

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**BELGAUM – 590018, Karnataka**



**A TECHNICAL MINI PROJECT REPORT**

**ON**

**“INVENTORY MANAGEMENT SYSTEM”**

*Submitted in the partial fulfilment for the requirement of 5<sup>th</sup> Semester.*

**BACHELOR OF ENGINEERING**

**IN**

**ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

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**BANGLORE COLLEGE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE**  
**LEARNING**

**Affiliated by VTU, BELAGAVI**

# BANGLORE COLLEGE OF ENGINEERING TECHNOLOGY



This is to certify that the mini project work entitled **“INVENTORY MANAGEMENT SYSTEM”** is Bonafide work carried out by Harshita M Jain (1BC21AI005) and in the partial fulfilment of the requirement of 5<sup>th</sup> semester, Bachelor of engineering in Artificial Intelligence and Machine Learning of Visvesvaraya Technical University, Belgaum during the year 2023-2024. It is certified that all corrections/suggestions indicated for the internal assessment have been incorporated in the report. This report has been approved as it satisfies the academic requirements in respect prescribed for Bachelor of Engineering Degree of mini project.

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With regards,

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## **ABSTRACT**

This project is aimed at developing a desktop-based application named Inventory Management System for managing the inventory system of any organization. The Inventory Management System (IMS) refers to the system and processes to manage the stock of organization with the involvement of Technology system.

Efficient inventory stock management is crucial for any organization. This system can be used to store the details of the inventory, stock maintenance, update the inventory based on the sales details, generate sales and inventory report daily or weekly based. This project is categorizing individual aspects for the sales and inventory management system. In this system we are solving different problem affecting to direct sales management and purchase management. Without proper inventory control, a large retail store may run out of stock on an important item. A good inventory management system will alert the wholesaler when it is time to record. Inventory Management System is also on important means of automatically tracking large shipment. An automated Inventory Management System helps to minimize the errors while recording the stock.

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## **CHAPTER-1**

### **1.1 INTRODUCTION:**

The project Inventory Management System is a complete desktop-based application. The Inventory Management System project aims to streamline and automate the process of managing inventory of a business. The application stores all information regarding the stock of the organization. It is an intranet-based desktop application which has admin component to manage the inventory and maintenance of the inventory system.

This desktop application is based on the management of stock of an organization i.e., general organization profile, sales details, Purchase details and the remaining stock that are presented in the organization. There is a provision of updating the inventory also. This application also provides the remaining balance of the stock as well.

Each new stock is created and entitled with the name of that stock and it can also be updated any time when required as per the transaction or the sales is returned in case. Here the login page is created to protect the management of the stock of organization to prevent it from the threads and misuse of the inventory.

## **1.2 PROBLEM STATEMENT:**

The current manual inventory management processes in many businesses are prone to various inefficiencies and errors, leading to challenges such as stockouts, overstocking, inaccurate inventory counts, and poor decision-making. These challenges hinder operational efficiency, increase costs, and negatively impact customer satisfaction. Therefore, there is a pressing need for an efficient Inventory Stock Management System to address these issues effectively.

### **PROBLEMS TO ADDRESS:**

1. **Manual Processes:** The reliance on manual inventory management processes, such as spreadsheets or paper-based records, results in inaccuracies, delays, and inefficiencies.
2. **Poor Inventory Visibility:** Limited visibility into real-time inventory levels, locations, and movement makes it difficult to make informed decisions and fulfill customer orders promptly.
3. **Stockouts and Overstocking:** Inadequate inventory forecasting and replenishment strategies lead to stockouts, causing lost sales opportunities, while overstocking ties up capital and storage space unnecessarily.
4. **Inefficient Procurement:** Manual generation and management of purchase orders result in delays, errors, and difficulties in tracking supplier information and order statuses.
5. **Lack of Data Analytics:** Absence of robust reporting and analytics capabilities prevents businesses from gaining insights into inventory trends, sales patterns, and supplier performance for informed decision-making.
6. **Security Risks:** Manual record-keeping increases the risk of data loss, unauthorized access, and inconsistencies in inventory data, compromising data integrity and security.
7. **Scalability Issues:** Manual processes struggle to scale with the growth of the business, leading to further inefficiencies and difficulties in managing larger inventories and operations.

PROPOSED SOLUTIONS:

- The system shall provide easy storage retrieval and access of inventory information.
- The system shall offer security to stored inventory data through use of passwords to control data access.
- The system should be able to aid management to make weekly, daily, monthly inventory reports.
- The system shall have a user-friendly interface.
- The system is expected to give results in a reasonable small-time interval.
- The system shall accept, update, deletion and alteration of data.



## **1.3 BACKGROUND AND MOTIVATION**

### **BACKGROUND:**

We started research by identifying the need of IMS in the organization. Initially we bounded our research to find the general reasons that emerged the needs of Inventory Management System. We used different techniques to collect the data that can clearly give us the overall image of the application. The techniques we used were interview with the developers, visiting online websites that are presented as the templates and visiting some organization to see their IMS application.

The background and motivation behind an inventory management system project is the need for organizations to effectively monitor and control their inventory levels. This includes tracking stock quantities, managing reorder points, optimizing storage space, and ensuring timely replenishment of goods.

### **MOTIVATION:**

The main purpose of inventory management is to help businesses easily and efficiently manage the ordering, stocking, storing, and using of inventory. By effectively managing your inventory, you'll always know what items are in stock, how many are out of stock, to develop invoice etc.

It ensures a continuous supply of material and stock so that production should not suffer at the time of customer demand.

To maintain minimum working capital as required for operational sales activities. Plus, practicing strong inventory management allows you to understand how you use your inventory and how demand changes for it over time.

## **1.4 OBJECTIVES:**

The primary objective of an inventory management system project is to efficiently track, manage, and control a company's inventory levels to meet customer demand while minimizing costs and maximizing profitability. This includes:

- 1.Optimizing Inventory Levels: Ensuring that the right amount of inventory is available at the right time to prevent stockouts and minimize excess inventory holding costs.
- 2.Improving Efficiency: Streamlining inventory-related processes such as ordering, receiving, storage, picking, and shipping to reduce lead times and improve operational efficiency.
- 3.Enhancing Accuracy: Increasing the accuracy of inventory data and reducing errors in stock counts, orders, and replenishment activities.
- 4.Reducing Costs: Minimizing inventory holding costs, carrying costs, and the cost of stockouts by optimizing inventory levels and procurement processes.
- 5.Improving Customer Service: Ensuring that products are available when customers need them, thereby enhancing customer satisfaction and loyalty.
- 6.Facilitating Forecasting and Planning: Providing real-time visibility into inventory data to support demand forecasting, inventory planning, and decision-making.
- 7.Enabling Compliance: Ensuring compliance with regulatory requirements related to inventory management, reporting, and safety standards.
- 8.Supporting Business Growth: Providing scalable solutions that can accommodate increasing demand, expansion into new markets, and changes in business requirements.

Overall, the objective of an inventory management system project is to create a more efficient, accurate, and responsive inventory management process that contributes to the overall success and profitability of the organization.

## **CHAPTER-2**

### **2.1 LITERATURE REVIEW:**

A literature review of inventory management system projects would typically encompass various studies, articles, and research papers that explore different aspects of inventory management systems.

By reviewing different inventory management techniques such as Just-In-Time (JIT), Economic Order Quantity (EOQ), Material Requirements Planning (MRP), and Vendor Managed Inventory (VMI), highlighting their advantages, disadvantages, and applicability in different industries.

By examining the role of technology in inventory management, including the use of barcode systems, RFID technology, cloud-based inventory management software, and artificial intelligence (AI) algorithms for demand forecasting and inventory optimization.

By evaluating the costs and benefits associated with implementing inventory management systems, including reductions in holding costs, stockouts, and labor expenses, as well as improvements in order accuracy, customer service levels, and overall operational efficiency.

Investigating the impact of inventory management systems on key performance indicators such as inventory turnover ratio, fill rate, on-time delivery, and customer satisfaction, highlighting how effective inventory management contributes to overall business performance.

Analyzing how inventory management systems can help mitigate risks associated with inventory obsolescence, stockouts, supplier disruptions, and demand volatility, through better inventory visibility, risk assessment, and contingency planning.

Reviewing case studies and examples of successful inventory management system implementations in different industries, identifying best practices, lessons learned, and critical success factors for effective inventory management.

By synthesizing and critically analyzing existing literature on inventory management systems, researchers and practitioners can gain insights into current trends, challenges, and opportunities in the field and inform the design and implementation of our inventory management project.

## **2.2 FUTURE SCOPE:**

In the future, inventory management systems will need to consider several key factors to stay relevant and effective:

1.Integration with Emerging Technologies: Continuously integrating and adapting to emerging technologies such as AI, machine learning, IoT, blockchain, and augmented reality will be crucial for enhancing efficiency, accuracy, and automation in inventory management processes.

2.Real-Time Data and Analytics: Providing real-time insights and analytics will be essential for decision-making and forecasting, enabling businesses to respond promptly to changes in demand, supply chain disruptions, and market trends.

3.Scalability and Flexibility: Ensuring scalability and flexibility to accommodate the growth and evolving needs of businesses, including multi-channel sales, global supply chains, and changing regulatory requirements.

4.Customization and Personalization: Offering customizable and personalized solutions tailored to the specific requirements of different industries, businesses, and product types will be increasingly important for optimizing inventory management processes.

5.Sustainability and Environmental Impact: Incorporating features to track and minimize environmental impact, reduce waste, and promote sustainable practices throughout the supply chain will become a priority for businesses and consumers alike.

6.Cybersecurity and Data Privacy: Enhancing cybersecurity measures to protect sensitive inventory data from cyber threats, breaches, and unauthorized access, while also ensuring compliance with data privacy regulations such as GDPR and CCPA.

7.Collaboration and Integration: Facilitating seamless collaboration and integration with other enterprise systems such as ERP, CRM, and e-commerce platforms to streamline operations and improve overall business efficiency.

8.User Experience: Prioritizing user-friendly interfaces, intuitive workflows, and mobile accessibility to enhance usability and adoption among employees at all levels of the organization.

## CHAPTER-3

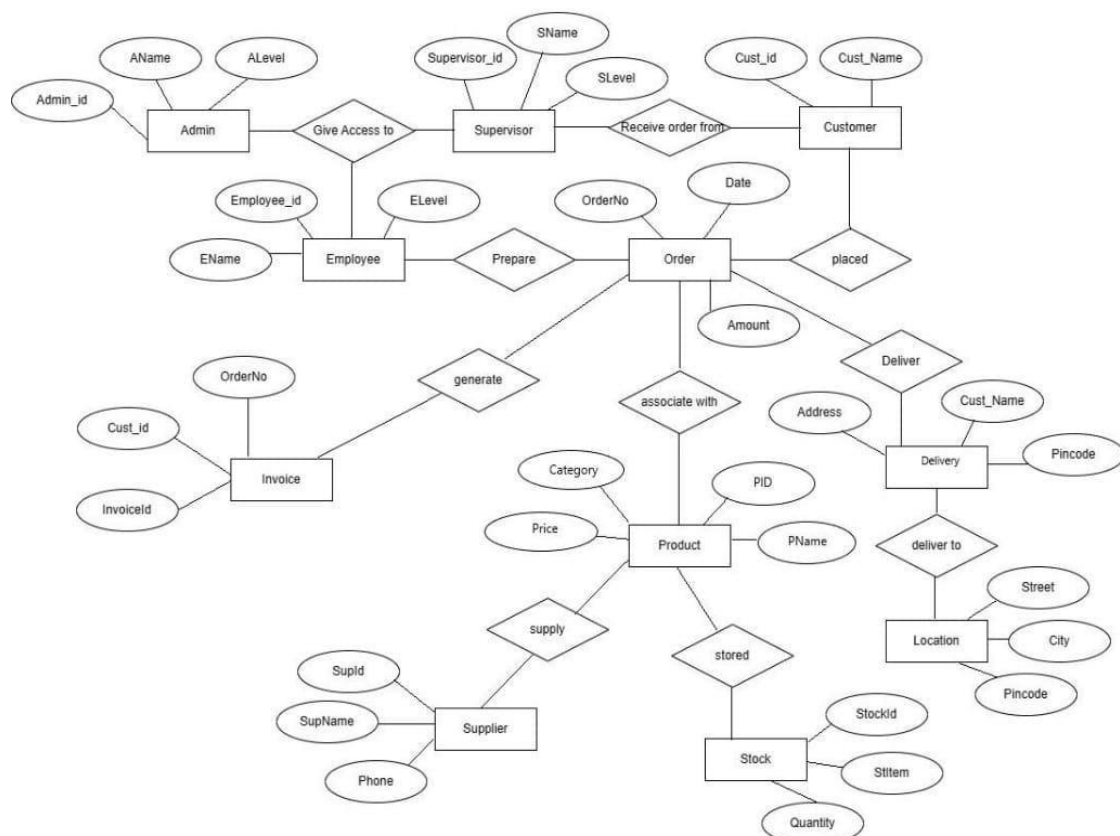
### TABLE OF CONTENTS

#### 3.1 ENTITY-RELATIONSHIP (ER) DIAGRAM:

The Entity Relationship Diagram explains the relationship among the entities present in the database. ER models are used to model real-world objects like a person, a car, or a company and the relation between these real-world objects. In short, the ER Diagram is the structural format of the database.

#### Symbols Used in ER Model:

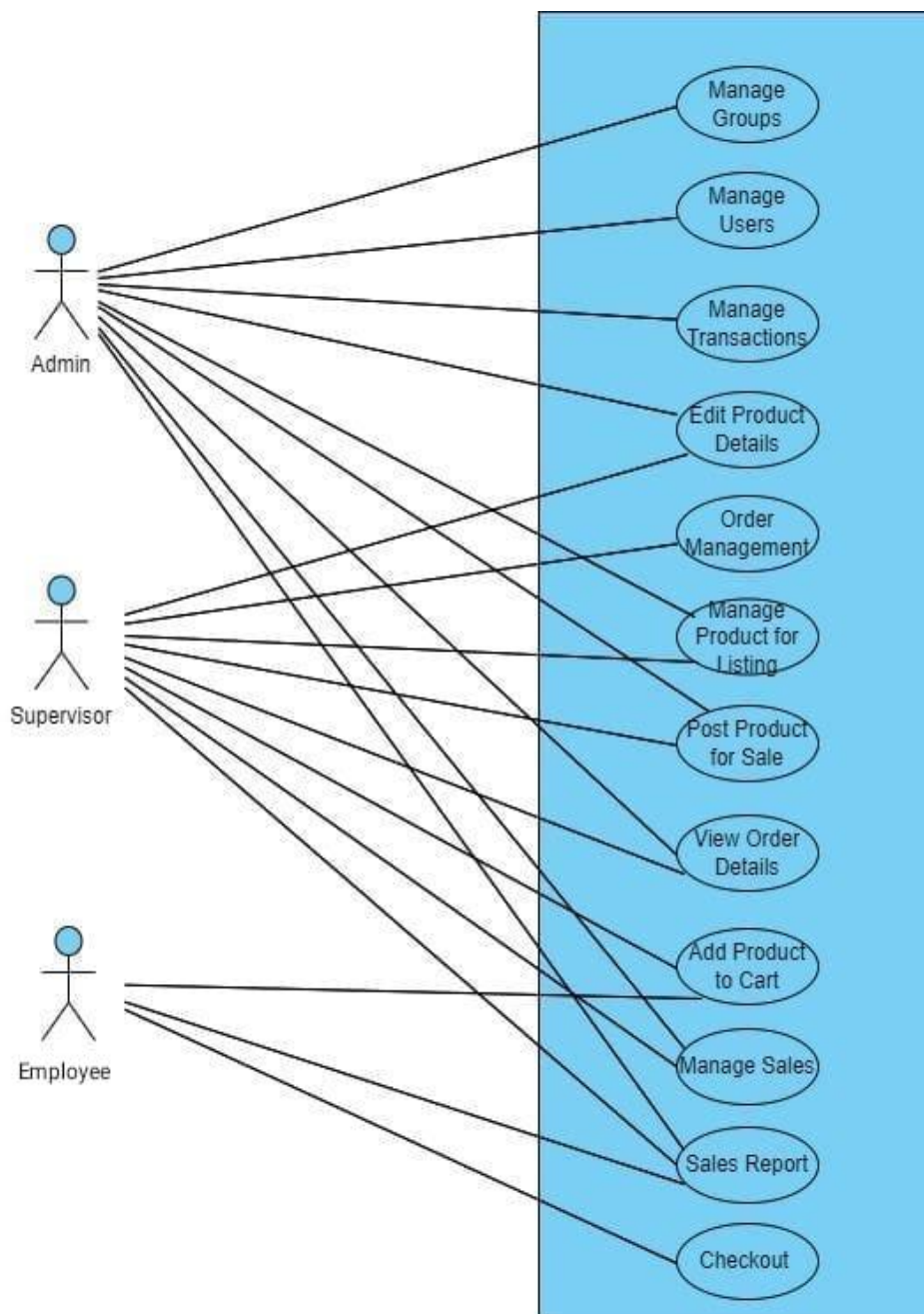
- Rectangles: Rectangles represent Entities in the ER Model.
- Ellipses: Ellipses represent Attributes in the ER Model.
- Diamond: Diamonds represent Relationships among Entities.
- Lines: Lines represent attributes to entities and entity sets with other relationship types.
- Double Ellipse: Double Ellipses represent Multi-Valued Attributes.
- Double Rectangle: Double Rectangle represents a Weak Entity.



### **3.2 USE CASE DIAGRAM:**

A use case diagram is a way to summarize details of a system and the users within that system. It is generally shown as a graphic depiction of interactions among different elements in a system. Use case diagrams will specify the events in a system and how those events flow, however, use case diagram does not describe how those events are implemented.

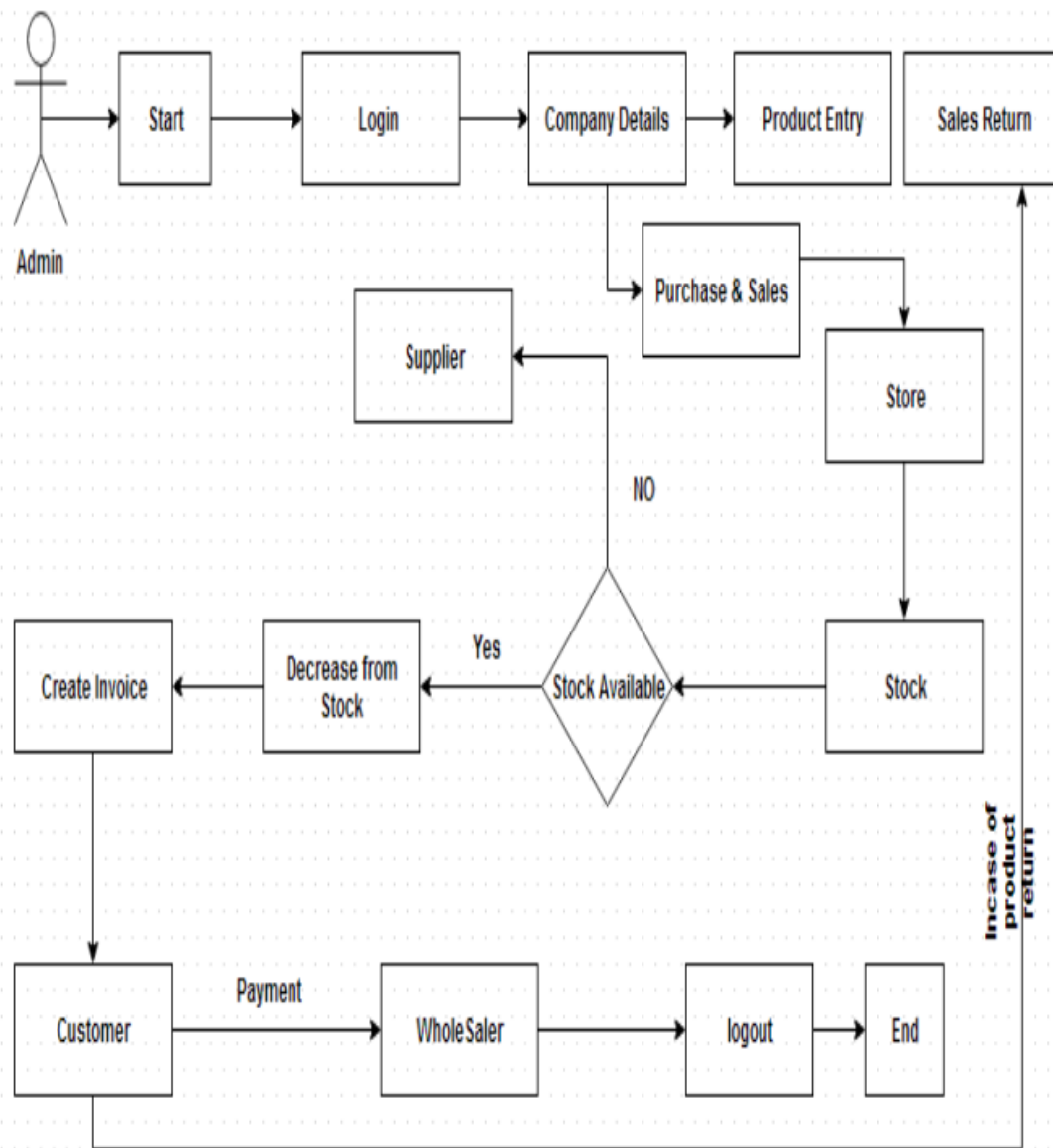
The use cases are represented by either circles or ellipses. The actors are often shown as stick figures.



### 3.3 ACTIVITY DIAGRAM:

Activity Diagrams are used to illustrate the flow of control in a system and refer to the steps involved in the execution of a use case. We can depict both sequential processing and concurrent processing of activities using an activity diagram ie an activity diagram focuses on the condition of flow and the sequence in which it happens.

- An activity diagram portrays the control flow from a start point to a finish point showing the various decision paths that exist while the activity is being executed.
- They are used in business and process modeling where their primary use is to depict the dynamic aspects of a system



## **CHAPTER-4**

### **4.1 TOOLS AND REQUIREMNETS:**

#### **Tools:**

PHP, HTML, CSS:

These technologies are used to build the system. PHP and HTML are used to build the interface of the system and build the functionality of the system. CSS is used to define styles of the system.

XAMMP:

XAMPP is a free and open-source cross-platform web server solution stack package. This software is used to connect to Apache and MySQL.

PhpMyAdmin:

PhpMyAdmin is an open source and free administration tool for MySQL. This tool is used to insert the database.

Visual Studio Code:

VS code is a free and open-source text and source code editor. This software is used to code the system.

#### **Requirement:**

XAMMP Control Panel Version 3.3.0

phpMyAdmin Version 8.0.12. Laptop

Operating System:

Windows 10

Processor:

Intel(R) Core (TM) i5-5200U CPU @ 2.20GHz 2.19GHz



## **4.2 IMPLEMENTATION AND TESTING:**

### **IMPLEMENTATION:**

Implementing an inventory management system (IMS) involves several steps, including designing the database schema, implementing it using a database management system (DBMS), and testing the system thoroughly. Here's a general outline of how you can approach this project:

#### 1. Requirement Analysis:

- Understand the requirements of the inventory management system. Identify entities such as products, suppliers, customers, orders, etc., and their relationships.

#### 2. Database Design:

- Entity-Relationship Diagram (ERD): Create an ERD to visualize the entities, attributes, and relationships.

#### 3. Database Implementation:

- Choose a DBMS (e.g., MySQL, PostgreSQL, SQLite) based on your requirements.
- Use SQL or a suitable ORM (Object-Relational Mapping) tool to create the database schema.

#### 4. Data Population:

- Populate the database with sample data for testing purposes. You can do this manually or using scripts.

#### 5. System Implementation:

- Develop the application logic to interact with the database. This includes functionalities like adding/updating products, managing inventory levels, processing orders, etc.

**CODE IMPLEMENTATION:****BACKEND CODE:**

```

-- phpMyAdmin SQL Dump
-- version 4.2.11
-- http://www.phpmyadmin.net
--
-- Host: 127.0.0.1
-- Generation Time: Apr 04, 2021 at 07:57 PM
-- Server version: 5.6.21
-- PHP Version: 5.6.3

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";


/*!40101 SET
@OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET
@OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET
@OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8 */;

--
-- Database: `inventory_system`
--

-- -----

--
-- Table structure for table `categories`
--

CREATE TABLE IF NOT EXISTS `categories` (
  `id` int(11) unsigned NOT NULL,
  `name` varchar(60) NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=9 DEFAULT CHARSET=utf8;

--
-- Dumping data for table `categories`
--

```

```
INSERT INTO `categories` (`id`, `name`) VALUES
(1, 'Demo Category'),
(3, 'Finished Goods'),
(5, 'Machinery'),
(4, 'Packing Materials'),
(2, 'Raw Materials'),
(8, 'Stationery Items'),
(6, 'Work in Progress');
```

```
-- -----
```

```
--
-- Table structure for table `media`
--
```

```
CREATE TABLE IF NOT EXISTS `media` (
`id` int(11) unsigned NOT NULL,
`file_name` varchar(255) NOT NULL,
`file_type` varchar(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
-- -----
```

```
--
-- Table structure for table `products`
--
```

```
CREATE TABLE IF NOT EXISTS `products` (
`id` int(11) unsigned NOT NULL,
`name` varchar(255) NOT NULL,
`quantity` varchar(50) DEFAULT NULL,
`buy_price` decimal(25,2) DEFAULT NULL,
`sale_price` decimal(25,2) NOT NULL,
`categorie_id` int(11) unsigned NOT NULL,
`media_id` int(11) DEFAULT '0',
`date` datetime NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=14 DEFAULT CHARSET=utf8;
```

```
--
-- Dumping data for table `products`
--
```

```
INSERT INTO `products` (`id`, `name`, `quantity`, `buy_price`, `sale_price`,
`categorie_id`, `media_id`, `date`) VALUES
```

```
(1, 'Demo Product', '48', '100.00', '500.00', 1, 0, '2021-04-04 16:45:51'),
(2, 'Box Varieties', '12000', '55.00', '130.00', 4, 0, '2021-04-04 18:44:52'),
(3, 'Wheat', '69', '2.00', '5.00', 2, 0, '2021-04-04 18:48:53'),
(4, 'Timber', '1200', '780.00', '1069.00', 2, 0, '2021-04-04 19:03:23'),
(5, 'W1848 Oscillating Floor Drill Press', '26', '299.00', '494.00', 5, 0, '2021-04-04
19:11:30'),
(6, 'Portable Band Saw XBP02Z', '42', '280.00', '415.00', 5, 0, '2021-04-04 19:13:35'),
(7, 'Life Breakfast Cereal-3 Pk', '107', '3.00', '7.00', 3, 0, '2021-04-04 19:15:38'),
(8, 'Chicken of the Sea Sardines W', '110', '13.00', '20.00', 3, 0, '2021-04-04 19:17:11'),
(9, 'Disney Woody - Action Figure', '67', '29.00', '55.00', 3, 0, '2021-04-04 19:19:20'),
(10, 'Hasbro Marvel Legends Series Toys', '106', '219.00', '322.00', 3, 0, '2021-04-04
19:20:28'),
(11, 'Packing Chips', '78', '21.00', '31.00', 4, 0, '2021-04-04 19:25:22'),
(12, 'Classic Desktop Tape Dispenser 38', '160', '5.00', '10.00', 8, 0, '2021-04-04
19:48:01'),
(13, 'Small Bubble Cushioning Wrap', '199', '8.00', '19.00', 4, 0, '2021-04-04
19:49:00');
```

```
-- -----
```

```
--
```

```
-- Table structure for table `sales`
```

```
--
```

```
CREATE TABLE IF NOT EXISTS `sales` (
  `id` int(11) unsigned NOT NULL,
  `product_id` int(11) unsigned NOT NULL,
  `qty` int(11) NOT NULL,
  `price` decimal(25,2) NOT NULL,
  `date` date NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=9 DEFAULT CHARSET=utf8;
```

```
--
```

```
-- Dumping data for table `sales`
```

```
--
```

```
INSERT INTO `sales` (`id`, `product_id`, `qty`, `price`, `date`) VALUES
(1, 1, 2, '1000.00', '2021-04-04'),
(2, 3, 3, '15.00', '2021-04-04'),
(3, 10, 6, '1932.00', '2021-04-04'),
(4, 6, 2, '830.00', '2021-04-04'),
(5, 12, 5, '50.00', '2021-04-04'),
(6, 13, 21, '399.00', '2021-04-04'),
```

```
(7, 7, 5, '35.00', '2021-04-04'),
(8, 9, 2, '110.00', '2021-04-04');
```

```
-- -----
```

```
--
-- Table structure for table `users`
--
```

```
CREATE TABLE IF NOT EXISTS `users` (
  `id` int(11) unsigned NOT NULL,
  `name` varchar(60) NOT NULL,
  `username` varchar(50) NOT NULL,
  `password` varchar(255) NOT NULL,
  `user_level` int(11) NOT NULL,
  `image` varchar(255) DEFAULT 'no_image.jpg',
  `status` int(1) NOT NULL,
  `last_login` datetime DEFAULT NULL
) ENGINE=InnoDB AUTO_INCREMENT=6 DEFAULT CHARSET=latin1;
```

```
--
-- Dumping data for table `users`
--
```

```
INSERT INTO `users` (`id`, `name`, `username`, `password`, `user_level`, `image`,
`status`, `last_login`) VALUES
(1, 'Harry Denn', 'admin', 'd033e22ae348aeb5660fc2140aec35850c4da997', 1,
'no_image.png', 1, '2021-04-04 19:45:52'),
(2, 'John Walker', 'special', 'ba36b97a41e7faf742ab09bf88405ac04f99599a', 2,
'no_image.png', 1, '2021-04-04 19:53:26'),
(3, 'Christopher', 'user', '12dea96fec20593566ab75692c9949596833adc9', 3,
'no_image.png', 1, '2021-04-04 19:54:46'),
(4, 'Natie Williams', 'natie', '5baa61e4c9b93f3f0682250b6cf8331b7ee68fd8', 3,
'no_image.png', 1, NULL),
(5, 'Kevin', 'kevin', '5baa61e4c9b93f3f0682250b6cf8331b7ee68fd8', 3,
'no_image.png', 1, '2021-04-04 19:54:29');
```

```
-- -----
```

```
--
-- Table structure for table `user_groups`
--
```

```
CREATE TABLE IF NOT EXISTS `user_groups` (  
  `id` int(11) NOT NULL,  
  `group_name` varchar(150) NOT NULL,  
  `group_level` int(11) NOT NULL,  
  `group_status` int(1) NOT NULL  
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=latin1;  
  
--  
-- Dumping data for table `user_groups`  
--  
  
INSERT INTO `user_groups` (`id`, `group_name`, `group_level`, `group_status`)  
VALUES  
(1, 'Admin', 1, 1),  
(2, 'special', 2, 1),  
(3, 'User', 3, 1);  
  
--  
-- Indexes for dumped tables  
--  
  
--  
-- Indexes for table `categories`  
--  
ALTER TABLE `categories`  
  ADD PRIMARY KEY (`id`), ADD UNIQUE KEY `name` (`name`);  
  
--  
-- Indexes for table `media`  
--  
ALTER TABLE `media`  
  ADD PRIMARY KEY (`id`), ADD KEY `id` (`id`);  
  
--  
-- Indexes for table `products`  
--  
ALTER TABLE `products`  
  ADD PRIMARY KEY (`id`), ADD UNIQUE KEY `name` (`name`), ADD KEY  
  `categorie_id` (`categorie_id`), ADD KEY `media_id` (`media_id`);  
  
--  
-- Indexes for table `sales`  
--
```

```
ALTER TABLE `sales`  
ADD PRIMARY KEY (`id`), ADD KEY `product_id` (`product_id`);  
  
--  
-- Indexes for table `users`  
--  
ALTER TABLE `users`  
ADD PRIMARY KEY (`id`), ADD KEY `user_level` (`user_level`);  
  
--  
-- Indexes for table `user_groups`  
--  
ALTER TABLE `user_groups`  
ADD PRIMARY KEY (`id`), ADD UNIQUE KEY `group_level` (`group_level`);  
  
--  
-- AUTO_INCREMENT for dumped tables  
--  
  
--  
-- AUTO_INCREMENT for table `categories`  
--  
ALTER TABLE `categories`  
MODIFY `id` int(11) unsigned NOT NULL  
AUTO_INCREMENT,AUTO_INCREMENT=9;  
--  
-- AUTO_INCREMENT for table `media`  
--  
ALTER TABLE `media`  
MODIFY `id` int(11) unsigned NOT NULL AUTO_INCREMENT;  
--  
-- AUTO_INCREMENT for table `products`  
--  
ALTER TABLE `products`  
MODIFY `id` int(11) unsigned NOT NULL  
AUTO_INCREMENT,AUTO_INCREMENT=14;  
--  
-- AUTO_INCREMENT for table `sales`  
--  
ALTER TABLE `sales`  
MODIFY `id` int(11) unsigned NOT NULL  
AUTO_INCREMENT,AUTO_INCREMENT=9;  
--
```

```

-- AUTO_INCREMENT for table `users`
--
ALTER TABLE `users`
MODIFY `id` int(11) unsigned NOT NULL

AUTO_INCREMENT,AUTO_INCREMENT=6;
--
-- AUTO_INCREMENT for table `user_groups`
--
ALTER TABLE `user_groups`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,AUTO_INCREMENT=4;
--
-- Constraints for dumped tables
--

--
-- Constraints for table `products`
--
ALTER TABLE `products`
ADD CONSTRAINT `FK_products` FOREIGN KEY (`categorie_id`)
REFERENCES `categories` (`id`) ON DELETE CASCADE ON UPDATE
CASCADE;

--
-- Constraints for table `sales`
--
ALTER TABLE `sales`
ADD CONSTRAINT `SK` FOREIGN KEY (`product_id`) REFERENCES `products`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE;

--
-- Constraints for table `users`
--
ALTER TABLE `users`
ADD CONSTRAINT `FK_user` FOREIGN KEY (`user_level`) REFERENCES
`user_groups` (`group_level`) ON DELETE CASCADE ON UPDATE CASCADE;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT
*/;
/*!40101 SET
CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET
COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;

```



**FRONT-END CODE:**

```

<?php
    $page_title = 'Admin Home Page';
    require_once('includes/load.php');
    // Checkin What level user has permission to view this page
    page_require_level(1);
?>
<?php
    $c_categorie      = count_by_id('categories');
    $c_product        = count_by_id('products');
    $c_sale            = count_by_id('sales');
    $c_user            = count_by_id('users');
    $products_sold    = find_highest_saleing_product('10');
    $recent_products  = find_recent_product_added('5');
    $recent_sales      = find_recent_sale_added('5')
?>
<?php include_once('layouts/header.php'); ?>

<div class="row">
    <div class="col-md-4">
        <?php echo display_msg($msg); ?>
    </div>
</div>
<div class="row">
    <a href="users.php" style="color:black;">
        <div class="col-md-3">
            <div class="panel panel-box clearfix">
                <div class="panel-icon pull-left bg-secondary1">
                    <i class="glyphicon glyphicon-user"></i>
                </div>
                <div class="panel-value pull-right">
                    <h2 class="margin-top"> <?php echo $c_user['total']; ?> </h2>
                    <p class="text-muted">Users</p>
                </div>
            </div>
        </div>
    </div>

    <a href="categorie.php" style="color:black;">
    <div class="col-md-3">
        <div class="panel panel-box clearfix">
            <div class="panel-icon pull-left bg-red">
                <i class="glyphicon glyphicon-th-large"></i>
            </div>
            <div class="panel-value pull-right">
                <h2 class="margin-top"> <?php echo $c_categorie['total']; ?> </h2>
                <p class="text-muted">Categories</p>
            </div>
        </div>
    </div>
    </a>

    <a href="product.php" style="color:black;">
    <div class="col-md-3">
        <div class="panel panel-box clearfix">
            <div class="panel-icon pull-left bg-blue2">
                <i class="glyphicon glyphicon-shopping-cart"></i>
            </div>
            <div class="panel-value pull-right">

```

```

<h2 class="margin-top"> <?php echo $c_product['total']; ?> </h2>
    <p class="text-muted">Products</p>
</div>
    </div>
</div>
    </a>

    <a href="sales.php" style="color:black;">
<div class="col-md-3">
    <div class="panel panel-box clearfix">
        <div class="panel-icon pull-left bg-green">
            <i class="glyphicon glyphicon-usd"></i>
        </div>
        <div class="panel-value pull-right">
            <h2 class="margin-top"> <?php echo $c_sale['total']; ?></h2>
            <p class="text-muted">Sales</p>
        </div>
    </div>
</div>
</div>
    </a>
</div>

<div class="row">
<div class="col-md-4">
    <div class="panel panel-default">
        <div class="panel-heading">
            <strong>
                <span class="glyphicon glyphicon-th"></span>
                <span>Highest Selling Products</span>
            </strong>
        </div>
        <div class="panel-body">
            <table class="table table-striped table-bordered table-condensed">
                <thead>
                    <tr>
                        <th>Title</th>
                        <th>Total Sold</th>
                        <th>Total Quantity</th>
                    </tr>
                </thead>
                <tbody>
                    <?php foreach ($products_sold as $product_sold): ?>
                        <tr>
                            <td><?php echo
remove_junk(first_character($product_sold['name'])); ?></td>
                            <td><?php echo (int)$product_sold['totalSold']; ?></td>
                            <td><?php echo (int)$product_sold['totalQty']; ?></td>
                        </tr>
                    <?php endforeach; ?>
                </tbody>
            </table>
        </div>
    </div>
</div>
</div>
<div class="col-md-4">
    <div class="panel panel-default">
        <div class="panel-heading">
            <strong>
                <span class="glyphicon glyphicon-th"></span>
                <span>LATEST SALES</span>
            </strong>

```

```

        </div>
        <div class="panel-body">
            <table class="table table-striped table-bordered table-condensed">
            <thead>
            <tr>
                <th class="text-center" style="width: 50px;">#</th>
                <th>Product Name</th>
                <th>Date</th>
                <th>Total Sale</th>
            </tr>
            </thead>
            <tbody>
                <?php foreach ($recent_sales as $recent_sale): ?>
                <tr>
                    <td class="text-center"><?php echo count_id();?></td>
                    <td>
                        <a href="edit_sale.php?id=<?php echo (int)$recent_sale['id']; ?>">
                            <?php echo remove_junk(first_character($recent_sale['name'])); ?>
                        </a>
                    </td>
                    <td><?php echo remove_junk(ucfirst($recent_sale['date'])); ?></td>
                    <td>$<?php echo remove_junk(first_character($recent_sale['price']));
                ?></td>
                </tr>

                <?php endforeach; ?>
            </tbody>
            </table>
        </div>
    </div>
</div>
<div class="col-md-4">
    <div class="panel panel-default">
        <div class="panel-heading">
            <strong>
                <span class="glyphicon glyphicon-th"></span>
                <span>Recently Added Products</span>
            </strong>
        </div>
        <div class="panel-body">

            <div class="list-group">
                <?php foreach ($recent_products as $recent_product): ?>
                <a class="list-group-item clearfix" href="edit_product.php?id=<?php
echo    (int)$recent_product['id'];?>">
                    <h4 class="list-group-item-heading">
                        <?php if($recent_product['media_id'] === '0'): ?>
                            
                        <?php else: ?>
                            
                        <?php endif;?>
                        <?php echo
remove_junk(first_character($recent_product['name']));?>
                    <span class="label label-warning pull-right">
                        $<?php echo (int)$recent_product['sale_price']; ?>
                    </span>
                </h4>
                <span class="list-group-item-text pull-right">

```

```
                <?php echo
remove_junk(first_character($recent_product['categorie'])); ?>
                </span>
            </a>
        <?php endforeach; ?>
    </div>
</div>
</div>
</div>
    <div class="row">

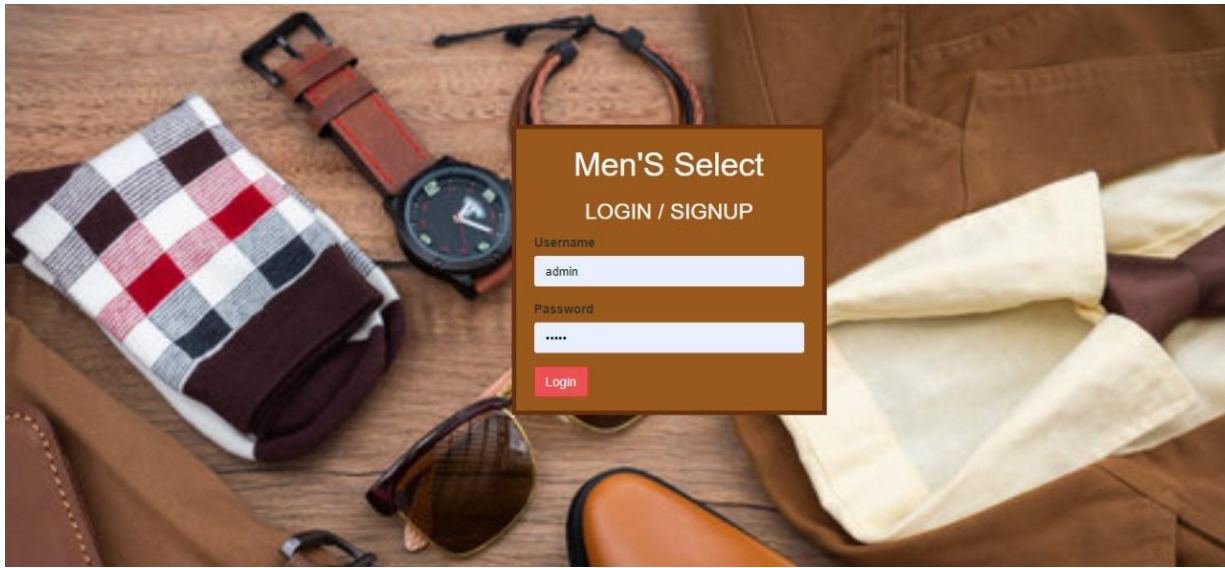
</div>

<?php include_once('layouts/footer.php'); ?>
```

## PROJECT SNAPSHOTS:

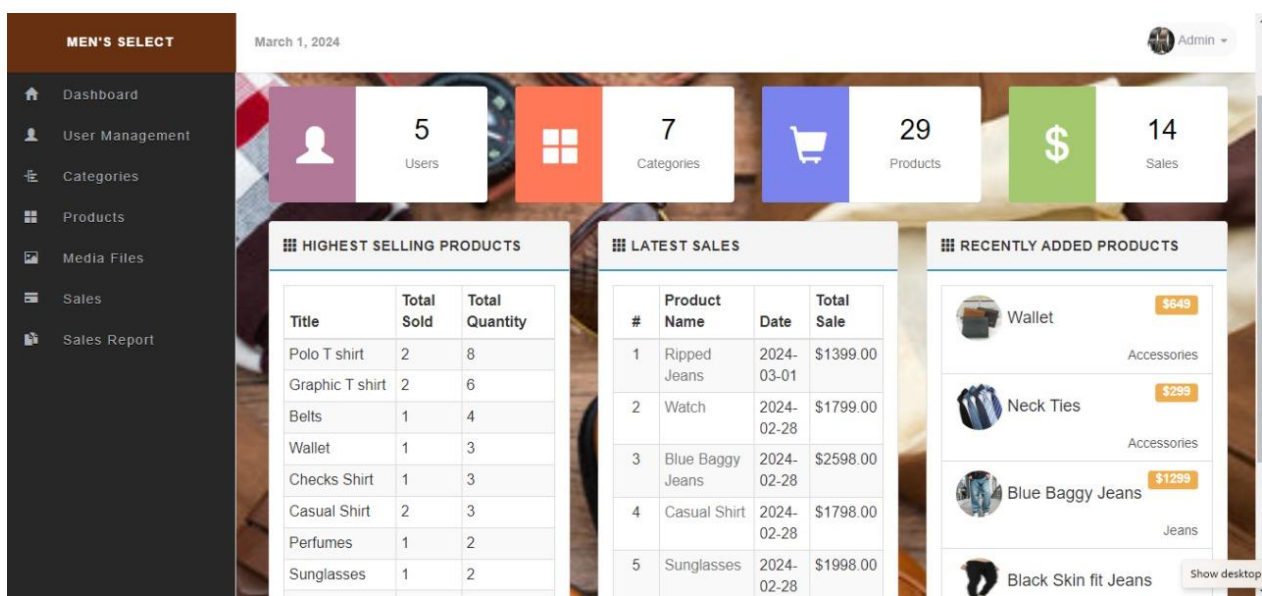
### LOGIN

This is the login page where the admin, supervisor or the employee can login themselves using the username and the password.



### DASHBOARD

This page represents a dashboard page where the users, categories, products, sales of an organization can be viewed and direct access is given.



## GROUPS

This page helps the admin to create groups, view the groups and allows him to edit the groups that have already been created with restriction given to each different group.

**MEN'S SELECT** March 1, 2024 Admin

**GROUPS** [ADD NEW GROUP](#)

#	Group Name	Group Level	Status	Actions
1	Admin	1	Active	<a href="#">Edit</a> <a href="#">Delete</a>
2	User	3	Active	<a href="#">Edit</a> <a href="#">Delete</a>
3	Supervisor	2	Active	<a href="#">Edit</a> <a href="#">Delete</a>

## CATEGORY

This page lets the admin to add different categories, the can also edit or delete the categories he has created.

**MEN'S SELECT** March 1, 2024 Admin

**ADD NEW CATEGORY**

Category Name

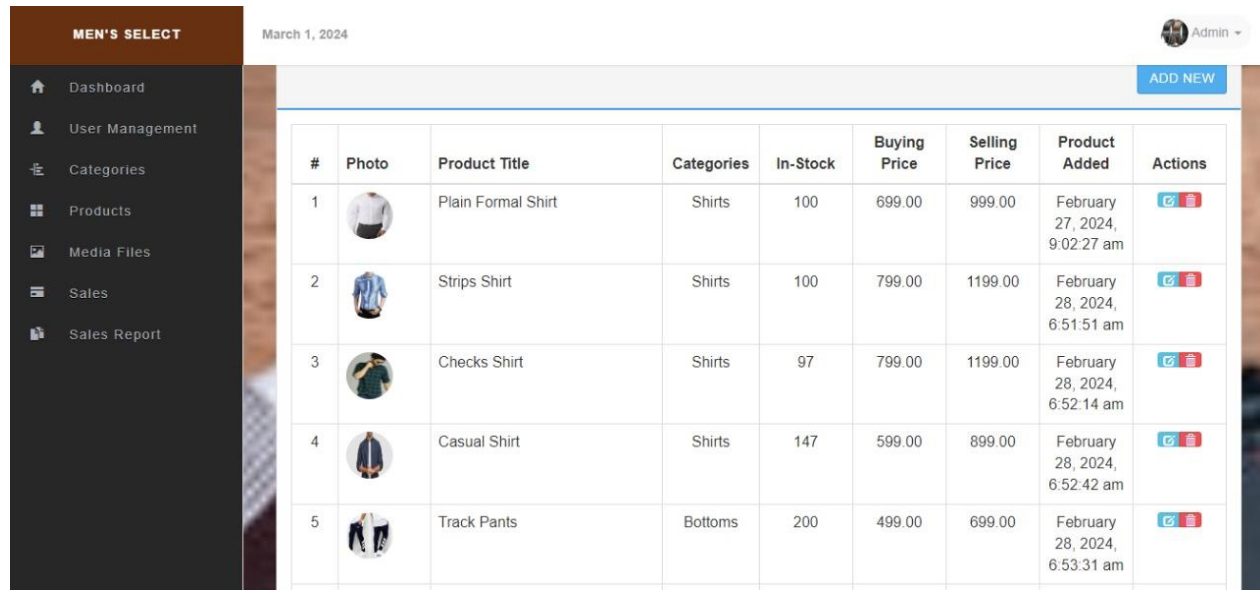
[Add Category](#)
















**ALL CATEGORIES**

#	Categories	Actions
1	Accessories	<a href="#">Edit</a> <a href="#">Delete</a>
2	Bottoms	<a href="#">Edit</a> <a href="#">Delete</a>
3	Jackets	<a href="#">Edit</a> <a href="#">Delete</a>
4	Jeans	<a href="#">Edit</a> <a href="#">Delete</a>
5	Shirts	<a href="#">Edit</a> <a href="#">Delete</a>
6	Suits	<a href="#">Edit</a> <a href="#">Delete</a>
7	T-shirts	<a href="#">Edit</a> <a href="#">Delete</a>

## PRODUCTS

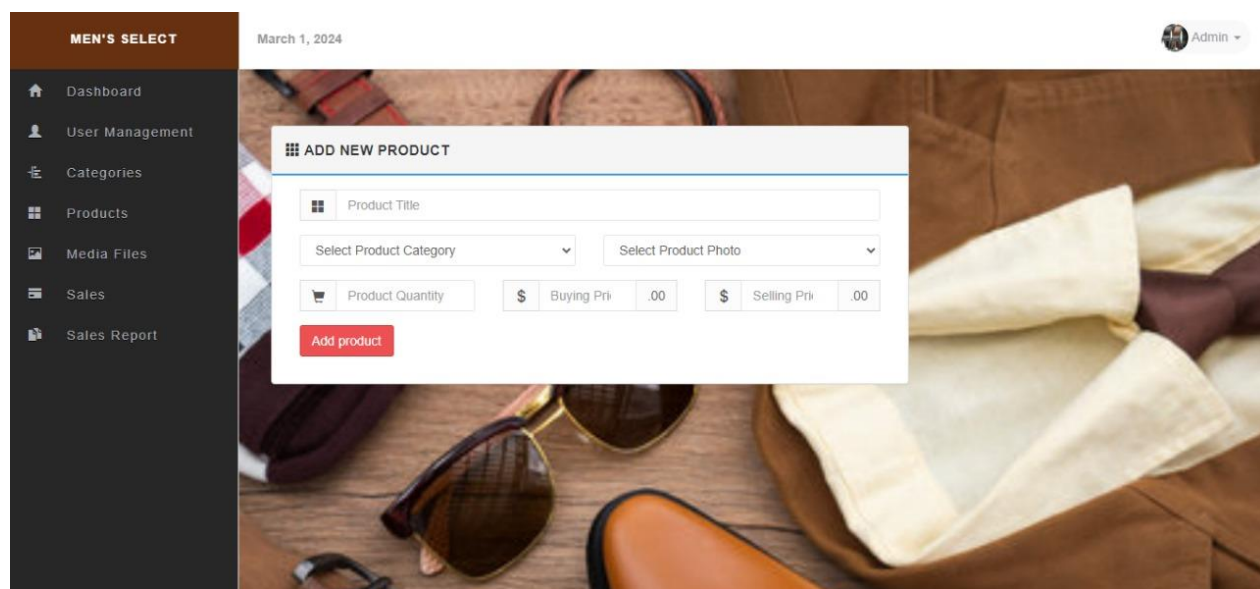
The admin can add new products with all the required specifications, the edit and the deletion option is also been provided.



#	Photo	Product Title	Categories	In-Stock	Buying Price	Selling Price	Product Added	Actions
1		Plain Formal Shirt	Shirts	100	699.00	999.00	February 27, 2024, 9:02:27 am	 
2		Strips Shirt	Shirts	100	799.00	1199.00	February 28, 2024, 6:51:51 am	 
3		Checks Shirt	Shirts	97	799.00	1199.00	February 28, 2024, 6:52:14 am	 
4		Casual Shirt	Shirts	147	599.00	899.00	February 28, 2024, 6:52:42 am	 
5		Track Pants	Bottoms	200	499.00	699.00	February 28, 2024, 6:53:31 am	 

## ADDING A PRODUCT

The specifications for adding a product are product title, product category, product photo, quantity, buying and the selling price of the product.



**MEN'S SELECT**
March 1, 2024
Admin

Dashboard
User Management
Categories
Products
Media Files
Sales
Sales Report

### ADD NEW PRODUCT

Product Title

Select Product Category
Select Product Photo

Product Quantity

\$ Buying Pri .00
\$ Selling Pri .00

Add product



## MEDIA

This is a media page where the photos will be uploaded here first before they are uploaded to the product requirement on the add products page.

MEN'S SELECT

March 1, 2024

Admin

▼

Dashboard

User Management

Categories

Products

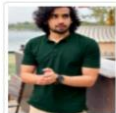







Media Files

Sales

Sales Report

























ALL PHOTOS

Upload

#	Photo	Photo Name	Photo Type	Actions
1		Polo T-Shirt.jpg	image/jpeg	
2		Watches.jpg	image/jpeg	
3		Belts.jpg	image/jpeg	
4		Black Skin Fit jeans.jpg	image/jpeg	

## SALES

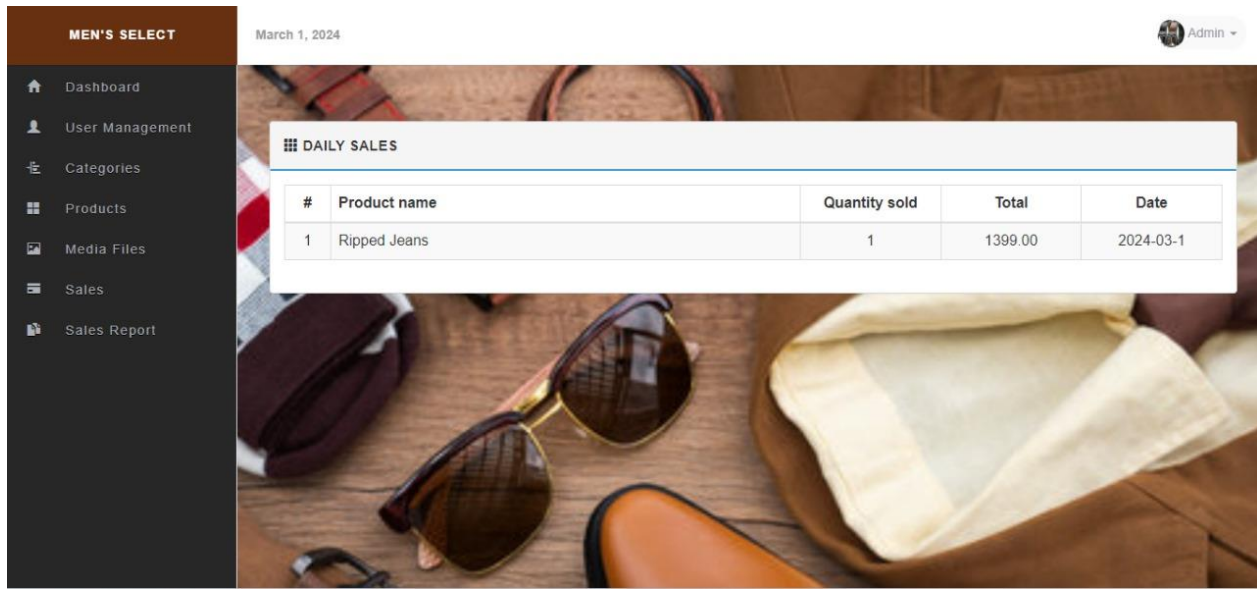
The overall sales report of the products in the organization can be viewed here. The sales can also be added by entering all the information required.

MEN'S SELECT		March 1, 2024			Admin	
		ALL SALES			ADD SALE	
#	Product name	Quantity	Total	Date	Actions	
1	Ripped Jeans	1	1399.00	2024-03-01	 	
2	Casual Shirt	1	899.00	2024-02-28	 	
3	Perfumes	2	1398.00	2024-02-28	 	
4	Polo T-shirt	2	1598.00	2024-02-28	 	
5	Polo T-shirt	6	4794.00	2024-02-28	 	
6	Graphic T-shirt	1	799.00	2024-02-28	 	
7	Checks Shirt	3	3597.00	2024-02-28	 	
8	Belts	4	1396.00	2024-02-28	 	
9	Graphic T-shirt	5	3995.00	2024-02-28	 	
10	Sunglasses	2	1998.00	2024-02-28	 	
11	Casual Shirt	2	1798.00	2024-02-28	 	
12	Blue Ripped Jeans	2	2598.00	2024-02-28	 	



## DAILY SALES REPORT

The sales can be also viewed on daily and weekly and monthly basis as per the need of the admin.

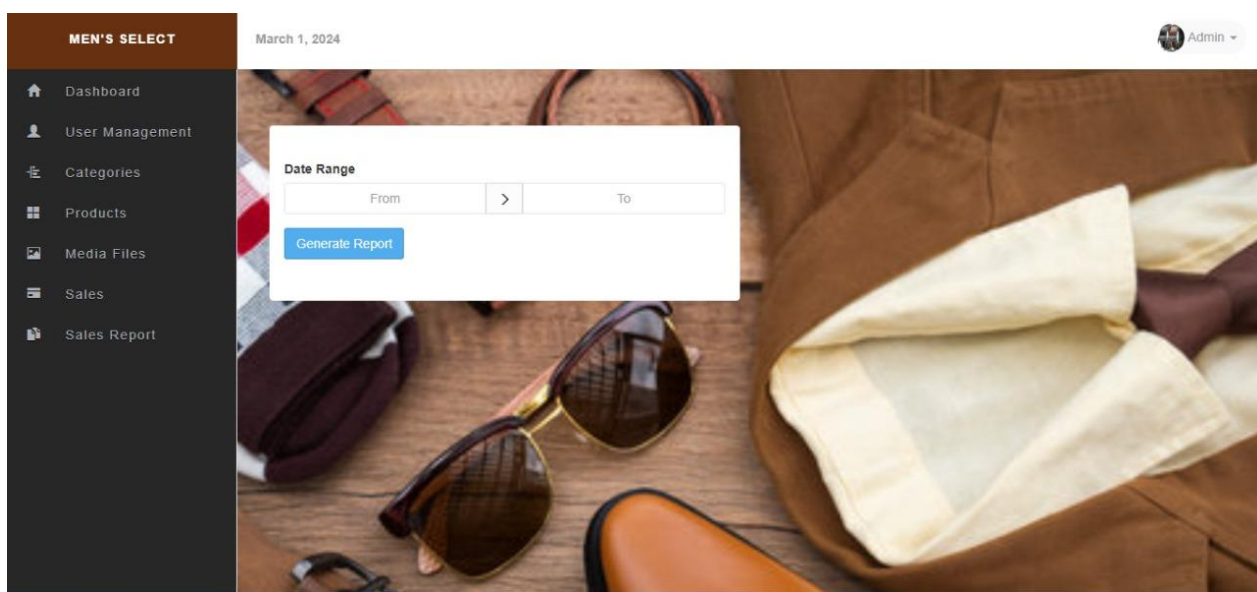


The screenshot displays the 'MEN'S SELECT' dashboard with a sidebar menu on the left containing: Dashboard, User Management, Categories, Products, Media Files, Sales, and Sales Report. The main content area shows the date 'March 1, 2024' and a user profile 'Admin'. A 'DAILY SALES' table is overlaid on a background image of men's accessories (sunglasses, shoes, bag). The table has the following data:

#	Product name	Quantity sold	Total	Date
1	Ripped Jeans	1	1399.00	2024-03-1

## REPORT ON THE BASIS OF RANGE

The sales report can also be generated by specifying the range i.e. the start date (from) and finish date (to) and the report can be viewed.



The screenshot shows the 'MEN'S SELECT' dashboard with the same sidebar menu. The main content area displays the date 'March 1, 2024' and the user 'Admin'. A 'Date Range' form is overlaid on the background image of men's accessories. The form contains two input fields labeled 'From' and 'To', separated by a greater-than symbol '>'. Below these fields is a blue button labeled 'Generate Report'.

## **TESTING:**

The purpose of software testing is to access or evaluate the capabilities or attributes of a software program's ability to adequately meet the applicable standards and application need.

Testing does not ensure quality and the purpose of testing is not to find bugs. Testing can be verification and validation or reliability estimation.

The primary objective if testing includes:

- To identifying defects in the application.
- The most important role of testing is simply to provide information.
- To check the proper working of the application while inserting updating and deleting the entry of the products.

Units Testing:

This type of testing is the testing of individual software components. It is typically done by the programmer and not by the testers. It requires details information and knowledge about the internal program design and code to perform this.

## **UNIT TESTING:**

### **Login**

Input	Expected output	Actual output
Login by entering the correct username and password	The system lets the user to login	The user login's successfully
Login by entering wrong username password.	The system doesn't let the user to login	The user cannot login to the system
The user doesn't enter any value for logging in	The system doesn't let the user to login	The user cannot login to the system

## Add Category

Input	Excepected output	Actual output
Enter all the information for adding the new item.	The item is added into the category and is stored in the database.	The new item can be viewed in the category list.
Enter only some of the information for adding the new item.	The item is not added into the category list.	The new item cannot be viewed in the category list.
The items can be edited or deleted by clicking on those options.	The items will either be deleted or the items information we will changed and is stored in the database.	The updated category list can be viewed.

## Add new product

Input	Excepected output	Actual output
Enter all the information for adding the new product.	The product is added into the product list and is stored in the database.	The new product can be viewed in the product list.
Enter only some of the information for adding the new product.	The item will not be added into the category list.	The new product cannot be viewed in the product list.
The products information can be edited or deleted by clicking on those options.	The products information will either be deleted or the products information we will changed and will be stored in the database.	The updated product list can be viewed .

## Managing groups

Input	Excepted output	Actual output
Enter all the information for creating a new group.	The group created is added into the manage groups and is stored in the database.	The group created can be viewed in the manage group list.
Enter only some of the information for creating the new group.	The group will not be added into the group list.	The group created cannot be viewed in the manage group list.
The already existing groups can be edited or deleted by clicking on those options.	The group will either be deleted or the groups information we will changed and is stored in the database.	The updated group list can be viewed .

## Manage Users

Input	Excepted output	Actual output
Enter all the information for creating a new user.	The new user created is added into the manage users and is stored in the database.	The user created can be viewed in the manage users list.
Enter only some of the information for creating the new user.	The user will not be added into the user's list.	The new user created cannot be viewed in the manage users list.
The already existing users can be edited or deleted by clicking on those options.	The user will either be deleted or the user's information we will changed and is stored in the database.	The updated user list can be viewed .

## Media management

Input	Excepted output	Actual output
Enter all the information for adding a new media file.	The new media is added into the media file and is stored in the database.	The added media can be viewed in the media file list.
Enter all the information for adding a new media file.	If the media file already exists, it will give the same message	The new media created will not be re-added to the media list.
The media can also be deleted by clicking on the delete option.	The media file will be deleted in the media list and also from the database.	The deleted media cannot be viewed.

## Manage sales

Input	Excepted output	Actual output
Enter all the information for adding the new sale.	The new sale will be added into the sales and is stored in the database.	The new sale updated can be viewed in the sales list.
Enter only some of the information for creating the new sale	The sale will not be added into the sale's list.	The new sale created cannot be viewed in the sale's list.
The already existing sales can be edited or deleted by clicking on those options.	The sales will either be deleted or the sale's information we will changed and is stored in the database.	The updated sale's list can be viewed .

## Sale's report

Input	Excepted output	Actual output
Enter all the required information for generating a sale's report.	The sale's report will be added into the sale's report and is stored in the database.	The created sale's report can be viewed.
Enter only some of the information for creating the sale's report.	The sale's report will not be created.	The new sale's report created cannot be viewed.

## **CHAPTER -5**

### **5.1 LIMITATIONS:**

The limitations in the application we have developed are :

1. It is limited to only the company's organization management and can not be reached to the direct customer.
2. The financial management of an organization is not well tracked and is less developed.

## **CHAPTER-6**

### **6.1 CONCLUSION:**

To conclude, the implementation of our inventory management system marks a significant milestone in streamlining our operations and optimizing inventory control processes. Throughout this project, our team diligently worked towards achieving our objectives of enhancing efficiency, accuracy, and transparency in inventory management.

We successfully designed and deployed a user-friendly system that integrates seamlessly with our existing infrastructure, allowing for real-time tracking of inventory levels, automated order processing, and comprehensive reporting capabilities. Despite encountering some challenges along the way, we effectively addressed them through collaboration, innovation, and perseverance.

The results obtained from the implementation are promising, with noticeable improvements in inventory accuracy, reduced stockouts, and enhanced decision-making capabilities. Moving forward, we recommend continuous monitoring and evaluation of the system's performance to identify areas for further optimization and expansion.

Through it has some limitations, our team strongly believes that the implementation of this system will surely benefit the organization

## **CHAPTER-7**

### **7.1 REFERENCES**

- <https://codeastro.com/inventory-management-system-in-php-with-source-code/#>
- <http://www.google.com/images>
- <https://www.snitch.co.in/>
- <https://www.powerlook.in/product-category/>