Universidad de las Fuerzas Armadas

Department of Sciences of the Computation

Career: Software

Nrc: 22406

Team 2:

Chalacan Dennison

Diego Delgado

Kevin Coloma

Web app for sales and inventory management

Problem

Small business owners often struggle to maintain efficiency and organization in their operations due to limited resources and lack of affordable tools. Common challenges include inventory mismanagement, disorganized supplier relations, and manual handling of financial tasks, which lead to frequent errors and lost opportunities. Traditional business management software is typically too expensive for these entrepreneurs, making them rely on inefficient methods like handwritten notes or memory. This system addresses these issues by offering an accessible web-based solution that streamlines invoicing, inventory updates, and supplier price comparisons, helping small merchants enhance their operations, reduce errors, and improve their competitiveness without the need for costly equipment or extensive training.

Overview

In the field of small businesses, efficient management of sales, inventory, and supplier relationships is key to success. This system is designed as a centralized web application tailored for small merchants. It provides tools to:

Streamline the billing and receipt issuance process.

Manage inventory updates through a web interface accessible from any device with a browser.

Compare supplier prices to help merchants make cost-effective purchasing decisions.

By focusing on simplicity and accessibility, this system enables small merchants to improve operational efficiency and reduce costs.

Background

Small business owners face significant challenges in maintaining order in their operations, which hinders their efficiency and growth. Common issues include remembering if a product is out of stock, organizing suppliers (contacts, deliveries, payments), and managing finances, often due to a lack of structure and resources. Limited budgets restrict the purchase of modern equipment, like computers or point-of-sale systems, which could streamline inventory tracking and supplier communication.

While business management software offers ideal solutions for automating tasks like inventory, invoicing, or planning, its high cost—along with expenses for maintenance and training—makes it unaffordable for many. As a result, entrepreneurs resort to inefficient methods, such as handwritten notes, relying on memory, or managing everything empirically. These practices lead to errors, data loss, and struggles to meet market demands, perpetuating disorganization.

However, affordable alternatives exist. Free or low-cost digital tools, like inventory apps or spreadsheets, can enhance product and supplier management. Additionally, training in basic organization or standardized processes, supported by government programs or online resources, can optimize operations without major investments. With creativity and access to these solutions, small business owners can overcome limitations, improve organization, and strengthen their businesses to compete and grow.

Analyst Comparison

Most existing solutions are expensive and complex, making them unsuitable for small businesses. Basic tools like spreadsheets are affordable but lack integration and efficiency. The proposed system offers a simple, low-cost, and centralized alternative, specifically designed to meet the needs of small merchants.