Software Requirements Specification

for

Online Home Services Booking System

Version 1.1 approved

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1 Introduction

1.1 Purpose/Objective

The purpose of this **Software Requirements Specification (SRS)** document is to define the requirements for developing an **Online Home Services Booking System**. The objective of the system is to provide a convenient platform where customers can search, compare, and book various home services (such as plumbing, electrical repairs, cleaning, pest control, salon-at-home, etc.) from verified service providers. This system aims to enhance accessibility, reduce manual effort, and build trust by offering secure payments, customer reviews, and reliable service management.

1.2 Document Conventions (Definition, Acronyms, Abbreviations)

1.1.1 Alignment

There entire document is in justified alignment.

1.1.2 Convention for the Title

1.1.2.1 Font Face: Times New Roman

1.1.2.2 Font Style: Bold

1.1.2.3 Font Size: 14

1.1.3 Convention for the Body

1.1.3.1 Font Face: Times New Roman

1.1.3.2 Font Size: 12

1.1.4 Abbreviations

1.1.4.1 OS: Operating System

1.1.4.2 UX: User Experience

1.1.4.3 Admin : Administrator

1.1.4.4 RAM : Random Access Memory

1.3 Scope

The Online Home Services Booking System provides an integrated platform for customers and service providers. Customers can register, browse services, compare providers, check availability, and make secure bookings with ease. Service providers can manage their profiles, service listings, and availability schedules. The system also includes an admin panel for monitoring user activities, resolving disputes, and maintaining overall system efficiency. Key features include user authentication, real-time booking, secure payment integration, ratings and reviews, and automated notifications. The system will be accessible via both web and mobile platforms, ensuring usability across different devices.

1.4 References

- Pressman, R. S., *Software Engineering: A Practitioner's Approach*.
- Wiegers, K. E., & Beatty, J., *Software Requirements*.
- IEEE Std 29148-2018, *Systems and Software Engineering — Requirements Engineering*.
- GeeksforGeeks, *Software Requirement Specification (SRS)*, available at: https://www.geeksforgeeks.org/software-requirement-specification- srs/

2 History/Background Study (Sources of Domain Knowledge)

2.1 Technical Literature

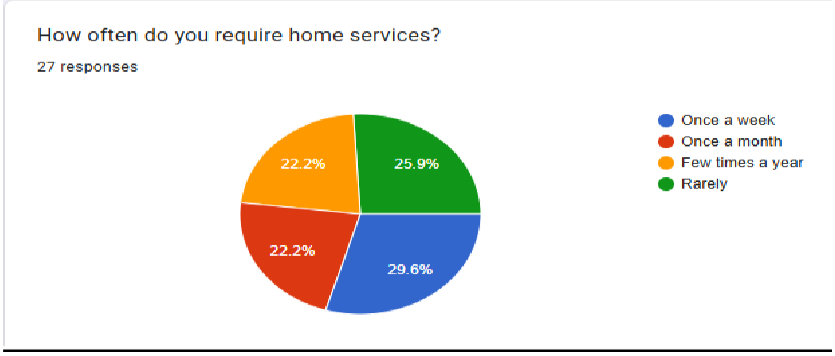
Several studies and technical reports highlight the rapid growth of on-demand service platforms driven by urbanization, increased smartphone penetration, and advancements in secure payment technologies. Research on Human- Computer Interaction (HCI) and e-commerce usability provides guidelines for creating simple, intuitive booking interfaces. Literature on cloud computing, microservices, and mobile-first design further emphasizes the importance of scalability, real-time availability, and security in such systems.

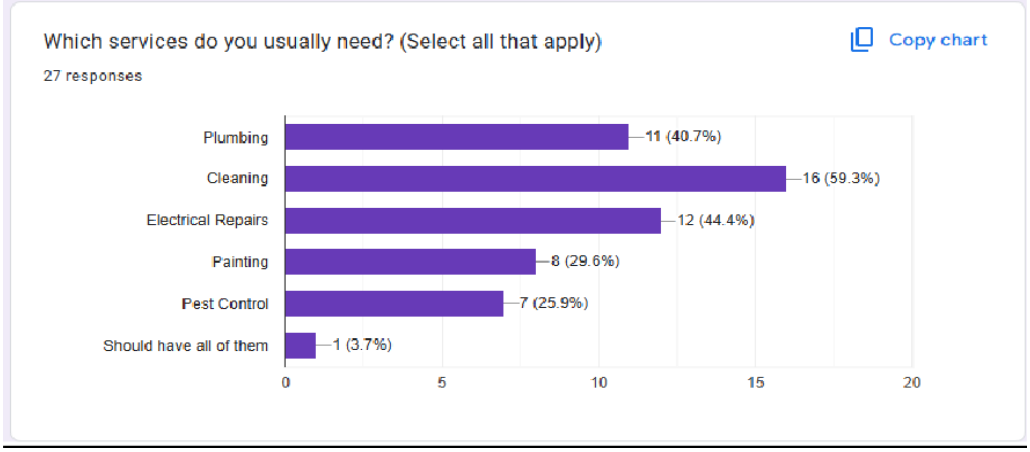
2.2 Existing Applications

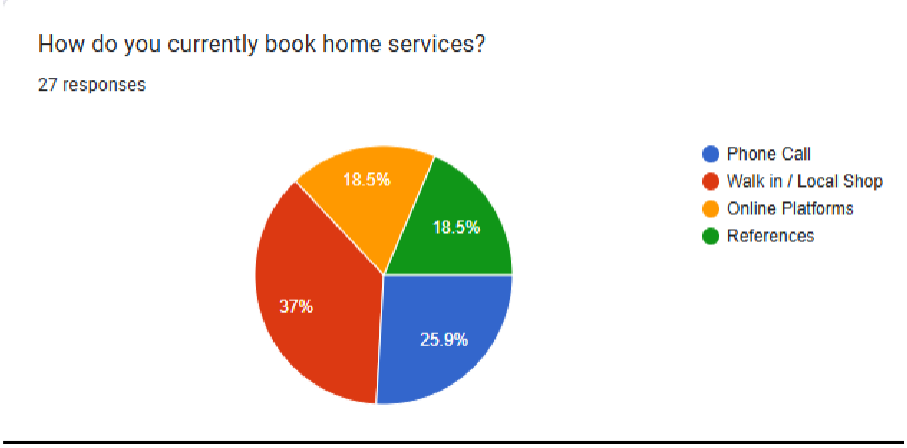
Well-known applications like Urban Company (formerly UrbanClap), HouseJoy, and TaskRabbit demonstrate the effectiveness of digital platforms in connecting customers with service providers. These applications offer insights into essential features such as service categorization, scheduling, reviews and ratings, and digital payments. However, many existing platforms face challenges related to service quality control, availability in semi-urban areas, and competitive pricing—gaps that this system aims to address.

2.3 Customer Surveys

Sheet Link
Form Link



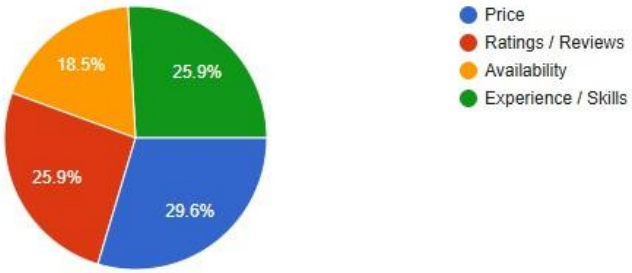

Which services do you usually need? (Select all that apply)
Copy chart
27 responses
Plumbing
Cleaning
Electrical Repairs
Painting
Pest Control
Should have all of them
11 (40.7%)
16 (59.3%)
12 (44.4%)
8 (29.6%)
7 (25.9%)
1 (3.7%)
0
5
10
15
20


How do you currently book home services?
27 responses
18.5%
18.5%
37%
25.9%
Phone Call
Walk in / Local Shop
Online Platforms
References


Would you prefer booking through:
27 responses
29.6%
22.2%
48.1%
A mobile app
A website
Both

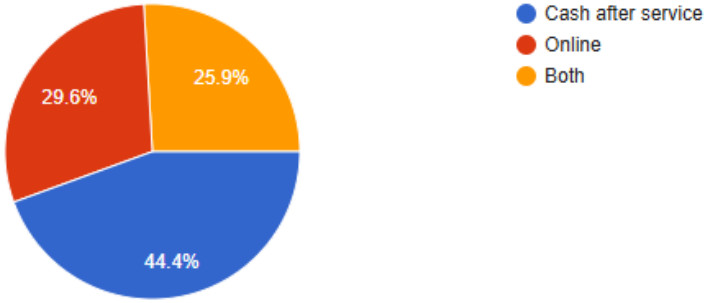
What factors influence your choice of service provider the most?

27 responses



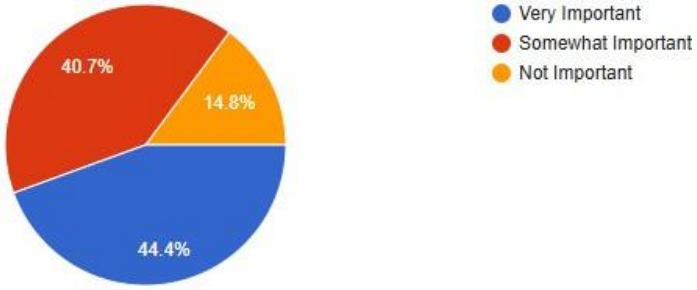
What payment options do you prefer?

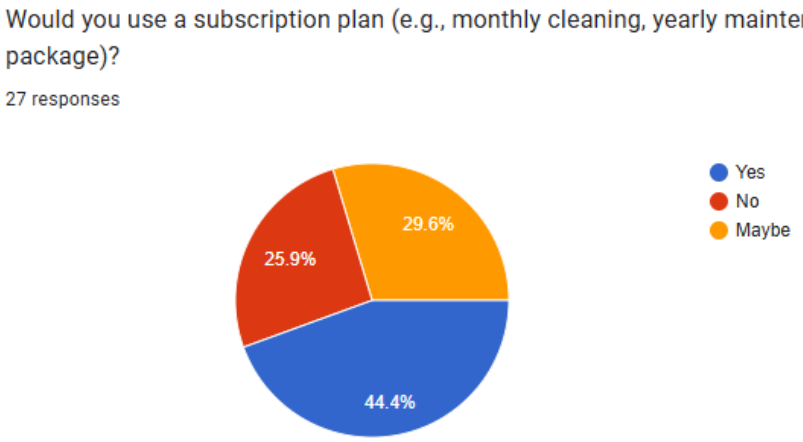
27 responses



How important is real-time tracking/updates of the service provider?

27 responses





2.4 Expert Advice

Domain experts, including IT consultants, service industry professionals, and small business owners, emphasize the need for features such as real-time tracking, automated notifications, secure transactions, and dispute resolution mechanisms. Technical experts also suggest prioritizing data security, user authentication (OTP or biometric), and efficient backend management for scaling the system as demand increases.

2.5 Current/Future requirements

Currently, the system must support booking, service listings, payments, and reviews. In the future, advanced features like AI-driven recommendations, loyalty programs, multi-language support, and IoT-based service requests may be added.

3 Overall Description

3.1 Product Functions

3.1.1 Hardware Requirement

The system requires minimal hardware resources for end- users, such as a smartphone or computer with internet access. On the server side, a reliable hosting environment with sufficient processing power, storage, and memory is needed to handle multiple requests and ensure scalability. Cloud infrastructure can be used for better performance and reliability.

3.1.2 Software Requirement

- **Operating System:** Windows / Linux / macOS (for server), Android/iOS (for mobile access)

- **Database:** MySQL / PostgreSQL or any relational DBMS
- **Front-end:** HTML, CSS, JavaScript (for student and admin interface)
- **Back-end:** PHP / Java / Python / Node.js (to handle logic and database operations)
- **Web Browser:** Chrome, Firefox, Edge (for client access)
- **Other Tools:** XAMPP/WAMP for local setup, Cloud hosting (optional for deployment)

3.2 Functional Requirements

3.2.1 User Registration

3.2.1.1 Sign Up

- **Description**: Allows users to sign up.
- **Input**: Name, Email, Phone, Password, Address , Username
- **Output**: Registration success.
- **Error**: Duplicate email.

3.2.1.2 Login

- **Description**: Allows users to login
- **Input**: Username , Password
- **Output**: Login Success
- **Error**: Invalid credentials

3.2.1.3 Forgot Password

- **Description**: Users will be able to reset their password if forgotten.
- **Input**: User clicks "Forgot Password?", enters registered email, and sets new password.
- **Output**: Display "Password Changed Successfully."
- **Error**: Invalid email / Mismatched credentials.

3.2.2 Customer View

3.2.2.1 Home Page

- **Description**: Customers can view available services and their personal dashboard.
- **Input**: None.
- **Output**: Display dashboard with service categories, current bookings,

and offers.

- **Error**: Account not found / Poor internet connection.

3.2.2.2 Search and Browse Service

- **Description**: Customers can search services by category, location, or keyword.
- **Input**: Search keyword or filter selection
- **Output**: Display list of matching services with provider details.
- **Error**: No results found / Server error.

3.2.2.3 Book Service

- **Description:** Customers can book an available service at their preferred time.
- **Input**: Select service, time, and confirm booking..
- **Output**: Display "Booking Confirmed" and update booking list.
- **Error**: Service not available / Payment failure..

3.2.2.4 Cancel/Reschedule

- **Description**: Customers can cancel or reschedule previously booked services.
- **Input**: Select booking and choose cancel or reschedule.
- **Output**: Booking status updated.
- **Error**: Booking not found / Reschedule not available.

3.2.2.5 Payment

- **Description**:Customers can make secure online payments.
- **Input**: Payment details (card/UPI/wallet).
- **Output**: Display "Payment Successful" and update records.
- **Error**: Payment declined / Transaction timeout.

3.2.2.6 Rate & Review

- **Description**: Customers can provide feedback for completed services.
- **Input**: Rating (1–5 stars) and optional comments.

- **Output**: Display "Review Submitted Successfully."
- **Error**: Submission failed / Network error.

3.2.3 Service Provider View

3.2.3.1 Provider Dashboard

- **Description**: Service providers can view assigned bookings and account details..
- **Input**: Credentials.
- **Output**: Display dashboard with pending, ongoing, and completed services.
- **Error**: Invalid login / Poor internet connection.

3.2.3.2 Manage Availability

- **Description**: Providers can set their available time slots and service areas.
- **Input**: Availability schedule.
- **Output**: Updated availability displayed to customers.
- **Error**: Invalid schedule/Server Error.

3.2.3.3 Accept/Reject Service Request

- **Description**: Providers can accept, reject, or reschedule service requests.
- **Input**: Click accept/reject/reschedule for a booking.
- **Output**: Display updated booking status.
- **Error**: Booking not found / System error.

3.2.3.4 Update Service Details

- **Description**: Providers can update pricing, descriptions, and service options.
- **Input**: Service details
- **Output**: Display "Service Updated Successfully."

3.2.3.5 View Ratings and Feedback

- **Description:** Providers can check reviews submitted by customers.
- **Input:** None
- **Output:** Display list of ratings and feedback.
- **Error:** No reviews available

3.2.4 Admin View

3.2.4.1 Login As Admin

- **Description**: Admins can securely log in to the system.
- **Input**: Credentials.
- **Output**: Admin Dashboard
- **Error**: Unauthorized access.

3.2.4.2 Manage Users and Providers

- **Description**: Admins can approve, suspend, or delete customer and provider accounts.
- **Input**: User/Provider Details
- **Output**: Display "Account Updated Successfully."
- **Error**: Database failure.

3.2.4.3 Monitor Bookings & Payments

- **Description**: Admins can track overall bookings and payment transactions
- **Input**: Select booking/payment records.
- **Output**: Display reports of transactions and booking trends.
- **Error**: No results.

3.2.4.4 Review Reports

- **Description**: Admins can add, update, or remove service categories.
- **Input**:Service details (name, description, category).
- **Output**: Display "Service Updated Successfully."

3.2.4.5 Generate Reports

- **Description:** Admins can generate usage, revenue, and performance reports.
- **Input:** Select report type and timeframe.
- **Output:** Display report in tabular/graphical format.
- **Error:** Report generation failed / No data available.

3.3 Non-Functional Requirements

3.3.1 Correctness Requirement

The system must ensure accurate booking details, including service type, time, and provider information. Data validation techniques will be applied to avoid errors during registration, payments, or scheduling. Consistency of records will be maintained across all modules.

3.3.2 Portability requirement

The system should be accessible on different platforms such as desktops, laptops, and mobile devices. It must function properly across common web browsers without requiring additional installation or modifications.

3.3.3 Efficiency Requirement

The system must handle multiple concurrent bookings without performance issues. Response time for service searches and bookings should be within 2–3 seconds. Resource usage will be optimized to maintain scalability as user demand increases.

3.3.4 Usability Requirement

The interface should be intuitive, user-friendly, and accessible to both tech-savvy and non-technical users. Clear navigation, simple forms, and visual feedback (notifications, confirmations) will be provided. Accessibility standards (contrast, font size, assistive tools) will be considered.

3.3.5 Reusability Requirement

System components such as authentication, payment integration, and notification services should be designed as reusable modules. This will allow future extensions like new service categories or external integrations without major redevelopment.

3.3.6 Reliability Requirement

The system must provide consistent and dependable services with minimal downtime. Backup and recovery mechanisms will be implemented to prevent data loss. The system should maintain 99% uptime for critical functionalities.

3.3.7 Maintainability Requirement

The system should follow modular design principles to simplify updates, debugging, and improvements. Clear documentation and code commenting will support easier maintenance. Regular patches will be provided for security and feature enhancements.

3.4 User Characteristics

The system will serve three main user groups: **customers, service providers, and administrators**. Customers may range from tech-savvy individuals to those with limited digital skills, so the interface must remain simple. Service providers will require easy tools for managing schedules, while admins will need advanced controls for monitoring and reporting.

3.5 Design & Implementation Constraints

The system will depend on reliable internet connectivity for smooth operation. It must comply with security standards for payment integration and user data protection. Development will be limited by budget, available technology stack, and hosting resources.

3.6 Assumptions & Dependencies

It is assumed that users will have access to a stable internet connection and a compatible device. The system depends on third-party services such as payment gateways, SMS/Email notifications, and hosting providers. Any disruption in these external services may temporarily affect system performance.

4 Interface Requirements

4.1 User Interfaces

The system will feature a clean and intuitive interface accessible via both web browsers and mobile applications. Customers will have dashboards for browsing services, booking, and payments, while service providers can manage availability and requests. Admin interfaces will include reporting, monitoring, and dispute resolution tools.

4.2 Hardware Interfaces

For end-users, the system requires standard devices such as smartphones, tablets, or PCs with internet access. On the server side, hardware interfaces may include hosting servers, cloud storage, and backup systems. No special hardware beyond standard computing devices is required.

4.3 Software Interfaces

The system will integrate with databases for storing user and booking information, secure payment gateways for transactions, and notification APIs (SMS/Email). It will be compatible with modern operating systems and browsers, and may use cloud-based services for scalability.

4.4 Communication Interfaces

The system will rely on internet protocols (HTTP/HTTPS) for client-server communication. Secure communication channels with encryption (SSL/TLS) will be used to protect sensitive data. Integration with third-party APIs will also require stable communication interfaces.

5 Conclusion

The Online Home Services Booking System aims to provide a convenient, reliable, and efficient platform for connecting customers with verified service providers. By integrating essential features like secure payments, scheduling, and reviews with strong non-functional requirements, the system ensures usability, scalability, and trustworthiness. Future enhancements such as AI-driven recommendations and IoT integration will make the platform adaptable to changing customer needs and technological advancements.