HCMC UNIVERSITY OF TECHNOLOGY AND EDUCATION FACULTY OF INFORMATION TECHNOLOGY



Course name: IT Project

SNEAKER SHOP WEBSITE

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Ho Chi Minh City, December 2022

Contents

PREFACE	4
I. Specific description	5
1. Software purpose:	5
2. Input data:	5
3. Use case:	5
4. Expected interface:	6
II. Work distribution:	6
III. Design	7
1. Algorithms:	7
2. Classes:	8
A. All classes	8
B. All Methods:	11
3. Database Desgin	18
4. Fields of each table:	19
5. Interface design.	21
IV. Deploying and Testing:	28
Scenario 1: Signup/Log in before conduct buying.	28
Scenario 2: Conduct shoping	29
Scenario 3: Conduct shoping without signed in	30
Scenario 4: Admin sign in to	31
V. Conclusion	32
Pros:	32
Cons:	32
Future development:	32
Link source code:	33
Reference Source:	33

List of Figure	
Figure 1 MVC model	7
Figure 2 Database	18
List of Table	
Table 1 Use case	5
Table 2 Interface	6
Table 3 Work Distribution	6
Table 4 Author's class: Thien & Anh	8
Table 5 Author's class: Nguyen Viet Anh	9
Table 6 Author's Class: Le Y Thien	10
Table 7 Author's Method: Nguyen Viet Anh	11
Table 8 Author's Method: Le Y Thien	16
Table 9 List of table of database	18
Table 10 Field of User	19
Table 11 Field of Product	19
Table 12 Field of Invoice	20
Table 13 Field of Detail_In	20
Table 14 Interface Design	21
Table 15 Scenario 1	28
Table 16 Scenario 2	29
Table 17 Scenario 3	30
Table 18 Scenario 4	31

PREFACE

The first words allow the author to express sincere and deep gratitude to Mai Anh Tho-the scientific instructor for the author, directed the topic, directly guided and had valuable suggestions to help the author during the research implementation. The author would like to thank the teachers and teachers of Ho Chi Minh City University of Technology and Education for teaching and imparting valuable knowledge to the author as the foundation for this study.

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Finally, the author would like to thank family and friends for their help and for creating a solid support for the author during the study and to obtain the research results.

Sincerely thanks.

Ho Chi Minh City, December 2022 Authors

Nguyễn Việt Anh

Lê Y Thiện

I. Specific description

1. Software purpose:

A responsive shopping website that allows customers to buy sneakers, shoes. Apart from that, administrator can manage the list of products on the website.

2. Input data:

We use Clear Database MySQL to stores list of products, Invoice and Users.

Request from website.

3. Use case:

Table 1 Use case

Order	Use case	Description
1	Login/ Logout	Sign in/Sign out to use the website.
2	Register	Create a new user and store information to database. Send an authentication code to user email to verify account.
3	Manage Product	Add, Delete, Edit a specific product by administrator.
4	Manage Invoice	Control the list of products which user has bought. Store customer invoices to the database
5	Order confirmation	Send a confirmation email contain bill to customer.
6	Cart control	Add product which user click buy to cart. Allow user to increase/decrease, remove the amount of product from cart.

7	Search product	Allow customers to search a specific product on shopping page.
8	Filter product	Allow user to sort product by brands.
9	Show product detail	Display product information.

4. Expected interface:

Table 2 Interface

Page	Purpose
Homepage	Shop homepage.
About page	Contains shop information.
Shopping page	List all product available
Check out page	Cart and costumer's information for payment.
A durin maga	Allow odministrator to manage and duste
Admin page	Allow administrator to manage products.
Login/Logout, Register page	Allow user to sign in, sign out and register
	to the website.
Buy history page	Display all product that user has bought.

II. Work distribution:

Table 3 Work Distribution

ID	Name	Work detail	Contribution
		Connect to database:	
20110352	20110352 Nguyễn Việt Anh	 Load data: list of products. 	100%
20110332		 Search product. 	100%
		o Filter product.	

		 User buy history. 	
		Send email: verify code, bill confirmation.	
		Admin: add, delete, edit product.	
		Front-end customize.	
		Login/Logout, Register using session/cookie.	
	Cart control using session/cookie.		
20110403	20110402 LAWTHA	 Add, remove product to cart. 	100%
20110403 Lê Y Thiện	 Process amount of product in cart. 	100%	
		Store invoice to database.	
		Front-end customize.	

III. Design

1. Algorithms:

Our website build base on Model–view–controller (MVC) architecture. That divide the related program logic into three interconnected elements. This is done to separate internal representations of information from the ways information is presented to and accepted from the user.

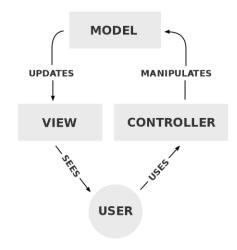


Figure 1 MVC model

We use jdbc to connect to database use Clear Database MySQL.

Process request: post and get method.

2. Classes:

A. All classes

Author: Nguyễn Việt Anh 20110352 + Lê Y Thiện 20110403

Table 4 Author's class: Thien & Anh

Order	Class name	Purpose
1	ProductControl (extends HttpServlet)	Annotation: /productload Load all product to website.
2	LoadData	Execute query to load/store data from database for different other function

Author: Nguyễn Việt Anh 20110352

Table 5 Author's class: Nguyen Viet Anh

Order	Class name	Purpose
1	DataBaseConnection	Connect to database.
2	User	Create User object to store user information and used further function.
3	Product	Create Product object to store user information and used further function.
4	Туре	Create Type object to store type of object for filter function.
5	SendEmail	Send email: send code for verification and send bill for oreder confirmation.
6	AdminControl (extends HttpServlet)	Annotation: /admincontrol Load the list of products in the database. Applying paging function.
7	AddControl (extends HttpServlet)	Annotation: /add Add a new product to database.
8	DeleteControl (extends HttpServlet)	Annotation: /adminDetail Delete a product by ID from database.
9	AdminDetailControl (extends HttpServlet)	Annotation: Load the product information by ID and direct to edit.jsp.
10	AdminEditControl (extends HttpServlet)	Annotation: /edit Get the product information from edit.jsp page then edit product in database.
11	EmailVerifyControl (extends HttpServlet)	Annotation: /delete Send a verification code to user email after filled in register.jsp.

12	VerifyCodeControl	Annotation: /verifycode
12	(extends HttpServlet)	Check the verification code user input correct
13	ListProduct	Annotation: /ListProduct
13	(extends HttpServlet)	Load Product to different pages with index.
14	CatergoryControl	Annotation: /category
14	(extends HttpServlet)	Display all products of a specific brand.
15	DetailControl	Annotation: /detail
15	(extends HttpServlet)	Display all information of a specific product.
	SearchControl	Annotation: /search
16		Display all product with the name contains character user inputs at
	(extends HttpServlet)	search bar.
17	UserHistoryControl	Annotation: /userhistorycontrol
17	(extends HttpServlet)	Display all product of user has bought.

Author: Lê Y Thiện 20110403

Table 6 Author's Class: Le Y Thien

Order	Class name	Purpose
1	LineItem	Create an object to store Product and the amount which was bought by user.
2	Cart	Create an object to store the list of LineItem which was bought buy customer
3	BeforeLogin (extends HttpServlet)	Annotation: /beforelogin Check the account if an account has been logged in recently
4	LoginControl (extends HttpServlet)	Annotation: Check the user if an account was registered or not
5	LogoutControl	Annotation: /login

	(extends HttpServlet)	Exit current account			
6	RegisterControl (extends HttpServlet)	Annotation: /logout Support for register an account			
7	BuyControl (extends HttpServlet)	Annotation: /buy Support for buying items from website then add to cart			
8	ShowCartControl (extends HttpServlet)	Annotation: /checkout Display a list of products and quantities purchased by customer			
9	ProcessAmount (extends HttpServlet)	Annotation: /process Supporting adjust quantities of Products purchased and remove it			
10	Payment (extends HttpServlet)	Annotation: /payment Store the bill to database and send email to confirm bill			

B. All Methods:

Author: Nguyễn Việt Anh 20110352

Table 7 Author's Method: Nguyen Viet Anh

Order	Method		Purpose	FileName (Line Contain Declaration)
	processRequest(request,	•	Load all product from	AdminControl.java (35)
	response)		database and apply	
	Input: get "index" at admin.jsp		Pagination. Each page	
1	from request.		will have 9 products.	
1	Output:	•	Load the all the type	
	Push to request:		of product.	
	Index as "activeIndex".	•		
	endPage as "endP".			

	listProductIndex as "adminListP". list as "adminListT" Direct request to page: admin.jsp			
2	processRequest(request, response) Input: get all product's information from request. Output: redirect request to admincontrol servlet	 Get id, name, image2, image size. description from request Insert to datale new product vinformation and image product vinformati	ge3, price, ion, type base a with the	AddControl.java (32)
3	ProcessRequest(request, response) Input: get the "delid" from request. Output: redirect request to admincontrol servlet	Get delid from and conduct of product which delid.	delete	DeleteControl.java (32)
4	ProcessRequest(request, response) Input: get the "pid" from request. Output: Push to request product p as "detail", list of types list as "ListT" and send request to Edit.jsp	Get the information product has product from request get list of types	id get and also	AdminDetailControl (35)
5	ProcessRequest(request, response)	• Edit product same id in da		AdminEditControl (32)

Input: with the information	
Get all product information from get from request.	
request	
Output: redirect to admincontrol	
servlet	
Get user information Em	nailVerifyControl.java
from request. (33)	3)
processRequest(request, • Generate a verification	
response) code	
Input: Get user information from • Create a new user with	
6 request. information and code	
Output: above.	
Push user to session and redirect • Send the code to the	
to verify.jsp user email.	
Push user to session	
	wifyCodoControl iovo
	erifyCodeControl.java
response) session (33)	3)
Input: get user from session • Get authcode from	
7 Output: request.	
Direct to verify.jsp if code is • Compare authcode	
incorrect. with user.getCode()	
Direct to register servlet if code	
is correct.	
processRequest(request, • Calculate ending page List	stProduct.java (32)
response) for Pagination.	
Input:	
Output:	

	Push to request endPage as			
	"endP" and direct to shop.jsp			
	processRequest(request,	•	Load from database all	CategoryControl.java (35)
	response)		product with type get	
	Input:		from request.	
	Get all type from request.			
	Output:			
	Push to request:			
9	list of products by type: list as			
	"ListP"			
	list of types: list as "ListT"			
	3 latest products: last3P as			
	"Last3p"			
	And direct to shop.jsp			
	processRequest(request,	•	Load product by ID	DetailControl.java (33)
	response)		get from request.	
10	Input: get pid from request			
10	Output: push to request product:			
	p as "detail" and direct to			
	single.jsp			
	processRequest(request,	•	Load product by name	SearchControl.java (35)
	response)		base on search bar.	
	Input: get search from request			
11	Output: Push to request:			
	List of products by name: list as			
	"ListP"			
	list of types: list as "ListT"			

	3 latest products: last3P as		
	"Last3p"		
	And direct to shop.jsp		
12	processRequest(request, response) Input: get userid from request Output: Push to request list of product that user has bought: list as "ListUH" and direct to buyhistory.jsp	Load the list of product has bought of the user has userid get from request.	UserHistoryControl.java (34)
13	sendCode(User user) Input: user Output: true/false	Send a email contain verify code to user.getEmail()	SendEmail.java (33)
14	sendBill(User user, String fullName, String phoneNumber, String address, String total) Input: user, fullName, phoneNumber, address, total. Output: true/false	Send a bill to customer email to customer email contain: customer name, phonenumber, address and total money of that bill.	SendEmail.java (72)

Author: Lê Y Thiện 20110403

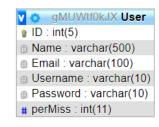
Table 8 Author's Method: Le Y Thien

Order	Method	Purpose	FileName (Line Contain Declaration)
	doPost (request, response)	Check the account if an	BeforeLogin.java (23)
	Input: get user and password	account has been logged	
	from request.	in recently	
1	Output: Set username and		
	password into request and		
	redirect to LoginPage		
	doPost (request, response)	+Check the account in	LoginControl.java (23)
	Input: get Username and	database if an account has	
2	Password from request	been registered or not.	
<u> </u>	Output: Set an account to	+Check this account is	
	request and cookie and redirect	customer or admin	
	to HomePage		
	doPost (request, response)	+Exit current account	LogoutControl.java (27)
	Input: do not have	+Renew cart on website	
3	Output: Remove account from	+Refresh cookie	
3	session/cookie and remove Cart		
	of this account.		
	Redirect to HomePage		
	doPost (request, response)	+Supporting user create	RegisterControl.java (21)
4	Input: get information from form	an account for shopping	
	in View		

	Output: Store account into		
	database and set an account to		
	session/cookie.		
	Redirect to HomePage		
	doPost (request, response)	+Supporting buy items by	BuyControl.java (27)
	Input: get Amount and Id of	customer	
5	Product		
	Output: Store Product to Cart		
	then set Cart into cookie.		
	doPost (request, response)	+Display the list of	ShowCartControl (26)
	Input: get list of products from	products which was	
6	cookie and store into Cart	bought by customer	
	Output: Set Cart into request.	+Show total money of	
	Redirect to CheckoutPage	customer's Cart	
	doGet (request, response)	+Supporting the change	ProcessAmount.java (80)
	Input: get product Id and signal	of product quantity	
7	increase or decrease product.		
	Output: Set Cart into cookie		
	+Refresh current page		
	doPost (request, response)	+Supporting for remove	ProcessAmount.java (36)
8	Input: get product Id	products	
0	Output: Set new Cart into cookie		
	+Redirect to CheckoutPage		

3. Database Desgin





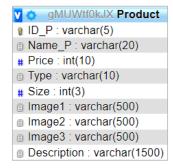




Figure 2 Database

Table 9 List of table of database

Order	Table name	Purpose
1	User	Store user information (name, email, username, password, permission)
2	Product Store product information (ID, name, price, type, size, images, descripton)	
3	Invoice	Store Invoice of a user (ID, date, userID, total money, Phone, Address)
4	Detail_In	Store detail of a Invoice (ID of invoice, ID of product, amount)

4. Fields of each table:

Field of User table:

Table 10 Field of User

Order	Column name	Data type	Purpose
1	ID	Int	Store user's ID, auto increase
2	Name	varchar	Store user's name
3	Email	varchar	Store user's email
4	Username	varchar	Store user's username
5	Password	varchar	Store user's password
6	perMiss	int	Store user permission (admin or not)

Field of Product table:

Table 11 Field of Product

Order	Column name	Data type	Purpose
1	ID_P	Varchar	Store product ID
2	Name_P	varchar	Store product name
3	Price	varchar	Store product price
4	Туре	Varchar	Store product type
5	Size	Int	Store product size
6	Image1	Varchar	Store product first image
7	Image2	Varchar	Store product second image
8	Image3	Varchar	Store product third image
9	Description	Varchar	Store product description

Field of Invoice table:

Table 12 Field of Invoice

Order	Column name	Data type	Purpose
1	ID_In	Int	Store invoice ID
2	Date	date	Store date of purchasing.
3	UID	varchar	Store user ID who purchased.
4	TotalMoney	Double	Store the total money
5	Phone	varchar	Store user phone
6	Address	Varchar	Store user address

Field of Detail_In table:

Table 13 Field of Detail_In

Order	Column name	Data type	Purpose
1	ID_In	Int	Store the ID of Invoice
2	ID_P	varchar	Store the product ID
3	Amount	varchar	Store the amount of a product user bought

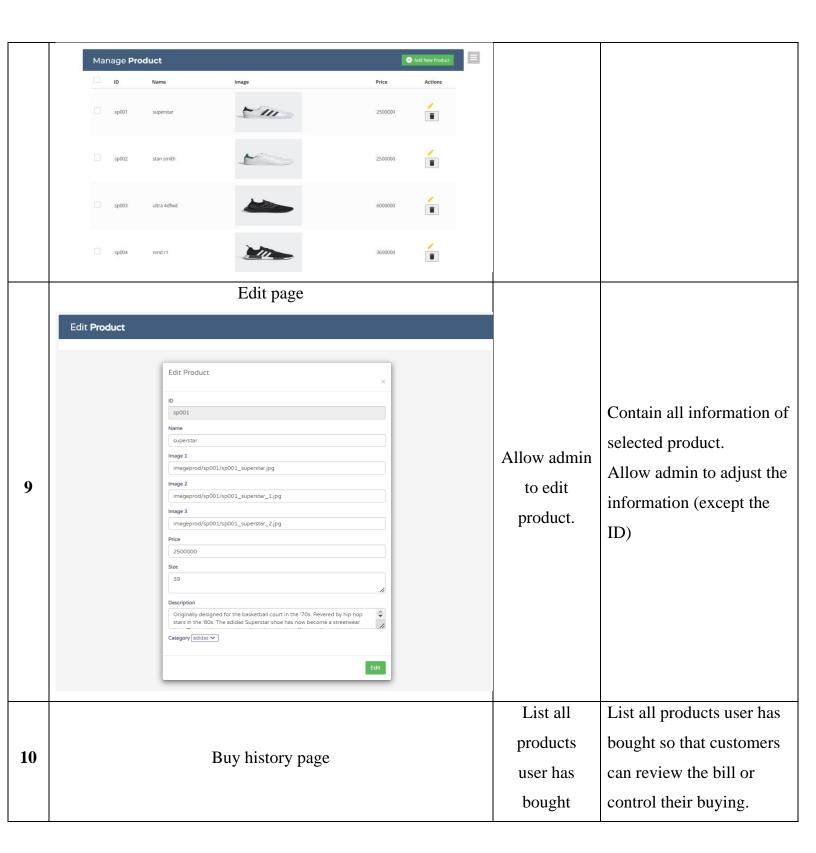
5. Interface design

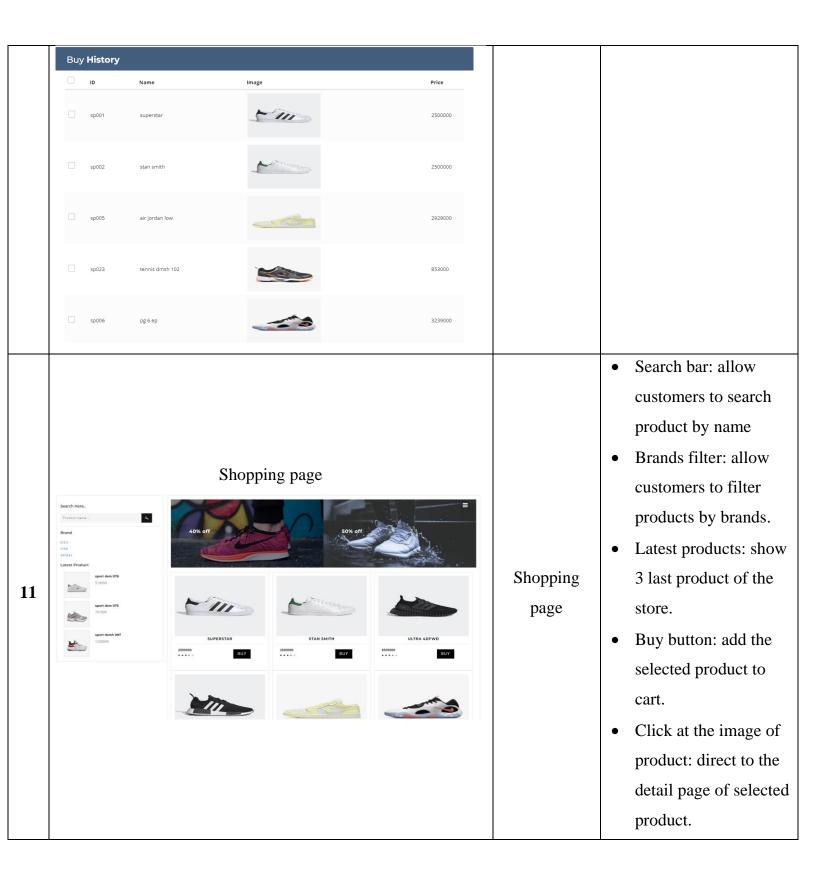
Table 14 Interface Design

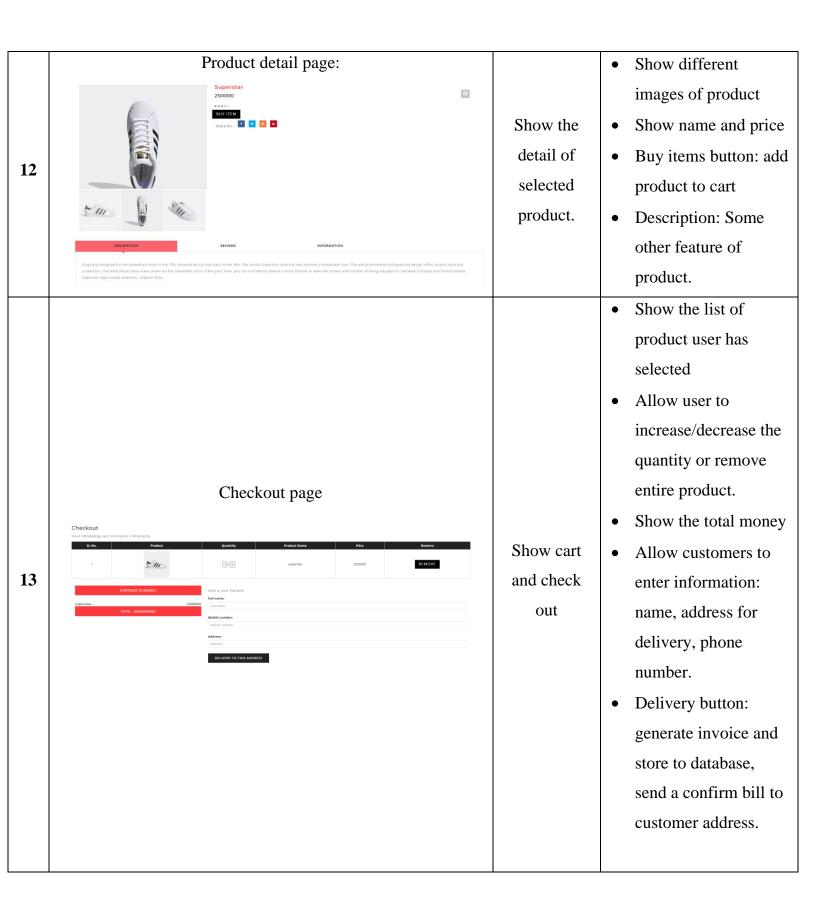
	Name	Purpose	Explain
1	Sign In Your Name Password Create an account Or login with T G	Login	A page for user to login with username and password.
2	Sign up Your Name Your Email UserName Password I agree all statements in Terms of service Register Lam already member	Sign up	A page for new user to register with name, username, password, email.
3	Verify code	Verify code send to user email	User input the code which has been send to their email to verify account.

	Verify your email Your code Verify Verify		
4	Home page NIKE SEE HOW GOOD THEY SEELS O O O O	introduction	Contain shop information, introduction
5	Navigation bar Home About Admin Buy History Shop Now Hello: an1@gmail.com Logout	A navigation bar	Always show as a button to trigger at every page. Allow user to choose different action such as: • About: see the shop information • Admin: move to admin to manage products

			 Buy history: move to user's buy history page Shop now: move to shopping page Logout: Sign out
6	Footer Our Information Store Information Flickr Posts Home About Phone Number 0345348363 Email Address Email - 201103328-tudent honute edu vn Location 01 Yo Yan Ngan, The Our, HCM	Show information	Contain contact and shop information. And always display at the bottom of every page.
7	ABOUT US ABOUT US ABOUT US Welcome to our Downy Shoes This website is not a complete functional shopping website! This is a project for course! Do not use this website for any other purpose!	Detail information of website	Contain detail information of the website
8	Admin page	Admin page	A page for admin to manage list of products available. Admin can add or delete Edit button will direct to edit page which contain all information of selected product.







14	So 1, Vo Van Ngan Phuong Linh Chieu dia Thanh Pho Thu Duc, Viet Nam Vie Detail Receipt Name: Nguyễn Việt Anh Ph	dent.hcmute.edu.vn illing Address a chi et Nam thone: 0345348363 ate: 2022-12-07	Total: 8668000.0	An email layout sends to customer to confirm the bill.	•	An email layout sends to customer to confirm the bill. Includes: Customer name, phone number, address, date, total money for customer services.
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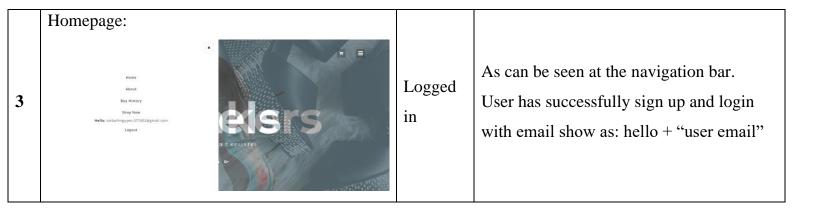
IV. Deploying and Testing:

Scenario 1: Signup/Log in before conduct buying.

User do not have account => Sign up => Verify code => Shopping.

Table 15 Scenario 1

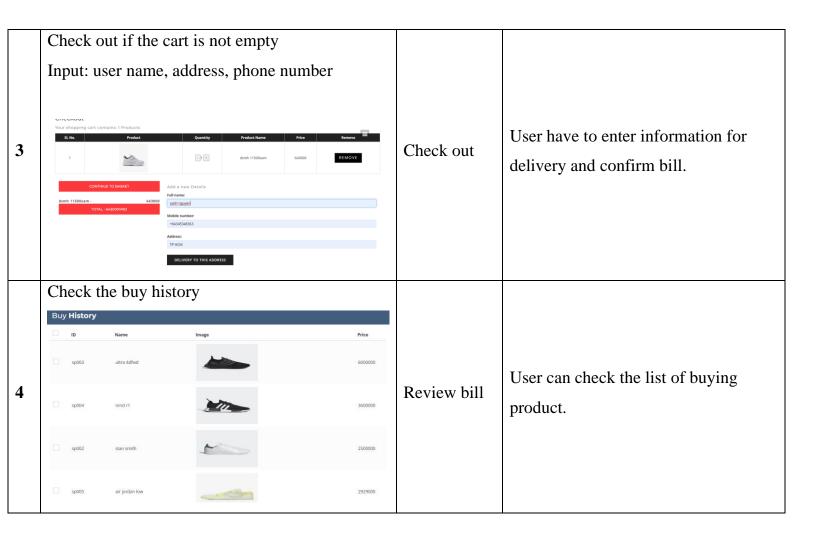
	Stage	Purpose	Explain
1	Sign up Input: customer information Output: direct to verify page Sign up vonh nguyen vietanhnguyen.07/002@gmail.com 123 in malready.member	Register	Get User information and send verification code to confirm account.
2	Verify code Input: user get the code at email Output: Redirect to verify page if the code is wrong. Move to homepage if the code is valid Verify your email Yourcode verify	Verify	Check the code user input.



Scenario 2: Conduct shoping User choose product => add to cart => check out

Table 16 Scenario 2

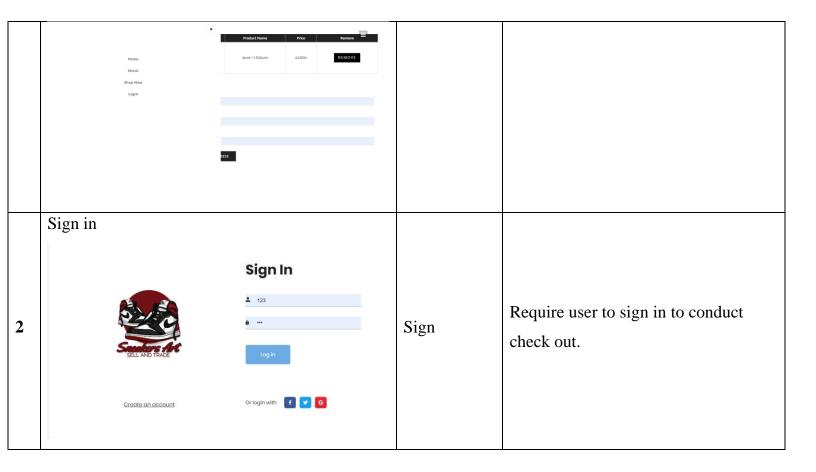
	Stage	Purpose	Explain
1	Select product and add to cart Input: Product id Output: direct to verify page Search Hore. Product Brand Select product Search Hore. Search Hore. Product Search Hore. Product Search Hore. Product Search Hore. Search Hore. Product Search Hore. Product Search Hore. Search Hore. Product Search Hore. Search Hore. Product Search Hore. Search Hore. Product Search Hore. Product Search Hore. Search Hore. Product Search	Shopping, add product to cart	If the buy button of product is clicked. That product will be added to cart with quantity = 1.
2	Checkout Vour shopping cart contains: O Products IN. No. Product Quantity Product Name Price Remove CONTINUE TO BEAMST Add a new Details Full name NOTAL-OND Full Continue Address: Address: Address: Address:	Check out	If the cart is empty then the checkout button will not appear.



Scenario 3: Conduct shoping without signed in
User choose product => add to cart => check out => sign in/sign up

Table 17 Scenario 3

	Stage	Purpose	Explain
1	Check out page (when user not logged in)	Check out	If the user not logged in and click delivery button then the web will direct to sign in page



Scenario 4: Admin sign in to User choose product => add to cart => check out => sign in/sign up

Table 18 Scenario 4

	Stage	Purpose	Explain
1	User login with admin account: Home About Admin Buy Matary Shop New Helle: and genal cont Logout	Login as admin	A admin button will appear on the navigation bar, direct to admin page
	• G-	-	



V. Conclusion

Pros:

Through the working progress, our group has learned and practice all of the subject which we have learn from the beginning to successfully build a shopping website.

The web after being deployed and tested is working properly, functionally. The speed response of the web is fast and productive.

All member has completed their assignment and do not have any conflict.

Cons:

We used the template online.

The website is only had simple function and do not have much feature.

The database structure is uncomplicated.

Future development:

We will re design the front-end of website to make it more beauty and add more function, feature so that the website can be use in business someday.

Link source code:

https://github.com/NVA071002/IT_Project.git

Our website has been deploy to Heroku:

https://itprojectvanhthien.herokuapp.com

Reference Source:

Template of the website: https://w3layouts.com

Template of login/register : https://colorlib.com