CAR RENTAL BOOKING SYSTEM

MINOR PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this minor project report for the course **21CSC203P ADVANCED PROGRAMMING PRACTICE** entitled in **"Car Rental Booking System"** is the bonafide work of **Aravind A (RA2211026010554) , Rishiram B(RA2211026010553)** and **Surya Sathyanarayanan(RA2211026010562)** who carried out the work under my supervision.

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ABSTRACT

This Python-based Car Rental Booking System project introduces an efficient and user-friendly platform for streamlining the car rental process. The system aims to automate booking procedures, enhance inventory management, and provide customers with an intuitive interface for seamless interactions. Motivated by the desire to modernize and simplify car rentals, the project addresses challenges associated with manual processes, limited automation, and inventory tracking issues. By leveraging Python's capabilities, the system contributes to a more accessible, error-resistant, and customer-centric car rental experience. Overall, the Car Rental Booking System project seeks to optimize rental operations, providing a reliable and efficient solution for both service providers and customers.

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CHAPTER 1

INTRODUCTION

1.1 MOTIVATION

The motivation behind our Car Rental Booking System stems from a commitment to redefine the travel experience. Recognizing the evolving needs of modern consumers, we aim to eliminate the hassles traditionally associated with renting a vehicle. Our project is driven by a desire to offer unparalleled convenience, empowering users to effortlessly access and book a diverse range of vehicles online. By prioritizing user-friendly interfaces, real-time information, and rigorous safety measures, we aspire to revolutionize the way people plan and execute their journeys. This project is not just about transportation; it's about providing freedom, choice, and peace of mind to individuals seeking a reliable and enjoyable travel experience.

1.2 OBJECTIVE

The primary objective of the Car Rental Booking System project is to develop a user-friendly and efficient platform for managing car rentals. The specific objectives include:

- **User-Friendly Interface:** Create an intuitive interface for customers to browse available cars, check rental details, and make bookings effortlessly.
- **Automated Booking Process:** Implement a system that automates the booking process, from selecting a vehicle to generating invoices, reducing manual efforts and minimizing errors.
- **Inventory Management:** Develop a robust inventory management system to keep track of available cars, ensuring accurate and real-time information for both customers and administrators.

1.3 PROBLEM STATEMENT

Existing car rental systems frequently face challenges related to manual data entry, limited automation, and a lack of real-time inventory tracking. These issues can lead to errors, delays, and an overall suboptimal experience for both customers and service providers. The Car Rental Booking System project seeks to address these problems by introducing a comprehensive, automated solution that improves the efficiency of the booking process, minimizes errors, and enhances overall customer satisfaction. Through the implementation of this Python-based system, we aim to provide a reliable and modern alternative to conventional car rental management.

1.4 CHALLENGES

The Car Rental Booking System project faces challenges in implementing a seamless and secure online platform, ensuring real-time data synchronization for accurate availability, and establishing robust cybersecurity measures to protect customer information. Integrating a diverse fleet while maintaining consistent vehicle maintenance poses logistical hurdles. Additionally, addressing customer support needs and building user trust amid concerns about transparency and hidden costs demands careful attention. Adapting to evolving technology, scalability requirements, and potential regulatory constraints further present challenges. Successfully navigating these complexities is crucial to delivering a reliable, transparent, and user-friendly car rental solution.

CHAPTER 2

REQUIREMENTS

2.1 User Interface:

- Develop an intuitive interface for customers to browse cars and complete bookings seamlessly.
- Ensure responsiveness for a user-friendly experience across various devices.

2.1 Automated Booking Process:

- Implement an automated system for vehicle selection, booking confirmation, and invoice generation.
- Secure and user-friendly payment processing for reservations.

2.3 Inventory Management:

- Create a centralized database for real-time updates on available cars.
- Provide admin tools for adding, removing, or updating vehicles.

2.4 Security Measures:

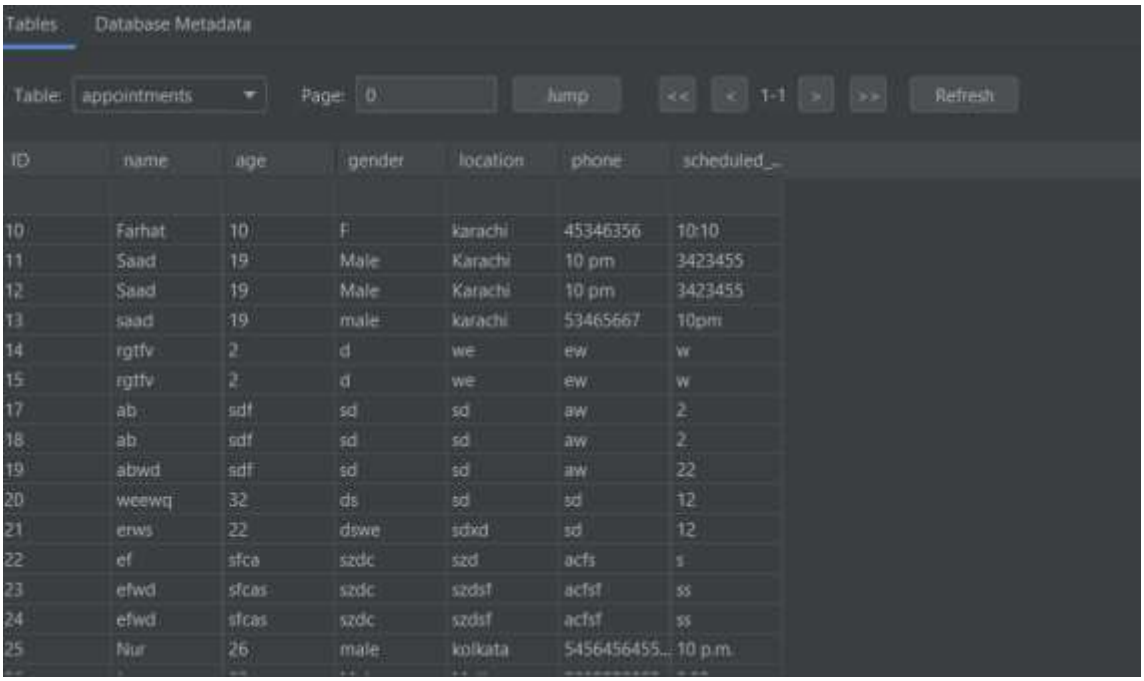
- Implement encryption for user and payment data security.
- Regularly update and patch vulnerabilities to protect against security threats.

CHAPTER 3

GUI DESIGN AND DB CONNECTIVITY

3.1 DATABASE CONNECTIVITY

The Booking of the Users should be Stored on the Database. We used the **MySQL** to store the Booking. The Mysql Database then can be Used to check the Booking Details and Allocate the Car. Database Connectivity is the key difference maker between Normal Voting system and Online Voting System. Here is the EXAMPLE of a database:



ID	name	age	gender	location	phone	scheduled_...
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13	saad	19	male	karachi	53465667	10pm
14	rgtfv	2	d	we	ew	w
15	rgtfv	2	d	we	ew	w
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21	erws	22	dswe	sdxd	sd	12
22	ef	sfca	szdc	szd	acfs	s
23	efwd	sfcas	szdc	szdsf	acfsf	ss
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25	Nur	26	male	kolkata	5456456455...	10 p.m.

Figure 3.1.1 (Image from MySQL Workbench.)

3.2 GUI [Graphical-User Interface]

As the project is made in Python, by the help of tKinter We have created the User Interface for Users to Give their Votes. GUI as Follows:

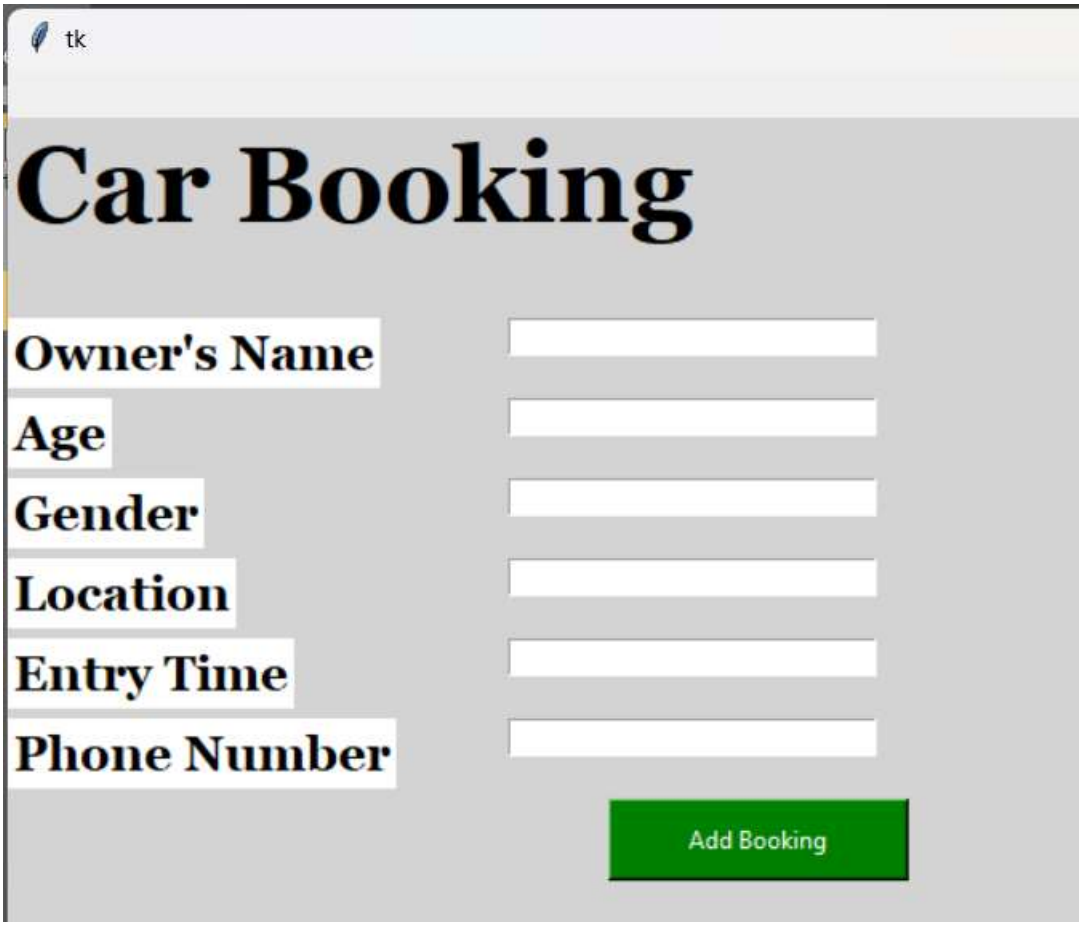

Figure 3.2.1 (Example of GUI From User UI)

CHAPTER 4

IMPLEMENTATION

The Car Rental Booking System implemented in Python on PyCharm streamlines the vehicle reservation process. Utilizing Python's versatility, the backend employs frameworks like Flask or Django for robust server-side logic. PyCharm's integrated development environment enhances code efficiency and readability. The system features a user-friendly command-line or graphical interface, allowing customers to browse available vehicles, make reservations, and view booking details. Integration with databases, such as SQLite or MySQL, ensures data persistence.

Using the **PyCharm,** Java code have been Implemented As follows:

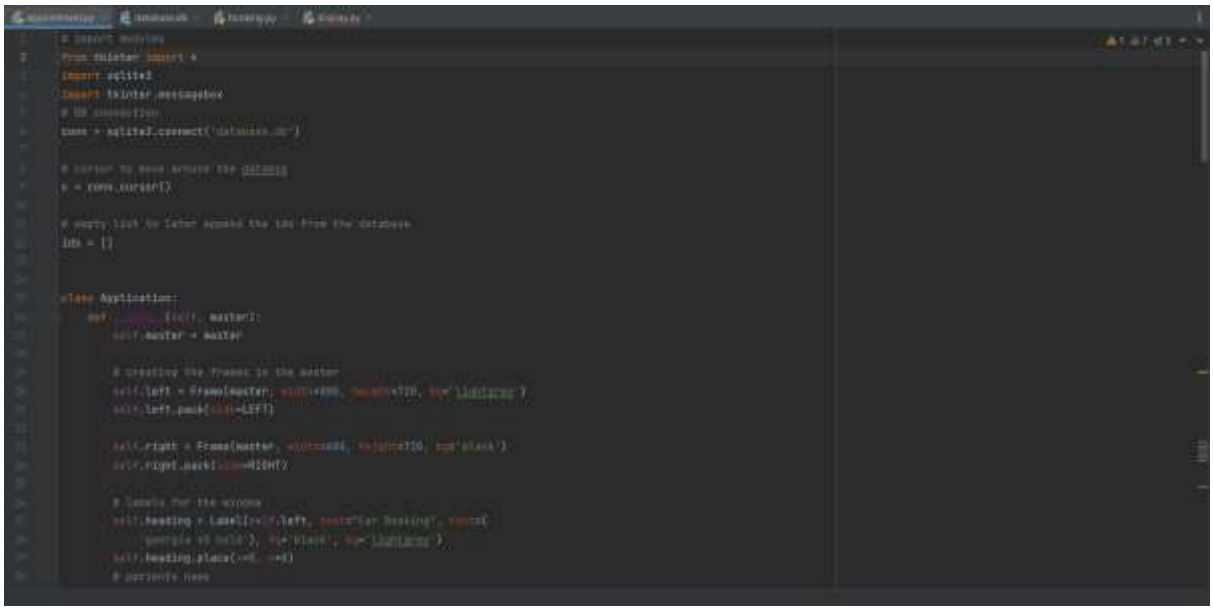

Figure 4.1(Source Code of the admin page)

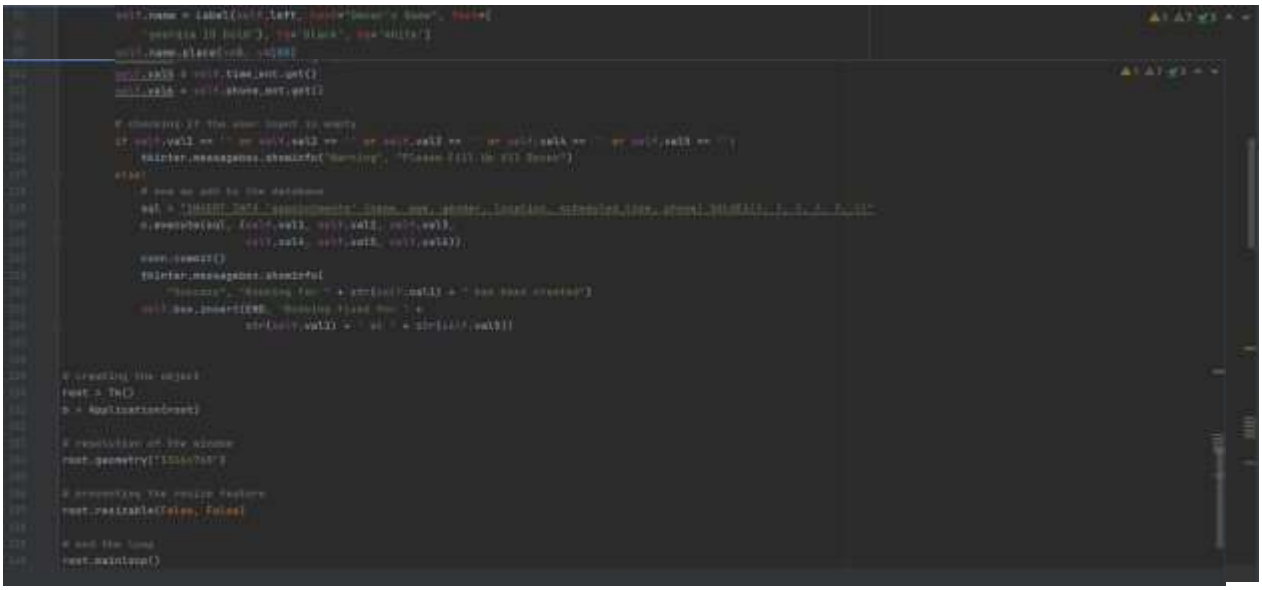

Figure 4.2

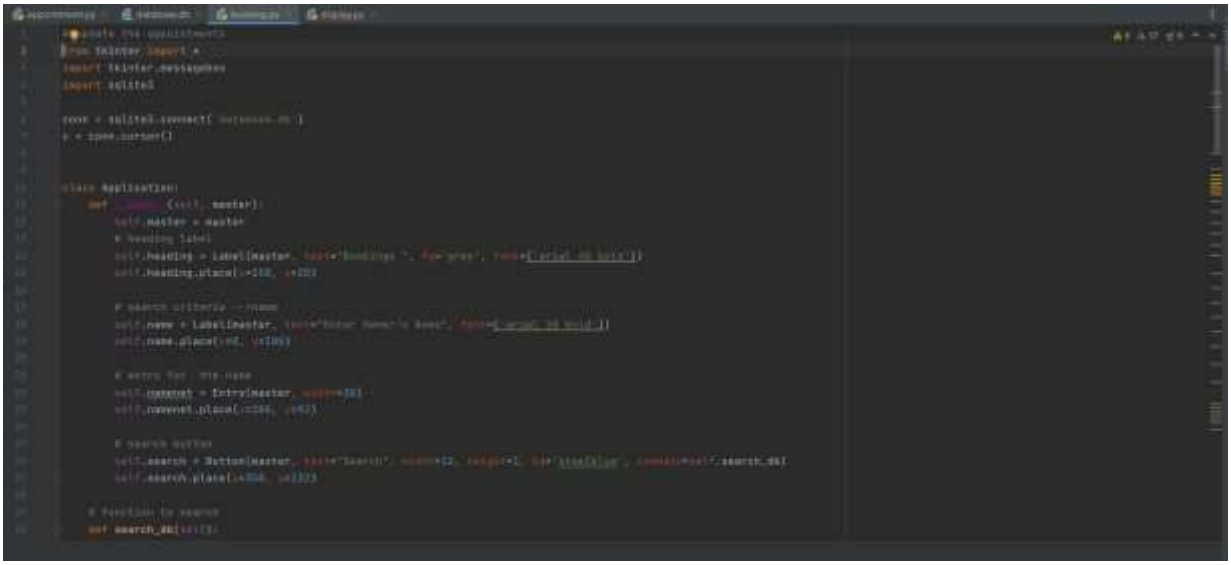

Figure 4.3 (Source Code of the User page)

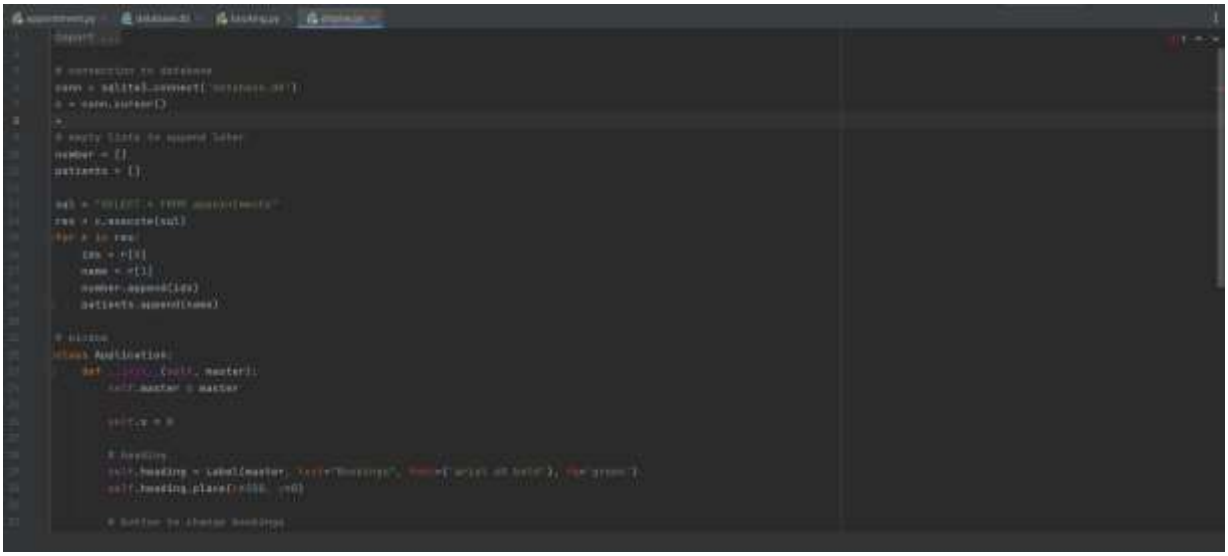

Figure 4.4

CHAPTER 5

RESULT

5.1 ADMIN UI

The Car Rental Booking System's Admin UI, built with Tkinter in Python on PyCharm, enables administrators to easily search, update, and delete reservations. The Tkinter-based GUI provides an intuitive interface for efficient management, enhancing the user experience and functionality of the project.

Admin Has the Access to Search and Update or Delete the booking Details as Follows:

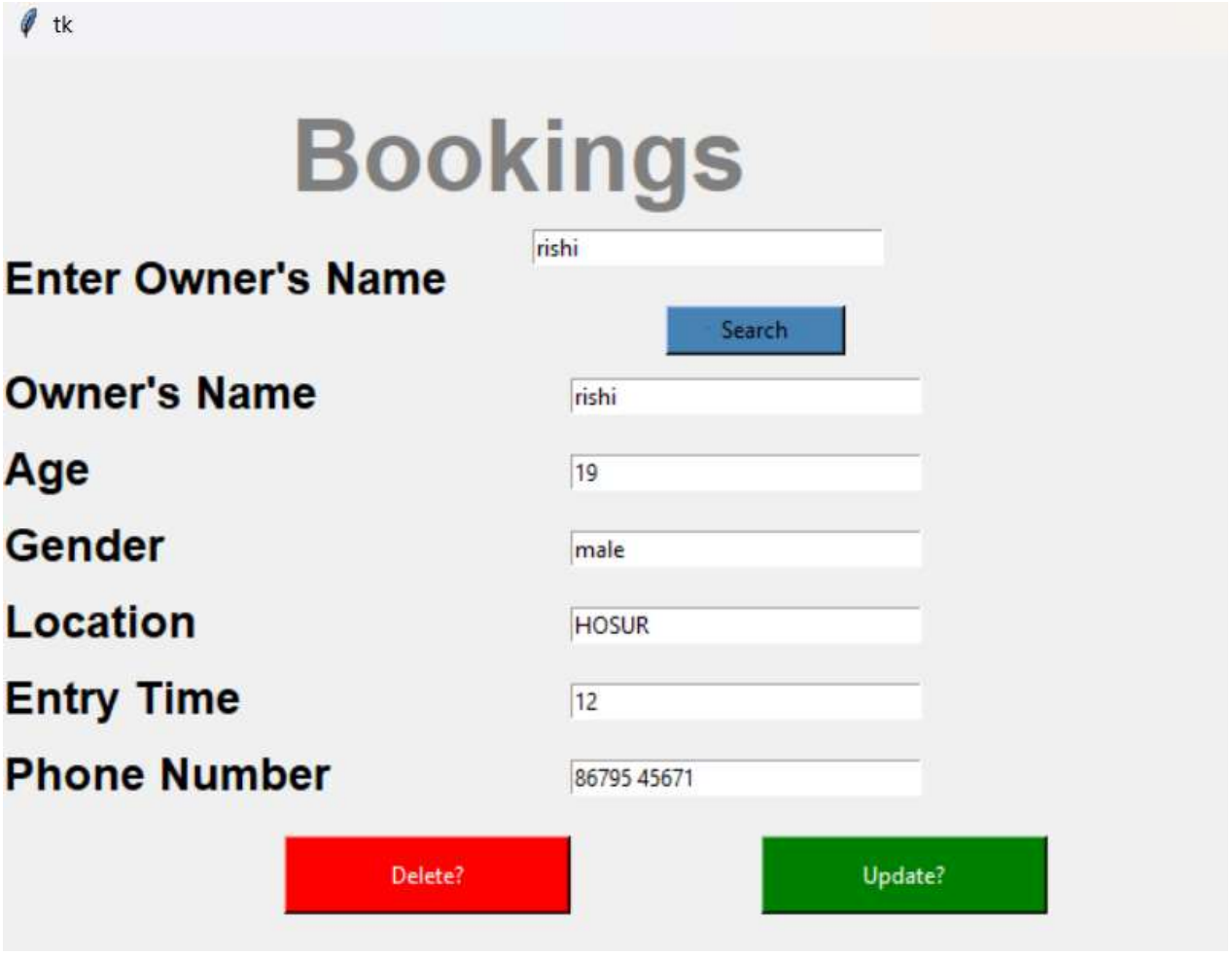

Figure 5.1.1 (Admin UI with update and deletion Option)

5.2 USER UI

The User UI in the Car Rental Booking System, crafted with Tkinter in Python on PyCharm, offers a user-friendly interface for adding information. Users can effortlessly input details, browse available vehicles, and make reservations, enhancing the overall accessibility and simplicity of the booking process.

Users Can Enter their Details for Car booking At the specific time and place. The result as follows:

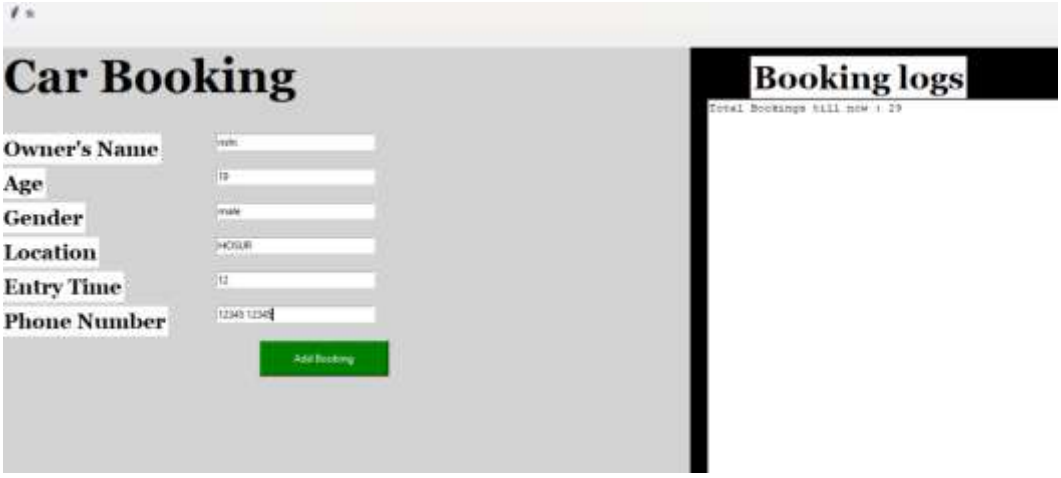

Figure 5.2.1 (User UI for Entering the Details)

Figure 5.2.2

CHAPTER 6

CONCLUSION

the Car Rental Booking System project leverages Python's capabilities to address fundamental challenges in the conventional car rental process. By creating an intuitive user interface, automating booking procedures, optimizing inventory management, and prioritizing security measures, the system aims to revolutionize the efficiency and accessibility of car rentals. The project not only streamlines customer interactions but also provides administrators with valuable tools for monitoring and managing operations. With a focus on user satisfaction, automation, and data security, the Car Rental Booking System contributes to the modernization of the car rental industry. As technology continues to evolve, this project stands as a testament to the potential for innovation in simplifying and enhancing everyday services for both consumers and service providers alike.

CHAPTER 7

REFERENCES

7.1 https://docs.python.org/3/library/tkinter.html

7.2 https://dev.mysql.com/downloads/mysql/

7.3 https://realpython.com/python-gui-tkinter/

7.4 https://github.com/topics/car-rental-system?l=python

7.5 https://www.jetbrains.com/guide/python/tutorials/

7.6 https://www.javatpoint.com/how-to-connect-database-in-python

7.8 https://www.w3schools.com/python/