

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



Fourth Report

Foundation Internship

Project Title: Smart Shop AI Assistant

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INTERNSHIP BASE REPORT - WEEK 4

1. Overview of This Week's Work

During the fourth week of my internship, I focused on improving the payment system and optimizing the chatbot API. The primary goal was to ensure that user purchase information is properly stored in the database and can be accessed through the admin dashboard. Additionally, I worked on refining the chatbot API for better performance and efficiency.

2. Work Completed

2.1. Enhancing the Payment System

To provide a seamless purchasing experience and enable administrators to track customer orders, I made the following improvements to the payment system:

- **Storing Customer Purchase Information:**
 - Implemented logic to save user transaction details in the MySQL database.
 - Captured necessary details such as buyer's name, email, phone number, and purchased products.
 - Ensured that order history is linked to user accounts for easy retrieval.
- **Displaying Purchase Information in the Admin Dashboard:**
 - Developed a new section in the admin dashboard to view customer order details.
 - Admins can now access information such as order date, purchased items, total amount, and user details.
 - Integrated order filtering to quickly sort purchases by date or user.

2.2. Optimizing the Chatbot API

The chatbot, developed using Python and the Gemini API, was optimized for better performance. The improvements include:

- **Enhancing API Efficiency:**
 - Refactored API calls to reduce unnecessary requests and improve response time.

- Implemented caching mechanisms where appropriate to minimize redundant queries.
- **Improving Response Accuracy:**
 - Tweaked prompt engineering techniques to enhance chatbot responses.
 - Optimized text preprocessing for better understanding and contextual accuracy.
- **Security and Stability Enhancements:**
 - Added error handling mechanisms to prevent unexpected failures.
 - Implemented request validation to enhance API reliability.

3. Technologies Used

Backend:

- **PHP (Pure PHP):** Used for processing payment logic and storing transaction details.
- **MySQL:** Stores order information, linking purchases to user accounts.
- **Python (FastAPI/Flask):** Used to handle chatbot API requests efficiently.

Frontend:

- **HTML, CSS, JavaScript:** Updated the admin dashboard to display user purchase details.
- **Bootstrap:** Ensures a responsive and user-friendly interface.

Authentication & Security:

- **Session PHP:** Manages user authentication and access control.
- **Bcrypt (PHP password_hash):** Encrypts stored passwords for security.
- **Input Validation:** Prevents SQL injection and API abuse.

4. Completed Features

- Implemented a robust payment processing system that stores user purchase details.
- Developed an admin dashboard section for viewing purchase history.
- Optimized chatbot API for faster and more accurate responses.

- Enhanced system security and error handling for improved reliability.

This week's work significantly improves both the user experience and admin capabilities, ensuring efficient order tracking and chatbot performance.