# TE Mini Project – 2 A

## NeatNest

T.E. mini-project report submitted in partial fulfilment of the requirements of the degree of

**Information Technology**

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# Certificate

This is to certify that the T.E. mini-project entitled **"NeatNest"** is a bonafide work of **"Mohammed Parkar" (07) [TEIT-2], "Bhavesh Patil" (11) [TEIT-2], "Yoman Tamboli"[TEIT-2]** and **"Amit Yadav" [TEIT-2]** submitted to University of Mumbai in partial fulfilment of the requirement for the award of the degree of **"Information Technology"** during the academic year 2025–2026.

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# T.E. Mini-Project Report Approval

This mini-project synopsis entitled ***NeatNest*** by ***Mohammed Parkar, Bhavesh Patil, Yoman Tamboli, Amit Yadav*** is approved for the degree of ***Information Technology*** from ***University of Mumbai***.

**Examiners**

1.

2.

Date:

Place:

# Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will cause disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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# Abstract

NeatNest is an innovative web-based platform designed to address the growing challenge of finding reliable cleaning services in metropolitan areas like Mumbai, where the demand for professional domestic help often exceeds the available supply of skilled workers. The platform connects users with verified and trained cleaning professionals through an intuitive interface, allowing them to conveniently book one-time, room-specific, or subscription-based cleaning services tailored to their preferences and budget. Developed using modern web technologies such as HTML, CSS, JavaScript (or React.js) for the frontend, Node.js or Django for the backend, and MongoDB or MySQL for the database, NeatNest ensures a secure, efficient, and user-friendly experience. It incorporates features like digital payment integration, real-time service tracking, and feedback management to promote transparency and trust between users and service providers. Beyond providing convenience, NeatNest contributes socially by generating verified employment opportunities for cleaners, promoting hygiene awareness, and supporting time-saving solutions for working professionals and elderly residents. Scalable to other urban areas, the platform can also extend its offerings to include related services like pest control and sanitization. Overall, NeatNest provides a reliable, technology-driven solution that enhances cleanliness, organization, and comfort in urban households while aligning with India's smart city and digital service goals.

***Keywords— On-Demand Cleaning, Smart Scheduling, Web-Based Platform , Urban Home Services.***

# Table of Contents


| Chapter | Topic | Page No. |
|---|---|---|
| | **Abstract** | **v** |
| | **List of Figures** | **vii** |
| | **List of Tables** | **viii** |
| | **List of Abbreviations** | **ix** |

| | | |
|---|---|---|
| **Chapter 1** | **Introduction** | |
| | 1.1 Motivation & Objective | |
| | 1.2 Problem Statement | |
| | 1.3 Scope | |
| **Chapter 2** | **Review of Literature** | |
| **Chapter 3** | **Existing System and Proposed system (Revenue generation and Business canvas)** | |
| **Chapter 4** | **Business Model** | |
| **Chapter 5** | **Methodology** | |
| | 5.1 Block diagram | |
| | 5.2 Technology Used | |
| | 5.3 Implementation | |
| | 5.3.1 Algorithm/Flowchart | |
| | 5.3.2 UML/DFD | |
| | 5.3.3 Pseudo Code | |
| **Chapter 6** | **ResultsandDiscussion (**Screenshots of the output with description ) | |
| **Chapter 7** | **Conclusion** | |
| **Chapter 8** | **Future Scope** | |
| | **References** | |

# List of Figures


| Figure No. | Figure Name | Page No. |
|---|---|---|
| 5.1 | Block Diagram Flowchart | 11 |
| 5.3 | Feed/Home | 15 |
| 5.3 | Page | 16 |
| 6.1 | Home Page | 20 |
| 6.3 | Service Page | 20 |
| 6.3 | Contact us Page | 21 |

# List of Tables


| Table No. | Table Name | Page No. |
|---|---|---|
| 2.1 | Review of Literature | 11 |




# List of Abbreviations

| | |
|---|---|
| **ACE** | Atharva College of Engineering |
| **API** | Application Programming Interface |
| **CRUD** | Create, Read, Update, Delete |
| **DFD** | Data Flow Diagram |
| **SRS** | Software Requirement Specification |
| **TPC** | Training and Placement Cell |
| **UI** | User Interface |
| **UML** | Unified Modeling Language |

# Chapter 1

# Introduction

## 1.1 Motivation and Objective

In rapidly growing urban centers like Mumbai, residents increasingly face challenges in finding consistent, trustworthy, and skilled domestic help due to rising demand and a shrinking pool of reliable workers. Busy professionals and families often struggle to maintain cleanliness and hygiene because of their hectic lifestyles and lack of dependable cleaning options. Motivated by these issues, NeatNest aims to develop a web-based platform that bridges this gap by connecting users with verified, trained, and professional cleaning staff. The platform focuses on providing flexible service options such as one-time, room-specific, and subscription-based cleaning packages that cater to different user needs and budgets. Its objectives include ensuring transparency through verified profiles, integrating secure digital payments, and offering a seamless booking experience via an intuitive interface. By leveraging modern web technologies, NeatNest aspires to make professional cleaning services more accessible, affordable, and structured for urban households. Additionally, the project seeks to promote hygiene awareness, generate verified employment opportunities, and reduce dependency on unorganized domestic help. Ultimately, NeatNest contributes to improving the quality of urban living while supporting the vision of smart, technology-enabled cities that prioritize convenience, safety, and cleanliness in everyday life.

## 1.2 ProblemStatement

In metropolitan cities like Mumbai, finding reliable and skilled domestic help has become increasingly difficult due to rising demand and a lack of trustworthy workers. Traditional maid-hiring methods lack professionalism, consistency, and safety, leading to irregular service and hygiene issues. Post-pandemic awareness has heightened the need for dependable and verified cleaning solutions, yet the market remains largely unorganized. There is no digital system to schedule or manage cleaning efficiently. NeatNest addresses this gap by providing a smart, web-based platform offering on-demand and subscription cleaning services with verified professionals, ensuring convenience, transparency, and reliability for urban households.

## 1.3 Scope

The scope of NeatNest encompasses the design and development of a web-based platform that simplifies booking and managing professional cleaning services for urban households and offices. The system allows users to choose from various service options, including one-time, room-specific, and subscription-based cleaning packages, providing flexibility according to their needs and budget. It integrates secure digital payment options, real-time service tracking, and a feedback system to ensure transparency and reliability. An admin panel enables management of staff performance, availability, and user feedback. The platform is scalable, allowing easy expansion to other cities and the addition of new services such as pest control or sanitization. NeatNest not only addresses the scarcity of trustworthy domestic help but also promotes hygiene, creates employment opportunities for trained cleaners, and supports India’s vision of a digital, organized, and efficient service ecosystem for modern urban living.

# Chapter 2

# Review ofLiterature

| NAME | AUTHOR | YEAR | SUMMARY |
|---|---|---|---|
| BLOCKCHAIN-BASED TRUSTED ACHIEVEMENT RECORD SYSTEM DESIGN | AWAJI, SOLAIMAN & MARSHALL | *INTERNATIONAL CONFERENCE ON INFORMATION AND EDUCATION INNOVATIONS (ICIEI), 2020* | PROPOSES A BLOCKCHAIN-BASED SYSTEM FOR VERIFIABLE ACADEMIC AND NON-ACADEMIC ACHIEVEMENTS. MATCHES THE IDEA OF STRUCTURED AND VERIFIED STUDENT TIMELINES WITH INTEGRITY GUARANTEES. |
| SEEK FOR SUCCESS: A VISUALIZATION APPROACH FOR UNDERSTANDING THE DYNAMICS OF ACADEMIC CAREERS | YIFANG WANG, TAI-QUAN PENG, HUIHUA LU, HAOREN WANG, XIAO XIE, HUAMIN QU & YINGCAI WU | *IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS, 2022* | INTRODUCES A VISUALIZATION SYSTEM TRACKING CAREER TRAJECTORIES OVER TIME USING TIMELINES, MULTI-FACTOR IMPACT ANALYSIS. USEFUL INSPIRATION FOR YOUR STUDENT TIMELINE VISUALIZATION AND PROGRESS METRICS. |
| SCOPING REVIEW: USE OF ACADEMIC SOCIAL NETWORKING SITES IN SCHOLARLY COMMUNICATION | MILKYAS HAILU | *DATA & INFORMATION MANAGEMENT, 2021* | A SYSTEMATIC REVIEW OF ACADEMIC SOCIAL NETWORKS — MOTIVATIONS, FUNCTIONALITIES, IMPACT ASSESSMENT, AND FEATURE GAPS. OFFERS INSIGHTS INTO PLATFORM DESIGN AND WHAT'S UNDER-RESEARCHED IN THE ASN SPACE. |
| EDUCHAIN: A BLOCKCHAIN-BASED EDUCATION DATA MANAGEMENT SYSTEM | YIHAN LIU, KE LI, ZIHAO HUANG, BOWEN LI, GUIYAN WANG & WEI CAI | *COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE (CCIS),* | PROPOSES A HYBRID MODEL COMBINING PRIVATE AND CONSORTIUM BLOCKCHAINS TO MANAGE ACADEMIC DATA SECURELY. APPLIES TO MANAGING TRANSCRIPTS, CERTIFICATIONS, AND STUDENT PORTFOLIOS WITH HIGH RELIABILITY. |

# Chapter 3

# Existing Systems and Proposed Systems

## Existing System

Currently, most urban residents rely on unorganized and informal domestic help or manual searching for cleaning services through word-of-mouth, classifieds, or social media.

- **Unorganized Workforce**: Cleaning services are mostly unregistered or unverified, leading to inconsistent quality and safety concerns.

- **Manual Hiring Process**: Customers contact maids or cleaners directly without proper verification, resulting in time-consuming and uncertain hiring.

- **No Scheduling System**: There is no digital platform for users to plan, track, or manage regular cleaning tasks according to their convenience.

- **Limited Availability:** Finding help on short notice or for specific needs (like only kitchen or bathroom cleaning) is difficult.

**Proposed System**

The proposed NeatNest system provides a digital solution to streamline and organize cleaning services using technology. It connects customers with verified cleaning professionals through a secure, user-friendly web platform.

• **Online Booking:**: Users can schedule one-time, room-specific, or subscription-based cleaning through an interactive web interface.

- **Verified Professionals:**: All cleaners are background-checked and trained to ensure safety, reliability, and service quality.

- **Real-Time Analytics and Skill Heatmaps:** The system delivers actionable insights into department-wide skill distributions and placement readiness, enabling proactive curriculum and student support adjustments.

- **Secure and Scalable Architecture:** Ensures data privacy, compliance, and seamless multi-role access across stakeholders.

# Chapter 4

# Business Model

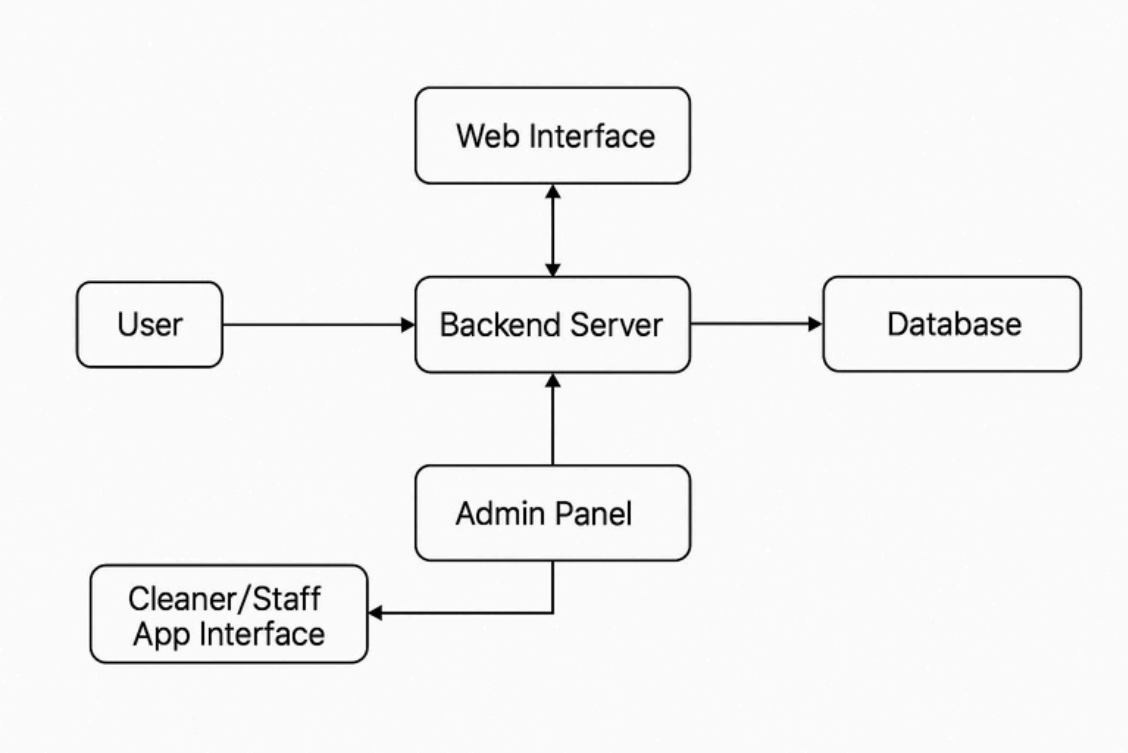
The NeatNest business model is designed to bridge the gap between urban households and verified cleaning professionals through a digital, service-oriented approach. It operates as a two-sided platform where customers can easily book cleaning services, while registered cleaners can access job opportunities based on availability and location. Users can choose between flexible service options such as one-time cleaning, room-specific cleaning, or subscription-based packages for weekly or monthly maintenance. Pricing is determined by service type, duration, and home size, ensuring affordability and transparency. Integrated digital payments, user reviews, and feedback systems ensure trust, accountability, and consistent service quality.

From a revenue perspective, NeatNest follows a commission-based and subscription-driven model. A percentage of each service fee goes to the platform, while cleaners receive the majority share as earnings. Additionally, subscription plans offer recurring revenue from regular customers who prefer ongoing cleaning arrangements. The platform also holds potential for partnerships with cleaning product brands, advertisements, and premium service upgrades. By combining convenience, reliability, and scalability, NeatNest creates a sustainable ecosystem that benefits customers seeking hygienic living, cleaners looking for steady employment, and the company aiming for growth in India’s expanding on-demand service economy.

# Chapter 5

# Methodology

## 5.1 Block Diagram



### 5.2 Technology Used

To build a scalable, secure, and maintainable platform, the following technologies have been adopted:

- **Frontend:** Built using HTML, CSS, and JavaScript facilitates a responsive and intuitive user interface.
- **Backend:** Node.js with Express framework provides RESTful APIs, business
- **Database:** MySQL and MongoDB supports structured and unstructured data storage with high availability.

## 5.3 Implementation

The implementation of NeatNest focuses on creating a responsive and user-friendly web platform using HTML, CSS, and JavaScript. The frontend is designed with a clean layout and intuitive navigation, allowing users to easily explore services, select room types, and book cleaning schedules. HTML provides the structure of the web pages, CSS enhances the visual aesthetics with proper alignment, color schemes, and responsiveness, while JavaScript handles dynamic behavior such as form validation, button actions, and smooth transitions. Together, these technologies ensure a seamless and interactive user experience across all devices.
The development process follows a modular approach where each webpage—such as Home, Services, About, and Contact—is individually designed and later integrated into a unified interface. Special attention is given to responsiveness to ensure accessibility on mobile, tablet, and desktop devices. Basic validation and confirmation features are implemented to improve reliability during user input. In the next phase, backend integration with a database and authentication system can be added to make the platform fully functional. Overall, NeatNest demonstrates how simple web technologies can be effectively utilized to design an efficient, attractive, and accessible online cleaning service platform.

### 5.3.1 Algorithm/Flowchart

The NeatNest system follows a step-by-step algorithm to ensure smooth booking and management of cleaning services. First, the user opens the website and is presented with a clean and responsive interface. The system displays available cleaning options such as one-time, room-specific, or subscription-based services. The user then selects the desired service type, provides necessary details like room count, preferred date, and time, and submits the form. JavaScript validates all inputs to ensure correctness and completeness before processing. Once validated, the system confirms the booking and displays a success message to the user. The information is then stored or forwarded for further backend processing. If invalid inputs are detected, the system prompts the user to correct them before proceeding. This algorithm ensures efficiency, reduces user errors, and provides a smooth and interactive experience, allowing users to conveniently manage home cleaning services through a single web platform.

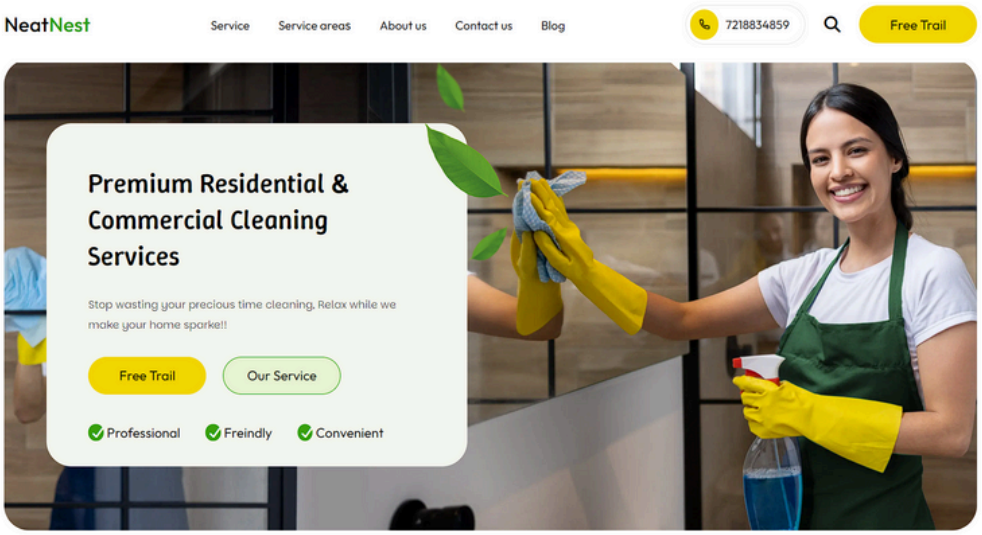
## 5.3.3 Pseudo Code

```
BEGIN

  // Menu toggle functionality
  SET toggleButton ← element with id 'toggle'
  SET menu ← element with class 'menu'

  WHEN toggleButton is CLICKED DO
     TOGGLE 'active' class of menu
  END WHEN

  // Form handling
  SET form ← first form element
  SET username ← element with id 'usernamee'
  SET useremail ← element with id 'useremail'
  SET userphone ← element with id 'phoneno'
  SET homeSize ← element with id 'sqft'
  SET usercity ← element with id 'usercity'
  SET userservice ← element with id 'servicename'

  WHEN form is SUBMITTED DO
     PREVENT default submission

     READ uname ← username.value
     READ uemail ← useremail.value
     READ uphone ← userphone.value
     READ uhomesize ← homeSize.value
     READ ucity ← usercity.value
     READ uservice ← userservice.value

     DISPLAY "Data Collected"
     DISPLAY all user input values in console
     SHOW alert message "Hi! [username], Response Submitted"

     CLEAR all form input fields
```

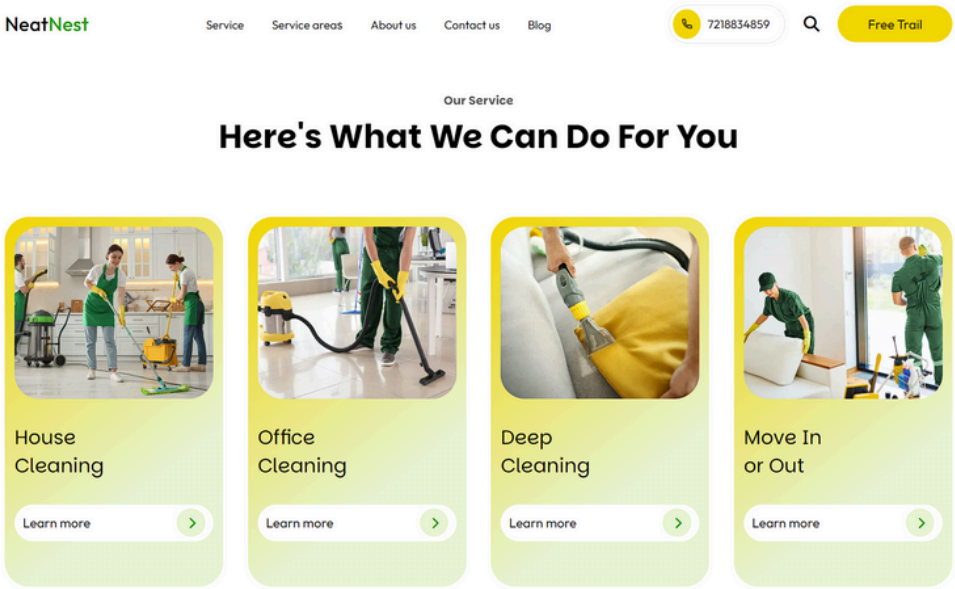
```
END WHEN
    END
```

# Chapter 6

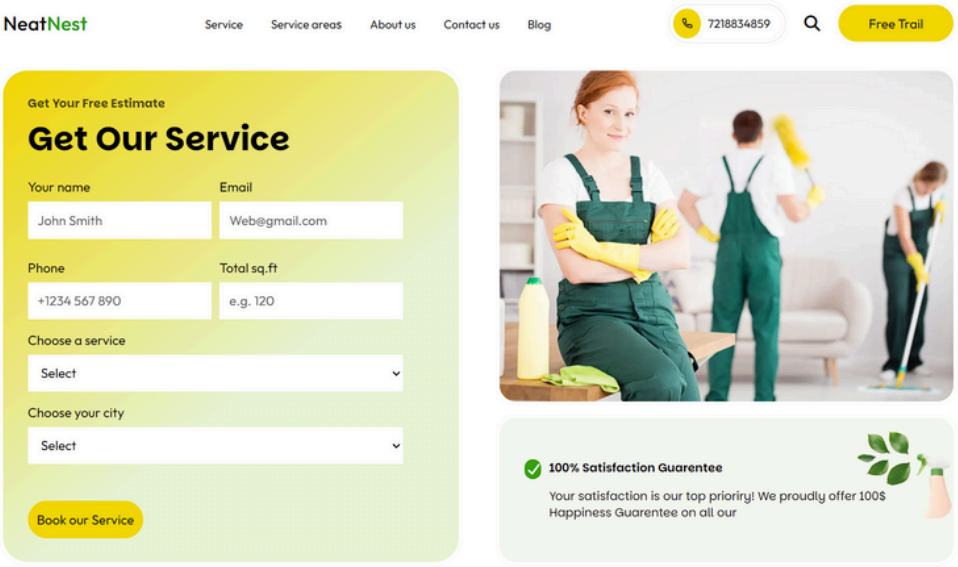
# Results and Discussion




6.1 Feed/Home Page




6.2 Service Page




6.3 Contact Us Page

# Chapter 7

# Conclusion

The NeatNest project successfully addresses one of the major challenges faced in urban areas — the difficulty of finding reliable and professional cleaning services. By developing a web-based platform using HTML, CSS, and JavaScript, the project provides an easy-to-use, interactive, and efficient system for booking cleaning services. The user-friendly interface and responsive design ensure accessibility across multiple devices, allowing users to conveniently schedule and manage their cleaning needs. The project demonstrates how technology can simplify daily household tasks while promoting hygiene and convenience in busy metropolitan lifestyles.

Furthermore, NeatNest not only benefits users but also creates new employment opportunities for verified and trained cleaning professionals. It helps build trust through transparent service listings, secure communication, and fair pricing options. The platform's flexible service models—one-time, room-specific, and subscription-based—enable users to select services as per their requirements and budget, making it adaptable and scalable for diverse user groups.

In conclusion, NeatNest showcases how a simple yet innovative digital platform can transform traditional housekeeping into a structured, technology-driven experience. It emphasizes the potential of web applications in solving real-world problems, promoting digital inclusion, and supporting smart city initiatives. Future enhancements such as backend integration, online payment systems, and real-time tracking can further strengthen the platform, making NeatNest a complete and reliable solution for modern urban households.

# Chapter 8

# FutureScope

The NeatNest platform holds great potential for further development and expansion in the future. Currently designed as a frontend-based system, it can be enhanced by integrating backend technologies such as Node.js or Django, along with databases like MongoDB or MySQL, to store user data and manage bookings securely. Features such as user authentication, service history, and digital payments can be incorporated to make the platform more reliable and functional. Additionally, implementing GPS-based location tracking can help assign cleaners based on proximity, improving efficiency and response time. A mobile application version can also be developed to make booking and management more convenient for users.

In the long term, NeatNest can evolve into a comprehensive home services platform by adding additional services like pest control, laundry, home sanitization, and handyman support. AI-based scheduling and feedback systems can be introduced to improve service quality and automate staff assignments. Collaboration with local cleaning agencies and digital payment partners can strengthen the business model, ensuring trust and scalability. With continuous updates and the integration of emerging technologies, NeatNest can become a leading digital solution for smart, hygienic, and efficient home management in urban and semi-urban regions across India.

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4. “Urban Cleaning Services Trends in India” – ResearchGate, 2022.
5. W3Schools – HTML, CSS, and JavaScript Tutorials (https://www.w3schools.com)