

AIMS: Automated Inventory Management System for Real Time Stock Monitoring using Predictive Analytics Method

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Abstract

The Automated Inventory Management System (AIMS) is a smart solution designed to improve how small warehouses handle inventory by addressing inefficiencies, mistakes, and delays in traditional systems. AIMS uses automation and real-time data processing to enhance accuracy, operational speed, and adaptability to changing demands. It provides secure access through barcode and QR code scanning, allowing administrators, warehouse staff, and managers to work efficiently. The system optimizes warehouse layouts based on demand trends, improving space utilization and reducing retrieval times. AIMS integrates AI-driven recommendations to identify trends, prioritize stock, and predict demand fluctuations. Real-time monitoring and analytical reports provide live updates on inventory levels, order statuses, and warehouse performance, enabling informed decision-making. This system ensures effective order fulfillment, tracking progress, updating statuses, and prioritizing items. AIMS presents a scalable, cost-effective, and user-friendly platform tailored to small warehouses across various industries.

Keywords— Inventory Management, Predictive Analytics, AI-based Optimization, Real-Time Stock Monitoring, Warehouse Automation.