ZOYAC

Mini Project Report
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ABSTRACT

The **Zoyac** project aims to design and develop an efficient, user-friendly platform that bridges the gap between taxi service providers and passengers. In an increasingly connected world, the need for reliable and easily accessible transportation services is paramount. Zoyac acts as an intermediary, allowing users to book taxis from various service providers through a single, integrated platform.

The platform provides a seamless experience for both taxi operators and customers. Key features include a user-friendly interface for booking rides, real-time updates on availability, fare estimation, and automated payment processing. Additionally, the system will offer a robust backend for taxi companies to manage their fleet, track performance metrics, and optimize operations.

The project employs a combination of software engineering principles, database management, and network communications to ensure reliability, scalability, and security. By simplifying the process of booking a taxi and enhancing operational efficiency, Zoyac aims to revolutionize the traditional taxi industry and provide a competitive alternative to ride-sharing services.

REQUIREMENTS

Software Requirements:

Operating System	Windows 11 Pro
Front End	HTML, CSS, JavaScript ,Bootstrap
Back End	Python
Program	Python
IDE	PyCharm
Framework	Flask
Database	MySQL
Server	Local Server
System type	64-bit operating system

Hardware Requirements:

System	PC/Laptop/Mobile
Processor	Intel Core i3 / Intel Core i7/Dimensity 7050
RAM	8.00 GB / 16.00 GB
ROM	SSD(512 GB)
Speaker	High-quality speaker
Mouse	Touch screen , Track pad
Graphics card	NVIDIA GeForce GTX 1660

INTRODUCTION

ABOUT THE PROJECT

Title: Zoyac

Purpose: Zoyac is designed to be a taxi broker system that connects passengers with available taxis through a seamless platform. The system aims to improve the efficiency of taxi services by providing a centralized platform for booking and managing rides.

EXISTING SYSTEM

1. Traditional Taxi Booking:

- **Manual Dispatch:** Taxis are dispatched manually by dispatchers who receive bookings via phone calls.
- **Lack of Real-Time Tracking:** Passengers and drivers do not have access to real-time information about each other's locations.
- **Payment Methods:** Payments are often handled in cash or require manual processing.

2. Existing Mobile Apps:

- **Limitations:** These systems might not be available in all regions, and smaller local taxi services may struggle to compete.

PROPOSED SYSTEM

1. System Architecture:

- **User Interface (UI):**
  - **Passenger App:** Allows users to book rides, track taxis in real-time, and make payments.
  - **Driver App:** Provides drivers with ride requests, navigation, and payment management.
  - **Admin Panel:** Manages user accounts, monitors activity, and handles disputes.

2. Features:

- **Real-Time Tracking:** Passengers and drivers can view each other's locations in real-time.
- **Ride Booking:** Passengers can book rides, choose vehicle types, and schedule rides in advance.
- **Payment Integration:** Supports multiple payment methods including credit/debit cards, mobile wallets, and cash.
- **Rating System:** Users can rate and review drivers, helping maintain service quality.
- **Notifications:** Real-time updates on ride status, driver arrival, and payment confirmations.

3. Technical Stack:

- **Frontend:** Mobile apps developed using frameworks like Pycharm.
- **Backend:** Server-side components built using Node.js, Python (Django/Flask).
- **Database:** Relational databases like PostgreSQL or MySQL for storing user and ride data.

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4. Security Measures:

- **Data Encryption:** Ensures that all sensitive data is encrypted in transit and at rest.
- **User Authentication:** Secure login methods, such as OAuth or multi-factor authentication.
- **Compliance:** Adherence to relevant data protection regulations (e.g., GDPR).

Additional Considerations

1. User Support:

- Provide customer support channels for handling inquiries and complaints.

2. Marketing and Adoption:

- Develop a marketing strategy to promote Zoyac and attract users and drivers.

3. Scalability:

- Plan for scaling the system to handle increased user load as the service grows.