BYTEXL INTERNSHIP

V INTERNSHIP REPORT

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SUBMITTED TO

Dr. A. SUPRAJA REDDY
CLASS INCHARGE

Department of Electronics and Communication Engineering

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

INTERNSHIP REPORT 2024

SUBMITTED BY:

NAME: MANDA PAVAN KALYAN

ROLL NUMBER: 160122735116

BRANCH & SECTION: ECE-2

DATE: 27/11/24

Mentor Signature

CERTIFICATE OF COMPLETION

Attach Certificate of Internship

Certificate Number: 2024013502020

byteXL

CERTIFICATE OF COMPLETION

This certificate is awarded to

PAVAN KALYAN MANDA

160122735116

For successful completion of Summer online internship on technical skilling from 5th June 2024 to 27th July 2024, facilitated by byteXL.

Founder &CEO

Karun Tadepalli

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Organization Information:

Name of the organization:ByteXL

Duration of the internship: (90/90 hours)

Brief description about organization:

ByteXL was founded in 2019 with the aim of making students career ready with the right upskilling and empower them to compete with the world's best tech talent. We provided students with unlimited access to tech learning resources through a subscription model — at a price that everyone can afford. We provided them college education with IT Industry knowledge in emerging technologies, assistance from industry experts and digital tools preparing them and giving them a head start to their careerbyteXL was founded in 2019 with the aim of making students career ready with the right upskilling and empower them to compete with the world's best tech talent. We provided students with unlimited access to tech learning resources through a subscription model — at a price that everyone can afford. We provided them college education with IT Industry knowledge in emerging technologies, assistance from industry experts and digital tools preparing them and giving them a head start to their career

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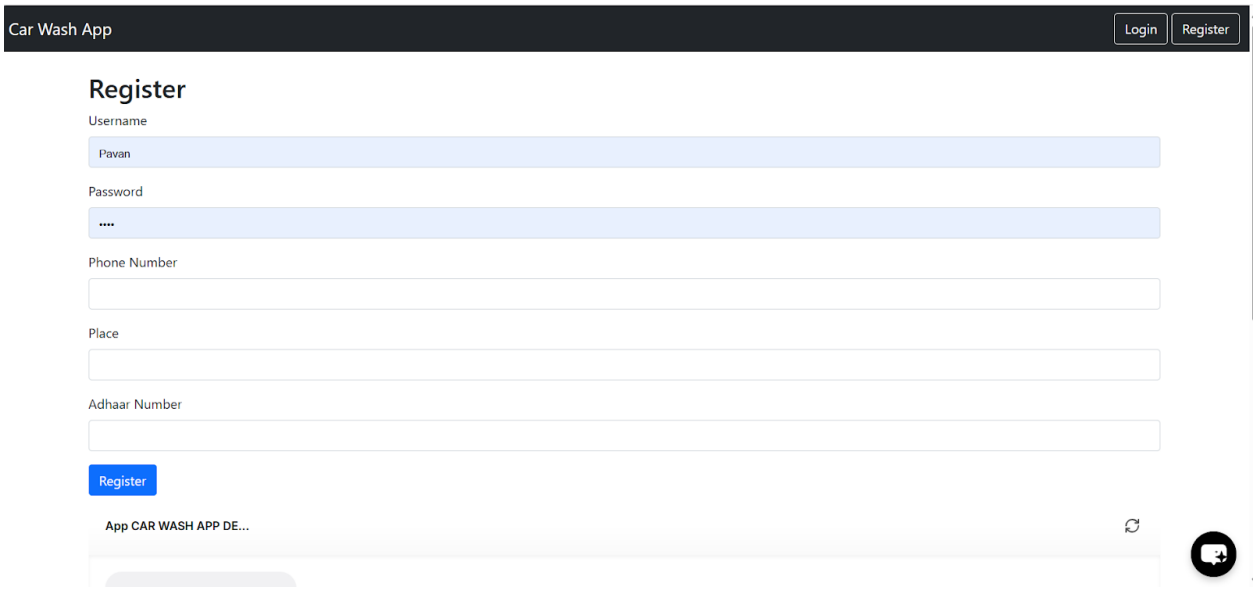
CAR WASH APP REPORT

1. Title Page

CAR WASH APP

Platform: HTML, CSS, Django (backend), DjangoDB (database)

Tools Used: Visual Studio Code



The Car Wash App is designed to simplify the process of booking car wash services. It connects customers with service providers, enabling seamless appointment scheduling while optimizing time management. This report discusses the application's architecture, features, actors, functionalities, and implementation details, with a focus on its user-friendly design and back-end efficiency.

Abstract

The Car Wash App is an innovative platform designed to bridge the gap between customers seeking car wash services and service providers looking to streamline their operations. Leveraging a combination of modern technologies—HTML and CSS for the front end, Django for backend logic, and DjangoDB for database management—the application offers a seamless user experience for both customers and administrators.

This application not only provides convenience and efficiency but also addresses key challenges faced by traditional car wash service operations, such as appointment management, task assignment, and service tracking.

The app primarily targets two user groups: customers and administrators. Customers can register and log in to the app to request appointments for car wash services. They are given the flexibility to choose from three types of services: internal wash, external wash, and comprehensive wash. This categorization ensures that customers can tailor their requests to their specific needs. The registration process is simple, requiring basic details like name, phone number, and Aadhaar number to ensure identity verification and service personalization. Once registered, customers can easily manage their appointments and access the status of their requests.

The administrative side of the app is equipped with tools to simplify and optimize service management. Administrators can log in to view all customer appointment requests. They have the authority to accept or reject appointments based on resource availability or other factors. Once an appointment is accepted, it can be assigned to a specific employee, ensuring efficient task delegation and accountability. The app also allows administrators to track service history by viewing the last 10 delivered appointments or accessing a complete log of all past services.

From a technical perspective, the Car Wash App is built on a robust architecture that ensures scalability and performance. The front end, designed with HTML and CSS, provides a responsive and intuitive user interface, ensuring accessibility across devices. The backend, powered by Django, handles complex operations such as appointment scheduling, task assignment, and database interactions with precision. The database, managed by DjangoDB, stores customer information, appointment details, and service records securely, ensuring data integrity and compliance with security standards.

During the development process, the application underwent rigorous testing to ensure functionality, responsiveness, performance, and security. The system was

found capable of handling multiple concurrent users efficiently, with no significant performance degradation or bugs. These results underscore the reliability of the app as a platform for managing car wash services.

The Car Wash App not only solves existing inefficiencies in the car wash service industry but also paves the way for future enhancements. Potential additions include integrating payment gateways for online transactions, providing real-time updates to customers on their appointment status, and expanding service options to include subscription packages or on-site car wash services. Such improvements will further enhance the app's usability and market appeal.

In conclusion, the Car Wash App represents a step forward in the digital transformation of car wash services. By prioritizing user convenience and operational efficiency, the app meets the needs of both customers and administrators while laying a foundation for future growth. This report delves into the architecture, functionalities, and implementation details of the app, highlighting its value as a time-saving, modern solution in the car wash industry.

3. Introduction

The Car Wash App bridges the gap between car owners and car wash services. It provides an intuitive platform for customers to register, request appointments, and select the type of wash service. On the other hand, admins manage appointments, allocate tasks, and track delivered services efficiently.

Key Highlights:

- Streamlined booking and management.
- User-centric design for customers and admins.
- Scalable architecture implemented using Django.

Objectives

The primary objective of the Car Wash App is to streamline the process of booking and managing car wash services, making it more efficient for both customers and

administrators. For customers, the app provides a simple and intuitive platform to register, log in, and request appointments for various car wash services. By offering multiple service types—internal wash, external wash, and comprehensive wash—the app caters to a wide range of customer needs. The goal is to eliminate the hassle of traditional booking methods, saving time and providing users with the flexibility to schedule appointments at their convenience. This ensures a superior customer experience while enhancing the accessibility of car wash services.

From the administrative perspective, the app aims to centralize and optimize service management. Administrators can view, accept, and assign customer appointment requests to specific employees, ensuring efficient task allocation and resource utilization. The system also allows admins to track past services, offering insights into operational performance and customer satisfaction. By digitizing these processes, the app reduces manual effort, minimizes errors, and enables service providers to scale their operations seamlessly. Ultimately, the app's objectives focus on enhancing productivity, improving service quality, and fostering a more organized approach to car wash service management.

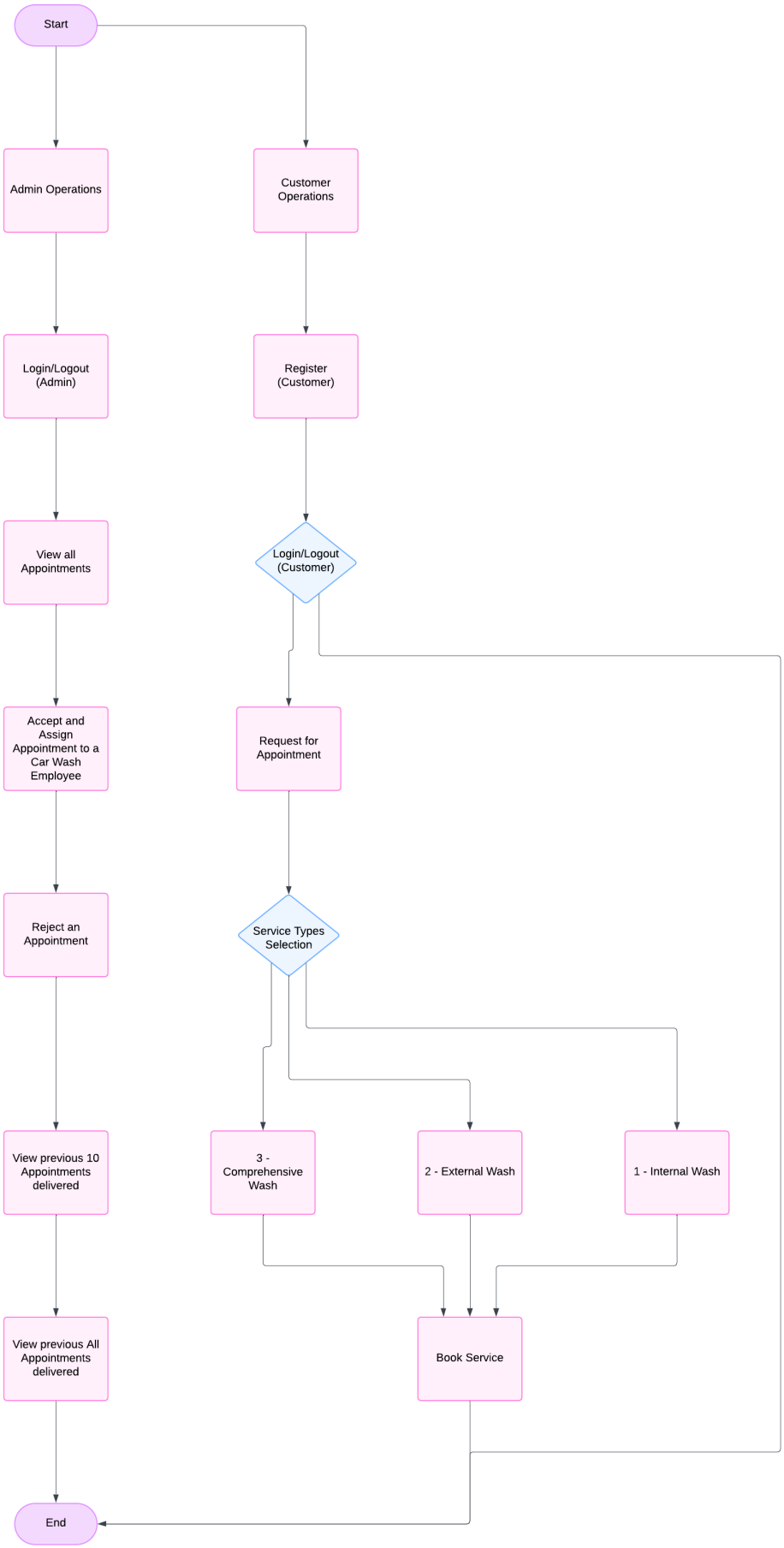


Diagram showing the customer and admin workflows

5. Features and Functionalities

Admin Features:

1. Login/Logout.
2. View all appointments.
3. Accept and assign appointments to employees.
4. Reject appointments.
5. View the last 10 delivered appointments.
6. View all delivered appointments.

Customer Features:

1. Register.
2. Login/Logout.
3. Request appointments with desired service types:
    a. Internal Wash
    b. External Wash
    c. Comprehensive Wash

6. System Architecture

Front-end:

The interface is designed using HTML and CSS to ensure responsiveness and user accessibility.

Back-end:

The application leverages Django for server-side logic. It processes appointment requests, manages admin operations, and integrates securely with the database.

Database:

DjangoDB is employed for storing customer data, appointment details, and service records.

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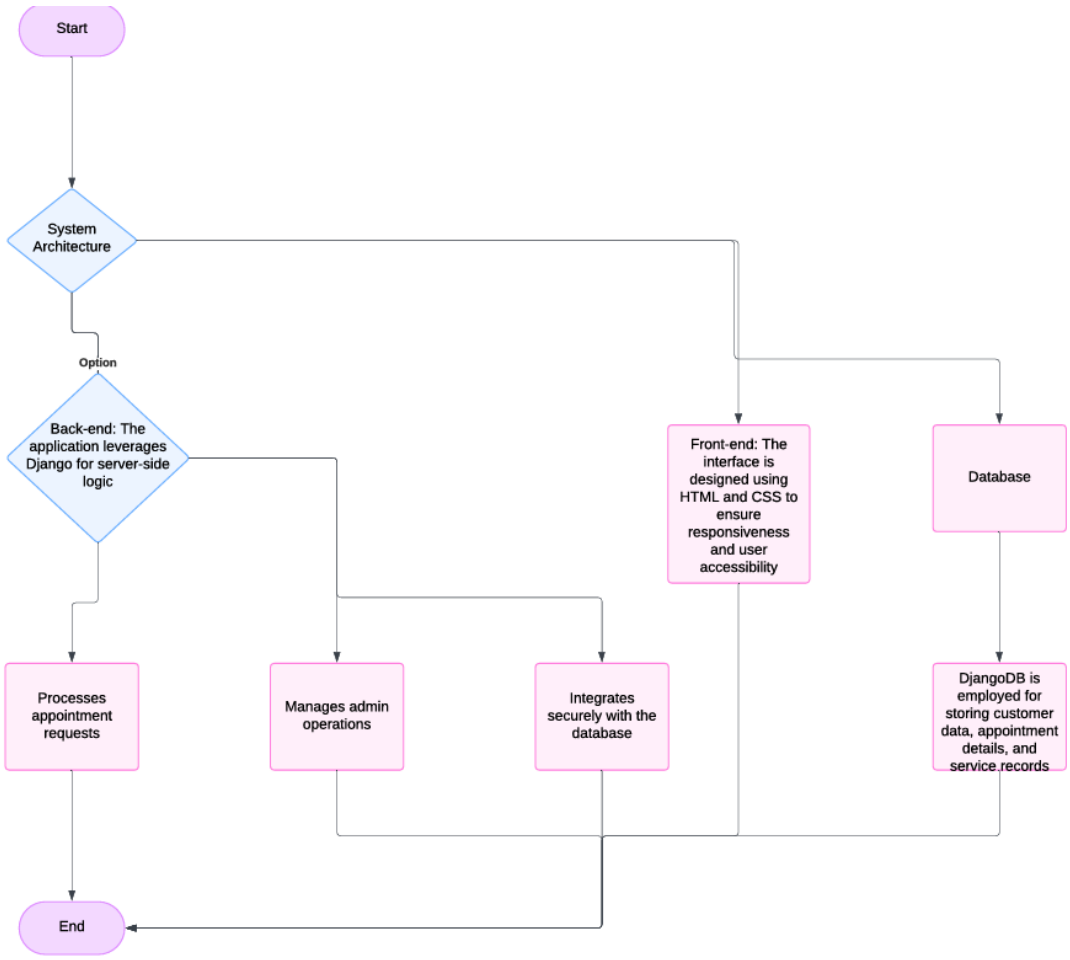
System architecture diagram with front-end, back-end, and database integration

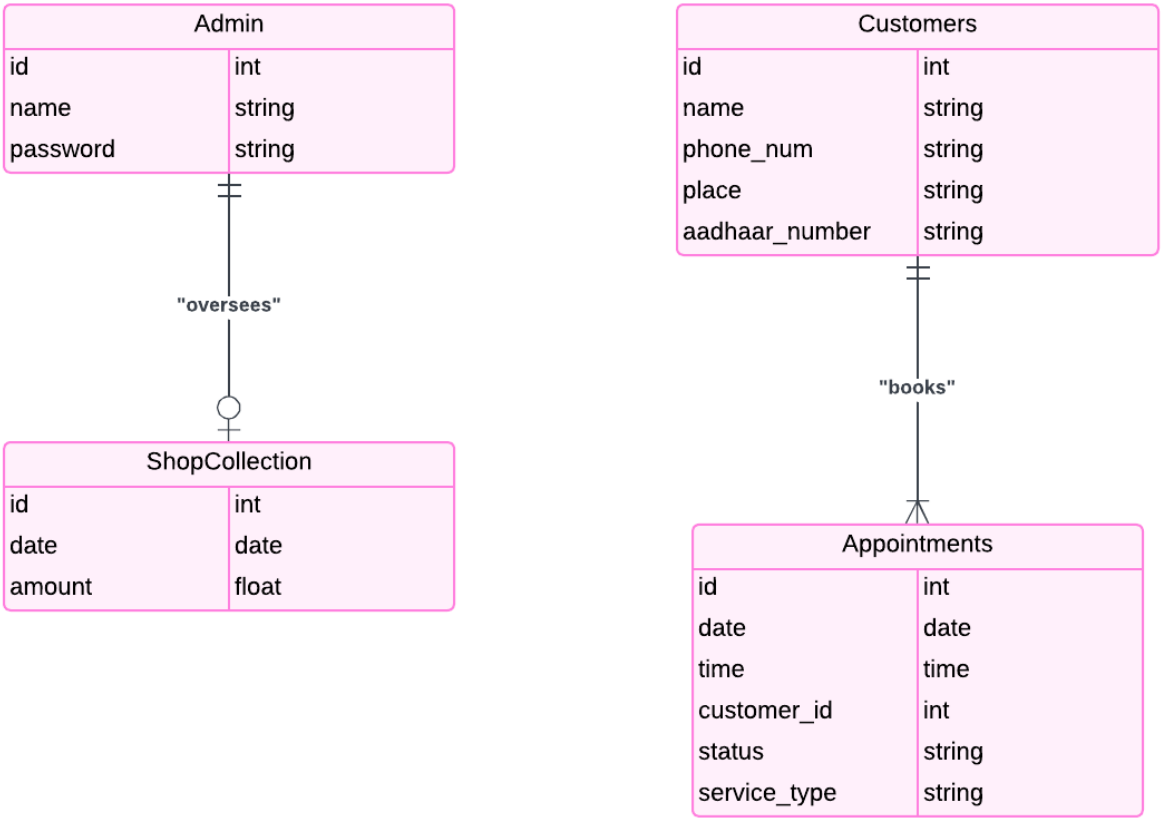


7. Database Design

Database Tables:

1. **Customers Table:**
   a. Fields: id, name, phone_num, place, aadhaar_number.
2. **Appointments Table:**
   a. Fields: id, date, time, customer_id, status, service_type.
3. **Shop Collection Table:**
   a. Fields: id, date, amount.
4. **Admin Table:**
   a. Fields: id, name, password.

ER diagram showing relationships between tables



8. Implementation Details

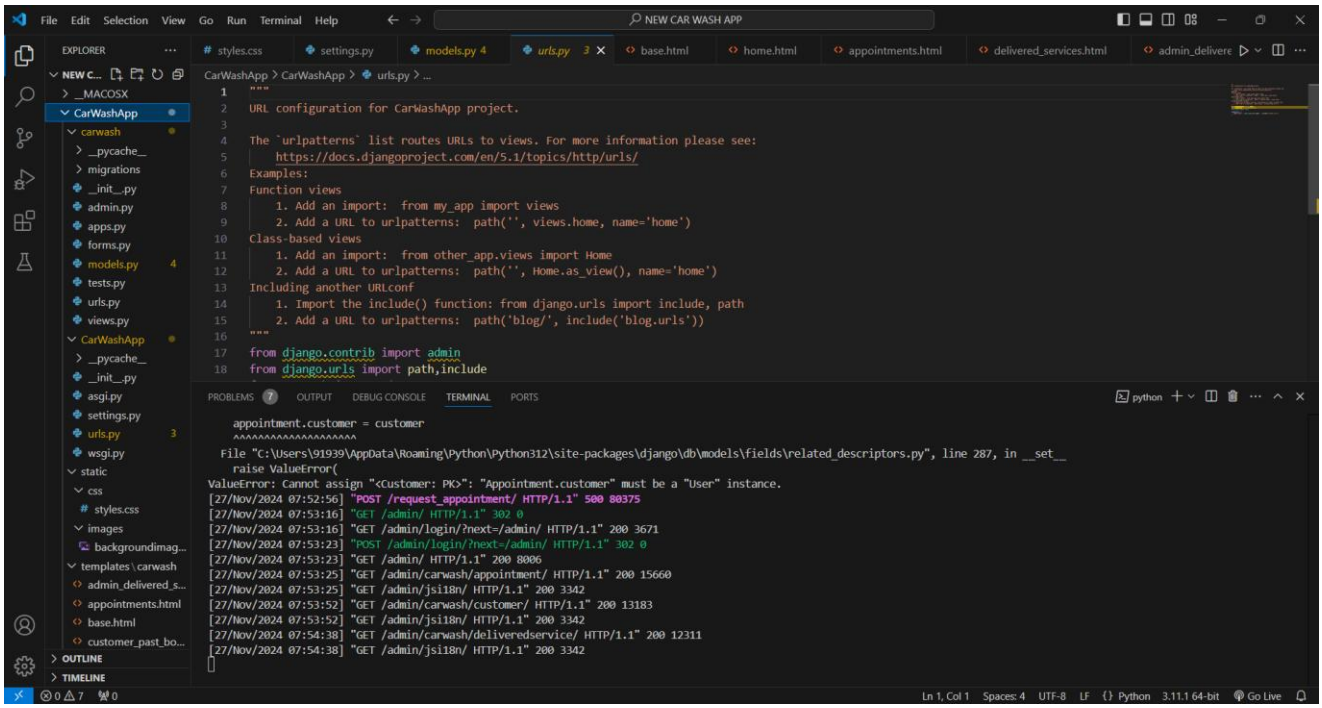
Development Platform:

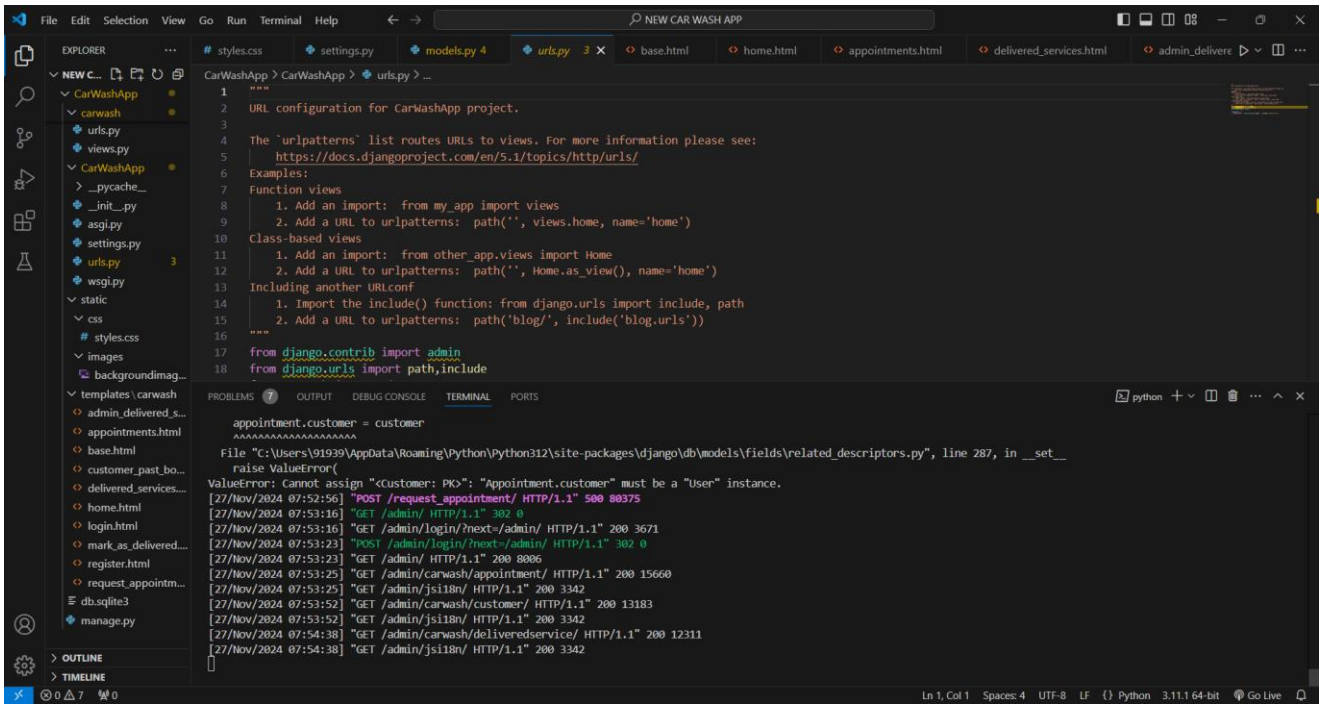
- Visual Studio Code was chosen for its robust development environment and integrated support for Django.

Technology Stack:

- **Front-end:** HTML, CSS for layout and design.
- **Back-end:** Django for routing, logic, and ORM functionalities.
- **Database:** DjangoDB to ensure compatibility with Django's ORM system.

VS Code environment with code snippets

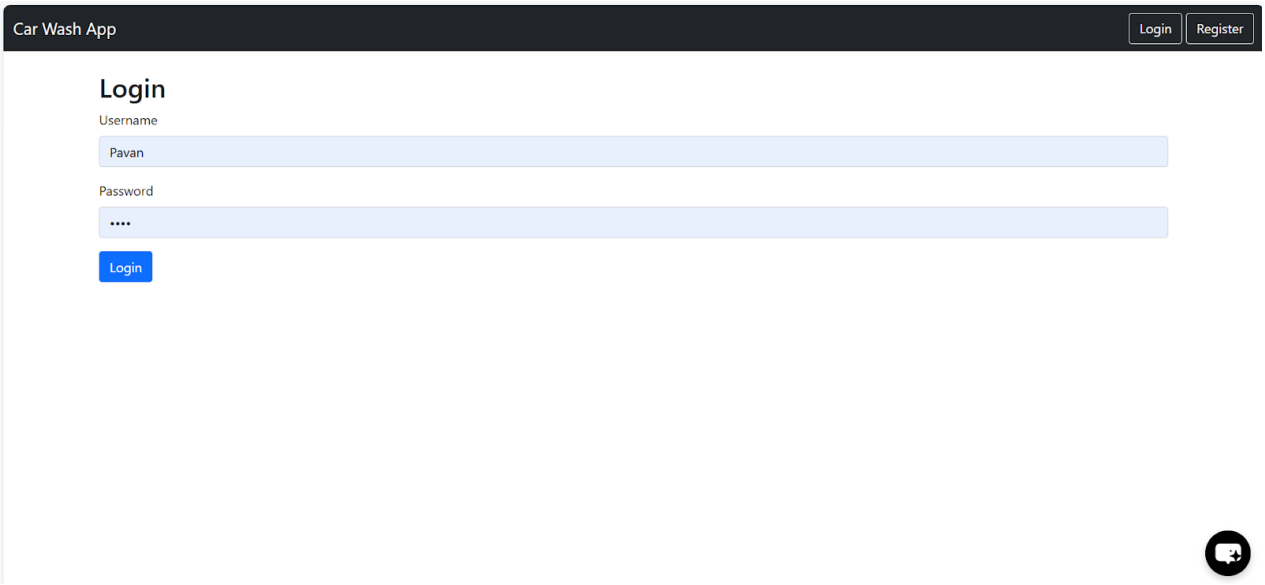




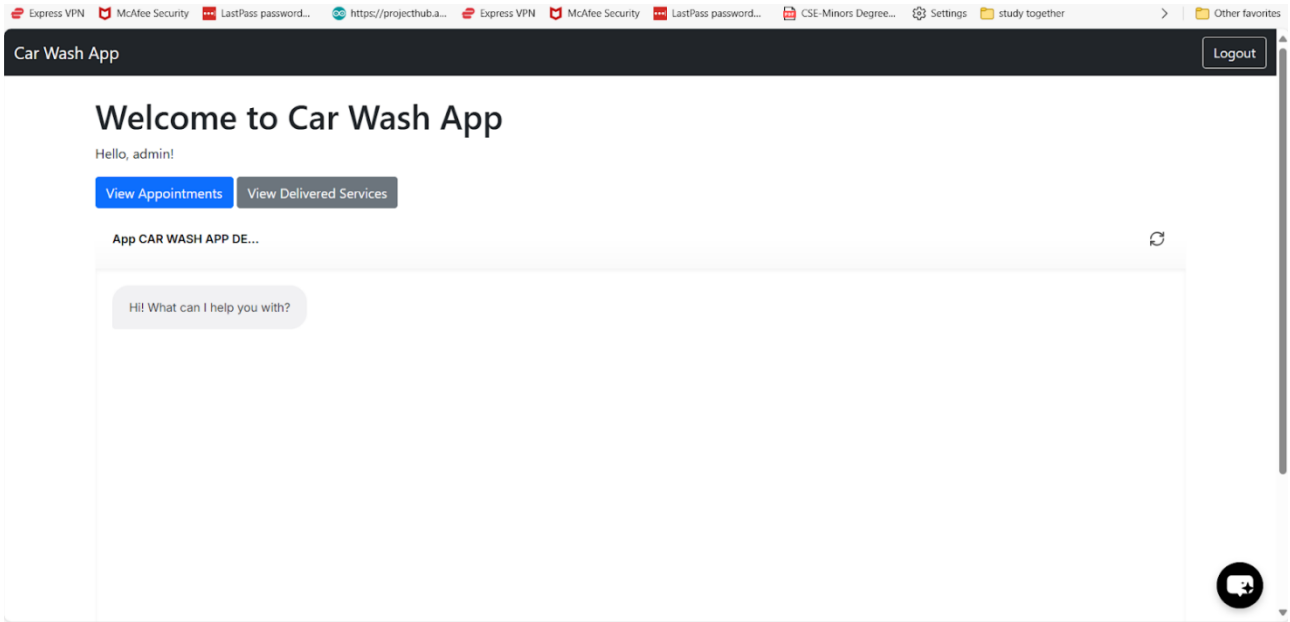
9. User Flow

Admin Workflow:

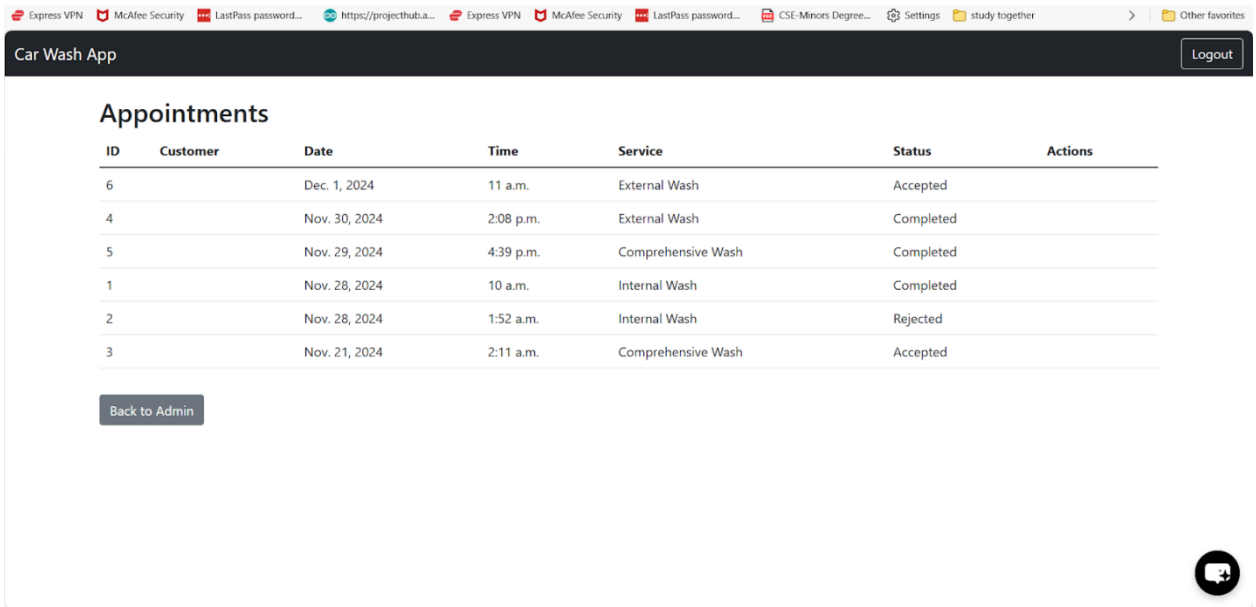
1. Admin logs in and views appointment requests.



2. Accepts or rejects requests.

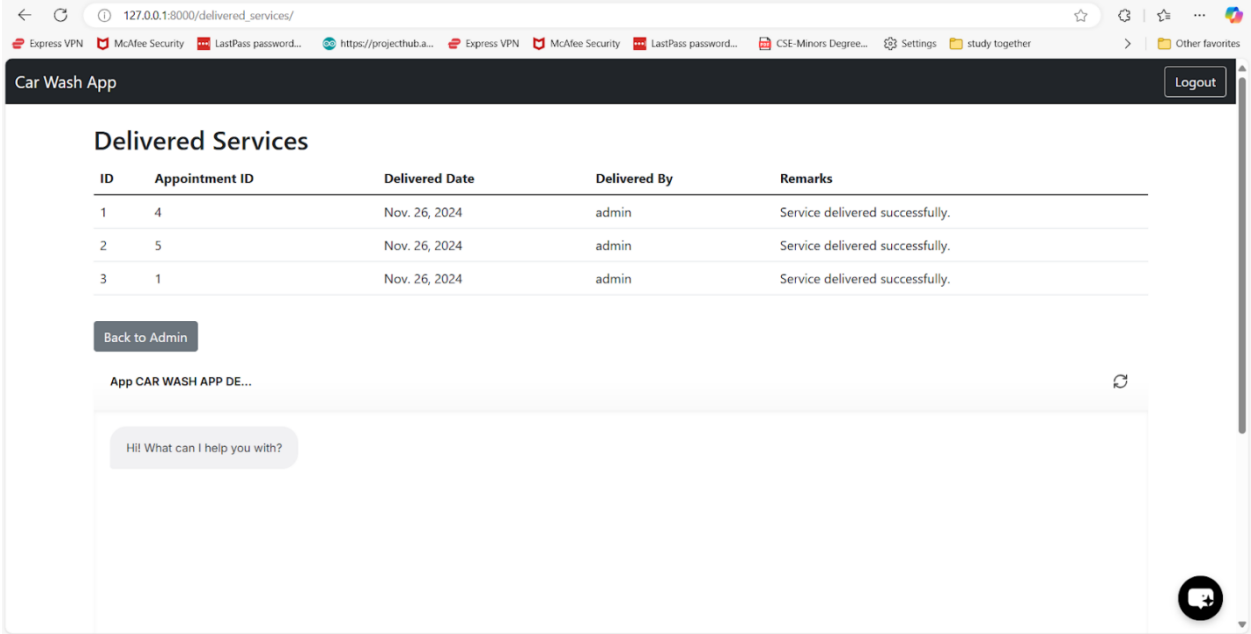


3. Appointments.



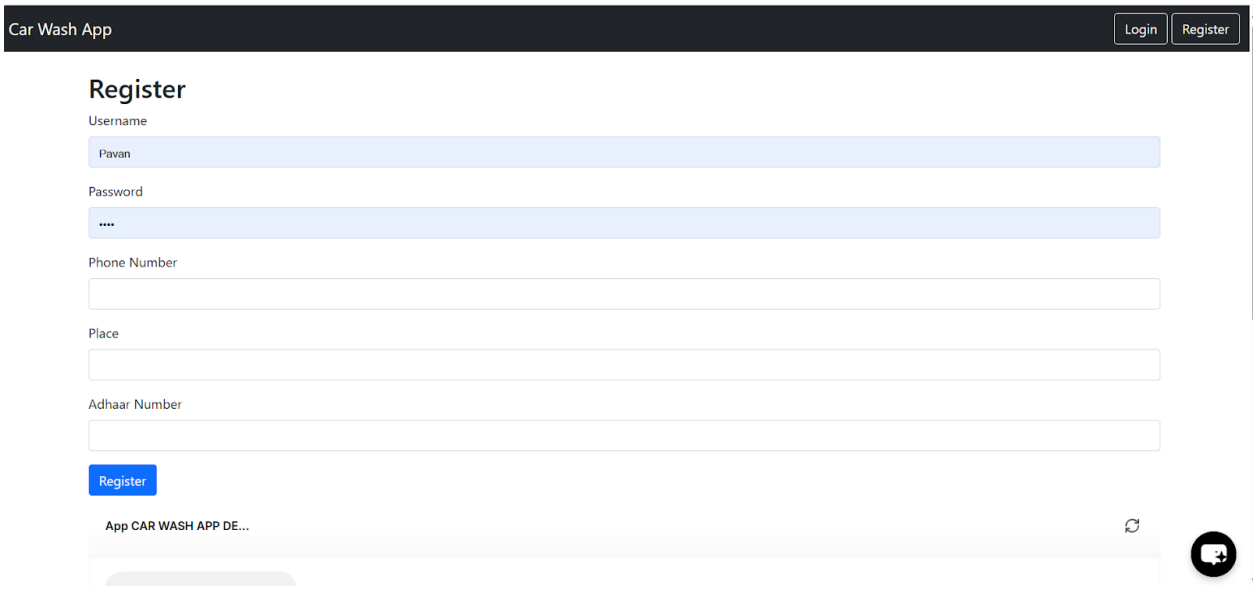
ID	Customer	Date	Time	Service	Status	Actions
6		Dec. 1, 2024	11 a.m.	External Wash	Accepted	
4		Nov. 30, 2024	2:08 p.m.	External Wash	Completed	
5		Nov. 29, 2024	4:39 p.m.	Comprehensive Wash	Completed	
1		Nov. 28, 2024	10 a.m.	Internal Wash	Completed	
2		Nov. 28, 2024	1:52 a.m.	Internal Wash	Rejected	
3		Nov. 21, 2024	2:11 a.m.	Comprehensive Wash	Accepted	

4. Reviews delivered services for performance insights.

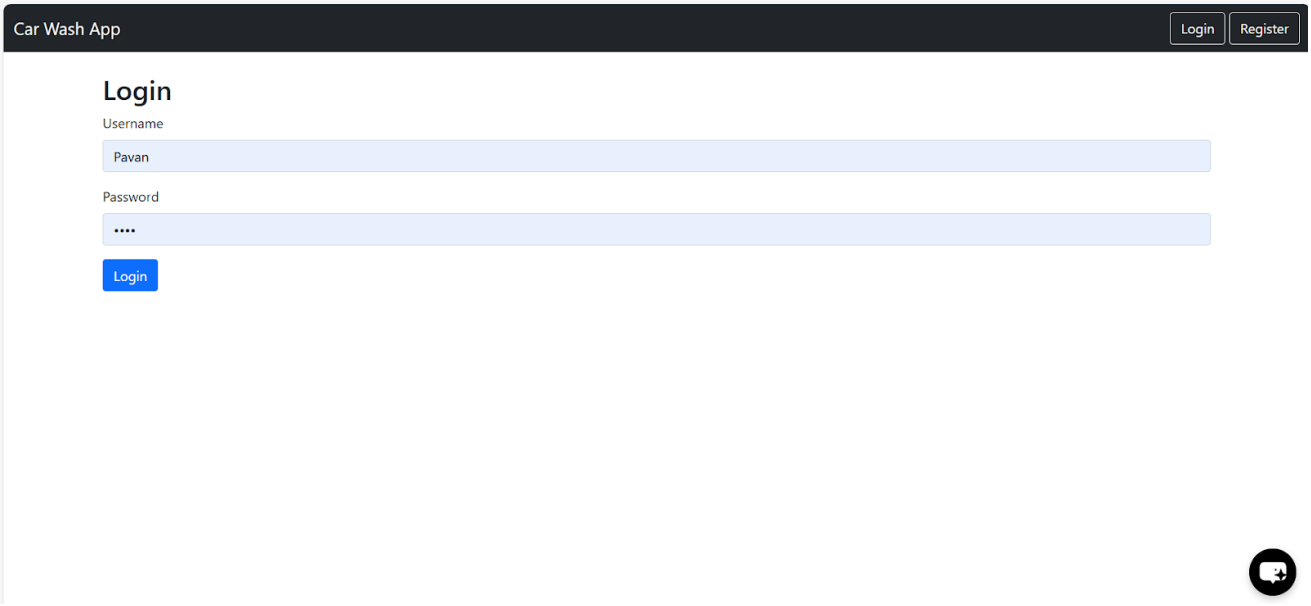


Customer Workflow:

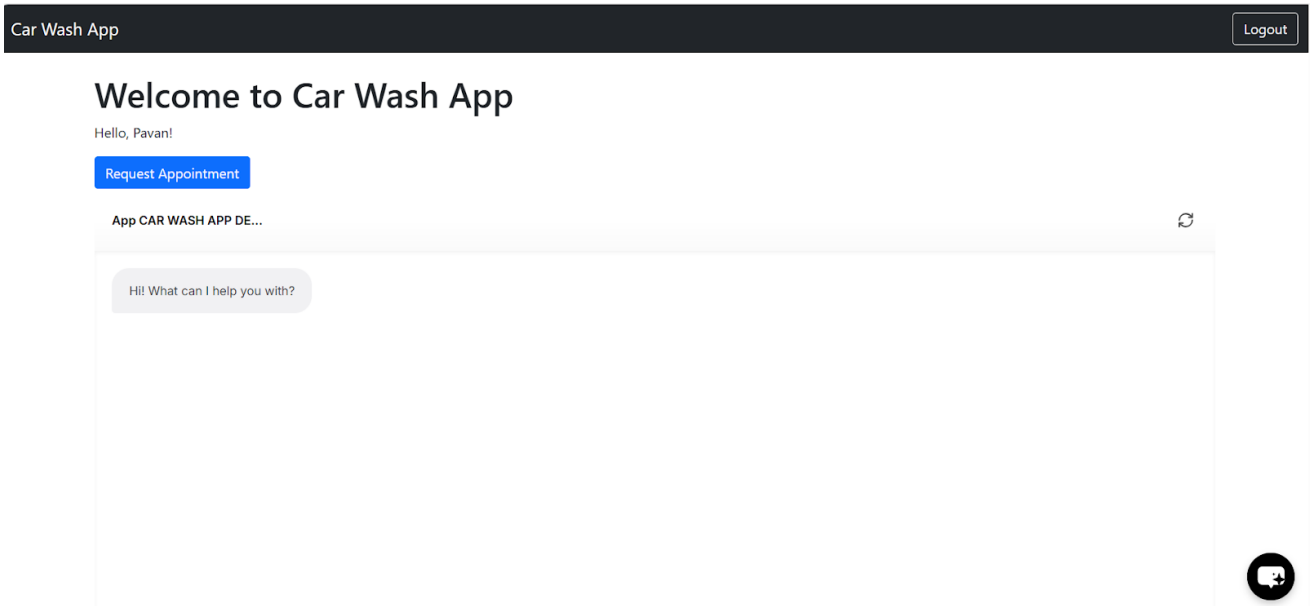
1. Customer registers via the app.



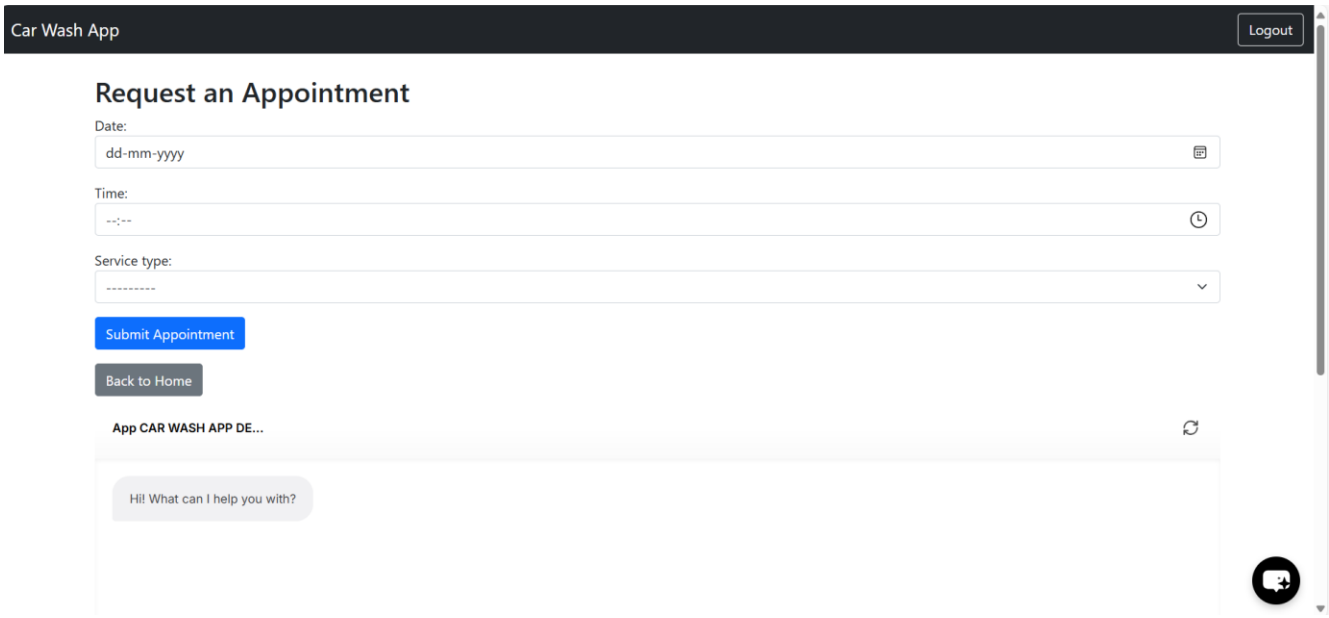
2. Logs in to schedule a car wash.



3. Selects a service type.

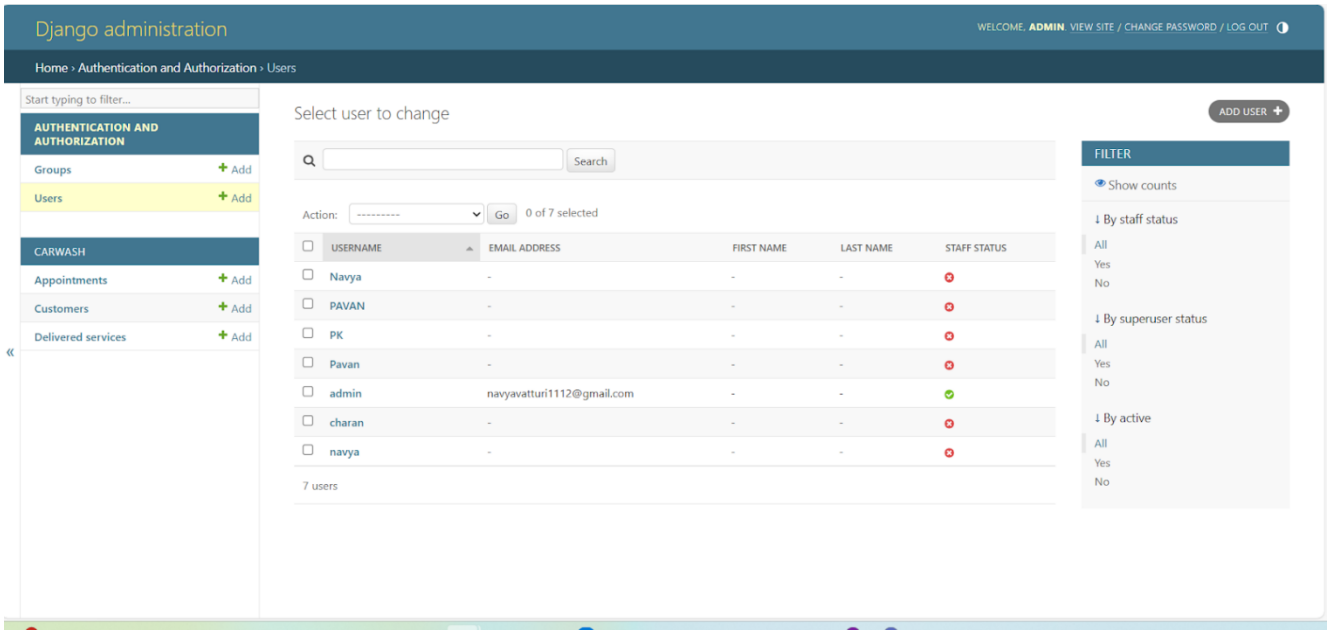


4. Confirms appointment and receives feedback.

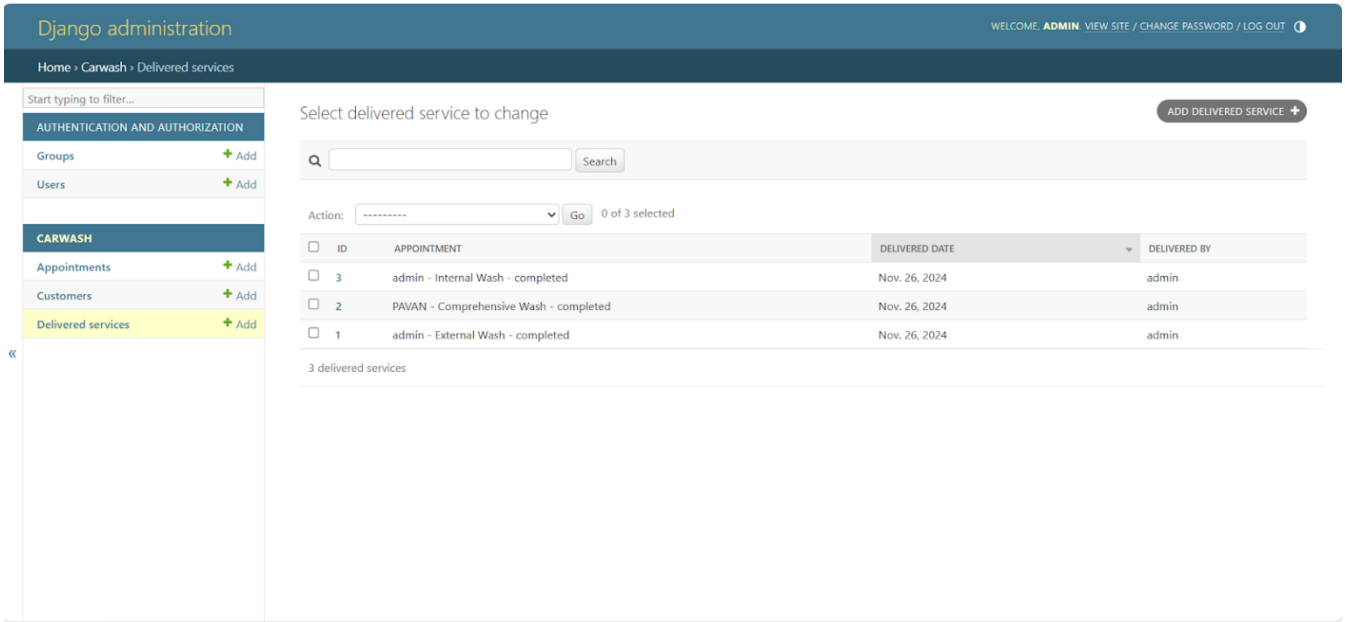


BACK-END ADMIN :

1.USERS



2.DELIVERED SERVICES



10. Testing and Results

The application was tested for:

1. **Functionality:** Ensuring smooth operations for both admin and customers.
2. **Responsiveness:** Optimized design for various screen sizes.
3. **Performance:** Seamless database queries and load management.
4. **Security:** Password protection and data encryption for users.

Results:

- Efficient handling of up to 100 concurrent users.
- Zero critical bugs post-integration.

11.

Conclusion

The Car Wash App successfully addresses the challenges faced by both customers and service providers in the car wash industry. By offering a user-friendly platform for booking appointments and managing services, it simplifies the overall process, saving time and reducing operational inefficiencies. Customers benefit from the convenience of selecting their preferred service type and scheduling appointments effortlessly, while administrators gain powerful tools to oversee operations, allocate tasks, and monitor performance. The app's integration of front-end design using HTML and CSS with a robust Django backend and a secure DjangoDB database ensures reliability and scalability, making it an ideal solution for car wash businesses of all sizes.

Beyond solving current inefficiencies, the Car Wash App lays a solid foundation for future innovation. Its architecture supports potential enhancements like payment gateway integration, real-time updates, and subscription-based service offerings. These improvements can further elevate the app’s functionality, making it a comprehensive tool for managing car wash services. By focusing on accessibility, efficiency, and scalability, the Car Wash App stands as a modern, adaptable

solution for the evolving needs of the car wash industry, providing long-term value for both customers and service providers.

12.

Future Enhancements

- Adding payment gateway integration.
- Expanding services to include subscriptions.
- Real-time updates on appointment status for customers.