

ABSTRACT

Providing accurate and real-time travel information to train passengers remains a challenge in many transportation systems, especially along routes not yet equipped with modern information infrastructure. This research presents the development of a real-time Passenger Information Display System (PIDS) for trains, utilizing Internet of Things (IoT) and Global Positioning System (GPS) technologies as its conceptual foundation. The system is designed to automatically display the next station and destination information to passengers based on train location data. In this development stage, a simulation approach is used to emulate GPS-based train movement through a Python script, which continuously updates sensor data in the backend database. The PIDS interface retrieves and displays this data in near real-time. The system was developed using a prototyping method, enabling iterative refinement of both frontend display and backend management components. Evaluation results show that the system successfully delivers accurate station information and supports full data operations such as train, route, and station management. This research contributes an adaptable system model that can be extended for integration with real-time GPS tracking and IoT deployment in future applications.

Keywords : GPS, IoT, Passenger Information Display System, Railway Management System, Real-Time.