SYNOPSIS

ON

PMPL ONLINE PASS SYSTEM

IN PARTIAL FULFILLMENT OF

MASTER OF COMPUTER APPLICATION

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INTRODUCTION

1.1 Introduction

Introducing the PMPL Bus Online Pass System, a transformative project that redefines the bus transportation experience. With cutting-edge features such as real-time bus tracking, comprehensive bus information, and the convenience of secure online pass issuance via QR codes, this system marks a paradigm shift in how we approach daily commuting.

Designed to provide you with up-to-the-minute bus locations and schedules, the PMPL Bus Online Pass System ensures you're always in the know, making your journey planning effortless. Say goodbye to traditional paper passes as you access your bus pass securely online, simplifying boarding with a quick QR code scan.

Our top priority is your safety, which is why our advanced security measures safeguard your personal and payment data, ensuring worry-free travel.

Experience a seamless, secure, and information-rich bus transportation ecosystem with the PMPL Bus Online Pass System, where convenience and security unite to elevate your daily commute.

Existing System and Need for System

2.1 Existing System

Them PMPL pass system allows user to get monthly/daily pass online through our portal.The Online PMPL software project help to all people inclusing customer and bus operators to use it easily.

- **Real-Time Bus Tracking:** Track your bus's exact location in real-time for accurate arrival predictions.
- **Comprehensive Bus Information:** Access detailed route, schedule, and stop information for informed travel planning.
- **Online Pass Issuance:** Securely obtain your bus pass online, eliminating the need for physical tickets. Interactive GUI
- **QR Code Convenience:** Board buses with ease by scanning a unique QR code for contactless entry.Consists of a Volume controller
- **Advanced Security:** Robust security measures protect your personal and payment information for worry-free travel. It displays the media playing time with Track Bar so that user may drag the media play as needed.

2.2 Need for System

- **Enhanced Commuter Convenience:** Traditional paper tickets and schedules are often cumbersome and lack real-time information. The PMPL system addresses this need by offering real-time bus tracking, allowing commuters to plan their journeys more effectively and with greater confidence.

- **Efficiency and Time Savings:** With comprehensive bus information readily available, passengers can save time by making informed decisions about routes and schedules. Online pass issuance with QR code integration streamlines the boarding process, reducing wait times and congestion at bus stops.

- **Contactless Travel :** The ongoing global health concerns have highlighted the importance of contactless interctions.The QR code-based pass issuance minimize physical contact , contributing to a safar and healthier travel experience.

Scope and Objectives of System

3.1 Scope of the system: -

The scope of the PMPL Bus Online Pass System encompasses the development and implementation of a comprehensive and user-centric solution aimed at modernizing the bus transportation experience. This project seeks to address key aspects, including technology integration, service enhancement, and user convenience. The project's scope is defined as follows:

1. System Development:

- Design and develop a robust online platform for bus tracking, information dissemination, and online pass issuance.
- Implement a user-friendly interface with intuitive navigation to ensure ease of use for commuters.

2. Real-Time Bus Tracking:

- Integrate GPS technology to provide accurate real-time bus tracking.
- Develop algorithms to estimate arrival times and display this information to commuters.

3. Comprehensive Bus Information:

- Create a centralized database for bus routes, schedules, stops, and related information.
- Ensure regular updates to maintain accuracy and relevance.

4. Online Pass Issuance:

- Develop a secure online pass issuance system, allowing passengers to purchase and store bus passes electronically.
- Implement QR code generation and validation for contactless boarding.

5. Security Measures:

- Implement advanced security protocols to safeguard user data and payment information.
- Conduct regular security audits to identify and address vulnerabilities.

6. User Training and Support:

- Provide user training materials and resources for both passengers and bus operators.
- Establish a customer support system to assist users with any issues or inquiries.

7. Integration with Bus Operators:

- Collaborate with bus operators to ensure seamless integration of the system into their operations.
- Provide necessary hardware and software infrastructure for bus operators to utilize the system effectively.

8. Testing and Quality Assurance:

- Conduct rigorous testing, including user acceptance testing, to identify and rectify any system issues.
- Ensure the system performs reliably under varying conditions.

9. Rollout and Promotion:

- Gradually implement the PMPL Bus Online Pass System across bus routes and regions.
- Promote the system through marketing and awareness campaigns to encourage adoption among commuters.

10. Monitoring and Maintenance: - Establish continuous monitoring and maintenance procedures to address any system glitches, updates, or improvements. - Collect and analyze user feedback for ongoing system enhancements.

3.2 Objectives of the system: -

1. Develop a user-friendly online platform for bus tracking and information dissemination.
2. Enhance passenger convenience with secure online pass issuance and contactless boarding.
3. Improve bus transportation efficiency through real-time tracking and accurate arrival predictions.
4. Ensure data security and privacy for passenger information and payment details.
5. Promote sustainability by reducing paper ticket usage and optimizing bus routes.
6. Collaborate with bus operators for seamless system integration and service improvement.
7. Provide comprehensive user support and training materials.
8. Monitor system performance and gather user feedback for ongoing enhancements.

List of Modules/ Functionalities with description

The PMPL Bus Module within the Online Pass System is your gateway to a modernized and convenient bus transportation experience. With a host of advanced features, this module is designed to simplify your journey and enhance your safety

Certainly, here are the user, admin, and super admin functionalities for each of the listed modules:

Profile:
- User:
  - Login and register.
  - Edit profile.

- Admin:
  - Edit profile.
  - Send emails and SMS.
  - Login and registration.
  - Handle user profiles.
  - Dashboard.
  - Profile approval.

- Super Admin:
  - Login and register.
  - Edit profile.
  - Handle admin profiles.
  - Dashboard.

Bus:
- User:
  - Access bus info.
  - View schedules.

- Admin:
  - Update bus info.
  - Manage schedules.
  - Handle announcements.

- Super Admin:
  - Full control over bus data.

Offers:
- User:
  - Access promotional offers.

- Admin:
  - Manage offers.
  - Monitor offer effectiveness.

- Super Admin:
  - Control offer configurations.

Ticket Pass:
- User:
  - Purchase passes.
  - Receive QR code tickets.

- Admin:
  - Verify tickets via QR codes.
  - Resolve issues.

- Super Admin:
  - Monitor sales.
  - Manage passes.

Payment:
- User:
  - Make online payments.

- Admin:
  - Oversee payment processing.
  - Handle payment inquiries.

- Super Admin:
  - Manage payment gateways.

History:
- User:
  - View transaction history.

- Admin:
  - Access transaction records.

- Super Admin:

- Full transaction history access.

Notification:
- User:
  - Receive notifications.

- Admin:
  - Send targeted notifications.
  - Handle communication.

- Super Admin:
  - Manage notifications.

Feedback and Complaint:
- User:
  - Provide feedback and file complaints.

- Admin:
  - Address and resolve user feedback and complaints.

- Super Admin:
  - Review feedback and complaints data.

Chatbot:
- User:
  - Interact with chatbot for assistance.

- Admin:
  - Monitor chatbot interactions.

- Super Admin:
  - Oversee chatbot functionality.

About and Contact Us:
- User:
  - Access information.

- Admin:
  - Handle inquiries received through the contact form.

- Super Admin:
  - Manage content and contact information.

Reports:
- User:
  - Access relevant reports.

- Admin:
  - Generate reports for analysis.

- Super Admin:
  - Comprehensive reporting tools.

System requirement specification (SRS) (Operating Environment Software and Hardware)

5.1 Server side requirement

1. Hardware Requirements: -

Processor	Intel(R) Core(TM) i3-6300U CPU @ 2.40GHz 2.50 GHz
HDD	-
RAM	8.00 GB
Edition	Windows 10 Pro

2. Software Requirements: -

Operating System	Windows 10
Front End	HTML/CSS/TAILWIND CSS
Back End	JAVA
Software Development Tool	VS Code

Proposed System

1. **User-Centric Dashboard**: The system welcomes passengers with an intuitive dashboard tailored to their preferences. It displays personalized route recommendations, upcoming bus departures, and current pass status for a seamless user experience.
2. **Interactive Route Planner**: Passengers can input their origin and destination, and the system will provide multiple route options, taking into account real-time traffic data, to optimize travel time.
3. **Real-Time Alerts**: Subscribers receive proactive notifications about service disruptions, delays, or route changes, allowing them to plan their journeys accordingly.
4. **Multi-Language Support**: To accommodate a diverse user base, the system offers multi-language support, ensuring accessibility for all passengers.
5. **Accessibility Features**: The system prioritizes inclusivity with features such as voice commands, screen readers, and color contrast adjustments to cater to passengers with disabilities.
6. **Eco-Friendly Initiatives**: Passengers can track their carbon footprint through the system and receive rewards for choosing eco-friendly travel options, like bus-sharing.
7. **Digital Wallet Integration**: Seamless integration with popular digital wallets enables quick and secure payment processing for passes and tickets.
8. **Crowdsourced Updates**: Passengers can contribute real-time updates, such as bus capacity and cleanliness ratings, creating a collaborative and informed community.
9. **Dynamic Pricing**: The system utilizes demand-based pricing to incentivize off-peak travel and maximize passenger comfort during rush hours.
10. **Emergency Services Integration**: Passengers have direct access to emergency services through the app, ensuring immediate assistance in case of any onboard emergencies.
11. **Weather Integration**: Passengers can check weather conditions along their route, allowing them to prepare for any unexpected weather-related disruptions.

Feasibility Study

Certainly, here's a breakdown of the feasibility aspects for your project, the PMPL Online Pass System:

7.1 Technical Feasibility:

- Hardware Requirements: Assess the hardware needs for the system to run efficiently. Consider factors like processing power, memory, storage, and compatibility with various user devices (e.g., smartphones, computers).
- Software Requirements: Identify necessary software components, including the operating system, database, payment gateways, and development tools. Ensure compatibility with your chosen technology stack.
- Security: Implement robust security measures to protect user data, financial transactions, and sensitive information.
- Performance Testing: Conduct performance testing to ensure fast and reliable ticket purchasing, verification, and overall system responsiveness.

7.2 Economic Feasibility:

- Cost Analysis: Evaluate the total costs associated with developing, deploying, and maintaining the PMPL Online Pass System. Consider expenses such as software development, hardware infrastructure,

and ongoing operational costs.

- Revenue Generation: Explore potential revenue streams, including pass sales, advertising, or partnerships, to determine the financial viability of the project.
- ROI Assessment: Calculate the Return on Investment (ROI) to determine if the project is economically justifiable. Compare projected benefits with costs to make informed decisions.
- Risk Assessment: Identify potential financial risks and mitigation strategies to ensure economic feasibility.

7.3 Operational Feasibility:

- Alignment with Organizational Goals: Ensure that the system aligns with the PMPL's goals of providing efficient and accessible bus services to the public.
- User Adoption: Assess the likelihood of user acceptance and adoption of the online pass system. Consider user needs and preferences in the system design.
- Compliance: Ensure that the system complies with relevant regulations, data protection laws, and industry standards for public transportation services.
- Integration: Evaluate the ease of integrating the online pass system into PMPL's existing operations, including ticket verification and customer support processes.
- Training and Support: Plan for user training and support to ensure the smooth operation of the system and address any operational challenges.

Assessing these feasibility aspects will help ensure the successful development and implementation of the PMPL Online Pass System,

aligning it with technical, economic, and operational requirements while minimizing potential risks.