

**VIETNAM NATIONAL UNIVERSITY - HO CHI MINH CITY
UNIVERSITY OF TECHNOLOGY
FACULTY OF COMPUTER SCIENCE AND ENGINEERING**



SUBJECT REPORT

**Subject name: Web Development
(Subject code: CO3049)**

SEMESTER 251 YEAR 2025-2026

- MAJOR: COMPUTER SCIENCE**
- PROGRAM: HIGH QUALITY**

- UNIVERSITY SUPERVISOR:
NGUYEN DUC THAI**
- STUDENTS:**

VO TRAN MINH HIEU

STUDENT ID: 2152560

Ho Chi Minh City, 11/2025



Contents

1	Introduction	2
2	Design Choices	2
2.1	Layout	2
2.2	Diagrams	3
2.2.1	ERD (Entity-Relationship Diagram)	3
2.2.2	Sequence Diagram	4
2.2.3	Use Case Diagram	5
2.3	Web Pages	5
2.3.1	Header	5
2.3.2	Footer	5
2.3.3	Home	6
2.3.4	Product Pages	6
2.3.5	Product Details	7
2.3.6	About	7
2.3.7	Authentication	8
3	Implementation Details	8
4	Conclusion	9
4.1	Lessons Learned	9
4.2	Future Improvements	9



1 Introduction

The purpose of this assignment is to design and develop a personal blog web application. The main goal of this project is to create my own blog website where I can share my thoughts, life experiences, and lessons learned throughout my journey. Additionally, this project serves as an opportunity to apply the knowledge and techniques learned from the web development course.

The website was built from scratch using HTML, CSS, JavaScript, and PHP. It consists of multiple pages, including a homepage, an about page, a contact form, login/logout functionality, and a product listing page. The application integrates both front-end and simple back-end features to provide a complete and interactive web experience.

The development process focuses on applying front-end design principles, organizing content effectively, and ensuring usability across different devices through responsive design.

This report is organized as follows: Section 2 describes the system design and architecture. Section 3 presents the implementation details. Section 4 concludes the report with lessons learned during the development process and suggestions for future improvements.

2 Design Choices

2.1 Layout

I chose my layout like amazon website. The color choices follow very deliberate UX, branding, and psychological principles.

- Black used for text, navigation bars, headers and footers. It presents the strong, stable and neutral psychology. Moreover, black creates contrast with the white background, improving readability.
- Light background ensures product images remain the focus. Second, it makes the site feel bright, clean, and modern.
- Blue links ensures trust, reliability and calmness. Blue links are also a web-standard, improving intuitiveness.

To conclude, every color supports a purpose:

- High contrast improves accessibility.
- Blue links respect user expectations.
- White background maximizes clarity for product images.
- Green buttons give safety and positivity.

2.2 Diagrams

2.2.1 ERD (Entity-Relationship Diagram)

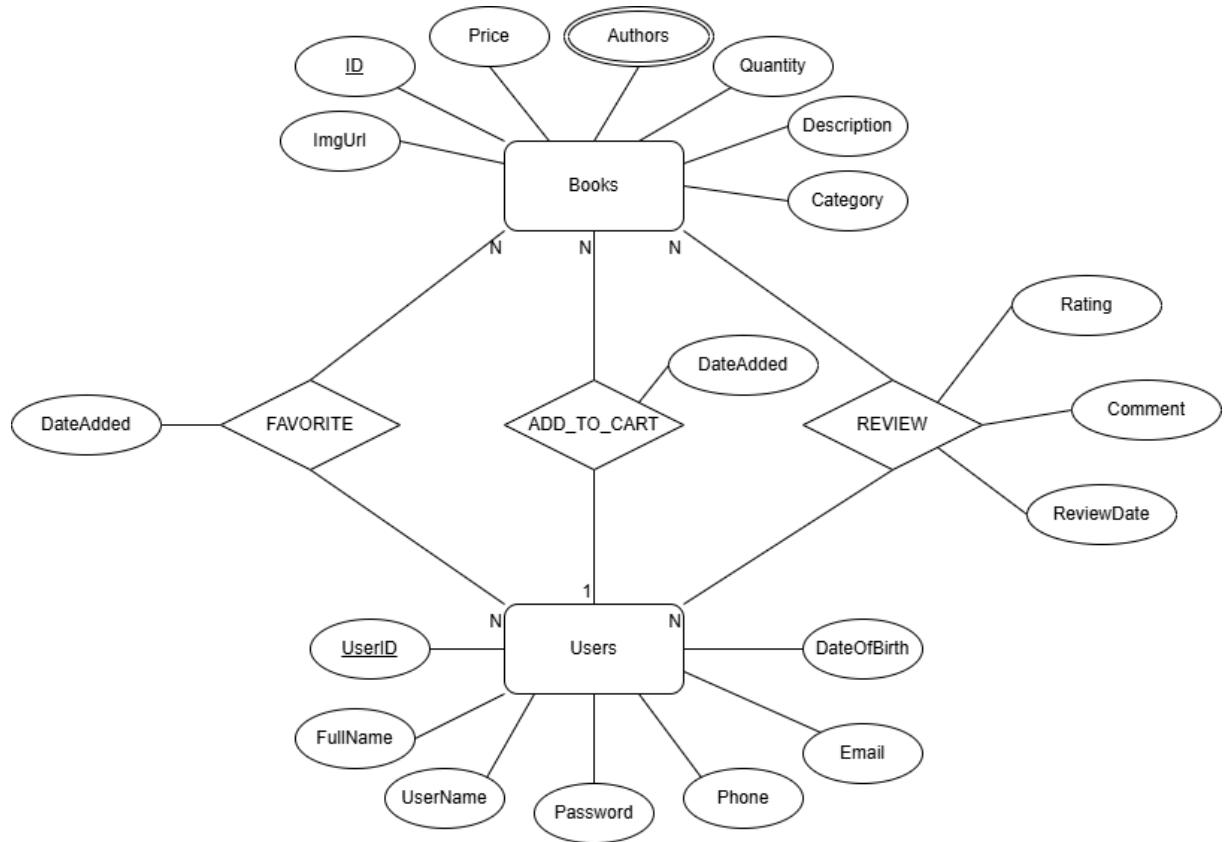


Figure 1: Caption

2.2.2 Sequence Diagram

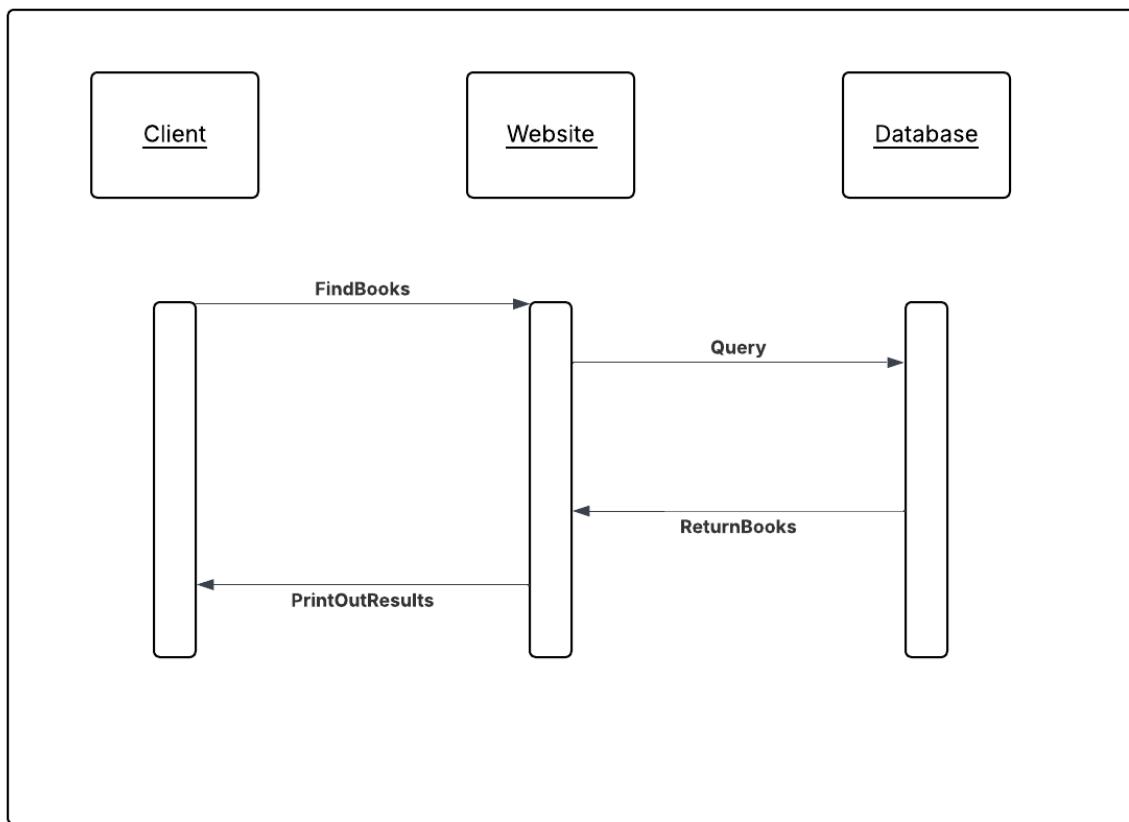


Figure 2: Caption

2.2.3 Use Case Diagram

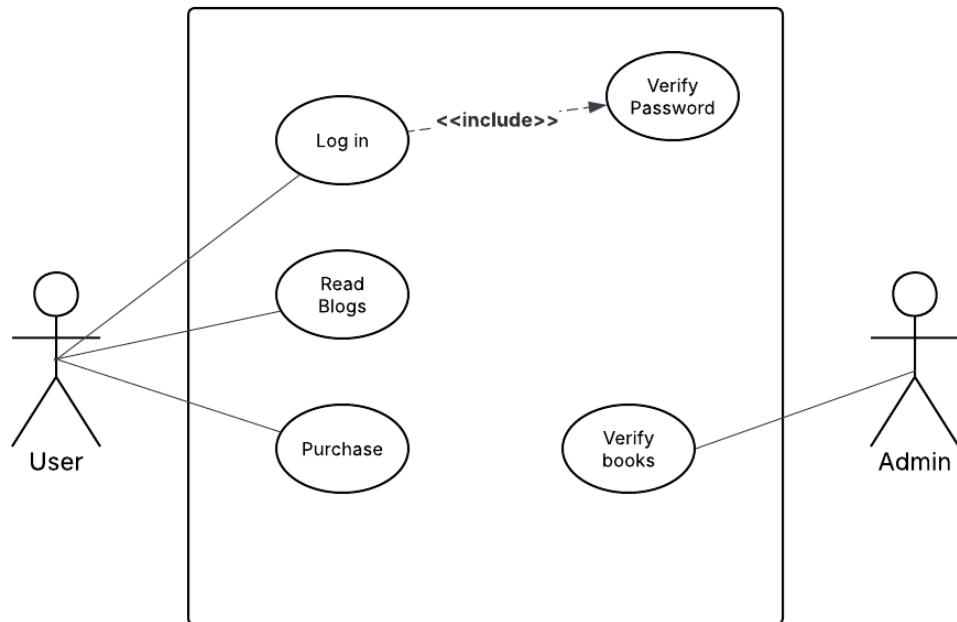


Figure 3: Caption

2.3 Web Pages

2.3.1 Header



Figure 4: Header of Website

2.3.2 Footer



Figure 5: Footer of Website



2.3.3 Home

"Daydreamer" is probably the word that best describes me. If you've ever watched school-life anime, you've likely seen the cool, aloof main character sitting in the corner of the classroom, gazing out the window as his thoughts drift away with the clouds. That was me back in school—though without the "cool and handsome" part :>.

From a young age, I loved letting my mind wander through my own imagination. As a child, I dreamed of being the Red Power Ranger who saves the world. I'd grab a dry tree branch and play with my friends, pretending to fight monsters. We played in the rubber plantation, striking the trees as if they were enemies, sometimes hitting so hard the sap would ooze out.

In class, my head was rarely in the lessons. I was busy thinking about how to upgrade my Gunny weapon to +10, replaying last night's Crossfire match, or recalling the Doraemon episode I had watched that morning.

By middle school, my dreams shifted to League of Legends. I'd replay mistakes in my mind to prepare for the next match, or sometimes just blame my teammates for being bad. I also daydreamed about having my crush someday, we will go out together, always staying by each other's side.

High school came, and I was still staring out the window, lost in thought. I dreamed of winning first place in the national math contest, competing internationally, and earning a scholarship to study abroad. I dreamed of my class being the best—not only in academics, but also in sports and unity.

That's probably why people often called me carefree. I spent most of my time lost in imagination rather than sharing or opening up to friends. I rarely joined sports or fun activities, so I knew less about "real life" than my peers. Even so, I still did well in school. Thanks to my natural logical thinking, I managed to score high on exams despite being distracted in class. Maybe I was just lucky to be gifted with that ability—though only in academics.

University however was a turning point. Logical thinking alone wasn't enough anymore. I dreamed of becoming a great AI scientist. I downloaded thousand...

Figure 6: Home Page

2.3.4 Product Pages

Home / Shopping / Books

Price: 0 – ₫500.000+

Categories: Khoa học, Lối sống, Sách tham khảo, Văn học nước ngoài, Văn học trong nước

Search books...

Sort by: Default

Image	Title	Price	Action
	Nhũng người khôn khổ	200 000 VND	<input type="button" value="Chi tiết"/>
	Chiến tranh và hòa bình	350 000 VND	<input type="button" value="Chi tiết"/>
	Artificial Intelligence: A Modern Approach	1.500.000 VND	<input type="button" value="Chi tiết"/>
	Bố già	180 000 VND	<input type="button" value="Chi tiết"/>
	Búp sen xanh	Đang cập nhật	
	Tiếng gọi của hoang dã	Đang cập nhật	

Figure 7: Product Page



2.3.5 Product Details

The screenshot shows a product details page for the book 'Những người khốn khổ' by Victor Hugo. At the top, there is a navigation bar with links for Home, Blogs, Shopping, and About, along with Register and Login buttons. Below the navigation bar, the breadcrumb navigation shows Home / Shopping / Books / Book Detail. The main content area features the book cover ('Những người khốn khổ' by Victor Hugo), the title 'Những người khốn khổ', the author 'Victor Hugo', the price '200000.00 VND', and a description: 'Tiểu thuyết về những mảnh đời của tầng lớp thấp ở Paris cũ'. A green 'Add to Cart' button is visible. Below the book information is a 'Store location' section with a map showing the store's address: 'MIXUE 302C LÝ THƯỜNG KIẾT' at '302c D. Lý Thường Kiết, Phường 6, Tân Bình, Hồ Chí Minh' with a rating of '4.1 ★★★★☆ 80 reviews'. A red marker on the map indicates the store's location on Lý Thường Kiết Street.

Figure 8: Product Details

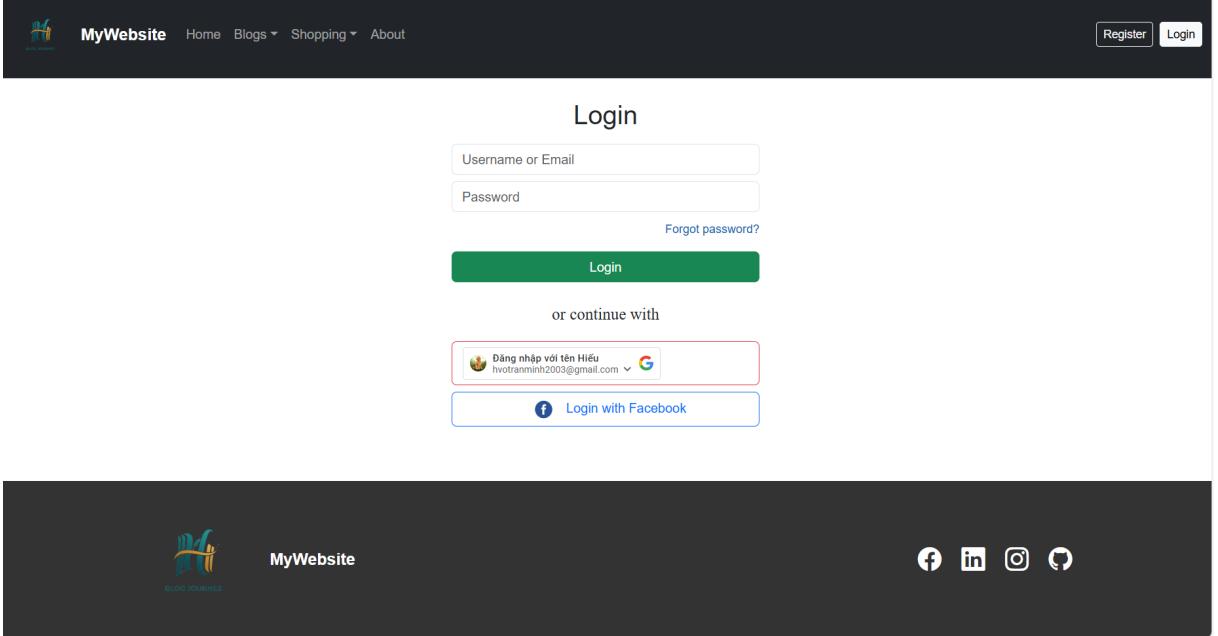
2.3.6 About

The screenshot shows an 'About the Author' page for Vo Tran Minh Hieu. The page includes basic information: Name (Vo Tran Minh Hieu), Age (22), University (Ho Chi Minh City University of Technology - Vietnam National University), and Department (Computer Science and Engineering). It also features a 'Contact' section with an email (hyotranminh2003@gmail.com) and phone number (0847794517), and a 'Social Profiles' section with links to Facebook, Instagram, LinkedIn, and GitHub.

Figure 9: About

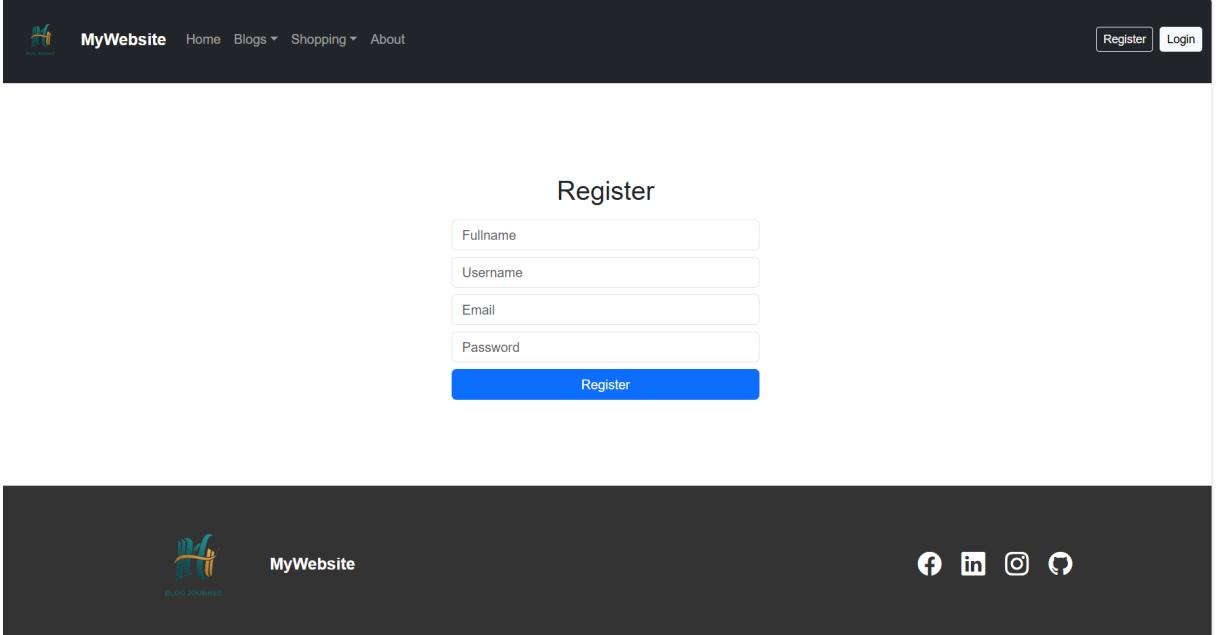


2.3.7 Authentication



The screenshot shows the login page of a website named "MyWebsite". At the top, there is a navigation bar with links for Home, Blogs, Shopping, and About, along with Register and Login buttons. Below the navigation bar is a "Login" form with fields for Username or Email and Password. There is also a "Forgot password?" link and a large green "Login" button. Below the form, there is a section titled "or continue with" featuring social media login options: "Dang nhap voi ten Hiieu hvotraominh2003@gmail.com" with a Google icon, and "Login with Facebook" with a Facebook icon.

Figure 10: login



The screenshot shows the register page of the "MyWebsite" website. It features a similar header and footer to the login page, including the logo, navigation links, and social media icons. The main content is a "Register" form with fields for Fullname, Username, Email, and Password, followed by a blue "Register" button.

Figure 11: register page

3 Implementation Details

The complete implementation can be accessed in the GitHub repository: [Github link](#).



4 Conclusion

4.1 Lessons Learned

Throughout the course and the process of completing this assignment, I have gained substantial knowledge and practical experience across various aspects of software development and project management.

I learned to use **GitHub** for version control and collaborative development, which enhanced my understanding of source code management, branching strategies, and issue tracking. This provided me with essential skills for maintaining structured and organized software projects.

From a technical perspective, I developed proficiency in **HTML**, **CSS**, and **JavaScript**, which enabled me to design and implement interactive and visually appealing web interfaces. On the backend, I acquired foundational skills in **PHP**, which allowed me to build server-side logic and manage communication between the **frontend**, **backend**, and **database** layers.

Furthermore, I learned to design and implement **relational databases**, write **SQL queries**, and perform data management tasks efficiently. I also utilized the **Bootstrap** framework to streamline the process of creating responsive web layouts. Through this, I gained an appreciation for the importance of appropriate layout design, including the selection of suitable dimensions, colors, and structures to ensure a consistent user experience.

In developing the **product page**, I implemented **pagination** and **lazy loading** to enhance performance and optimize data retrieval. Additionally, I integrated **AJAX (Asynchronous JavaScript and XML)** to enable seamless communication between the client and server. This approach improved responsiveness by allowing the webpage to update dynamically without requiring a full reload, thereby providing a smoother user experience.

Beyond core development, I explored the integration of **external APIs** such as **Google Maps** and **Facebook**, expanding the functionality and interoperability of the application. I also implemented **user authentication features**, including user registration, login, and password recovery through email verification, to ensure secure access control.

Finally, I studied **Search Engine Optimization (SEO)** techniques to improve the visibility and accessibility of the website to potential users.

In summary, this assignment provided me with comprehensive, hands-on experience in **end-to-end web development**—from user interface design and backend logic to database management and deployment. It also allowed me to document and describe the system through **database schemas** and **software architecture diagrams**, reinforcing both my technical and analytical skills in software engineering.

4.2 Future Improvements

In the future, I plan to implement the following improvements:

- Add detailed content for the remaining incomplete pages.



- Implement a shopping cart and payment methods.
- Develop a user information page that includes basic profile data, account balance, and starred (favorite) products.
- Implement features that allow me to create new articles and users to create new reviews.
- Complete the properties outlined in the ERD.