

# Team 1101

## Problem Statement: Instant Service Booking System

### Description

Users need a fast and simple way to book house help services like cleaning, plumbing, Electrician, cooking, etc. The system should allow instant booking and show estimated arrival time.

### Requirements

- User registration & login
- Service category selection
- Instant booking option
- Booking confirmation with unique ID
- Estimated arrival time display
- Booking history section

### Objective

Create a system where users can book house help services and receive assistance within 15 minutes using smart automation.

## Tech Stack:

### Backend

- Runtime Environment: Node.js
- Server Framework: Express.js
- Database: MongoDB
- ODM (Object Data Modeling): Mongoose
- Authentication & Security  
JWT (JSON Web Tokens)  
bcryptjs (Password hashing)  
cookie-parser (Cookie handling)  
CORS (Cross-Origin Resource Sharing)
- Development Tools
  - Nodemon (Auto-restart during development)

## Frontend

- Core Library: React.js
- Styling
  - Tailwind CSS
  - DaisyUI
- HTTP Client: Axios
- State Management: Zustand
- Icons: Lucide React
- Notifications: React Hot Toast
- Other Utilities: Additional supporting libraries and packages

## Solution Overview

We propose a structured digital platform that connects households with verified service helpers in a safe, transparent, and organized manner.

The platform operates in three modes:

- User Mode
- Helper Mode
- Admin Mode

Each role has defined responsibilities to ensure smooth and secure service delivery.

## User Experience

- Users can **book services** such as plumbing, electrical work, cooking, cleaning, car washing, and gardening. They can **manually choose helpers** based on ratings and availability.
- Each booking generates a **unique service ID** for tracking.
- Users receive **real-time status updates**, including acceptance confirmation, arrival time, and delay notifications. A live countdown ensures transparency.
- After the service is completed, the user confirms the job, payment is processed, and **transaction details are recorded**.
- The platform includes a **two-way rating system**, allowing both users and helpers to review each other, building trust and accountability.
- For safety, users can access **real-time customer support** and immediately **report any issues or threats** to the admin.

## Helper Experience

- Helpers can **select their service categories** and **manage their availability**.
- They receive **time-bound work requests** and can track their **booking history** and **total earnings**. Payments are credited after job confirmation.
- The rating system allows hardworking helpers to **build credibility** and receive more opportunities.

## Admin Control

The admin plays a central role in maintaining platform integrity, safety, and fairness.

The admin dashboard provides complete visibility of:

- All registered users and helpers
- Active and inactive accounts
- All booking records
- Ratings and feedback
- Complaints and dispute history

The admin can:

- Respond to customer complaints in real time
- Monitor ongoing bookings if a safety issue is reported
- Temporarily suspend or investigate accounts involved in disputes
- Ensure fair resolution between users and helpers

This structured oversight ensures that the platform remains safe, regulated, and trustworthy.

## Unique Features

**Apartment & Corporate Integration Model:** In addition to individual users and businesses, the platform aims to collaborate directly with high-rise apartment complexes and corporate facilities to become their standardized service management partner.

**Behavioral AI Matching System:** To enhance user comfort, trust, and service quality, the platform incorporates a Behavioral AI Matching system that intelligently connects users with the most suitable helpers.

1. Language Compatibility
2. Gender Preference Matching
3. Similar Past Service History

**On-Demand Workforce Replacement System:** To support business continuity and expand beyond household services, the platform introduces an On-Demand Workforce Replacement System. This feature enables businesses to quickly fill temporary staff shortages through a structured and transparent request mechanism.