforms, their limitations, and how "Quick Fix - Home Services" improves upon them.

3. METHODOLOGY

This document outlines the methodology for developing a web-based Household Services System (HSS) designed to connect customers with qualified service providers for various household tasks.

3.1. Problem Definition

Users struggle to find reliable home service providers. The lack of centralized platforms results in difficulties in scheduling, tracking, and reviewing service requests. This project aims to provide a digital solution that connects users with verified technicians while ensuring transparency and accountability.

3.2. System Architecture

The platform consists of three primary user roles:

- Users: Register, browse services, book appointments, and provide feedback.
- Technicians: Manage profiles, accept service requests, and maintain service history.
- Administrators: Oversee technician authorization, monitor service quality, and manage platform integrity.

3.3. Technology Stack The platform utilizes:

- Frontend: HTML, CSS, JavaScript, React.js for a responsive user interface.
- Backend: Node.js with Express.js for API handling.
- Database: MongoDB for user and service data management.
- Payment Integration: Secure transactions through payment gateways.
- Security Measures: Data encryption and user authentication mechanisms.

3.4. Hardware Requirements

Processor - I3/Intel Processor
Hard Disk - 160GB
Keyboard - Standard Windows Keyboard
Mouse - Two or Three Button Mouse
Monitor – SVGA
RAM - 8GB

3.5. Software Requirements

Operating System: Windows 7/8/10
Server-side Script: HTML, CSS, Bootstrap, JS
Programming Language: Python
Libraries: Django
Technology: Python 3.10+
Database: SQLITE

3.6. Implementation Process:

- User Registration & Authentication: Users and technicians sign up and log in securely.
- Service Booking & Tracking: Users browse available services and schedule appointments.
- Technician Management: Technicians receive and manage service requests.
- Feedback & Rating System: Users review services, ensuring quality assurance.

- Admin Oversight: Administrators monitor technician performance and user complaints.

3.7. Use Case diagram for the proposed model

According to the Unified Modelling Language (UML), a use case diagram is a particular kind of behavioural diagram that is produced from and defined by a use-case study. In terms of actors, their objectives (shown as use cases), and any dependencies among those use cases, it serves to graphically summarise the functionality offered by a system. A use case diagram's primary objective is to demonstrate which actors use the system's functionalities. It is possible to illustrate the roles of the system's actors.
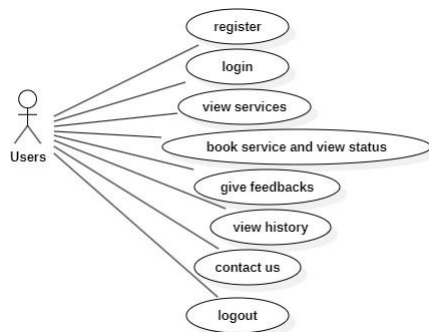
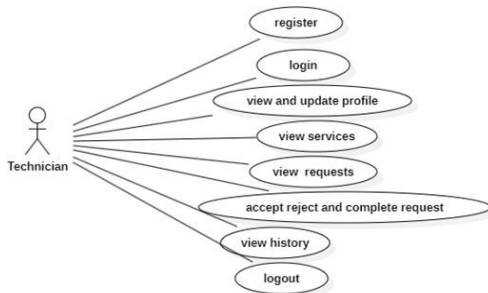

Figure 1: User Use Case Diagram

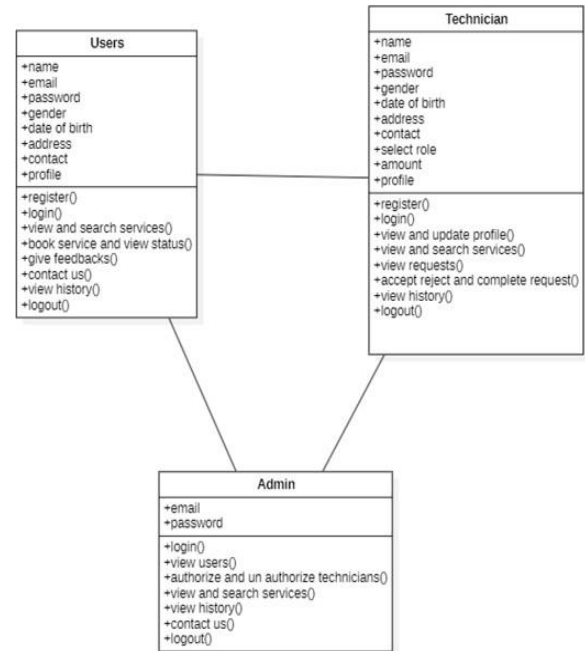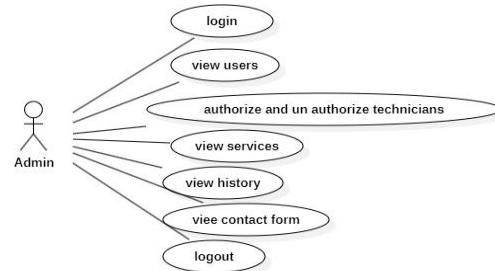**Figure 2: Technician Use Case Diagram**

Figure 3: Admin Use Case Diagram

3.8. Class diagram

A class diagram, as defined by the Unified Modelling Language (UML), is a kind of static structural diagram used in software engineering that illustrates a system's classes, attributes, actions (or methods), and relationships between the classes. It clarifies which class has the data.
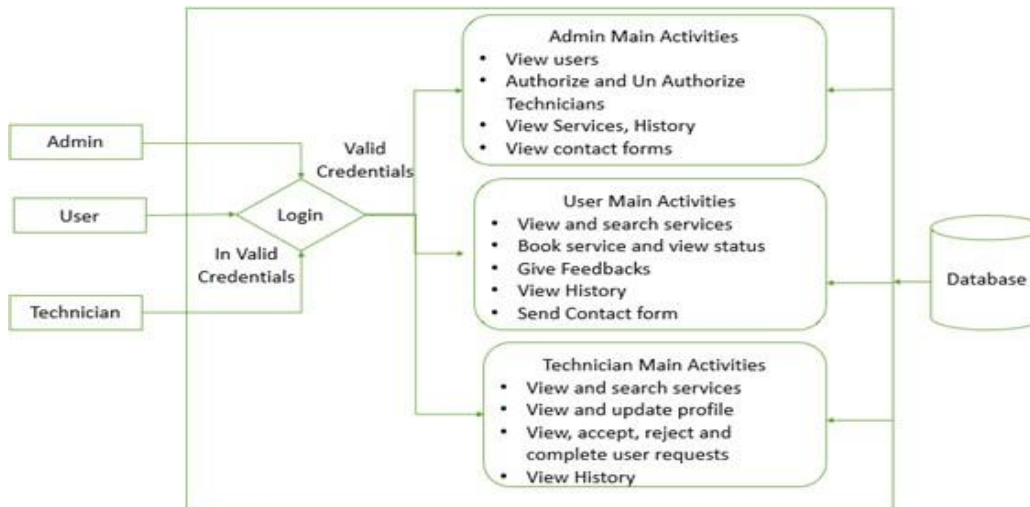

Figure 4: Class Diagram

Figure 5: Architecture

4. SYSTEM MODULES

4.1 User Module

•   Registration: Users can register on the platform by providing their personal details and creating an account.

•   Login: Users can securely log in to the platform using their credentials.

• Service Browsing: Users can browse through various available services, selecting the ones they need.

•   Service Booking: Users can book appointments for selected services, specifying details such as time and location.

•   Booking Status Tracking: Users can view and track the status of their booked services in real-time.

•   Feedback Submission: After the service is completed, users can provide feedback on the service quality and rate the technician.

• Service History: Users can view their service history, including past bookings and feedback provided.

• Logout: Users can securely log out from the platform.

4.2 Technician Module

•   Registration: Technicians can register on the platform by providing their credentials and qualifications.

• Login: Technicians can securely log in to the platform using their credentials.

• Profile Management: Technicians can update and manage their profiles, including skills, availability, and contact information.

• Service Request Management: Technicians can view incoming service requests, accept or decline them, and manage their schedule.

• Service History Tracking: Technicians can view the history of services they have provided, including feedback received from users.

• Logout: Technicians can securely log out from the platform.

4.3 Admin Module

• Login: Administrators can securely log in to the platform with their credentials.

• User Management: Admins can view all registered users, authorize or unauthorize them, and manage their profiles.

• Technician Management: Admins can view all registered technicians, authorize or unauthorize them, and manage their profiles.

• Service Oversight: Admins can monitor ongoing and completed services, ensuring quality and compliance with platform standards.

• Service History Monitoring: Admins can view the service history across the platform, including user feedback and technician performance.

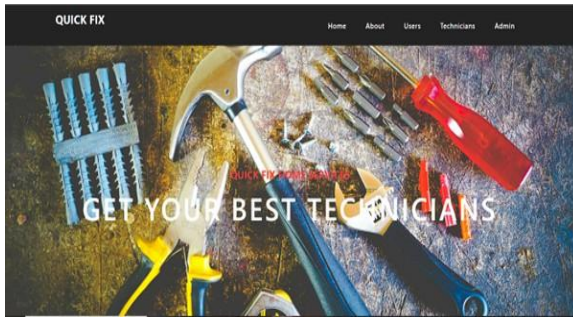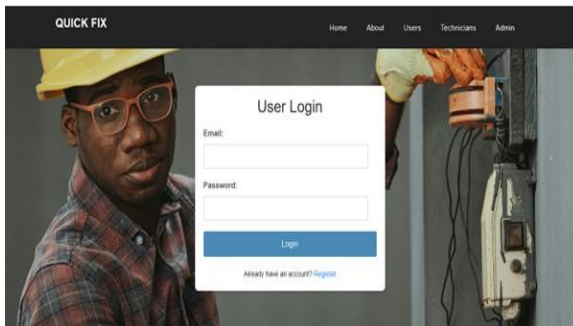• Logout: Admins can securely log out from the platform.
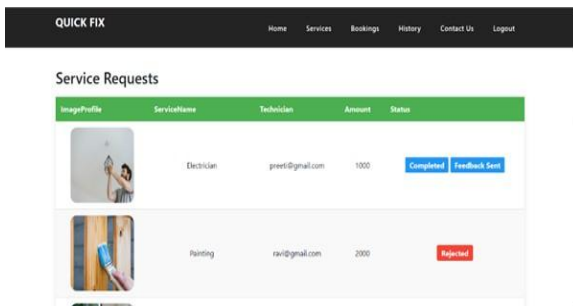
Figure 6: Home Page

Figure 7: User-Login-Page

Figure 8: View-Bookings-Page

Figure 9: View-Requests-Of-Technicians

5.   CONCLUSION

The" Quick Fix-Home Services" platform effectively streamlines the connection between users and skilled technicians by leveraging a well-structured system involving users, technicians, and administrators. Users benefit from a seamless experience of browsing, booking, and tracking services while providing valuable feedback to ensure high-quality service. Technicians gain efficient tools for managing bookings and service history, enhancing their performance and service delivery. Administrators play a critical role in maintaining the platform's integrity by overseeing user and technician interactions and ensuring the quality of service through careful monitoring and authorization. Overall, the platform's comprehensive approach not only optimizes service management but also upholds a high standard of efficiency and reliability, creating a user-friendly environment that addresses home service needs effectively.

6.   FUTURE WORK

The proposed Household Services System has a promising future with potential for expansion and innovation. Here are some exciting possibilities to explore:

6.1. Enhanced User Experience

Advanced Search and Filter Options: Implement advanced search functionalities based on location, service provider availability, ratings, specializations, and customer reviews.

Mobile App Development: Create a mobile application for user-friendly experience on the go, allowing customers to manage bookings, receive notifications, and communicate with service providers easily.

Personalization: Integrate features like personalized recommendations based on user history and preferences.

6.2. Service Provider Features

Background Checks and Verification: Implement processes to verify service provider credentials and qualifications, enhancing user trust and safety.

Specialization Options: Allow providers to list specializations within their service categories, attracting customers seeking specific expertise.

Marketing and Promotion Tools: Offer tools for service providers to promote their services within the platform, increasing visibility and attracting new customers.

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