

ANDROID-BASED STOCK MANAGEMENT SYSTEM WITH BUDGET NOTIFICATION.

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Abstract: The Stock Management App: Revolutionizing Retail Efficiency In an ever-evolving retail landscape, the Stock Management App emerges as a game-changing solution to empower retailers with efficient tools for managing their inventory, sales, and purchases. This robust Android application leverages a centralized Firebase database, delivering real-time data access from any location. A user-friendly interface simplifies operations, allowing retailers to add new raw materials seamlessly by scanning barcodes with their mobile cameras, reducing manual data entry and errors. The E-Billing feature not only streamlines invoicing but also offers an advanced GST dashboard, making tax calculations a breeze. Furthermore, the Stock Management App takes a proactive stance by sending alerts to retailers when inventory falls below set thresholds or products near expiration dates, ensuring retailers are always in control.

A Comprehensive Solution for Modern Retail: With a focus on efficiency and customer satisfaction, the Stock Management App aims to transform retail stock management. It simplifies the addition of new raw materials, streamlines inventory tracking, optimizes the sales process, and maintains an up-to-date product database. The proactive alert system ensures never face stockouts or waste valuable inventory. This application is set to revolutionize retail operations, providing the tools needed for precision, efficiency, and success in today's competitive market. Enhancing Retail Operations for Optimal Results

The Stock Management App redefines the retail landscape by offering retailers a comprehensive toolkit

that simplifies and supercharges their day-to-day operations. With a centralized Firebase database, retailers can access their critical data from anywhere, ensuring they're never tied down to a single location. This innovative Android application also simplifies the process of adding raw materials to the database, eliminating the hassle of manual data entry through the use of barcode scanning via mobile cameras. The app's unique E-Billing feature not only streamlines invoicing but also provides retailers with an advanced GST dashboard, making tax calculations more straightforward than ever.

Keywords-Stock control, Sales tracking, Budget Management, Product database, Retail Technology

I. INTRODUCTION:

The "Stock Management App" is a cutting-edge Android application designed to revolutionize the way retailers and managers handle their inventory, sales, and raw materials. Built upon a robust platform, this application brings efficiency, convenience, and precision to stock management, empowering users with a multitude of features for streamlined business operations. At its core, this dynamic application seamlessly integrates a centralized Firebase database, ensuring real-time access to critical data from any location. It is the ultimate solution for those who demand precision, control, and the power of mobility in their retail and stock management needs. With a host of intuitive features, the Stock Management App sets out to revolutionize the way retailers approach stock

control. This comprehensive solution not only provides the ability to record transactions and manage products but also introduces innovative functionalities, making it an indispensable asset in the modern retail landscape. At the core of this system is the dynamic role of the Admin/Manager, who plays a pivotal role in ensuring the seamless operation of this software. The system also offers a convenient Login/Registration process with OTP

A. Add Raw Material:

"Add Raw Material" is a fundamental function of the Stock Management App. This feature allows retailers to input new raw materials into the system effortlessly. It simplifies the process by enabling retailers to use their mobile device's camera to scan barcodes on the raw materials, reducing manual data entry and the risk of errors. This not only saves time but also ensures accurate and efficient addition of new stock items to the database. Retailers can quickly expand their product offerings, streamline inventory intake, and maintain an up-to-date record of their stock, all contributing to smoother and more efficient stock management.

B. Check Stock Material:

"Check Stock Status" is a vital feature of the Stock Management App that provides retailers with real-time insights into their inventory. Through an intuitive dashboard, retailers can easily access critical information about their stock. This information typically includes the current quantity of raw materials available in their inventory. It empowers retailers to make informed decisions about restocking and sales. By having a clear view of their stock status, retailers can prevent stockouts, optimize their inventory levels, and ensure that they always have the right number of raw materials on hand to meet customer demand. This feature enhances efficiency and minimizes disruptions in the supply chain.

C. Selling Raw Material:

"Selling Raw Material" is a core function of the Stock Management App that streamlines the sales process for retailers. This feature simplifies and enhances the way retailers conduct transactions with customers. It calculates product prices, including any applicable taxes, and generates invoices. As a result, retailers can efficiently manage customer interactions, providing a smooth and professional experience. By automating the invoicing process, it minimizes errors and ensures that customers receive accurate and detailed purchase records. This capability not only facilitates smoother sales but also improves customer satisfaction and the overall efficiency of the retail operation.

D. Update in Database:

The Stock Management App that simplifies the process of

Verification to secure user data. ensures that retailers can swiftly and efficiently manage their product database. This feature is essential for keeping records precise and up-to-date, allowing retailers to make informed decisions and maintain a well-organized inventory. product details, prices, and quantities. By providing a user-friendly interface for these updates, the application raw materials and products.

keeping the product database current and accurate.

E. Send Alert Messages:

These alert messages serve as timely warnings, enabling retailers to take necessary actions to prevent stock shortages and reduce product wastage. For instance, if a raw material is running low, an alert will be sent to the retailer, prompting them to reorder and maintain adequate stock levels. Similarly, if a product is close to its expiration date, an alert will remind the retailer to prioritize the sale or use of that item.

II.OBJECTIVE:

The objective of this project revolves around enhancing stock management efficiency for retailers using the Stock Management App. It seeks to provide a comprehensive solution for sales, purchases, and inventory control through a user-friendly Android application. The project aims to streamline the process of adding new raw materials to the database by introducing barcode scanning for accuracy and speed. It also aims to empower retailers with the ability to constantly monitor stock status in real-time, ensuring that they maintain optimal inventory levels to meet customer demands.

III.LITERATURE SURVEY:

This section provides an overview of the existing body of literature related to stock management. In this review, we summarize and analyze key findings, methodologies, and contributions of previously published papers in the field. [1] This study introduces E-Inventory, an Android-based mobile application designed to enhance inventory management at the Faculty of Engineering Technology laboratory stores. E-Inventory successfully reduces inventory access time by 80% and improves accuracy compared to manual methods. [2] This paper presents a mobile-based Inventory Management System utilizing QR codes, aimed at streamlining inventory management for various firms. The system encompasses stock storage, level maintenance, and real-time updates based on sales data. [3] This paper introduces "Invento," an Android-based mobile application designed to address supply chain challenges faced by small-scale firms. The application aims to enhance inventory and operations management, thereby improving productivity and reputation. It employs a reward-based approach. [4] The "Retail Stock Management App" is an

Android application designed for retailers to efficiently manage sales, purchases, and inventories. It utilizes a centralized SQL database, enabling access to data from any location. Retailers can add products, handle sales, and offer electronic billing with email receipts. [5] This case study highlights an Android app designed for inventory management and sales prediction, specifically tailored for local shopkeepers in India. The app enables shop owners to optimize their product and supply investments [6] This paper by Febriyanti Darnis presents a mobile inventory system application developed using the Waterfall technique for a minimart. The application is designed to assist minimart employees in managing and tracking inventory products on mobile devices. [7] This paper by Jingna Wang and Guowei Hua proposes the development of an Android warehouse management software using a C/S three-layer architecture with Web Service technology. The Android software complements traditional computer-side warehouse management systems. [8] This paper focuses on the establishment of a material procurement system for biomass power plants, aiming to address the disadvantages of traditional power generation. [9] This paper discusses the evolving field of advanced composites and innovative materials for electronic packaging thermal management. These materials are continually advancing and have the potential to become the preferred choice for heat management and electronic packaging in the twenty-first century, especially those with high thermal conductivities. [10] This present an Inventory Management System designed for businesses, particularly hardware stores. This software streamlines sales and purchase record-keeping, eliminates manual errors, and enhances inventory control.

The Android-Based Stock Management System with Budget Notification project is a comprehensive solution that aims to modernize and streamline stock management in the retail sector. With an emphasis on user-friendliness, real-time data access, budget control, and proactive notifications, it empowers retailers to enhance efficiency, optimize their inventory control, and improve customer service, all while maintaining healthy financial stability. In a world where adaptability and agility are paramount for retail success, this project represents an innovative leap forward in stock management practices.

V. ADVANCEMENT

The project's advancement lies in its innovative utilization of Android technology to transform stock management for retailers. Through real-time stock monitoring, barcode-based data input, budget notifications, and proactive alerts, it not only simplifies

inventory control but also enhances the financial stability of businesses. By providing accessible and user-friendly tools, it empowers retailers to make data-driven decisions, reduce errors, and ensure that they always have the right stock levels to meet customer demands while maintaining budgetary constraints, thereby marking a significant leap in the efficiency and effectiveness of retail operations.

VI. CONCLUSION:

In conclusion, the Android-Based Stock Management System with Budget Notification project represents a pioneering solution that addresses critical challenges in the modern retail landscape. By harnessing the capabilities of Android technology, this project introduces an array of innovative features, from real-time stock status monitoring to barcode-based data input. It not only streamlines inventory control but also enhances financial management through budget notifications and proactive alerts. This comprehensive system empowers retailers to make informed decisions, maintain accurate stock records, and safeguard their financial stability.

The project's success hinges on its commitment to simplifying retail operations while adapting to the dynamic demands of the industry. It signifies a significant stride forward in the realm of stock management by offering a user-friendly, accessible, and comprehensive toolset that aids retailers in delivering exceptional customer service while staying within budget constraints.

As the retail sector continues to evolve, the Android-Based Stock Management System with Budget Notification project stands as a testament to the innovation and adaptability required for retailers to thrive in a competitive market. By embracing this technology-driven approach, businesses can achieve greater efficiency, minimize waste, and provide a seamless shopping experience, ultimately positioning themselves for sustained success in the ever-changing retail landscape.

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