**University of Macau**

**Faculty of Science and Technology**

**Department of Computer and Information Science**



**CISC3003:** **Web Programming 2024-2025**

**Individual Project**

***Simple Shopping Cart System***

**Team 09**

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# Abstract

The “Simple Shopping Cart System” project, developed by Mr. Web Designer, showcases the practical implementation of a shopping cart using PHP PDO for secure database interactions and MySQL for data storage. This project offers hands-on experience in e-commerce website development, integrating both front-end and back-end technologies. Users can select products, manage their cart, and complete the checkout process. This report summarizes the services provided, tasks completed, and components still pending.

## List of Services

### Product Browsing

Users can explore a wide range of products, with features including product categories, detailed pages, and options to sort and filter products by various criteria.

### Cart Management

Users can add products to their shopping cart, view contents, update quantities, and remove items. The cart dynamically calculates totals, taxes, and shipping costs.

### Checkout Process

The system guides users through final transaction steps, including entering shipping information, selecting payment methods, and confirming the order before submission.

### Order History

Users can view past orders, track current order statuses, and access details such as order dates, purchased products, and total costs, enhancing transparency and tracking.

### Admin Panel for Product Management

An interface for administrators to manage product inventory, allowing them to add, edit, or remove products as needed.

## List of Tasks

### Setup Development Environment

Configuring the local setup, including the server, database, and necessary development tools to begin project construction.

### Design Database Schema

Creating the database structure by defining tables, relationships, and data types for efficient storage of user, product, and order information.

### Implement User Interface

Developing front-end components, including layout, navigation, and product displays, using HTML and CSS.

### Code Backend Logic

Writing server-side code to handle application business logic, including database operations, user authentication, and session management.

### Integrate Front-end with Back-end

Connecting the user interface with server-side scripts for dynamic data exchange and real-time updates.

### Test and Debug

Rigorous testing of the developed system for bugs, errors, and usability issues, followed by debugging and resolution of identified problems.

## Project Accomplishments

### Developed HTML Templates

Created reusable HTML structures for various application parts, ensuring a consistent look and feel.

### Styled Application Using CSS

Applied styles to HTML templates for an aesthetically pleasing and user-friendly interface, ensuring responsiveness across devices.

### Implemented JavaScript

Added interactivity to web pages with JavaScript, handling form submissions, updating the shopping cart, and validating user input.

### Utilized PHP PDO

Employed PHP PDO for secure communication with the MySQL database, executing queries for CRUD operations.

### Created SQL Files

Prepared SQL scripts for database setup, including table creation, data insertion, and common operation queries.

### Ensured Cross-Browser Compatibility

Tested and adjusted the application to ensure seamless functionality across different web browsers and devices.

## Project Incomplete - What Has Not Been Done

### Integration of Payment Gateway

The project lacks a system for handling financial transactions, which is essential for processing payments.

### Development of Advanced Search and Filter Functions

The current system does not include advanced search capabilities, limiting users’ ability to find products efficiently.

### Implementation of User Review and Rating System

A feature for customer feedback on products has not been developed, which could assist future buyers in making informed decisions.

### Optimization for High-Traffic Scalability

The system has not been optimized to handle numerous simultaneous users, crucial for maintaining performance during peak times.

### Comprehensive User Documentation and Help Guides

Detailed documentation and guides to help users navigate and utilize the system effectively are still needed.