

BỘ THÔNG TIN VÀ TRUYỀN THÔNG  
HỌC VIỆN CÔNG NGHỆ BƯU CHÍNH VIỄN THÔNG



**Final Report**

**Foundation Internship**

***Project Title: Smart Shop AI Assistant***

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# CHAPTER 1: INTRODUCTION

## 1.1. Motivation for Choosing the Topic

In the context of the ongoing Fourth Industrial Revolution, the application of information technology in business operations and management has become an inevitable trend. E-commerce is one of the fastest-growing sectors, especially in the post-COVID-19 era when consumer behavior has shifted from traditional shopping to online purchasing. Modern e-commerce platforms are not merely sales channels but are increasingly integrating advanced technologies such as Artificial Intelligence (AI), automated payment systems, smart inventory management, and real-time customer support.

However, most small and medium-sized online stores in Vietnam are still relatively simple and lack intelligent features that can optimize customer experience and improve operational efficiency. Realizing the practical need and opportunity to learn, I decided to choose the topic:

“Smart Shop AI Assistant”

This project not only helps me consolidate my knowledge of web programming and databases but also allows me to explore and apply modern technologies such as bank payment APIs, QR code integration, automated email notifications, and the development of a chatbot system that supports both text and image-based interactions. It also marks my first step into AI applications in e-commerce, which is becoming increasingly widespread in real-world systems.

## 1.2. Project Objectives

The main goal of this project is to build a fully functional e-commerce website with a user-friendly interface, integrating modern technologies to optimize the ordering, payment, and customer service processes. Specifically, the project aims to:

- Develop an online sales system using pure PHP and Bootstrap, ensuring compatibility across multiple devices and browsers.

- Design a robust MySQL database, incorporating triggers and stored procedures to automate business logic, such as reducing inventory stock when new orders are placed.
- Integrate VietQR to generate dynamic QR codes for each order, enabling quick payment through customers' banking apps.
- Use the MBBank API to periodically (every 5 seconds) retrieve transaction history and update the order status once payment is confirmed.
- Send order confirmation emails via SMTP to enhance professionalism and improve customer engagement.
- Build an intelligent AI chatbot using the LLM API, with capabilities to:
  - Recommend products based on text-based user queries
  - Identify products from images and fetch relevant database information
  - Answer questions about users' orders
  - Remember and process conversation context using session data stored in JSON format
- Develop a dedicated admin management system, including features to:
  - Manage products, orders, users, and product categories
  - Generate revenue statistics, top-selling products, and inventory status
  - Integrate an internal admin chatbot to assist with quick statistics, order filtering by date, loyal customer lookup, and answering internal management queries

## 1.3. Scope and Target Users

### Scope of Implementation:

This project focuses on developing an intelligent sales system at a basic to intermediate level, with the following core features:

- A homepage interface displaying product categories by type
- Product detail pages, add-to-cart functionality, and order placement
- An automated payment system integrated with QR code generation and bank transfer verification
- An AI chatbot that provides pre-sale and post-sale support
- An admin panel for internal system management
- Automated email notifications for essential processes

The system will initially be deployed and tested in a local environment (localhost), with the potential to be hosted on a real server if needed.

### Target Users:

- **End-users:**  
Individuals accessing the website to view and purchase products, receive assistance from the chatbot, track their orders, and contact the store.
- **Administrators (Admin):**  
Internal staff who can log into the management dashboard to update data, monitor revenue, and manage sales operations.
- **Developers:**  
Can build upon this architecture to enhance the system with features such as machine learning-based product recommendations or electronic wallet integration.

## **1.4. Implementation Methodology**

To ensure the project is carried out effectively and systematically, I applied a staged software development process as follows:

### **1. Requirement Analysis:**

- Survey existing e-commerce platforms to identify essential features.
- Determine which components can be upgraded using modern technologies.

### **2. Planning and System Design:**

- Analyze business logic and features using Use Case diagrams
- Design the database structure using an ERD model (Entity Relationship Diagram)
- Create a high-level system architecture diagram, defining modules and layers

### **3. Development and Integration:**

- Build each user interface module using Bootstrap
- Implement business logic using pure PHP and MySQL
- Integrate essential APIs:
  - VietQR (QR code payment)
  - MBBank API (transaction verification)
  - SMTP (email notifications)

- LLM API (AI chatbot)

#### **4. Testing and Debugging:**

- Verify the correctness of database triggers and procedures in order processing
- Test the payment flow and validate API responses
- Simulate chatbot interactions with various query scenarios

#### **5. Deployment and Documentation:**

- Finalize the frontend and admin panel interface
- Record the results, errors, and limitations encountered
- Write the final report summarizing the entire internship and project development process

### **1.5. Tools and Development Environment**

Tool / Technology	Purpose of Use
<b>Pure PHP</b>	Backend processing: login, shopping cart, order management, product handling
<b>Bootstrap 5</b>	Frontend interface design compatible with various devices (responsive layout)
<b>MySQL</b>	Primary relational database storing user, product, and order data

<b>Trigger &amp; Stored Procedure</b>	Automate inventory updates upon order placement and generate product slugs
<b>SMTP</b>	Send order confirmation emails to customers
<b>VietQR API</b>	Generate payment QR codes for each order
<b>MBBank API</b>	Retrieve transaction history to verify customer payments
<b>LLM API (LLM)</b>	Provide product recommendations, image recognition, and answer customer queries
<b>FastAPI / Flask</b>	Serve as a bridge between PHP and AI, and handle image input for recognition
<b>JSON</b>	Store chat history per user/session to maintain conversational context
<b>Visual Studio Code</b>	Code editing and source management
<b>Postman / curl</b>	Test integrated APIs and verify request/response workflows
<b>PlantUML / draw.io</b>	Design system diagrams, including sequence diagrams and class diagrams

# CHAPTER 2: THEORETICAL FOUNDATIONS AND TECHNOLOGIES

This chapter presents the theoretical foundations and technologies applied in the development of the Smart Shop AI Assistant e-commerce website. From basic concepts to practical tools, each component plays a critical role in building a modern, intelligent system that benefits both end users and administrators.

## 2.1. Fundamental Knowledge of Web Programming

### 2.1.1. Client-Server Model

The client-server model is the traditional architecture in web development, where:

- **Client** refers to the user's device (usually a web browser) that sends HTTP requests.
- **Server** is responsible for receiving, processing the request, and returning a response (such as HTML, JSON, or API data).

### In this project:

- **Client:** The web browser renders the user interface built with HTML/CSS and Bootstrap.
- **Web Server:** Executes PHP code to handle business logic, query the MySQL database, and generate dynamic web pages.
- **Auxiliary API Servers:** Includes integrated external services such as:
  - **LLM API:** For AI-based product consultation

- **SMTP Server:** For sending confirmation emails
- **MBBank API:** For verifying payment status
- **VietQR API:** For generating QR codes for payment

### **2.1.2. Server-Side Programming Language (PHP)**

PHP (Hypertext Preprocessor) is a widely-used open-source server-side scripting language designed for web development. It processes user input, interacts with databases, and generates dynamic HTML content.

- **Key features of PHP:**
  - Simple and accessible syntax
  - Strong integration with MySQL
  - Vast community and library support
- **In the system, PHP is used for:**
  - Handling user registration and login forms
  - Managing products, categories, and orders
  - Executing SQL queries and processing data
  - Interacting with APIs via cURL
  - Dynamically generating HTML content

### **2.1.3. HTML, CSS, and Bootstrap**

- **HTML (HyperText Markup Language):** Defines the structure of a web page.

- **CSS (Cascading Style Sheets):** Controls the appearance of web elements (colors, fonts, layout).
- **Bootstrap:** A popular CSS framework that provides ready-made UI components like grids, buttons, forms, modals, etc., enabling rapid development of consistent, responsive (mobile-friendly) interfaces.

**In the system, Bootstrap 5 is used to build the entire front-end interface, including:**

- The homepage displaying product categories
- Product detail pages
- Shopping cart and checkout pages
- Contact page with map integration
- Admin dashboard interface

## **2.2. Database Management with MySQL**

### **2.2.1. Introduction to MySQL**

MySQL is an open-source relational database management system (RDBMS) that uses Structured Query Language (SQL) for managing and manipulating data. It is widely recognized for its stability, performance, security, and scalability, making it a popular choice for web-based applications.

### **2.2.2. Database Architecture in the Project**

In this project, MySQL is used to store and manage the following data:

- **Users:** Including login credentials, personal information, and roles.
- **Product Categories:** Organized classification of products for easier navigation.

- **Products:** Containing name, price, stock quantity, description, image, and associated category.
- **Shopping Cart:** Temporarily stores the selected products by users before checkout.
- **Orders:** Holds confirmed order details including user, product, quantity, and payment status.
- **Transaction History:** Used for verifying payments through the integrated MBBank API.
- **Chatbot Conversation History:** Stores user-session-based interaction logs to support contextual responses.

### 2.2.3. Triggers and Stored Procedures

In this project, both **triggers** and **stored procedures** are used to automate common operations and improve data consistency.

#### *Trigger: Automatically Reduce Product Stock After New Order*

- To prevent users from ordering more items than available in stock, a trigger is implemented to automatically decrease the stock quantity of a product each time an order is placed:

```

DELIMITER //

CREATE TRIGGER trg_reduce_stock_after_order
AFTER INSERT ON orders
FOR EACH ROW
BEGIN
    UPDATE products
    SET stock = stock - NEW.quantity

```

```
        WHERE id = NEW.product_id;  
    END;  
//
```

### ***Stored Procedure: Generate SEO-Friendly Product Slugs***

- A stored procedure is created to automatically generate product slugs for clean URLs and better search engine optimization (SEO).
- For example, the product name "**iPhone 15 Pro Max**" is converted into "**iphone-15-pro-max**".

```
DELIMITER $$  
  
CREATE PROCEDURE CreateSlug(IN input_text  
VARCHAR(255), OUT output_slug VARCHAR(255))  
  
BEGIN  
  
    SET output_slug = LOWER(REPLACE(input_text, ' ', '-'));  
  
END $$  
  
DELIMITER ;
```

These enhancements ensure data integrity, reduce redundancy in code, and simplify backend operations, especially during product insertion or order placement.

### **2.3. Sending Emails Using SMTP Protocol**

SMTP (Simple Mail Transfer Protocol) is the standard protocol used to send emails from a server. In this system:

- After a user successfully completes a payment, a confirmation email is automatically sent to their registered email address.

- The email includes detailed information such as the order ID, product list, total amount, and instructions for order tracking.

The system uses the **smtplib** library in python to set up SMTP with the following configuration:

- **Host:** `smtp.gmail.com`
- **Port:** 587
- **Encryption:** TLS
- **Authentication:** Using the system's Gmail account

This integration ensures that users are promptly notified upon successful order placement, enhancing reliability and customer experience.

## 2.4. Automated Payment with VietQR and MBBank API

### 2.4.1. VietQR API

VietQR is a QR code payment standard developed by NAPAS in collaboration with various Vietnamese banks. This API enables the system to generate dynamic QR codes containing:

- The recipient's bank account number
- Payment description (including order ID, user name, etc.)
- Total amount to be paid

When a user clicks the "Place Order" button, the system automatically generates a QR code and displays it on the screen for the user to scan using their banking app.

#### **2.4.2. MBBank API**

The system uses an unofficial MBBank API library to:

- Access the transaction history of the shop's bank account
- Verify whether a customer has transferred the correct amount with the correct transaction content

The system performs this verification every 5 seconds after generating the QR code. If a valid transaction is detected:

- The order status is updated to "Paid"
- A confirmation email is sent to the customer

This automation ensures fast, accurate, and secure processing of online payments without manual verification.

### **2.5. Product Recommendation Using AI Chatbot**

#### **2.5.1. Large Language Model (LLM) – LLM API**

The LLM API is an AI-powered API capable of processing natural language (Natural Language Processing – NLP). It understands user queries, analyzes intent, and generates accurate responses.

The chatbot utilizes a large language model to:

- Understand which product the user is asking about
- Provide answers regarding price, availability, images, and promotions
- Recommend suitable products based on user needs
- Track orders and retrieve previous purchases made by the user

#### **2.5.2. Product Recommendation from Image (Image Embedding)**

Users can upload product images to the system. The process includes:

- Encoding the uploaded image using embedding techniques
- Matching it with the existing product image library in the database
- If a match is found, the corresponding product name is included in the prompt to generate a detailed product recommendation

### 2.5.3. Order Query via LLM

The chatbot is capable of retrieving order information from the database using the user's user\_id. Users may ask questions like:

- “Tôi đã đặt gì tháng này?”
- “Tình trạng đơn hàng của tôi là gì?”

The system internally executes the appropriate SQL queries and sends both the query results and user questions into the prompt for the LLM model to generate natural and clear responses in Vietnamese

### 2.5.4. Save conversation history by session

Each conversation session is saved in a .json file with relevant fields like user ID, session ID, query, and response. This history allows the chatbot to maintain context and provide coherent responses while also enabling behavior analytics.

Example:

```
{  
    "user_id": "u123",  
    "session": "sess_1",  
    "query": "Tôi muốn biết giá iPhone 15",  
    "response": "Sản phẩm iPhone 15 có giá là 23.990.000 VNĐ."  
}
```

## **2.6. Admin-Only Management System**

The admin management interface is accessible only to users with administrative privileges. Key features include:

- Managing products, categories, orders, and user accounts
- Viewing statistical reports on best-selling products and low stock inventory

In addition, the system includes an internal chatbot dedicated to assisting administrators with functions such as:

- Summarizing total order value for the day
- Listing the most loyal customers
- Responding to quick inquiries using live data from the database

# **CHAPTER 3: SYSTEM ANALYSIS AND DESIGN**

## **3.1 Functional Analysis – Use Case**

### **3.1.1. User Roles in the System**

The system is designed with **two primary user roles**, each with specific responsibilities and access levels:

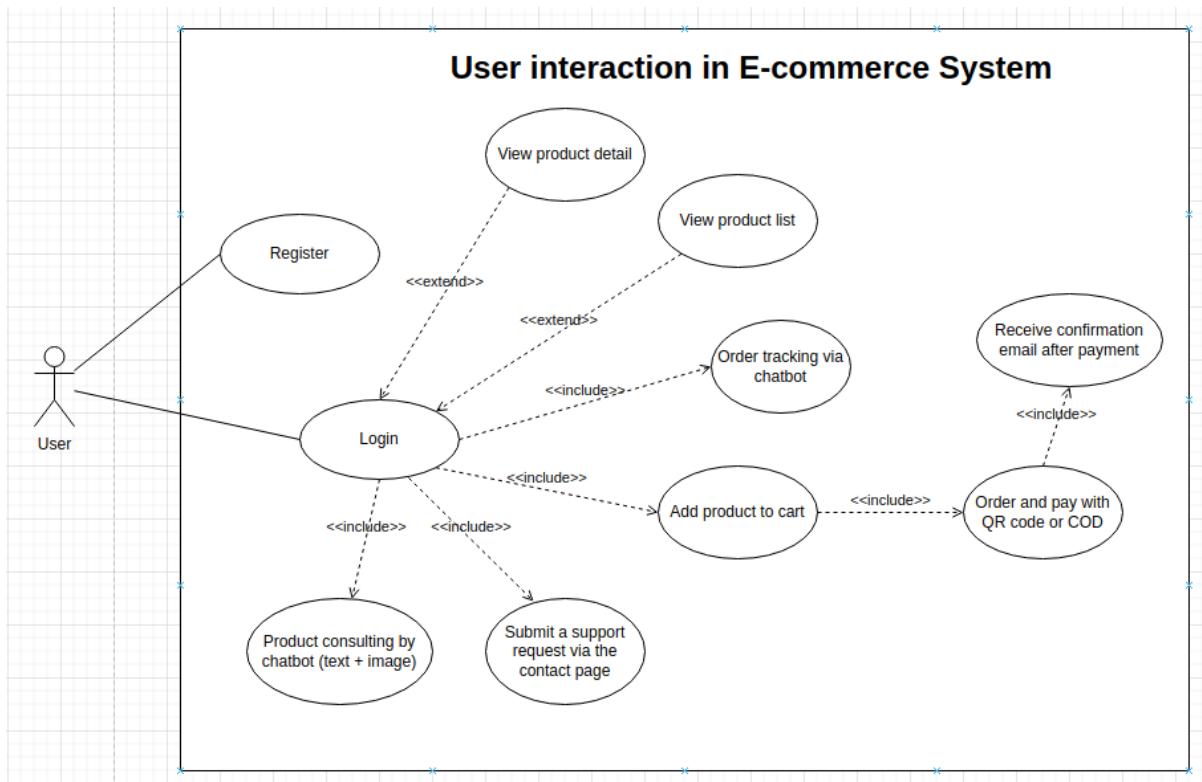
- **Customer (End User):**

- Accesses the public-facing website to search for products, view product details, add items to the cart, place orders, complete payments, and receive support through the chatbot.
  - Has limited access, restricted to functionalities related to shopping and personal order tracking.
- **Administrator (Admin):**
    - Logs into a dedicated admin panel to monitor system activity, manage products, process orders, and handle user data.
    - Has full privileges to create, update, and delete records, as well as access detailed statistics and analytics tools, including a chatbot for internal support.

### **3.1.2. Overall Use Case Diagram**

**The use cases of the system are grouped by user roles as follows:**

#### ***Customer Use Case***



- Register and Log in**

Allows users to create accounts and authenticate securely.

- Browse Product List**

View a categorized catalog of available Apple products.

- View Product Details**

Access in-depth information about a selected product, including specifications, price, and availability.

- Add to Cart**

Select desired products and store them temporarily in a personal shopping cart.

- Place Orders and Pay via QR Code**

Initiate a purchase and scan a dynamically generated VietQR code to make the payment.

- Receive Order Confirmation Email**

Automatically sent after successful payment, including order summary

and tracking instructions.

- **Contact Support via Contact Page**

Submit inquiries or support requests through an email form.

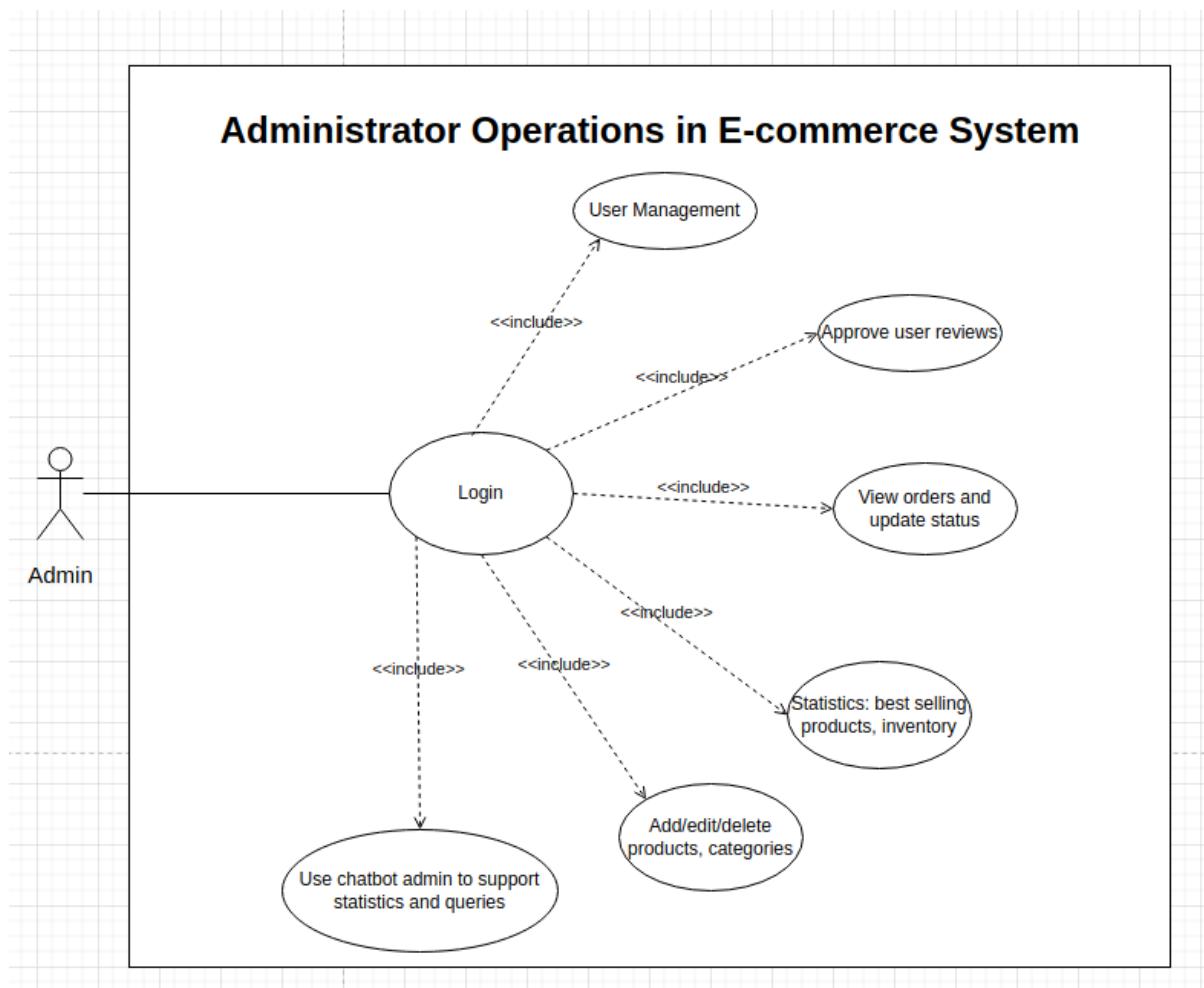
- **Track Orders via Chatbot**

Ask the chatbot to look up previous purchases using their user ID.

- **Product Recommendation via Chatbot (Text + Image)**

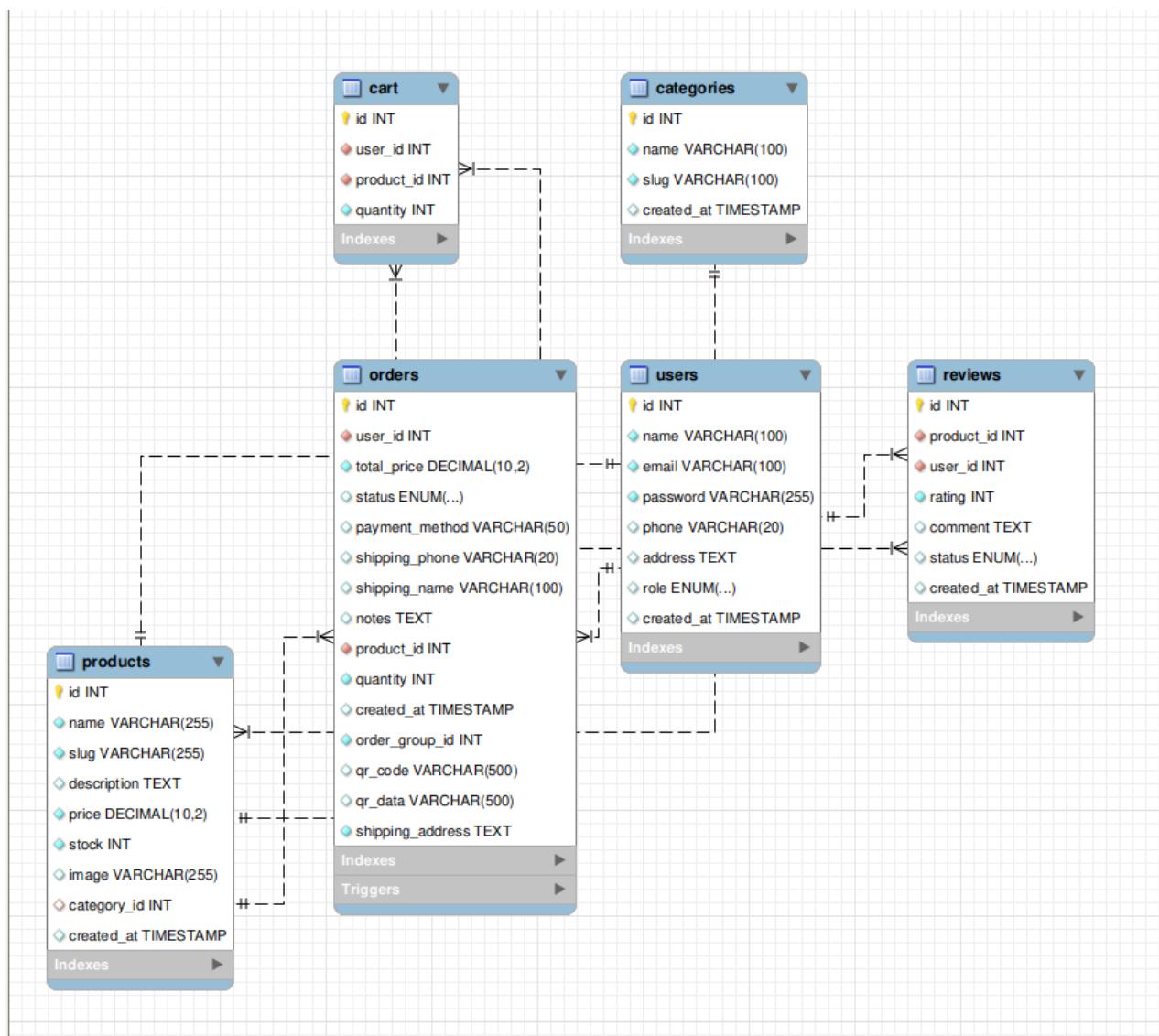
The AI chatbot can suggest products based on user questions or uploaded images.

### *Administrator Use Cases:*



- **Log in to Admin System**  
Access the backend dashboard with elevated privileges.
- **Add/Edit/Delete Products and Categories**  
Manage the product catalog and categorize items for better organization.
- **View and Update Orders**  
Monitor all orders, change order statuses (e.g., from "pending" to "shipped"), and handle customer issues.
- **Manage User Accounts**  
View registered users, update user information, or deactivate accounts.
- **View Statistics (Sales and Inventory)**  
Generate reports on best-selling items and stock levels to make informed business decisions.
- **Use Admin Chatbot for Internal Support**  
Ask the internal chatbot to:
  - Summarize total revenue for the day
  - List most loyal customers
  - Answer real-time queries using live database information

## 3.2. Database Design



## Table Descriptions

### ◆ 1. *categories*

Stores product category information.

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	Category ID

name	VARCHAR(100), UNIQUE	Category name
slug	VARCHAR(100), UNIQUE	URL-friendly version of the name
created_at	TIMESTAMP	Date of creation

◆ **2. users**

Stores information about users, including both admins and customers.

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	User ID
name	VARCHAR(100)	Full name
email	VARCHAR(100), UNIQUE	Login email
password	VARCHAR(255)	Encrypted password
phone	VARCHAR(20)	Phone number

address	TEXT	Address
role	ENUM('admin', 'customer')	User role
created_at	TIMESTAMP	Account creation date

◆ *3. products*

Stores product information.

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	Product ID
name	VARCHAR(255), UNIQUE	Product name
slug	VARCHAR(255), UNIQUE	URL-friendly product name
description	TEXT	Detailed description
price	DECIMAL(10, 2)	Product price

stock	INT	Inventory quantity
image	VARCHAR(255)	Image URL
category_id	INT, FK → categories	Belongs to category
created_at	TIMESTAMP	Date added

◆ *4. orders*

Stores user order information.

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	Order ID
user_id	INT, FK → users(id)	User who placed the order
product_id	INT, FK → products(id)	Product ordered
order_group_id	INT	Group ID for multiple product orders
total_price	DECIMAL(10, 2)	Total order amount

status	ENUM(...)	Order status
payment_method	VARCHAR(50)	Payment method
shipping_phone	VARCHAR(20)	Recipient's phone number
shipping_name	VARCHAR(100)	Recipient's name
shipping_addresses	TEXT	Delivery address
notes	TEXT	Order notes
quantity	INT	Quantity ordered
qr_code	TEXT	Payment QR code (base64/text)
qr_data	TEXT	Data embedded in the QR code
created_at	TIMESTAMP	Order date

◆ *5. reviews*

Stores product reviews from users.

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	Review ID
product_id	INT, FK → products(id)	Reviewed product
user_id	INT, FK → users(id)	Reviewer
rating	INT	Star rating (1–5)
comment	TEXT	Review content
status	ENUM('pending','approved','rejected')	Approval status
created_at	TIMESTAMP	Date of review

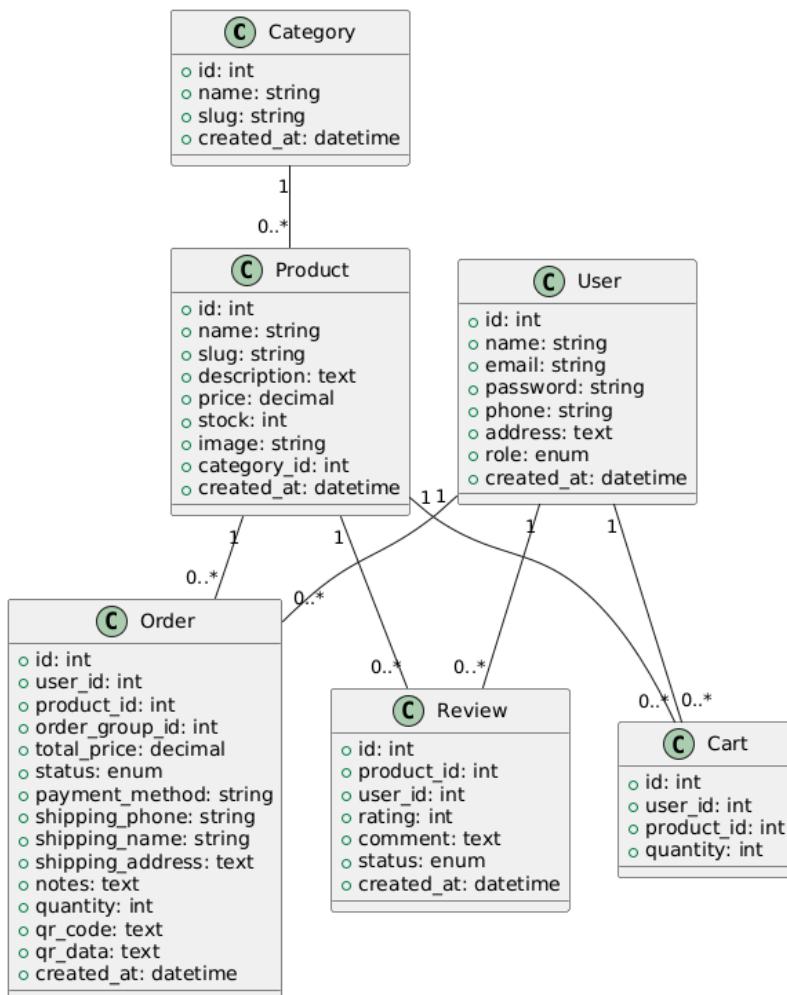
◆ **6. cart**

User's shopping cart (prior to order placement).

Column	Data Type	Description
id	INT, PK, AUTO_INCREMENT	Cart ID

user_id	INT, FK → users(id)	Cart owner
product_id	INT, FK → products(id)	Product in the cart
quantity	INT (CHECK > 0)	Product quantity

### 3.3 Class Diagram



Main Relationships in the Class Diagram

<b>Relationship</b>	<b>Description</b>
User 1 — * Order	One user can place multiple orders.
User 1 — * Review	One user can write multiple product reviews.
Product 1 — * Order	One product can appear in multiple orders.
Product 1 — * Review	One product can receive multiple reviews.
Product 1 — * Cart	One product can be added to many users' shopping carts.
User 1 — * Cart	One user can have multiple items in their cart.
Category 1 — * Product	One category can contain multiple products.

## **CHAPTER 4: SYSTEM FUNCTIONAL IMPLEMENTATION**

In this chapter, I present the process of implementing each specific functionality analyzed in previous chapters. The system is divided into two main functional sections: the user interface (client) and the admin interface. Additionally, the system integrates AI chatbot, automated payment, and email notification features, optimizing the experience for both customers and administrators.

### **4.1. User Interface (Client)**

#### **4.1.1. Homepage**

- Displays promotional banners and featured product categories.
- Uses Bootstrap to design a responsive layout that works well on both desktop and mobile devices.
- When the user clicks on a category, the system filters and displays the corresponding product list.

#### **4.1.2. Product List and Details Page**

- Products are displayed in a grid layout; each card includes the product name, image, price, and a “View Details” button.
- The product details page shows full descriptions, price, remaining stock, and an “Add to Cart” button.

#### **4.1.3. Shopping Cart and Order Placement**

- Users can add multiple products to the cart, update quantities, and remove items.
- The total price is automatically calculated.
- Clicking the “Place Order” button saves the order information to the database and proceeds to the QR payment step.

### **4.2. QR Payment Integration and Automatic Verification**

#### **4.2.1. Generate QR Code using VietQR**

- After placing an order, the system automatically generates a QR code that includes:
  - Recipient account number
  - Payment content: Ma hoa don <order\_id>

- Total payment amount
- The QR code is generated either via a call to the VietQR API or rendered directly from a constructed URL.

#### **4.2.2. Payment Verification via MBBank API**

- When the QR page is displayed, the system starts a background process that scans for transactions via MBBank API every 5 seconds.
- The transaction content is matched with Ma hoa don <order\_id>.
- If a valid transaction is found:
  - The order status is updated to “Paid”
  - A confirmation email is sent via SMTP
  - A success message is shown to the user

#### **4.3. Email Confirmation via SMTP**

- The PHPMailer library in PHP is used for sending emails.
- Email content includes:
  - Order ID
  - Total amount
  - Transaction date
  - Order details
- SMTP configuration is set using Gmail (TLS - Port 587) or a custom mail server.

## 4.4. AI Chatbot for User Assistance

### 4.4.1. Text-Based Interaction

- Users can enter queries such as:

“How much is the iPhone 15?”

The system sends the question to the LLM API. The chatbot will analyze it and respond with structured data like:

```
{}  
  "product": "iphone 15",  
  "attribute": "price",  
  "category": "iphone",  
  "sql_query": "SELECT products.name, products.price  
FROM products  
join categories on products.category_id = categories.id  
WHERE LOWER(products.name) LIKE '%iphone 15%' and  
categories.name = 'iphone'  
",  
  "error": null  
}
```

- The system executes the sql\_query, retrieves the result, and embeds it into the prompt for the chatbot to generate a suitable response.

### 4.4.2. Image-Based Product Recommendation

Users can upload a product image (e.g., a photo of an iPhone).

- The image is sent to a Flask API that generates an **image embedding**.
- The system compares the embedding against a product image database to identify the product name.
- The identified product name is then used as input for the LLM API to provide recommendations, similar to the text-based approach.

#### **4.4.3. Chat History Storage by User ID and Session**

- The chat history is stored in a .json file with the following structure:

```
{
  "user_id": {
    "session_id": [
      {
        "query": "User's question",
        "response": "Chatbot's answer"
      }
    ]
  }
}
```

- Each session is reused to allow the chatbot to maintain conversational context and respond coherently.

#### **4.4.4. Order Lookup via Chatbot**

- The chatbot can query order data based on the user\_id.
- When users ask questions like “**Liệt kê tất cả các đơn hàng mà tôi đã mua**”, the chatbot translates the query into an SQL statement, executes it, and sends the result to LLM API to generate a clear and personalized response

## **4.5. Admin Panel Interface**

### **4.5.1. Secure Login**

- Only accounts with admin privileges can access the admin dashboard.
- The system performs session validation before allowing access to any admin-related pages to ensure security.

### **4.5.2. Product Management**

- Admins can view, add, edit, and delete products from the system.
- Product images are uploaded and stored in the `/uploads` directory.
- A stored procedure automatically generates the slug for new products based on their name to support SEO-friendly URLs.

### **4.5.3. Category, User, and Order Management**

- Add/edit/delete product categories.
- View all orders, and filter them by status.
- View detailed order information for each customer.
- Manually update the order status, if necessary.

### **4.5.4. Sales and Inventory Statistics**

The system provides statistical insights including:

- Total orders placed today
- Best-selling product

- Products with stock below warning threshold

These statistics can be visualized using bar charts, especially when integrated with JavaScript chart libraries such as Chart.js.

## 4.6. Internal Chatbot for Admin

The system includes a dedicated chatbot for administrators with specialized functions such as:

- “What is the total revenue today?”
- “List all products with stock below 5.”
- “Which orders are still pending?”
- “Who is the top buyer this month?”

### How it works:

Each admin command is first analyzed and converted into a structured JSON format, for example:

```
{
  "type": "product, order",
  "entity": null,
  "attribute": "product_info, order_status",
  "category": null,
  "sql_query": "SELECT SUM(quantity) AS total_products_sold_today
                FROM orders
                WHERE DATE(created_at) = CURDATE();
  ",
```

```
    "error": None
```

```
}}
```

The backend interprets this JSON to:

- Build a corresponding **SQL query**
- Execute the query on the database
- Return the result to the chatbot
- Use **LLM API** or similar LLM to generate a natural language response for the admin

This feature allows the admin to perform **real-time statistical queries**, manage data, and make quick decisions without manually navigating the dashboard.

# Chapter 5: Implementation

## 1. Frontend

The screenshot shows the 'Tạo Tài Khoản Mới' (Create New Account) form. It includes fields for 'Họ Tên' (Name), 'Địa Chỉ Email' (Email Address), 'Mật Khẩu' (Password), 'Xác Nhận Mật Khẩu' (Confirm Password), 'Số Điện Thoại' (Phone Number), and 'Địa Chỉ' (Address). There is also a checkbox for accepting terms and conditions and a 'Đăng Ký' (Register) button.

Sứ mệnh của chúng tôi  
Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

Truy cập nhanh  
Trang chủ  
Sản phẩm  
Danh mục sản phẩm  
Liên hệ

Dịch vụ khách hàng  
Theo dõi đơn hàng  
Chính sách giao hàng  
Hoàn trả sản phẩm  
Câu hỏi thường gặp

Liên hệ với Octopus Store  
96A Trần Phú, Mộ Lao, Hà Đông, Hà Nội  
+84 917 947 910  
k100ltqba@gmail.com

*Registration interface*

The screenshot shows the 'Đăng Nhập' (Login) form. It includes fields for 'Địa Chỉ Email' (Email Address) and 'Mật Khẩu' (Password), a 'Ghi nhớ đăng nhập' (Remember login) checkbox, and a 'Đăng Nhập' (Login) button. Below the form is a link for 'Chưa có tài khoản? Đăng Ký' (Don't have an account? Register).

Sứ mệnh của chúng tôi  
Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

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+84 917 947 910  
k100ltqba@gmail.com

*Login interface*

Octopus Store Trang chủ Sản phẩm Danh mục sản phẩm ▾ Liên hệ Trợ lý ảo

Tìm kiếm sản phẩm Search Lê Trần Quốc Bảo

# Chào mừng đến với Octopus Store

Khám phá các sản phẩm mới với giá cực kỳ ưu đãi

[Khám phá ngay!](#)



Khám phá tất cả sản phẩm


### Tai nghe thời thượng

AirPods Max 2024 Airpod 12,490,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods 4 Airpod 3,390,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods Pro 2 USB C Airpod 5,690,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods 2 Airpod 4,390,000 VNĐ <a href="#">Xem chi tiết</a>
AirPods Pro 2021 Airpod 4,850,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods Max Airpod 12,590,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods 3 Lightning Airpod 5,490,000 VNĐ <a href="#">Xem chi tiết</a>	AirPods 3 MagSafe Airpod 5,490,000 VNĐ <a href="#">Xem chi tiết</a>

[Xem tất cả sản phẩm](#)

Giao hàng miễn phí tận nơi  
Với hóa đơn trên 1.000.000 VNĐ

Bảo hành dễ dàng  
Sửa chữa sản phẩm tối đa 30 ngày

Thông tin bảo mật  
Thông tin tài khoản được mã hóa nhiều lớp

Sứ mệnh của chúng tôi  
Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

Truy cập nhanh  
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Sản phẩm  
Danh mục sản phẩm  
Liên hệ

Dịch vụ khách hàng  
Theo dõi đơn hàng  
Chính sách giao hàng  
Hoàn trả sản phẩm  
Câu hỏi thường gặp

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+84 917 947 910  
k10litqbao@gmail.com

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# Home page user interface

Octopus Store Trang chủ Sản phẩm Danh mục sản phẩm Liên hệ Trợ lýảo Tim kiếm sản phẩm Search Lê Trần Quốc Bảo

Trang chủ / Sản phẩm

Lọc sản phẩm

Tìm kiếm sản phẩm...

Danh mục sản phẩm

Tất cả danh mục

Airpod

Case

Ipad

Iphone

Macbook

Macmini

Macstudio

Watch

Sắp xếp theo

Mới nhất

Sản phẩm

60 sản phẩm được tìm thấy

AirPods Max 2024 Airpod 12,490,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods 4 Airpod 3,390,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods Pro 2 USB C Airpod 5,690,000 VNĐ <a href="#">Xem chi tiết</a> 1
AirPods 2 Airpod 4,390,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods Pro 2021 Airpod 4,850,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods Max Airpod 12,590,000 VNĐ <a href="#">Xem chi tiết</a> 1
AirPods 3 Lightning Airpod 5,490,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods 3 MagSafe Airpod 5,490,000 VNĐ <a href="#">Xem chi tiết</a> 1	AirPods Pro 2 Airpod 4,850,000 VNĐ <a href="#">Xem chi tiết</a> 1
Hybrid Case for Iphone 16 Pro Max Case 390,000 VNĐ <a href="#">Xem chi tiết</a> 1	Mipow Premium Case for Iphone 6.9 Inch Case 390,000 VNĐ <a href="#">Xem chi tiết</a> 1	Silicon Case Iphone 13 Pro Max Case 690,000 VNĐ <a href="#">Xem chi tiết</a> 1

« 1 2 3 ... 5 »

Sứ mệnh của chúng tôi

Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

Truy cập nhanh

Trang chủ  
Sản phẩm  
Danh mục sản phẩm  
Liên hệ

Dịch vụ khách hàng

Theo dõi đơn hàng  
Chính sách giao hàng  
Hoàn trả sản phẩm  
Câu hỏi thường gặp

Liên hệ với Octopus Store

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+84 917 947 910  
k100itqbao@gmail.com

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## Products interface

The screenshot shows the contact page of the Octopus Store website. At the top, there is a navigation bar with links for 'Trang chủ', 'Sản phẩm', 'Danh mục sản phẩm', 'Liên hệ', 'Trợ giúp', and a search bar. Below the navigation bar is a form titled 'Liên hệ với chúng tôi' (Contact us) with fields for 'Tên của bạn' (Name), 'Email', 'Chủ đề' (Subject), and 'Nội dung' (Content). There is also a 'Gửi tin nhắn' (Send message) button. Below the form are three boxes providing contact information: 'Địa chỉ của chúng tôi' (Address) with the address '96A Trần Phú, Mộ Lao, Hà Đông, Hà Nội'; 'Số điện thoại' (Phone number) with numbers '+84 964 282 369' and '+84 917 947 910'; and 'Địa chỉ email' (Email address) with 'k100itqbao@gmail.com'. At the bottom of the page is a map showing the location of the store at 96A Trần Phú, Mộ Lao, Hà Đông, Hà Nội.

The screenshot shows the footer section of the Octopus Store website. It includes four columns of links: 'Sứ mệnh của chúng tôi' (Our mission), 'Truy cập nhanh' (Quick access), 'Dịch vụ khách hàng' (Customer service), and 'Liên hệ với Octopus Store' (Contact Octopus Store). The 'Sứ mệnh' column discusses the company's commitment to quality products and professional service. The 'Truy cập' column lists links to 'Trang chủ', 'Sản phẩm', 'Danh mục sản phẩm', and 'Liên hệ'. The 'Dịch vụ' column lists links to 'Theo dõi đơn hàng', 'Chính sách giao hàng', 'Hoàn trả sản phẩm', and 'Câu hỏi thường gặp'. The 'Liên hệ' column provides the physical address '96A Trần Phú, Mộ Lao, Hà Đông, Hà Nội', phone number '+84 917 947 910', email 'k100itqbao@gmail.com', and social media links for Facebook, Twitter, and Instagram. At the bottom of the footer, there is a copyright notice: '© 2025 Octopus Store. Mọi quyền được bảo lưu!'

## Contact interface

*Virtual assistant interface*

**Giỏ hàng (1 sản phẩm)**

Hình ảnh	Sản phẩm	Giá	Số lượng	Tổng
	Hybrid Case for iPhone 16 Pro Max	390,000đ	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	390,000đ

[Tiếp tục mua sắm](#) [Xóa giỏ hàng](#) [Cập nhật giỏ hàng](#)

**Tổng đơn hàng**

Tạm tính:	390,000đ
Phi vận chuyển:	Tính khi thanh toán
Thuế:	Tính khi thanh toán
<b>Tổng cộng:</b>	<b>390,000đ</b>

[Tiến hành thanh toán](#)

**Mã giảm giá**

Nhập mã giảm giá [Áp dụng](#)

**Sứ mệnh của chúng tôi**  
Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

**Truy cập nhanh**

Trang chủ  
Sản phẩm  
Danh mục sản phẩm  
Liên hệ

**Dịch vụ khách hàng**

Theo dõi đơn hàng  
Chính sách giao hàng  
Hoàn trả sản phẩm  
Câu hỏi thường gặp

**Liên hệ với Octopus Store**

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k100ltqba@gmail.com  
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## Cart interface

**Thanh toán**

**Thông tin giao hàng**

Họ tên \*: Lê Trần Quốc Bảo  
Số điện thoại \*: 0917947910

**Dịa chỉ giao hàng \***

Nhập địa chỉ giao hàng

**Phương thức thanh toán**

Thanh toán qua mã QR  
 Thanh toán khi nhận hàng

**Ghi chú đơn hàng (Không bắt buộc)**  
Hướng dẫn giao hàng hoặc ghi chú khác

[Tạo mã QR thanh toán](#)

[Quay lại giỏ hàng](#)

**Tổng đơn hàng**

Sản phẩm (1)	Hybrid Case for iPhone 16 Pro Max 390,000đ
Số lượng:	1 x 390,000đ
Tạm tính:	390,000đ
Phi vận chuyển:	Tính khi thanh toán
Thuế:	Tính khi thanh toán
<b>Tổng cộng:</b>	<b>390,000đ</b>

**Sứ mệnh của chúng tôi**  
Chúng tôi cam kết cung cấp những sản phẩm chất lượng cao với mức giá cạnh tranh. Sứ mệnh của chúng tôi là đem đến dịch vụ khách hàng chuyên nghiệp và xây dựng sự hài lòng tuyệt đối từ phía Quý khách hàng.

**Truy cập nhanh**

Trang chủ  
Sản phẩm  
Danh mục sản phẩm  
Liên hệ

**Dịch vụ khách hàng**

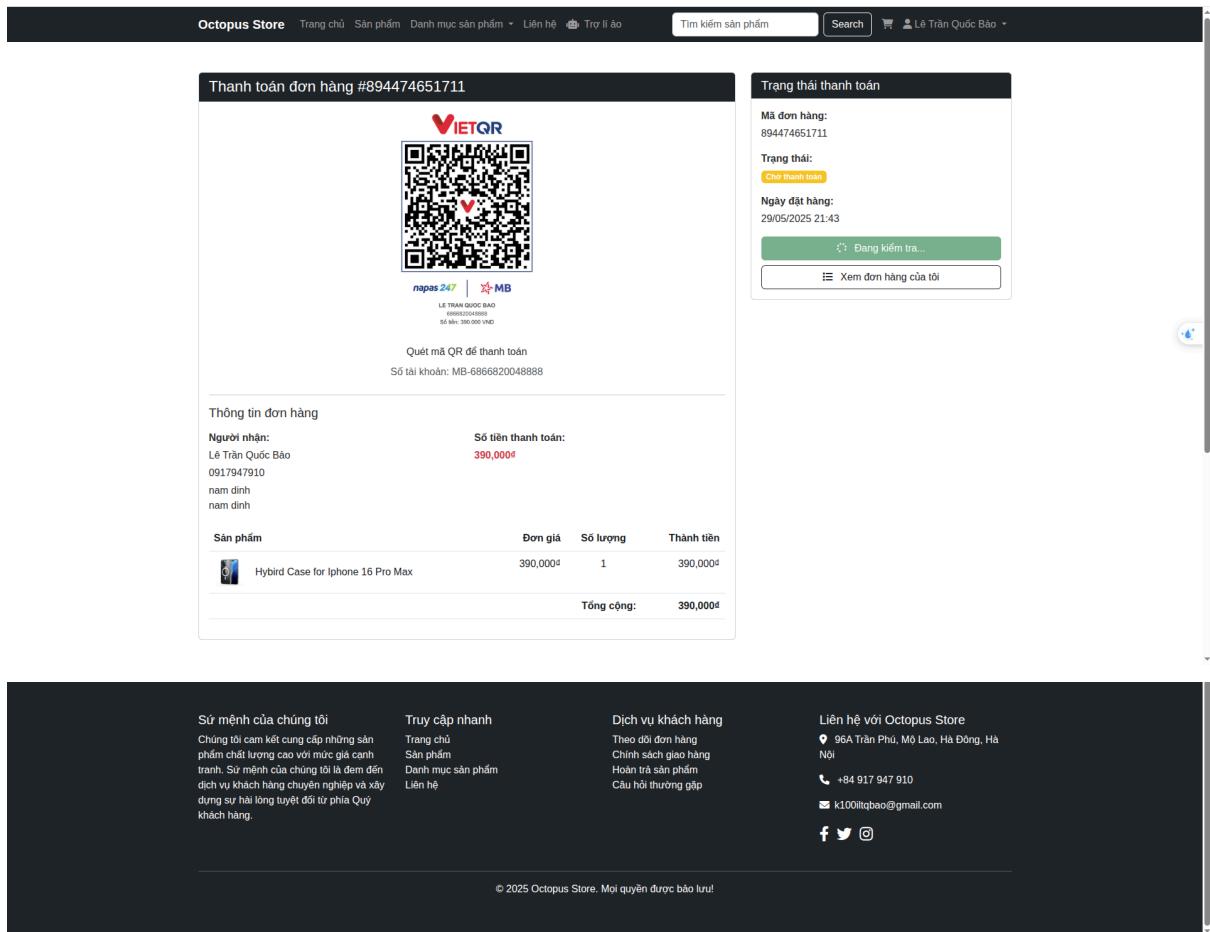
Theo dõi đơn hàng  
Chính sách giao hàng  
Hoàn trả sản phẩm  
Câu hỏi thường gặp

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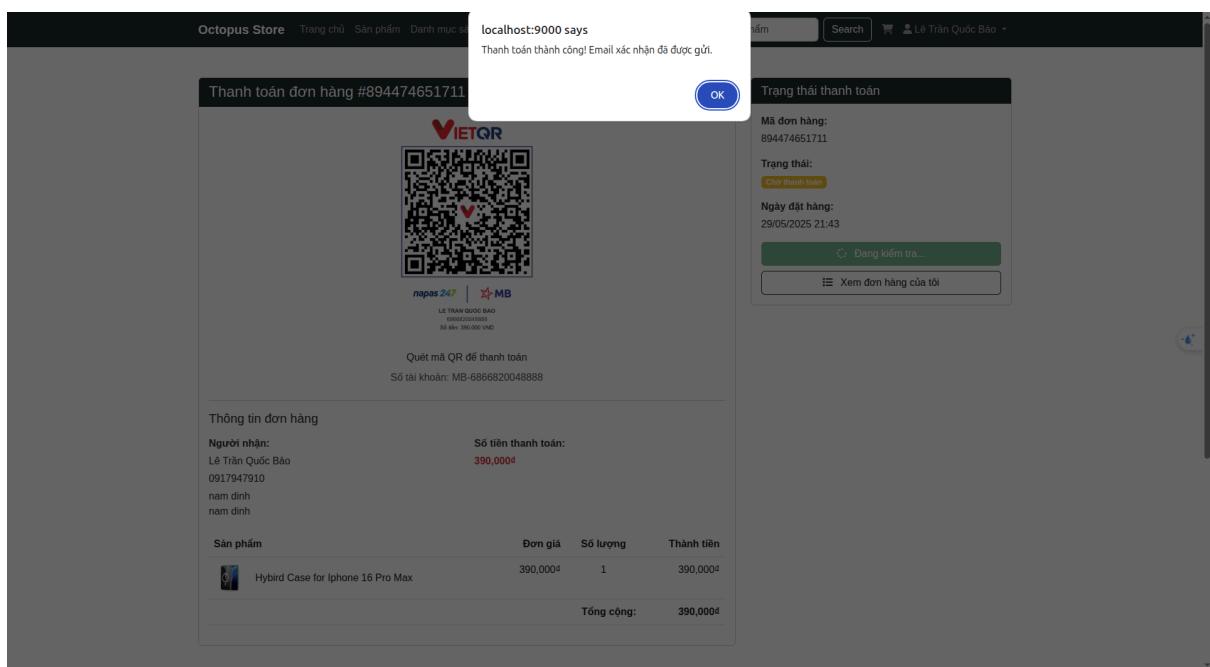
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## Payment method selection interface



The screenshot shows a payment confirmation page for order #894474651711. On the right, a sidebar titled "Trạng thái thanh toán" (Payment status) shows the transaction is completed ("Đã thanh toán"). Below it is a search bar and a link to view the order details. The main content area displays the payment method as "napas 247 MB" and provides a QR code for scanning. It also lists the customer information (Lê Trần Quốc Bảo, 0917947910, nam dinh) and the purchase details: a Hybrid Case for iPhone 16 Pro Max at 390,000đ. At the bottom, there's a footer with links to the store's social media and contact information.

## The QR Code Payment Method Interface



This screenshot shows the same payment confirmation page as above, but with a prominent "localhost:9000 says" message at the top. A blue "OK" button is overlaid on the right side of the payment status sidebar. The rest of the page content is identical to the first screenshot, including the payment method, QR code, and purchase details.

## Successful Transaction Notification

The screenshot shows a successful transaction notification for order #894474651711. The page has a dark header with the store name "Octopus Store" and navigation links. The main content area is divided into two sections: "Xác nhận đơn hàng #894474651711" (left) and "Trạng thái đơn hàng" (right).  
**Xác nhận đơn hàng #894474651711:**  
Thông tin đơn hàng:  
Người nhận: Lê Trần Quốc Bảo  
Địa chỉ: 0917947910  
Sản phẩm: nam dính  
Phương thức thanh toán: Thanh toán qua QR  
Ngày đặt hàng: 29/05/2025 21:43  

Sản phẩm	Đơn giá	Số lượng	Thành tiền
Hybrid Case for Iphone 16 Pro Max	390,000đ	1	390,000đ
Tổng cộng:			390,000đ

  
**Trạng thái đơn hàng:**  
Mã đơn hàng: 894474651711  
Trạng thái: Đã đặt hàng  
Xem đơn hàng của tôi  
Tiếp tục mua sắm

## Successful Payment Confirmation Interface with QR Code

The screenshot shows a successful payment confirmation interface for order #1748530011. The layout is similar to the previous transaction notification, with a dark header and a main content area split into two sections: "Xác nhận đơn hàng #1748530011" (left) and "Trạng thái đơn hàng" (right).  
**Xác nhận đơn hàng #1748530011:**  
Thông tin đơn hàng:  
Người nhận: Lê Trần Quốc Bảo  
Địa chỉ: 0917947910  
Sản phẩm: nam dính  
Phương thức thanh toán: Thanh toán khi nhận hàng  
Ngày đặt hàng: 29/05/2025 21:46  

Sản phẩm	Đơn giá	Số lượng	Thành tiền
AirPods Max 2024	12,490,000đ	1	12,490,000đ
Tổng cộng:			12,490,000đ

  
**Trạng thái đơn hàng:**  
Mã đơn hàng: 1748530011  
Trạng thái: Đã đặt hàng  
Xem đơn hàng của tôi  
Tiếp tục mua sắm

## Order Confirmation Interface with Cash on Delivery Payment

Bảng Điều Khiển

SẢN PHẨM	DANH MỤC	NGƯỜI DÙNG	ĐƠN HÀNG
60	8	6	48

**Đơn Hàng Gần Đây**

Mã	Khách Hàng	Tổng Tiền	Trạng Thái	Ngày	Thao Tác
70	Lê Trần Quốc Bảo	12,490,000 VNĐ	Chờ xử lý	29/05/2025	
69	Lê Trần Quốc Bảo	390,000 VNĐ	Chờ xử lý	29/05/2025	
68	Lê Trần Quốc Bảo	10,000 VNĐ	Chờ xử lý	28/05/2025	
67	Lê Trần Quốc Bảo	10,000 VNĐ	Chờ xử lý	28/05/2025	
66	Lê Trần Quốc Bảo	10,000 VNĐ	Chờ xử lý	28/05/2025	

**Sản Phẩm Sắp Hết Hàng**

Mã	Tên Sản Phẩm	Tồn Kho	Thao Tác
152	iPad Air M3 11 inch	3	
149	iPad Mini 6	4	
144	Mac Studio M3 Ultra	4	
139	Mac Mini M2 - 8gb ram - 256gb ssd	9	
153	iPad Air M3 13 inch	6	

## Admin Dashboard Interface

Quản lý sản phẩm

**Đơn Hàng #70**

Trạng Thái Đơn Hàng		Thông Tin Khách Hàng		Thông Tin Thanh Toán	
<b>Chờ Xử Lý</b>		Tên: Lê Trần Quốc Bảo Email: k100itqbao@gmail.com Điện Thoại: 0917947910 Địa Chỉ Giao Hàng: nam dinh Địa Chỉ Giao Hàng: nam dinh		Ngày Đặt: 29/05/2025 Cập Nhật Lần Cuối: 01/01/1970  Phương Thức: cash_on_delivery Trạng Thái: Chưa Thanh Toán Mã Giao Dịch: Không có Ngày Thanh Toán: Chưa có	

**Chi Tiết Đơn Hàng**

AirPods Max 2024						
Đơn Giá	Số Lượng	Tạm Tính	Giảm Giá	Thuế	Phi Ship	Tổng Cộng
12,490,000 VNĐ	1	12,490,000 VNĐ	0 VNĐ	0 VNĐ	0 VNĐ	12,490,000 VNĐ

**Lịch Sử Đơn Hàng**

Đã Đặt Hàng	Thời Gian
	29/05/2025 21:46

## Order Viewing Interface

Quản lý sản phẩm

Lê Trần Quốc Bảo

+ Thêm Sản Phẩm Mới

Sản Phẩm

Tìm kiếm sản phẩm...

Search

ID	Hình Ảnh	Tên	Danh Mục	Giá	Tồn Kho	Ngày Tạo	Thao Tác
180		AirPods Max 2024	airpod	12.490.000 VNĐ	192	06/05/2025	
179		AirPods 4	airpod	3.390.000 VNĐ	19	06/05/2025	
178		AirPods Pro 2 USB C	airpod	5.690.000 VNĐ	20	06/05/2025	
177		AirPods 2	airpod	4.390.000 VNĐ	20	06/05/2025	
176		AirPods Pro 2021	airpod	4.850.000 VNĐ	20	06/05/2025	
175		AirPods Max	airpod	12.590.000 VNĐ	20	06/05/2025	
174		AirPods 3 Lightning	airpod	5.490.000 VNĐ	20	06/05/2025	
173		AirPods 3 MagSafe	airpod	5.490.000 VNĐ	20	06/05/2025	
172		AirPods Pro 2	airpod	4.850.000 VNĐ	20	06/05/2025	
171		Hybird Case for Iphone 16 Pro Max	case	390.000 VNĐ	19	06/05/2025	

« 1 2 3 4 5 6 »

## Product Management Interface

Quản lý sản phẩm

Lê Trần Quốc Bảo

Xem Sản Phẩm Quay Lại

Chỉnh Sửa Sản Phẩm

Tên Sản Phẩm \*

AirPods Max 2024

Giá (đ) \* Tồn Kho \* Danh Mục

12490000.00 192 airpod

Mô Tả

AirPods Max 2024: Chip H2, khử tiếng ồn chủ động, cổng USB-C, âm thanh Hi-Fi, pin 2000 giờ, nhiều màu sắc.

Hình Ảnh

Choose File No file chosen Để tránh rủi ro mất giữ hình ảnh hiện tại. Tối đa: 2MB. Định dạng: JPG, PNG, GIF

Hình Ảnh Hiện Tại:

Cập Nhật Sản Phẩm

Thông Tin Sản Phẩm

Mã: 180 Ngày Tạo: 06/05/2025 Đơn Hàng: 11 đơn hàng

Đánh Giá: 0 đánh giá

Gợi Ý

Đặt tên sản phẩm rõ ràng và mô tả.

Mô tả chi tiết giúp khách hàng đưa ra quyết định tốt hơn.

## Edit Product Interface

Quản lý sản phẩm

Lê Trần Quốc Bảo

### Chi Tiết Sản Phẩm

Sửa Sản Phẩm



**AirPods Max 2024**

Mã SP: **Có sẵn**  
**12.490.000đ**

Danh mục: [airpod](#)  
Tồn kho: [192 sản phẩm](#)  
Đã bán: 12 sản phẩm

Mô tả

AirPods Max 2024: Chip H2, khử tiếng ồn chủ động, cổng USB-C, âm thanh Hi-Fi, pin 2000 giờ, nhiều màu sắc.

**Thông Tin Sản Phẩm**

ID:	180
Mã SP:	
Ngày tạo:	06/05/2025
Cập nhật:	01/01/1970
Trạng thái:	Còn sẵn
Nơi bán:	Không
Khối lượng:	N/A
Kích thước:	N/A

**Thao Tác Nhanh**

Sửa Sản Phẩm  
 Xem Trên Website  
 Xóa Sản Phẩm

**Đánh Giá Gần Đây**

Chưa có đánh giá nào cho sản phẩm này.

**Đơn Hàng Gần Đây**

Xem Tất Cả

ID	Khách hàng	SL	Tổng tiền	Trạng thái	Ngày
70	Lê Trần Quốc Bảo	1	12.490.000đ	Chờ xử lý	29/05/2025
50	Lê Trần Quốc Bảo	1	12.490.000đ	Chờ xử lý	25/05/2025
46	Lê Trần Quốc Bảo	2	24.980.000đ	Chờ xử lý	25/05/2025
45	Lê Trần Quốc Bảo	1	12.490.000đ	Đang chờ xử lý	24/05/2025

*View product interface*

Quản lý sản phẩm

Lê Trần Quốc Bảo

### Tạo Sản Phẩm Mới

Tên Sản Phẩm \*   
Danh Mục

Giá \*  Tồn Kho \*

Mô Tả

Hình Ảnh Sản Phẩm  
Choose File No file chosen  
Định dạng hỗ trợ: JPEG, JPEG, PNG, GIF. Kích thước tối đa: 5MB.

*Add product interface*

Quản lý sản phẩm							
		Danh Mục				Lê Trần Quốc Bảo	
		<input type="text" value="Tim kiem danh muc..."/> <input type="button" value="Search"/>				<a href="#">+ Thêm Danh Mục Mới</a>	
ID	Tên	Đường Dẫn	Sản Phẩm	Ngày Tạo	Thao Tác		
8	airpod	airpod	<a href="#">9 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
6	case	case	<a href="#">8 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
5	ipad	ipad	<a href="#">5 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
1	iphone	iphone	<a href="#">10 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
2	macbook	macbook	<a href="#">8 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
3	macmini	macmini	<a href="#">4 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
4	macstudio	macstudio	<a href="#">6 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		
7	watch	watch	<a href="#">10 sản phẩm</a>	06/05/2025	<a href="#"></a> <a href="#"></a>		

## Category Management Interface

Quản lý sản phẩm							
		Đơn Hàng				Lê Trần Quốc Bảo	
		<input type="text" value="Tim theo mã đơn hàng, tên khách hàng hoặc email..."/> <input type="button" value="Tất Cả Trang T"/> <input type="button" value="Lọc"/>					
Mã	Khách Hàng	Sản Phẩm	Số Lượng	Tổng Tiền	Trạng Thái	Thanh Toán	Ngày
70	Lê Trần Quốc Bảo kt001tqbao@gmail.com	AirPods Max 2024	1	12,490,000 VND	<a href="#">Chờ Xử Lý</a>	cash_on_delivery	29/05/2025
69	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Hybird Case for Iphone 16 Pro Max	1	390,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	29/05/2025
68	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Tiger Magnetic Case for Iphone 16 Series	1	10,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	28/05/2025
67	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Tiger Magnetic Case for Iphone 16 Series	1	10,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	28/05/2025
66	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Tiger Magnetic Case for Iphone 16 Series	1	10,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	28/05/2025
65	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Tiger Magnetic Case for Iphone 16 Series	1	10,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	28/05/2025
64	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Tiger Magnetic Case for Iphone 16 Series	1	10,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	28/05/2025
63	Lê Trần Quốc Bảo kt001tqbao@gmail.com	Mipow MagSafe for Iphone 16 Plus	1	390,000 VND	<a href="#">Chờ Xử Lý</a>	qr_code	27/05/2025
62	Trần Thị B TranthiB@gmail.com	iPhone 15 Pro Max - 256gb	1	28,790,000 VND	<a href="#">Chờ Xử Lý</a>	cash_on_delivery	26/05/2025
61	Trần Thị B TranthiB@gmail.com	iPhone 15 Pro Max - 256gb	1	28,790,000 VND	<a href="#">Chờ Xử Lý</a>	cash_on_delivery	26/05/2025

## Order Management Interface

Quản lý sản phẩm

Lê Trần Quốc Bảo

**Quản Lý Người Dùng**

+Thêm Người Dùng

Tìm theo tên, email hoặc số điện thoại...

Tất Cả Vai Trò Lọc

ID	Tên	Email	Điện Thoại	Vai Trò	Đơn Hàng	Đánh Giá	Ngày Đăng Ký	Thao Tác
8	Dương Văn Khởi	Khoi1903@gmail.com	0918391332	Khách Hàng	8 đơn hàng	1 đánh giá	11/05/2025	
7	Trần Thị B	TranithiB@gmail.com	0917947910	Khách Hàng	1 đơn hàng	0 đánh giá	11/05/2025	
6	Le Quoc Bao	k100lfqbao000@gmail.com	0917947910	Khách Hàng	0 đơn hàng	0 đánh giá	07/05/2025	
5	Lê Trần Quốc Bảo	k100lfqbao@gmail.com	0917947910	Quản Trị	33 đơn hàng	2 đánh giá	11/05/2025	
3	Charlie Brown	charlie.brown2@example.com	0123456789	Khách Hàng	2 đơn hàng	0 đánh giá	06/05/2025	
1	Charlie Brown	charlie.brown@example.com	0123456789	Khách Hàng	2 đơn hàng	0 đánh giá	06/05/2025	

## User Management Interface

Quản lý sản phẩm

Lê Trần Quốc Bảo

**Đánh giá**

Tìm kiếm đánh giá...

Tất cả trạng thái Lọc

ID	Sản phẩm	Người dùng	Đánh giá	Bình luận	Trạng thái	Ngày	Thao tác
3	MacBook Pro 16 inch M3 Max - 48gb ram - 1tb ssd	Lê Trần Quốc Bảo	★★★★★	Đắt nhưng xin		11/05/2025	
2	MacBook Pro 16 inch M3 - 36gb ram - 1tb ssd	Lê Trần Quốc Bảo	★★★★★	Shop uy tín đây		11/05/2025	
1	AirPods 4	Dương Văn Khởi	★★★★★	Tốt		11/05/2025	

## Reviews Management Interface

**10 Sản Phẩm Được Order Nhiều Nhất**

Tên Sản Phẩm	Số Lượng Order
Tiger Magnetic Case for Iphone 16 Series	18
AirPods Max 2024	12
iPhone 16 Pro - 256gb	8
iPhone 16 - 128gb	7
iPhone 15 Pro Max - 256gb	4
AirPods 4	2
MacBook Air M1 2020 - 8gb ram - 256gb ssd	1
Mipow MagSafe for Iphone 16 Plus	1
MacBook Air M2 - 16gb ram - 256gb ssd	1
AirPods Pro 2 USB C	1

**10 Sản Phẩm Tồn Kho Nhiều Nhất**

Tên Sản Phẩm	Số Lượng Tồn Kho
AirPods Max 2024	192
iPhone 16 Pro Max - 256gb	120
iPhone 15 Pro Max - 256gb	97
iPhone 13 - 128gb	57
iPhone 16 - 128gb	50
iPhone 16 Plus - 128gb	40
iPhone 16 Pro - 256gb	32
iPhone 16e - 256gb	32
MacBook Pro 16 inch M3 - 36gb ram - 1tb ssd	23
MacBook Pro 16 inch M3 Max - 48gb ram - 1tb ssd	21

**Biểu Đồ Thống Kê Top 10 Sản Phẩm**

## Top-Selling and Inventory Statistics Interface

**Quản lý sản phẩm**

**Trợ Lý Ảo**

**Trợ Lý Admin**

Hãy hỏi tôi bất cứ điều gì về cửa hàng, sản phẩm, đơn hàng hoặc cách sử dụng trang quản trị. Cuộc trò chuyện sẽ không được lưu sau khi tải lại trang.

Minh là Virtual Octopus, trợ lý của Octopus Store. Bạn cần mình giúp gì hôm nay?

xin chào bạn, hôm 25/05/2025 bạn được những đơn hàng nào nhỉ

Chào bạn! Shop là Octopus Kraken, trợ lý thân thiện của Apple Store, rất vui khi được trò chuyện với bạn hôm nay. 😊

Về câu hỏi của bạn liên quan đến các đơn hàng được bán vào ngày 25/05/2025, shop có dữ liệu về một số đơn hàng từ khách hàng Lê Trần Quốc Bảo (user ID: 5). Tất cả các đơn hàng này đều đang ở trạng thái "pending" (chờ xử lý), và chúng bao gồm các sản phẩm phổ biến từ Apple như AirPods Max 2024, AirPods 4, và Tiger Magnetic Case for iPhone 16 Series. Dưới đây là tóm tắt ngắn gọn để bạn dễ theo dõi:

- Tổng số đơn hàng: 24 đơn hàng.
- Chi tiết sản phẩm và số lượng:

  - AirPods Max 2024 (product ID: 180): 12 đơn hàng, với số lượng từ 1-2 chiếc mỗi đơn, giá mỗi đơn từ 12.490.000 VND đến 24.980.000 VND.
  - AirPods 4 (product ID: 179): 2 đơn hàng, mỗi đơn 1 chiếc, giá 3.390.000 VND.

Gõ câu hỏi của bạn...

**Câu hỏi nhanh**

Làm sao để thêm sản phẩm mới?	Xem đơn hàng gần đây thế nào?	Cập nhật tồn kho sản phẩm ra sao?
Thêm danh mục mới như thế nào?	Xử lý hoàn tiền thế nào?	Xem thống kê bán hàng ra sao?

## Admin Virtual Assistant Interface

The screenshot shows a web-based admin profile interface. On the left is a sidebar with navigation links: Quản trị, Sản phẩm, Danh mục, Đơn hàng, Người dùng, Đánh giá, Thông kê, Trợ lý Áo, Hệ thống, Trang cá nhân, Xem cửa hàng, and Đăng xuất. The main content area has a header "Hồ Sơ Của Tôi". It contains two main sections: "Thông Tin Hồ Sơ" and "Thông Tin Tài Khoản". The "Thông Tin Hồ Sơ" section includes fields for Họ Tên (Lê Trần Quốc Bảo), Địa Chỉ Email (k100ltqbao@gmail.com), Số Điện Thoại (0917947910), and Địa Chỉ (nam dinh). Below these is a blue "Cập Nhật Hồ Sơ" button. The "Thông Tin Tài Khoản" section includes fields for Mã Người Dùng (5), Vai Trò (Quản trị viên), and Ngày Đăng Ký (01/01/1970). To the right is a "Đổi Mật Khẩu" (Change Password) section with fields for Mật Khẩu Hiện Tại, Mật Khẩu Mới, and Xác Nhận Mật Khẩu Mới. A blue "Đổi Mật Khẩu" button is at the bottom. The URL localhost:9000 is visible at the bottom left.

*Admin Profile Interface*

## 2. Backend API

Method	Endpoint	Description
GET	/	Check the root API; typically used for testing or returning a welcome message.
POST	/chat	Send a request to the user chatbot for product consultation, order tracking, etc.
POST	/chatadmin	Send a request to the admin chatbot for statistics, management, and data queries.

POST	/generate-qr	Generate a VietQR payment QR code for an order, returning the QR image and order ID.
GET	/check-payment/{order_id}	Check whether the order with the given order_id has been successfully paid.
GET	/balance	Retrieve the current balance of the linked bank account (via MBBank API).
GET	/transactions	Retrieve the list of recent bank transaction history.
POST	/check-transaction	Submit a request to verify a specific transaction based on the transfer description.
POST	/send-email	Send a confirmation email for orders, feedback, or notifications to the customer.

### 3. System Testing

To ensure the system operates according to requirements and delivers the best possible user experience, I conducted comprehensive testing based on three key criteria: Usability Testing, Functional Testing, and Compatibility Testing.

### **a. Usability Testing**

The goal of this testing phase is to ensure the website interface is clear, user-friendly, visually appealing, and free from display errors.

- All textual content across the site was reviewed to ensure there were no spelling or grammatical mistakes.
- Fonts and font sizes are consistent across all pages, adhering to the design standards.
- Input fields, labels, and buttons are properly aligned to maintain visual harmony and ease of use.
- Buttons such as "Add to Cart", "Login", "Place Order", "Search", etc., are properly styled and correctly sized.
- The website logo appears correctly on the browser tab.
- All internal pages (product details, contact, cart, etc.) are properly linked to the homepage and vice versa.
- All hyperlinks and images were verified to ensure there were no broken links (404 errors) or unloaded images.
- After each action like add, edit, delete, the system displays clear messages (e.g., “Product added successfully”) with no typos.
- Scrollbars display properly on pages with overflow content.
- Navigation bars (navbars) are visible on all user-facing and admin pages.
- Dropdown menus display their content fully without clipping due to limited field width.

## **b. Functional Testing**

This testing ensures all system features work correctly, including business logic, validation, security, and integration with APIs and the chatbot.

- Required fields (e.g., email, password, username) show error messages if left empty.
- Optional fields (e.g., order notes) do not trigger errors if empty.
- Numeric fields such as product price and stock reject non-numeric characters and show appropriate error messages.
- Admin dashboard charts function properly, displaying top-selling products and inventory levels.
- The image upload feature for products works as intended—images are instantly previewed and stored correctly.
- The chatbot functions smoothly with a response time under 3 seconds and without significant delays.
- The chatbot correctly identifies products and attributes and provides accurate answers based on queries.
- All user data (name, email, password, orders) is saved correctly in the MySQL database.
- Chat history is fully saved into the history.json file per session.
- Admin-only features (e.g., adding products, approving orders, running statistics) are protected and accessible only after login.
- The /check-payment/{order\_id} API correctly verifies payment status and returns accurate results.

- The /send-email API is stable and sends order confirmation emails to customers after payment is successful.

### c. Compatibility Testing

The goal is to ensure that the system runs reliably across various browsers and devices.

The website was tested on the following major browsers:

- Google Chrome
- Mozilla Firefox
- Microsoft Edge
- Safari
- Opera

Verified that the interface displays correctly on all tested browsers:

- Fonts render correctly
- Product images display at proper sizes and are not broken
- Colors and layout match the design specifications
- Client-side JavaScript works properly with no errors in the browser console

The website is also fully responsive and displays well on:

- Desktop computers
- Tablets
- Mobile phones

# Chapter 6: Project Schedule Management

Task Name	Started on	Due on	Progress
<b>Initiation Phase</b>			
Define project scope and objectives	05/03/2025	10/03/2025	100%
Requirement analysis and simple database design	10/03/2025	15/03/2025	100%
<b>Planning Phase</b>			
Develop a project schedule	15/03/2025	16/03/2025	100%
<b>Design Phase</b>			
UI/UX design for user and admin	22/03/2025	29/03/2025	100%
Optimize admin design and chatbot API	29/03/2025	05/04/2025	100%
Redesign UI for better experience	27/04/2025	03/05/2025	100%
Finalize user and admin interface	03/05/2025	10/05/2025	100%

<b>Development Phase</b>			
Develop payment API, email API, basic chatbot	17/03/2025	22/03/2025	100%
Store chatbot history in database	06/04/2025	12/04/2025	100%
Complete CRUD operations in admin dashboard	13/04/2025	19/04/2025	100%
Improve chatbot to distinguish user question types	20/04/2025	26/04/2025	100%
Finalize chatbot (text + image recognition for users)	10/05/2025	17/05/2025	100%
Finalize admin chatbot with internal queries	18/05/2025	20/05/2025	100%
<b>Testing Phase</b>			
Usability, Functional, Compatibility Testing	20/05/2025	30/05/2025	100%

# **Result of the project**

- **Completed Features**

## **Client Side:**

1. **Login** – Users can securely log in to access personalized features.
2. **Register** – New users can sign up with required information.
3. **Homepage** – Displays promotional banners, product categories, and featured items.
4. **Product Page** – Allows users to browse, view detailed information, and add products to the cart.
5. **Contact Page** – Users can submit support requests and view store locations on the map.
6. **Virtual Assistant Page** – Integrated AI chatbot that supports text and image input for product consultation and order tracking.
7. **Payment Page** – Supports QR code payments via VietQR and verifies transactions using MBBank API.

## **Admin Side:**

1. **Product Management Page** – Add, update, and delete product records with image upload and auto-generated slugs.
2. **Category Management Page** – Manage product categories for classification.
3. **Order Management Page** – View and update order statuses; filter by payment status.

4. **User Management Page** – View user information and manage access.
  5. **Statistics Page** – View sales reports, top-selling products, and low-stock alerts using visual charts.
  6. **Virtual Assistant Admin Page** – Chatbot helps the admin with data queries, daily reports, and customer statistics.
- **Project Completion Level:** 100%

## Conclusion

### 1. Advantages:

- The website has successfully implemented most of the required features.
- The layout is clear, well-structured, easy to read, and user-friendly.
- Features such as login, ordering, QR payment, and chatbot interaction are easy to use and familiar to users.

### 2. Disadvantages:

- The website is still in development, so some features remain at a basic level.

### 3. Development Direction:

- Add the remaining features and expand the system to improve interactivity and ensure reliability.
- Integrate advanced technologies such as artificial intelligence and virtual reality to enhance the user experience with the virtual assistant.
- Optimize security and system performance for real-world deployment.

#### **4. Summary:**

Throughout the learning and development process of this project, I have strived to research and implement a variety of features, ranging from basic to advanced. However, due to time constraints and limited experience, the system still has some shortcomings. In the future, I will continue to study and improve the project to make it more complete.

I sincerely thank my teacher for the dedicated guidance and support during the development of this project.

# References

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