Smart Ticket: An Intelligent Public Transport System with Fraud Detection and Loyalty Program

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Dr. Senthil Kumar S

Professor, School of Computer Science and Engineering

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY

BENGALURU

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PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report "**Smart Ticket: An Intelligent Public Transport System with Fraud Detection and Loyalty Program**" being submitted by "SIBBALA CHANDANA, KOTHA GREESHMA REDDY,GABBURI NEHA,CIVINI MEGHANA, PATHAKAMURI HARSHITHA" bearing roll number(s) "20211CSE0723, 20211CSE0480, 20211CSE0812, 20211CSE0827, 20211CSE0824" in partial fulfilment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a Bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **Smart Ticket: An Intelligent Public Transport System with Fraud Detection and Loyalty Program** in partial fulfilment for the award of Degree of Bachelor of Technology in Computer Science and Engineering, is a record of our own investigations carried under the guidance of **Dr. SENTHILKUMAR S**, Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

SMART TICKET: AN INTELLIGENT PUBLIC TRANSPORT SYSTEM WITH FRAUD DETECTION AND LOYALTY PROGRAM

The rapid advancement of public transportation systems has brought to light the need for more sophisticated and secure ticketing solutions that enhance both operational efficiency and passenger experience. This paper presents "Smart Ticket: An Intelligent Public Transport System with Fraud Detection and Loyalty Program," a comprehensive solution designed to address these evolving demands. The proposed system incorporates cutting-edge technologies, including QR code-based ticketing, blockchain for secure transaction management, and machine learning algorithms for real-time fraud detection.

By integrating these elements, the system aims to not only streamline ticketing processes but also mitigate fraudulent activities, ensuring transparency and security in every transaction. The application of blockchain technology guarantees the immutability and security of transaction records, preventing unauthorized tampering and reinforcing trust among passengers. Additionally, the system features a loyalty program that incentivizes frequent travellers, fostering passenger retention and engagement. This approach not only enhances user experience but also contributes to a more sustainable and efficient transportation ecosystem.

The platform consists of a user-friendly mobile application, an administrator dashboard, and a robust back-end infrastructure for transaction validation, ticket purchases, and loyalty point management. Through the seamless integration of these technologies, the system minimizes manual intervention, reduces fraud, and improves operational transparency. The outcomes demonstrate improved passenger satisfaction, with the loyalty program significantly enhancing user engagement. This approach offers scalable solutions for other sectors requiring secure, transparent transaction systems, showcasing the potential of integrating modern technologies to solve real-world challenges and promote sustainable development.

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