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(57) Abstract :

The "System and Method for Smart Baggage System using Internet of Things" is a groundbreaking innovation aimed at revolutionizing the efficiency, security, and convenience of baggage management in modern transportation. In an era characterized by the Internet of Things (IoT), this system harnesses the power of interconnected devices and data analytics to create a comprehensive solution for real-time baggage tracking, monitoring, and optimization. Traditional baggage handling systems have long grappled with issues such as lost luggage, manual processing delays, and inadequate security measures. The proposed smart baggage system addresses these challenges head-on by embedding IoT-enabled tags within baggage items, forming a network that communicates seamlessly with IoT infrastructure in transportation hubs and vehicles. This interconnected ecosystem enables continuous and accurate monitoring of baggage throughout its journey, from check-in to final destination. The key components of the system include IoT-enabled baggage tags, a centralized control system, integrated baggage handling facilities, a passenger interface, and advanced security features. Each baggage item is equipped with a unique IoT tag that incorporates location-tracking, environmental sensors, and communication capabilities. These tags relay real-time data to a cloud-based control system, which processes and analyzes the information to optimize routing, prevent potential issues, and enhance operational efficiency. Airports, train stations, and other transportation hubs integrate IoT infrastructure to facilitate automated sorting, routing, and handling of baggage. Passengers benefit from a dedicated mobile application or web portal, providing them with real-time updates on the status and location of their baggage. The system also incorporates security measures such as tamper detection and secure authentication to safeguard against theft and unauthorized access.

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