

UNITED INTERNATIONAL UNIVERSITY

Course Title: Database Management Systems Laboratory

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Lab Report Submission



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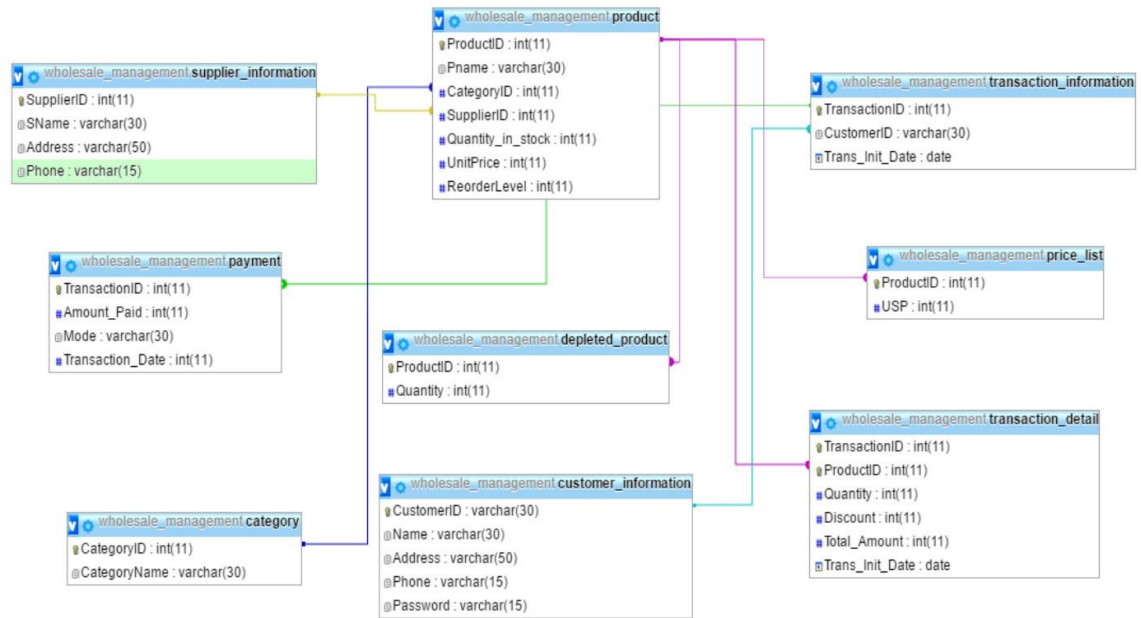
Introduction

Introducing an innovative stride towards modernizing business operations in developing economies, this lab report delves into the conceptualization, design, and implementation of an E-Wholesale Management System (WMS). Despite the omnipresent technological evolution, pen and paper methodologies continue to steer the trajectory of wholesale businesses in many developing countries, yielding inefficiencies and vulnerability to security breaches. In response, our project endeavors to bridge this gap by developing a dynamic sales management web application tailored for E-wholesale businesses. This solution not only enhances operational efficiency but also fortifies data security, catering especially to resource-constrained small-scale enterprises.

By harnessing the power of the web, the E-Wholesale Management System emerges as an accessible tool, ideally suited for smaller enterprises that seek affordable alternatives to pricier market offerings. Central to its architecture is an administrator login, empowering wholesalers with an array of features meticulously designed to oversee sales and inventory, consequently optimizing the operations of the sales division. Notably, the system extends its reach to encompass customers and suppliers, establishing a seamless conduit for streamlined sales interactions.

In tandem with these capabilities, the system provides customers with personalized login credentials, empowering them to monitor their transactions with the wholesaler. In its entirety, this innovative framework simplifies daily business activities, setting the stage for more effective and efficient enterprise management. Drawing upon an array of publicly available information concerning optimal software structures employed in developed countries, our project capitalizes on these insights to craft a robust and functional E-Wholesale Management System.

Relational Model / Schema



Link to the Project :

<https://github.com/iftekharmahmud/dbms-project-summer23>

Application and Feature

There are two types of accounts. Administrator and Customer.

Administrator Account Features:

Within the E-Wholesale Management System, two distinct account types - Administrator and Customer - cater to the diverse needs of business management and customer engagement. The Administrator account, endowed with paramount control, offers an array of functionalities to streamline wholesale operations:

- **Effortless Product Management:** Administrators can seamlessly add, update, and organize product details, categorized for enhanced accessibility and efficient management.
- **Supplier Information Control:** Supplier details can be readily added and updated, ensuring up-to-date and accurate information regarding the product sources.
- **Customer Information Management:** The system empowers administrators to maintain a comprehensive customer database, fostering personalized interactions and informed decision-making.
- **Vigilant Stock Maintenance:** A real-time view of depleted stock enables proactive inventory management, minimizing disruptions and enhancing customer satisfaction.
- **Transaction Insights:** Administrators can effortlessly review all transactions that transpired within a specified time frame, facilitating a comprehensive overview of business operations.
- **Real-time Transaction Recording:** Even for offline transactions, administrators can seamlessly input new transaction data into the system, capturing essential payment details for future reference.
- **Efficient Billing:** In instances where historical transaction details are requisite, administrators can promptly generate bills leveraging unique TransactionIDs, fostering accuracy and accountability.

Customer Account Features:

Catering to the customer-facing facet of the E-Wholesale Management System, the Customer account amalgamates convenience and transparency:

- Transaction Visibility: Customers are granted a panoramic view of their transactions over a specified period, fostering transparency and enabling them to track their engagements.
- Categorized Product Search: Empowering customers with category-wise product exploration, the system bolsters user experience and expedites product discovery.
- Streamlined Billing: Customers possess the autonomy to generate bills for prior transactions, ensuring a comprehensive record of their interactions and facilitating financial organization.

In summation, the E-Wholesale Management System stands as a comprehensive solution, catering to both administrative and customer-centric needs. By embracing technology, it revolutionizes conventional wholesale operations, driving efficiency, accuracy, and customer engagement to new heights.

System Constraints

As the E-Wholesale Management System orchestrates the intricate dance of transactions and inventory, it adheres to a set of critical constraints that ensure accuracy, reliability, and seamless functionality:

- **Transaction Integrity Verification:** Prior to embarking on any transaction, a dual assessment ensues: the ordered product's quantity must remain less than the available stock, and it must also exceed the wholesaler's predefined minimum quantity threshold. Failure to meet either criterion halts the transaction process.
- **Replenishment Trigger Mechanism:** To preempt stock shortages, each product bears a Reorder Level. Should the stock of a specific product dip beneath this level, the system intuitively ushers the product into the depleted stocks table, waiting for restoration.
- **Payment Mode Precision:** In the realm of financial transactions, the 'mode' attribute reigning over the payment table adheres strictly to three designated values: 'cash', 'debit card', or 'credit card'. This meticulous limitation streamlines payment data for unwavering accuracy and consistency.

By meticulously observing these constraints, the E-Wholesale Management System upholds the reliability and fluidity essential for an efficient wholesale business operation.

Conclusion: Scope and Considerations

In summary, this prototype offers a glimpse into a potential sales management solution for e-wholesale businesses. Acknowledging its current limitations, it serves as a foundation for a more robust application that could significantly benefit small enterprises. With its offline transaction focus, the system simplifies management and enhances security. Notably, legal integration could assist tax regulation, making the application a valuable tool for both efficiency and compliance. While this prototype is modest, it signals the promising trajectory of technology for e-wholesale management.

