RFID Based Smart E-Ticketing System

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Abstract*: In the digital era, public transportation systems are evolving to embrace technological advancements to enhance efficiency and passenger convenience. The Eco-Pass project aims to implement an RFID-based smart ticketing system for public buses, replacing traditional paper tickets with a more streamlined and user-friendly approach. This system utilizes RFID technology to automate fare collection, reduce boarding times, and provide real-time data analytics for transit operators. By integrating a mobile application and a robust backend system, Eco-Pass ensures seamless user interaction, easy account management, and secure transactions. The project focuses on creating a scalable, efficient, and secure ticketing solution that can significantly improve the overall passenger experience and operational efficiency of public transportation systems. Through this innovative approach, Eco-Pass addresses common issues such as ticket fraud, manual fare collection errors, and passenger inconvenience, paving the way for a smarter, more connected urban transit infrastructure. This report outlines the system design, implementation plan, and expected outcomes of the Eco-Pass project.*

Keywords: RFID Technology, Smart Ticketing, Transportation, Fare collection