



# **Higher Nationals in Computing**

# Unit 30: Application Development ASSIGNMENT 2

Assessor name: **PHAN MINH TAM** 

Learner's name: Le Thai Trung Tin

ID: GCS210085

Class: GCS1005A

Subject code: 1670

Assignment due: Assignment submitted:





# **ASSIGNMENT 2 FRONT SHEET**

Qualification	BTEC Level 5 HND Diploma in Computing			
Unit number and title	Unit 30: Application Development			
Submission date	Date Received 1st submission			
Re-submission Date		Date Received 2nd submission		
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	2. Le Thai Trung Tin	Student ID	2. GCS210085	
Student Name	3. Dang Viet Minh Man		3. GCS210120	
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Class	GCS1005A	Assessor name	Phan Minh Tam	

#### **Student declaration**

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student's signature	
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## **Grading grid**

	P4	P5	P6	M3	M4	M5	D2	D3
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☐ Summative Feedback	:	☐ Resubmission Feedback:
Grade:	Assessor Signature:	Date:
Internal Verifier's Com	ments:	
Signature & Date:		





### **ASSIGNMENT 2 BRIEF**

Student Name/ID Number:	Le Thai Trung Tin / GCS210085
Unit Number and Title:	Unit 30: Application Development
Academic Year:	2022 – 2023
Unit Assessor:	Phan Minh Tam
Assignment Title:	Application development with design diagrams and code
Issue Date:	06 Nov 2023
<b>Submission Date:</b>	
Internal Verifier Name:	
Date:	

#### **Submission Format:**

#### Format:

• An individual report document in PDF

#### Submission

- Students are compulsory to submit the assignment in due date and in a way requested by the Tutor.
- The form of submission will be a soft copy posted on <a href="http://cms.greenwich.edu.vn/">http://cms.greenwich.edu.vn/</a>.
- Remember to convert the word file into PDF file before the submission on CMS.

#### Note:

- The individual Assignment *must* be your own work, and not copied by or from another student.
- If you use ideas, quotes or data (such as diagrams) from books, journals or other sources, you must reference your sources, using the Harvard style.
- Make sure that you understand and follow the guidelines to avoid plagiarism. Failure to comply this
  requirement will result in a failed assignment.

#### **Unit Learning Outcomes:**

LO3 Work individually and as part of a team to plan and produce a functional business application with support documentation

**LO4** Evaluate the performance of a business application against its Software Design Document and initial requirements

#### **Assignment Brief and Guidance:**





<u>Assignment scenario</u> (continued from Assignment 1) Your team has finished the analysis and design for the system. Next task is development of the system.

#### Tasks:

After the presentation about your design (from Assignment 1), you need to create a formal questionnaire that effectively reviews your business application, problem definition statement, proposed solution and development strategy. This formal questionnaire should be answered by your colleagues. For any new insights, ideas or potential improvements to your system you need to evaluate and justify the reasons why you have chosen to include (or not to include) them as part of this business application. Based on the feedback of your colleagues, amend the design if needed.

Next task is to develop the business application based on the design, chosen technologies and methodology. When the application is fully built and tested, you need to review its performance against the Software Requirement Specificationn, analyze the factors that influence its performance and use them to undertake a critical review of the design, development and testing stages of your application. Conclude your review by reflectively discussing your previously identified risks. You should evaluate the strengths and weaknesses of your business application and fully justify opportunities for improvement and further development.

To conclude, your report document should include:

- Peer review section (questionnaire and answers, your reflection on the feedback)
- Development section (how you develop and test the application, what is the result)
- Review section (review, analyse and critical evaluate your application)

Your team needs to prepare a demo based on this report for the final demonstration. The working application must also be demonstrated.







Learning Outcomes and Assessment Criteria (Assignment 2):			
Learning Outcome	Pass	Merit	Distinction
LO3	P4 Create a formal questionnaire that effectively reviews your business application, problem definition statement, proposed solution and development strategy. Use this questionnaire as part of a peer-review and document any feedback given.  P5 Develop a functional business application based on a specified business problem.	M3 Interpret your peer-review feedback and identify opportunities not previously considered.  M4 Develop a functional business application based on a specific Software Design Document with supportive evidence of using the preferred tools, techniques and methodologies.	D2 Evaluate any new insights, ideas or potential improvements to your system and justify the reasons why you have chosen to include (or not to include) them as part of this business application.
LO4	P6 Review the performance of your business application against the Problem Definition Statement and initial requirements.	M5 Analyse the factors that influence the performance of a business application and use them to undertake a critical review of the design, development and testing stages of your application.  Conclude your review by reflectively discussing your previously identified risks.	D3 Critically evaluate the strengths and weaknesses of your business application and fully justify opportunities for improvement and further development.





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### **ASSIGNMENT 2 ANSWERS**

P4 Create a formal questionnaire that effectively reviews your business application, problem definition statement, proposed solution and development strategy. Use this questionnaire as part of a peer-review and document any feedback given.

1. Formal questionnaire to reviews the business application, problem definition statement, proposed solution and development strategy

Overall, our goal is to create an e-commerce application that gives new users an easy book buying experience, in addition to a convenient product management system. However, our team did not have the knowledge on how to improve customer satisfaction and actual customer experience with our system compared to the systems customers had used. Therefore, a formal questionnaire will be created to help my team gain new insights, suggestions, and future system improvements. From these questions we will know the current market trends and from there build the system according to customer requirements for e-commerce applications.

My survey questionnaire is as follows:

1. What e-commerce sales websites have you used?
<ul><li>☐ Shopee</li><li>☐ TikTok shop</li><li>☐ Lazada</li></ul>
Mục khác:
2. What functions do you often use on other e-commerce websites?  Quick search functions for necessary products  Diverse payment functions are fast and safe  Featured product suggestion function for easy search
Mục khác:





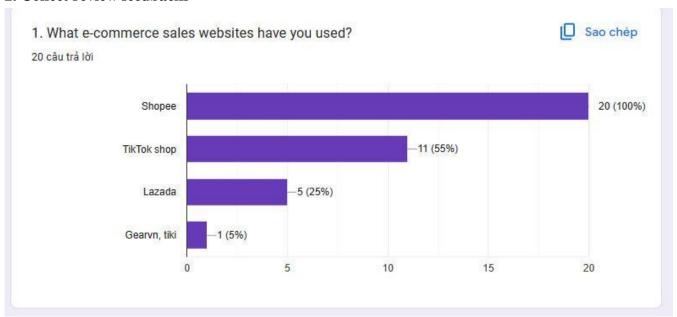
3. What are the problems you don't like about the sales websites you are using and the sales websites you have used?
O Items without clear source and misleading information
The search function is limited and does not display the needed products
The interface system is difficult to use and is not friendly to beginners
Mục khác:
4. When using a shopping website, what features do you want that help you easily track orders and shipping status?
Order tracking information is continuously updated
Notification feature
○ Tracking map
Feature to contact the shipping unit
Mục khác:





5. How concerned are you about convenience when using a new website?
The website interface needs to be easy to see, easy to use, and suitable for the purpose of the website.
The website needs to load quickly so users don't have to wait long.
The search feature needs to be effective so that users can easily find the information they need.
The website needs to provide customer support features so users can answer questions.
Mục khác:

#### 2. Collect review feedbacks



Based on survey results from 20 people, feedback on the use of electronic sales websites in Vietnam shows that Shopee is the most popular platform with a usage rate of 100% of participants. TikTok shop ranked second with 55%, followed by Lazada with 25%. Gearvn and Tiki both have lower rates, 5% and 5% respectively. This result can be explained by the fact that Shopee and TikTok shop regularly organize attractive promotions, providing a variety of products, suitable to the needs of Vietnamese consumers. Lazada, Gearvn, and Tiki are also reputable websites with many quality products, but face a higher level of competition than Shopee and TikTok shops.

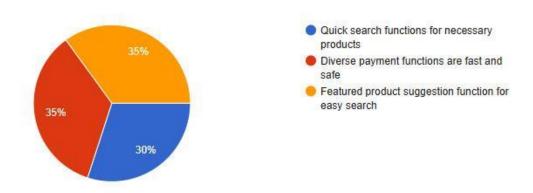




2. What functions do you often use on other e-commerce websites?



20 câu trả lời



The chart shows that the quick search function is the most popular function used on other e-commerce sites. This makes sense because users often want to find what they are looking for quickly and easily. Diverse payment functions and recommended product suggestion functions are also popular. This shows that users value choice and convenience.

3. What are the problems you don't like about the sales websites you are using and the sales websites you have used?

Sao chép

20 câu trả lời



The pie chart shows the percentage of people who dislike the sales sites they are using and the sales sites they have used. The pie chart shows that 40% of users dislike items with unclear origins and misleading information. 35% do not like the limited search function and not displaying necessary products. 25% do not like interface systems that are difficult to use and not beginner-friendly. These findings show that users have many problems with sales websites. It's important that businesses selling online address these issues to improve user experience and drive sales.





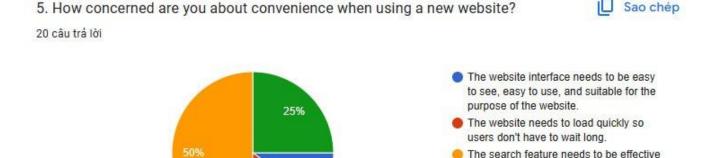
# 4. When using a shopping website, what features do you want that help you easily track orders and shipping status?



20 câu trả lời

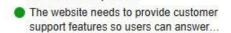


Pie chart showing the percentage of people who want to track their order and shipping status on a shopping site. The pie chart shows that the majority of people want constant updates on the status of their orders. About 30% of people also want notification features, tracking maps, and shipping carrier contact features. This information shows that order tracking is an important feature for consumers when shopping online. People want to know when their order will be sent, when it will arrive, and if there are any problems. Shopping websites should offer robust order tracking features to meet customer needs.



10%

15%



so that users can easily find the

information they need.

The pie chart shows how much people care about the convenience of using a new website. The pie chart shows that the majority of users (50%) are concerned about the effectiveness of the search feature. This means users want to be able to easily find the information they need on the website. 25% of users care about the interface of the website, they want it to be easy to see, easy to use and suitable for the purpose of the website. 15% of users care about website loading time, they don't want to have to wait long for the website to load. 10% of users are concerned about a website's customer support features, they want to be able to easily contact support if they need help. Overall, the pie chart shows that users care about being able to use the website efficiently and conveniently. Websites need to be designed to meet this need if they want to attract and retain users.





#### 3. Evaluate any new insights, ideas or potential improvements

Overall, through questions help us trend customer requirements thereby developing the best possible application within our capabilities.

In the results of question 1, we obtained the trend that customers know about the largest e-commerce site in Vietnam. The strengths of this e-commerce site are the easy-to-use interface and the ability to quickly search for the desired product so that customers can easily buy. From this we can conclude that customers prefer an easy-to-use interface and a quick and easy product search function.

To reaffirm the main functionality that users love about other e-commerce sites in the first question. We asked the second question about the functions that users like to use for frequently used e-commerce sites. As a result, we also get 2 functional results: quick search for products and diverse payments quickly and safely. From there, we obtained remarkable results to build e-commerce applications according to customer requirements.

Next, with the third question, we ask customers the reason they don't like the e-commerce sites they have used. As a result, users are very annoyed with difficult-to-use websites that are not friendly to new users. From there, we will focus on the interface to help users easily manipulate and use our e-commerce application.

Continuing with the fourth question, we would like to know if the delivery function helps users easily track their orders. From there, we may focus on developing order tracking functions in the future.

Coming to the last question, we are interested in customers' opinions when using a new electronic sales website, what do customers want. Through the process of collecting reviews, we learned that customers really want the new website to have an effective search feature so that users can easily find the information they need.

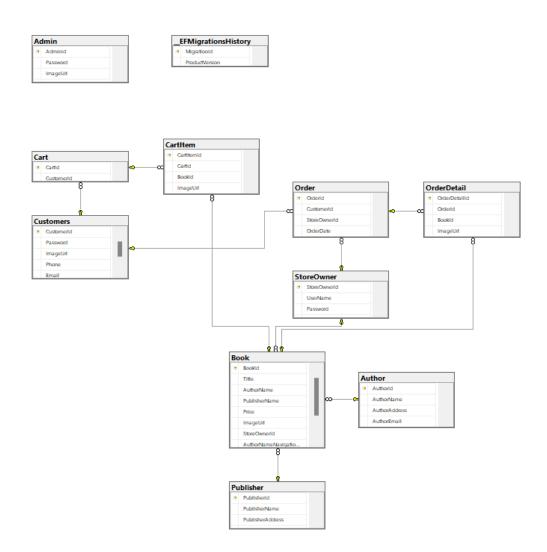
Through these market research questions, we will implement e-commerce applications focusing on the following ideas: The first idea we built the application was that this website would have an easy-to-use interface for new users. Then we will focus on the product search function of the website to help customers easily find the products they want. Next we will build a book management system for bookstore owners to easily manage their products and orders. Finally, we will design an Admin function for them to manage user accounts and bookstore owners to easily help users using the website as required.





#### P5 Develop a functional business application based on a specified business problem.

#### 1. Entity Relationship Diagram (ERD)

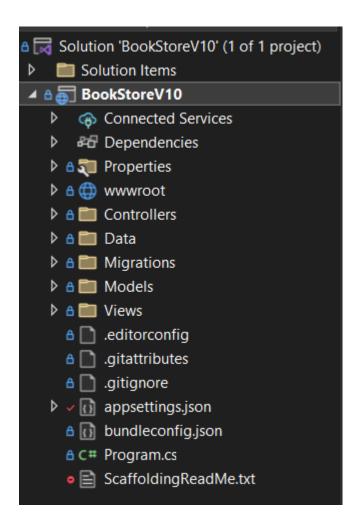


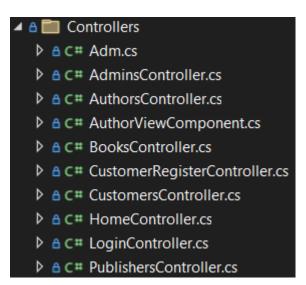
#### 2. Folder structure of the application

In our FPTBook web project, we've embraced the ASP.NET Core MVC architectural paradigm, structuring it into Models, Views, and Controllers. The directory layout of FPTBook is meticulously crafted to align with the MVC pattern, offering a distinct separation of concerns. This design not only streamlines development but also eases the maintenance of the application. Within this structure, models are responsible for data logic, views handle the user interface, and controllers orchestrate the interaction between the two, fostering the development of a cohesive and scalable web application.





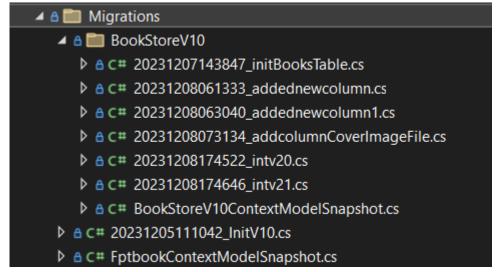


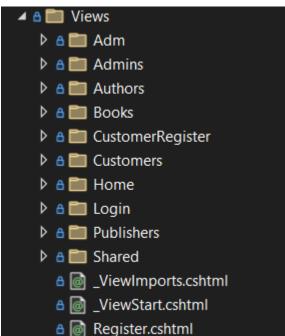


Within the Controllers folder, you'll find operation descriptions encompassing tasks such as adding, deleting, editing, detailing, and more. Our Controller folder houses distinct controllers, including Book, Home, Customer, Publisher, Authors, each dedicated to specific functionalities within the FPTBook web project.

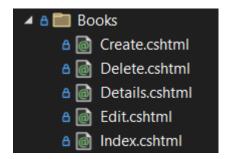








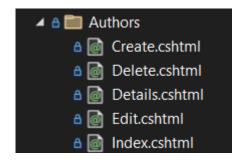
Views folders: This folder is used to display the interfaces of use cases such as Admin, Authors, Books, CustomerRegister, Customer, Home, Login, Publisher, Shared



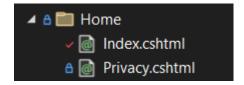
The Book folder comprises interfaces for fundamental operations, including Create, Edit, Delete, Details, and Index.



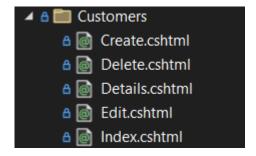




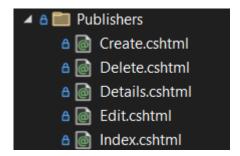
The Authors folder encompasses interfaces for essential operations, including Create, Edit, Delete, Details, and Index.



The Home folder incorporates interfaces for core functionalities, featuring Index and Privacy.



The Customer folder encompasses interfaces for key operations, comprising Create, Delete, Details, Edit, and Index.



The Publisher folder incorporates interfaces for various functions, including Create, Edit, Delete, Details, and Index.



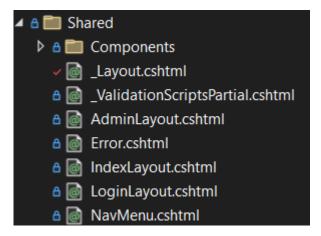
The Customer Register folder comprises interfaces tailored for specific actions, with a focus on Create.



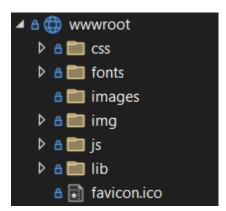




The Login folder encompasses interfaces designed for essential functions, featuring Index and Login.



The Layout folder includes interfaces catering to various aspects, including Layout, Admin Layout, Error, Index Layout, Login Layout, and NavMenu.



The wwwroot folder serves as the repository for source files such as CSS, fonts, JS, libraries (lib), and images (img), catering to the needs of the website.

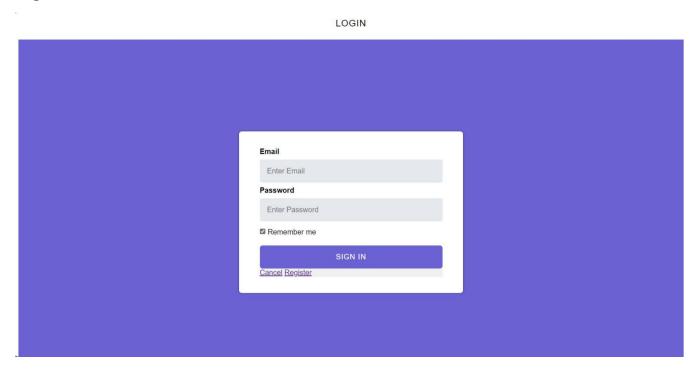




### 3. Final screenshots of the application

#### 3.1. Customer

#### Login



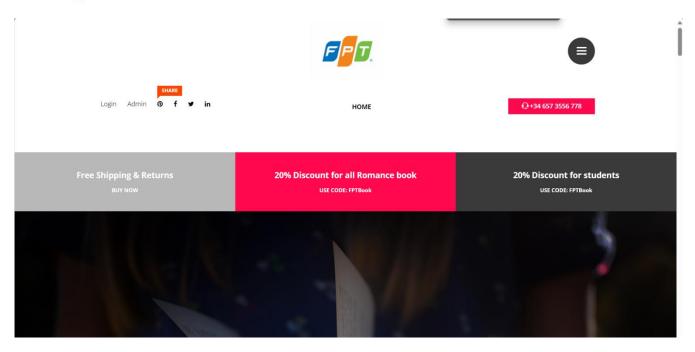
#### Register



**Home Page User** 

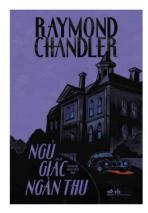




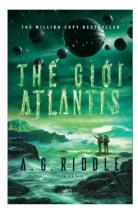


#### **View Product User**

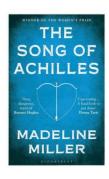




\$ 4.44 Ngủ giấc ngàn thu Raymond Chandler NXB Văn Học



\$ 7.62 Thế Giới Atlantis A. G. Riddle NXB Hội Nhà Văn



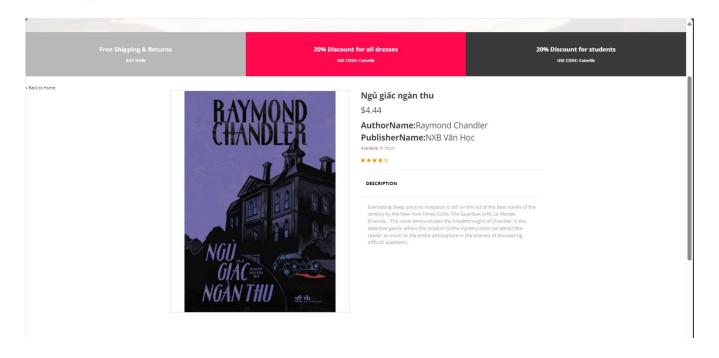
\$ 11.08 The Song Of Achilles Miller Madeline Bloomsbury



#### **View Details Product User**

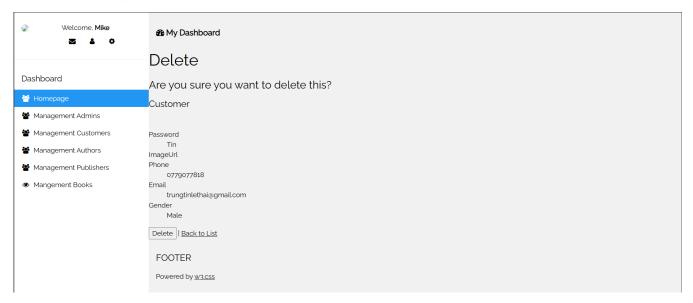






#### **3.3.** Admin

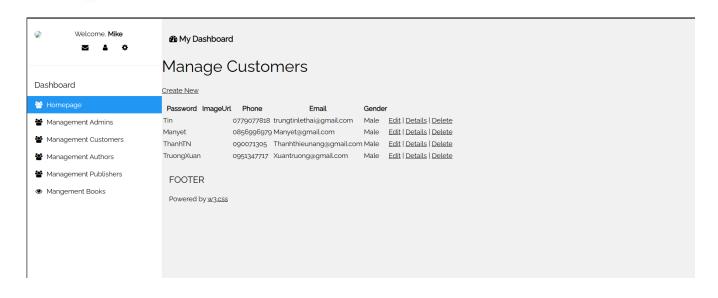
#### **Dashboard homepage Delete**



#### Dashboard homepage Manage customer







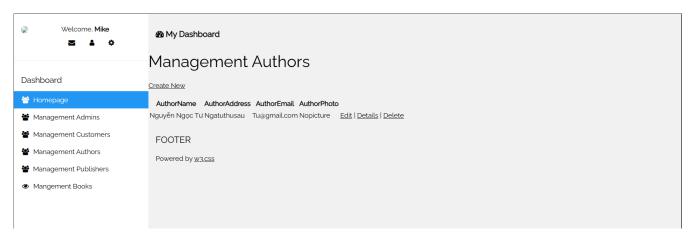
#### Dashboard homepage create authors



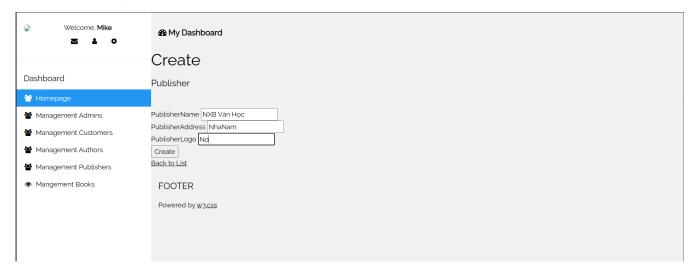
#### **Dashboard homepage Management Authors**







#### Dashboard homepage Publisher



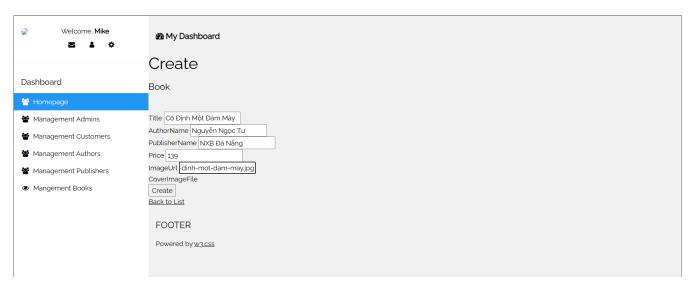
#### Dashboard homepage Publisher successfully



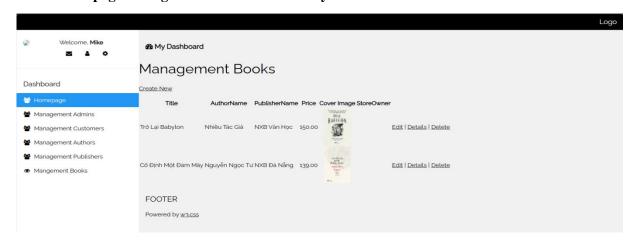
#### Dashboard homepage create book







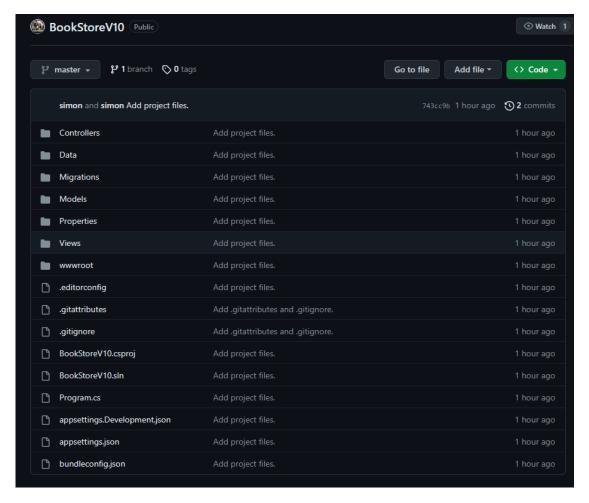
#### Dashboard homepage manage book added successfully







#### 4. Screenshots of using GitHub or GitLab to manage the source code



Explain: This is my code structure because the original code had a lot of mistakes so there weren't many commits so there were only 2 commits. My github source code can be viewed here.( <u>Simonwill612/BookStoreV20</u>: <u>BookStoreV20</u> is improved based on the foundation of V10 (github.com)).





# P6 Review the performance of your business application against the Problem Definition Statement and initial requirements.

Our e-commerce application has met almost all customer requirements such as login functions, account registration and the ability to view details of book products currently available on the website. For the admin's management page, we allow them to manage products such as adding, deleting, and editing book products. In addition, admins can also review created customer accounts and manage customer accounts.

# 1. Evaluate the strengths and weaknesses of the application Strengths in the FPTbook application:

**Comprehensive functions:** FPTBook includes many diverse functions for customers and administrators, providing a total solution.

**User-friendly interface:** One of the biggest strengths of this application is its user-friendly interface. The interface is designed in such a way that it is easy to navigate, and users can quickly find what they are looking for.

**Diverse functions:** Customers have many functions to help increase their experience, making it easy for customers to operate and use. For example, customers can browse the book catalog, add books to their cart and make purchases, while administrators can edit the store and manage their book inventory. View and manage customer accounts

#### Weaknesses in the FPTbook application:

**Missing role:** In this test version of the FPTbook application, we still cannot design a comprehensive book management function for bookstore owners. This will be fixed in future updates.

**User Feedback:** Without real user feedback or testing results, it's challenging to assess how well the application meets user needs and expectations.

#### 2. Ideas for improving e-commerce application pages in the future

To deploy this e-commerce application to the market, we need more complete functional updates in the future. Especially improving all the weaknesses we mentioned above. In addition, we will edit the more intuitive interface to make it easier for website users to use with convenient functions such as user support, delivery notification function,... What's more special is that In the next update, we will deploy a book management system so bookstore owners can put their products on the website to help diversify products so customers can choose their favorite products.





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