WEB – BASED MATERIALS INVENTORY MANAGEMENT SYSTEM WITH MAPPING

Introduction

In the contemporary business landscape, the efficient management of materials inventory emerges as a critical factor influencing organizational success across diverse industries. Traditional inventory management systems often prove inadequate for the dynamic needs of modern enterprises, leading to inefficiencies and increased operational costs. Addressing this challenge, this capstone paper introduces a Web-Based Materials Inventory Management System with Mapping, integrating web technology and advanced mapping capabilities to offer organizations an automated and robust tool for streamlined materials inventory management.

The primary objective of this system is to centralize and automate the entire inventory management process, allowing organizations to maintain accurate records, track material movements, and optimize inventory levels. Through the elimination of manual errors and reduction of paperwork, the system enhances operational efficiency. The inclusion of mapping features provides spatial visualization, offering valuable insights into the geographic positioning of customers and suppliers. Core functionalities include materials registration, categorization, and tracking, with real-time updates ensuring accuracy and notifications facilitating proactive responses to supplier material deliveries. Implementation of this system brings tangible benefits, including improved accuracy, operational efficiency, and customer satisfaction, empowering businesses to focus on strategic initiatives and make data-driven decisions to remain competitive.

This capstone paper aims to explore the development, implementation, and evaluation of the Web-Based Materials Inventory Management System, assessing its effectiveness, usability, and real-world advantages. Recognizing the significance of effective inventory management, especially in civil construction projects, the paper highlights its role in the seamless flow of products from suppliers to retail locations. The case of Justly Electrical Supplies and Services underscores the necessity for such systems in businesses relying on manual data recording, emphasizing the practical insights offered by the proposed solution for fostering operational excellence, cost reduction, and informed decision-making.

Background of the Study

Justly Electrical Supply and Services (JESS) is an electrical supply business that does not have a software system involve in their business process, so that they can just store their data in one place. Since there’s no system involve, they only do their transactions manually which is very time consuming. They only kept a copy of their receipt of purchases to track the record of sales in their business. Having the proposed system involve to their business process can lessen the time consumed by manually doing it, in addition to they can also store their data in one place where they can easily browse and check as well as track the transactions that needed immediate attention.

The business process for Justly Electrical Supplies and Services (JESS) starts with the salesclerk looking for a customer or an engineer looking for a contractor about electrical supplies. After identifying who the customer is, JESS will create a quotation. The quotation is an order list from the customer, which JESS will put some prices on. After that, JESS will send the quotation to the customer, which has a price on it. That's where the bidding starts. Then, if the customer chooses the prices that JESS quoted, JESS will create a purchase order, which will be sent to the supplier. But JESS is ordering materials collectively from one project to another. Once the materials have been delivered to the warehouse, the warehouse personnel will distribute them to each project.

The beneficiary faced problems with losing the paperwork required for each project, manually registering the items in their inventory, and by not keeping accurate records of their customers and supplier’s transactions. Thus, the researchers are eager to develop the Web - Based Materials Inventory Management System with Mapping.

System Requirements

B.1 Hardware Requirements

The following were the recommended hardware requirements:

• Storage: 256 GB SSD or higher

• Processor: Intel Core i5 or higher

• Monitor: Any compatible monitor or any preferred by the end-user

• Mouse: Any compatible mouse or any preferred by the end-user

• Keyboard: Any compatible keyboard or any preferred by the end-user

• Printer: Any compatible printer or any preferred by the end-user

B.2 Software Requirements

The following were the recommended software requirements:

For the users:

• Operating System: Windows 11

• Browser: Google Chrome

For system

• Hosting (Hostinger)

B.3 Processes

B.4 Operating System

B.5 Databases

-MySql

B.6 People