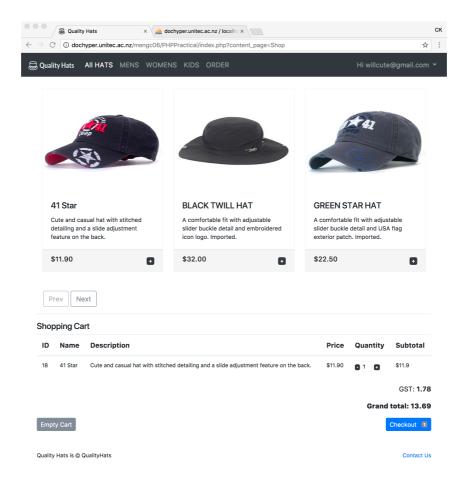
## **UNITEC.AC.NZ**

# Quality Hats Final Document



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This submission is my own work, except for use of resources supplied with the course, information from the public domain where clearly referenced"

# **COMPANY NAME**

# QUALITY HATS FINAL DOCUMENT

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## **COMPANY NAME**

# 1. INTRODUCTION

Note: Change and/or any additional information are highlighted in Red Color.

Quality Hats is a Web Application developed by using **PHP** with **MySQL**. It is a functional selling web site. The function can be divided into to two part - Shopping and Management.

- Customers on this web site can look and search the hats they like, put their favorite hats into a shopping cart. The customers can also see the total price and GST without logging to an account. Like the common approach, we provide a private shopping bag to store a particular account's pending shopping list.
- Site administrator can manage the Customer Accounts, Product (hats), Categories, Suppliers and Orders.

The login information and technical specification are as below:

## TABLE 1

Website URL:	http://http://dochyper.unitec.ac.nz/mengc06/PHPPractical/
Recommend Browser:	Chrome, IE
Admin User Name / Password:	admin@email.com / P@ssw0rd
Customer User Name / Password:	tester@email.com / P@ssw0rd
Website Folder (on server):	PHPPractical
Project folder:	PHPPractical
Programming Language:	PHP, Javascript, HTML
Database Server / Database Name:	MySQL server / mengc06mysql3

# 2. CRITIQUE - COMPARISON BETWEEN PHP AND ASP.NET CORE

# 2.1 Database techniques

ASP.Net and PHP both have rich API for database. However, when developing a Web application with ASP.net MS SQL Server is most preferred. When with PHP, MySQL Server is most preferred. PHP provide APIs to connect to MySQL: mysqli and PDO extension, here in this project, mysqli is used as it supplied with the course, the frequently used functions are:

- To excuse the query: mysqli\_query()
- Storing the data in the numeric indices of the result array mysqli\_fetch\_row()
- Count the number of records mysqli\_num\_rows()
- Using the field names of the result set as keys. mysqli\_fetch\_array()

For ASP.net Core We use Entity Framework to access database. "Entity Framework (EF) is an object-relational mapper that enables .NET developers to work with relational data using domain-specific objects. It eliminates the need for most of the data-access code that developers usually need to write." [1] Since I didn't employ any framework in this project, so I have to do everything that EF did.

## 2.2 Code Sharing and Reuse

#### **PHP VS ASP.Net Core**

- In PHP the most popular techniques I use is require and require\_once, require\_once can eliminate loading duplicate files.
- DB connect String and GST rate are shared within the db\_connection.php. (maybe 'appsetting.php' is a better name for it)
- Views\Shared\CheckLogin.php Views\Shared\AuthorizeAdmin are shared and load by the corresponding Controller Method to implement Access Control. By this way I can differentiate guest/menber/admin. -
- Beside, I use MVC pattern to organize all pages, so at least some View page e.g. index.php, create.php can be easily share or reuse after a small change.

# 2.3 Client Techniques

#### **Bootstrap:**

No matter PHP or ASP.Net I use Bootstrap to help render a beautiful enough page, the more important thing is that I can let Bootstrap to worry about supporting different size screen.

## Passing Parameters to HTML and HTML Flow Control:

#### ASP.Net:

- we can pass a model or models from Controllers to Views.
- ViewBag.foo, ViewData["foo"] are used to pass parameters from views to views.
- Razor code are used to disassemble the model or parameters sent from controller and render them in the right place.
- Razor can perform simple calculation and flow control (e.g. render a table with multiple rows.).
- HTML Helper is a very efficient way to represent data and collect data via the same snippet of code.

#### PHP:

- I just use PHP code in both server side as well as client side.
- In controller I put everything the View need in the variables, then require that corresponding view. In the View PHP code can use these variables directly.
- variable can be use in HTML tag such as echo "\$name"; or <?php echo \$name; ?>
- if/while/switch/foreach etc are provided in PHP to help build a dynamic web application.

## 2.4 Software architecture and etc.

#### **Open Source:**

Both ASP.Net Core and PHP are open source, many developers had supplied excellent frameworks or packages to help people make their job easier.

## Strongly Type VS Weekly Type

ASP.Net Core use C# which is strongly type language, people need to define or initiate (so compile can infer its type) it before using it.

While in PHP you do not have to do that. I prefer strongly type language more because it's safer and less unexpected error. And sometimes can make your code more clear.

## **Compile and interpreted Language**

C# as a compile language, people need to compile and rebuild the ASP.Net Core project to make the new code take effect.

In php you can just refresh you browser to see the new effect.

#### async/await

ASP.Net Core provide asynchronous programming support. while in PHP I did not see that may be need to include some particular package.

# 3. BUSINESS SPECIFICATION

#### 3.1 Business Roles

## 3.1.1 Non Registered Customers

Before customer logging, they can browse all the hats or look at the hats in different categories such as MENS, WOMENS, KIDS. They can also search hats by keywords.

## **Using Shopping Cart:**

In the shopping cart our customers can add or delete their chosen hats to see the GST and the total price before making a decision.

# 3.1.2 Registered Members

#### Create a new account:

If the customers had not logging when they try to check out, they will be redirected to the login page. If they don't have an account yet, they can register as well.

To register member, customers need to supply a valid email address, password and phone numbers.

The first time a customer register, the system will send an confirmation email to his or her email address. Customers must click those links to activate their accounts.

#### **Use Shopping Bag:**

Unlike the shopping cart can only be use temporarily, a shopping bag can hold their pending shopping list until they are placed as an order.

Every registered member has his or her own shopping bag. Also, no matter when or where they login our site, they can retrieve this pending list. When a customer checkout their shopping cart, system implicitly dump these items into his/her shopping bag, and then empty the shopping cart. If there is no any item in the shopping bag previously, the shopping bag is just the same as shopping cart.

The shopping Bag page also provide the add and delete shortcuts for every item, customers can adjust their wanderlust easily.

#### Place an Order:

After confirming the shopping **Cart**, the next step is to choose a recipient for this item. Customers may buy hats for their family or friend, also these hats could be sent to their house or office. They don't need to alter the address every time. System can record as many recipients as they want. They may asked to create an recipient at the first time, these recipients records can be reused in a dropdown list. The order is created, user is redirected to his/her order list page.

#### **Check Order Status:**

By clicking the **checkout** button, order is submitted to administrator. Customers can check their order status in Order Page. There are **three** status: InCart(pending), Placed(Order Placed), InProgress, PreparingToShip, **Submitted**, Shipped and Delivered. When administrator change order status into Shipped or Delivered, system records the exact time of that action. Which gives the customers a sense of the progress.

#### 3.1.3 Administrator

Administrator has all access authority across the site. The pages below are authorized to Administrator user.

## **Product(Hats) Management:**

Administrator can create, edit, delete a hat item here.

## **Category Management:**

Administrator can create, edit, delete a Category for all the hats here.

## **SUPPLIER Management:**

Administrator can create, edit, delete a supplier for all the hats here.

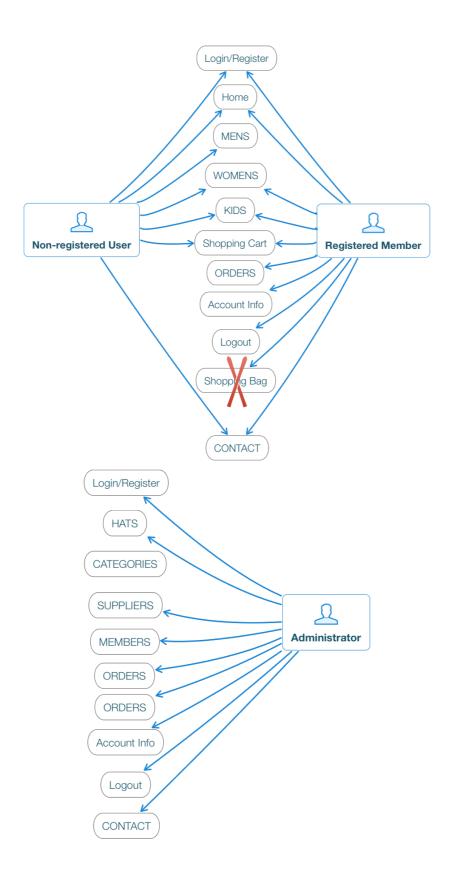
#### **ACOUNT(Member) Management:**

Administrator can create, edit, delete a member account here. The admin user can also disable or enable an account.

# **Order Management:**

Administrator can change the order status here. The admin user can also amend the other info in the order.

The diagrams of business roles for Non-Registered User, Member, Administrator as follow.

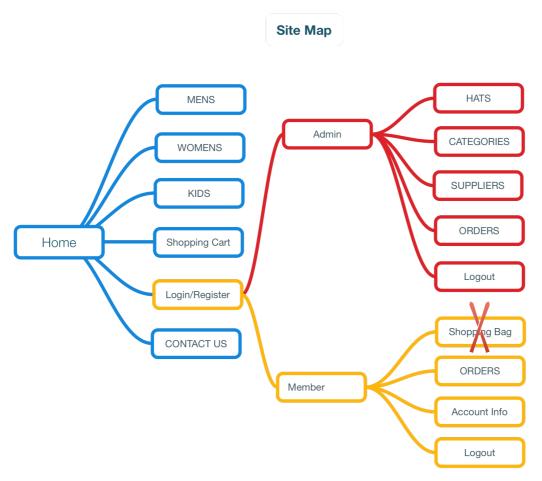


# 3.2 User Interface Design

# 3.2.1 Site Map

The site map below illustrates all the page in this site.

The blue pages can be access by any client. Pages in red can only accessed by Administrator while yellow is for members.



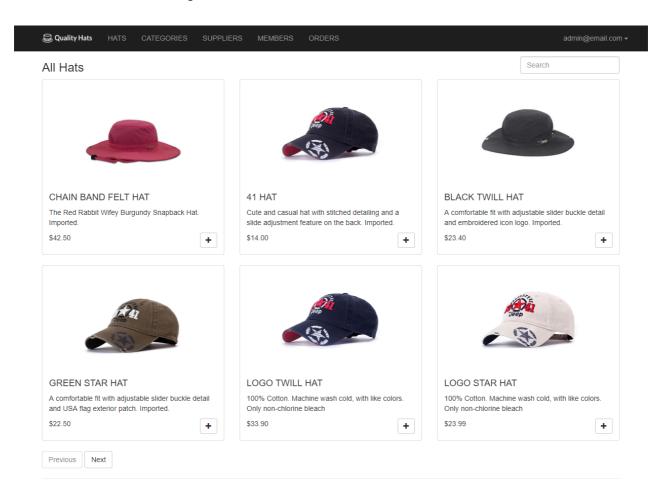
Note: Shopping Car is implemented. For timing constrain, Shopping Bag is provide in this PHP version since it's not required.

# 3.2.2 Customer Page Design

## Home:

Features and Technology Application:

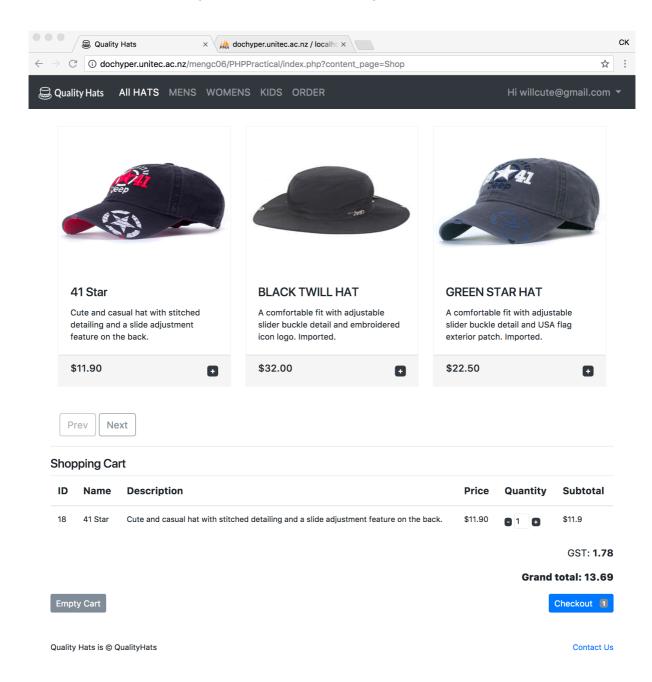
- Quality Hats Logo
- Paginating technique is employed for all product list
- Contact us link with meaningful contact details.



© 2017 - Quality Hats Contact Us

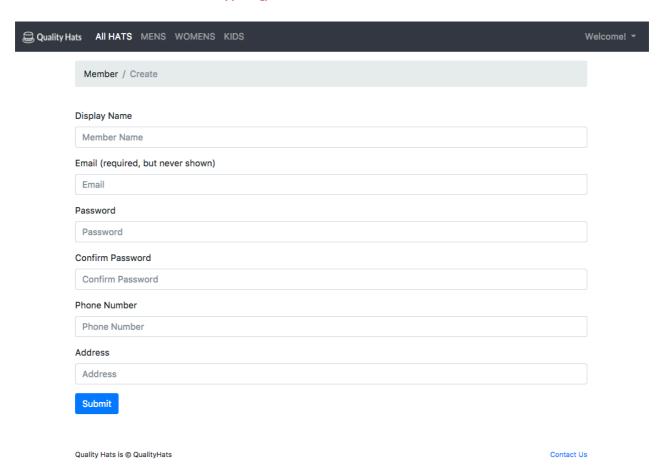
# **Shopping Cart:**

- Customers can amend the quantity of their shopping carts or even clear the cart by themselves.
- GST and Total price are changed accompany with the change of items.



# **Login Page:**

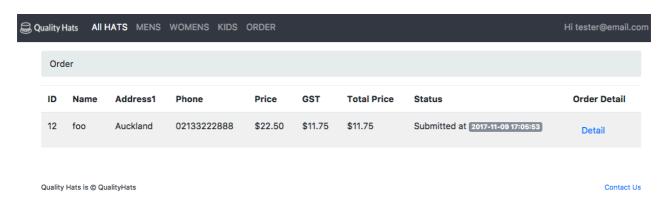
- Allow Customer login or Administrator login
- Register as a new user: Javascript is use to check:
  - 1. If password and confirm password are the same.
  - 2. Password are more than 6 characters and at least 1 number, at least 1 specific symbol ([^a-zA-Z0-9\!\@\#\\$\%\^\&\\*\(\)\\_\+]).



# **Order Page:**

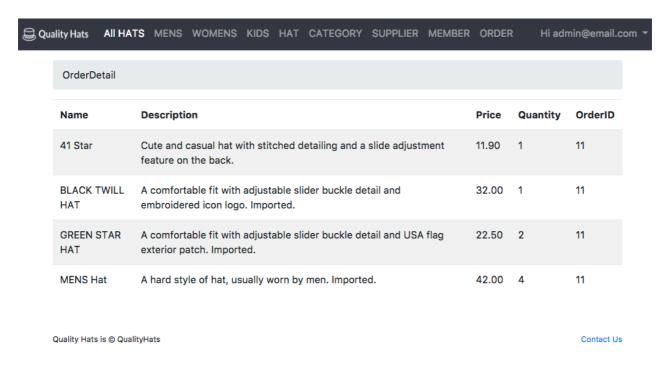
Features and Technology Application:

- List all orders
- Edit, Delete or View a specific order
- Show change DateTime record in to database.



## **Order Detail Page:**

- After Placing the order, customers can go to the ORDER page to view their order detail including the most important thing: Current Order Status.
- If the Order Status is changed to Shipped or Delivered, the exact Date and Time will shown as well.

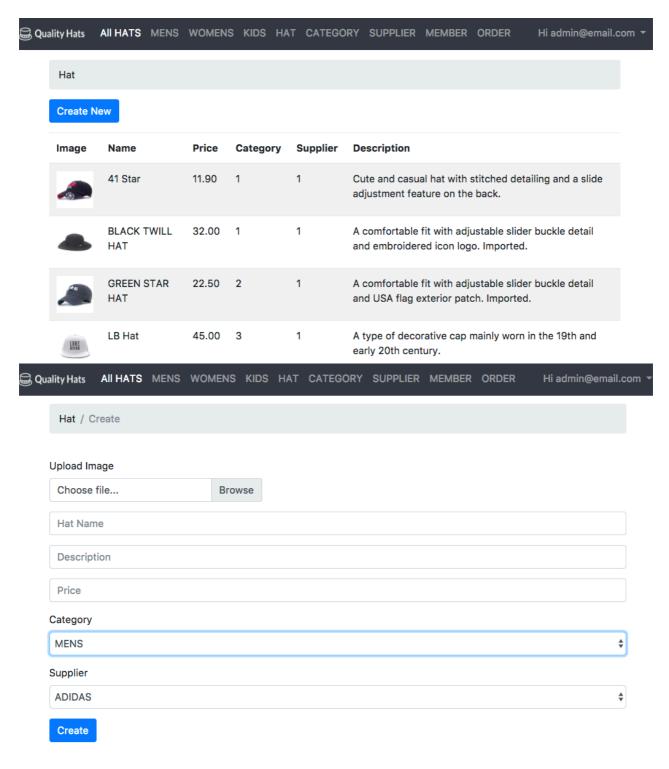


# 3.2.3 Admin Page Design:

## **Hat Management Page:**

Features and Technology Application:

- List, Create, Edit, Delete Hats
- View Hat detail

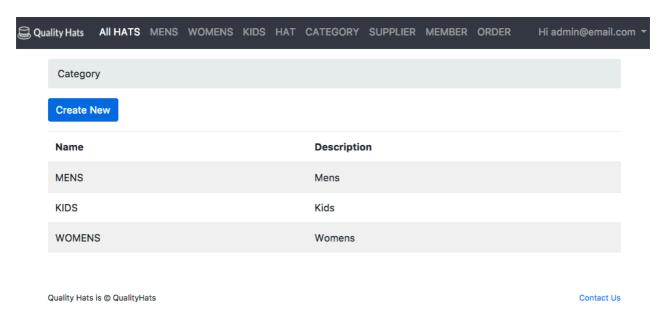


Quality Hats is @ QualityHats

# **Categories Management Page:**

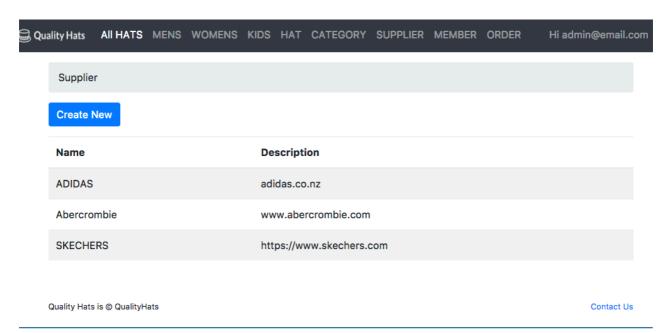
Features and Technology Application:

- List all categories
- Create a new category, Edit, Delete Category



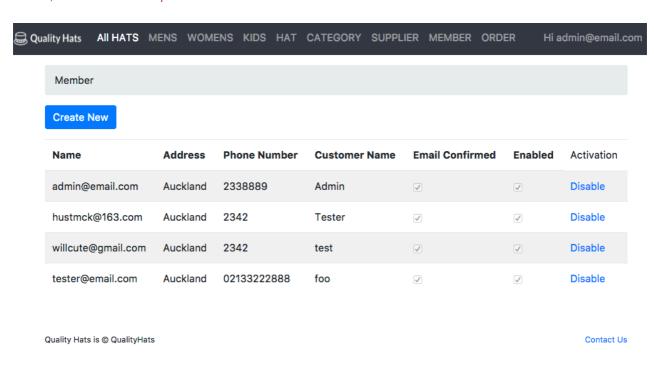
# **Supplier Management Page:**

- List all suppliers
- Create a new supplier, Edit, Delete supplier



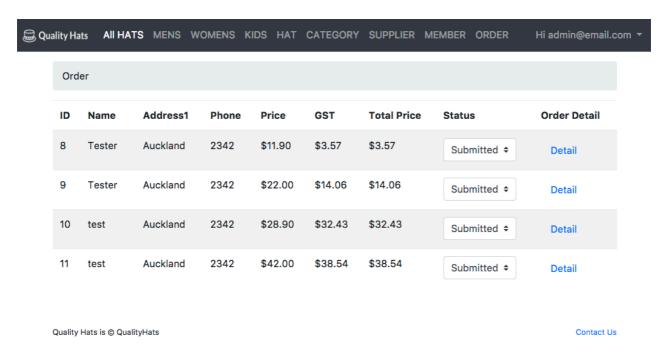
# **Customer Management Page:**

- List all customers
- Disable or enable an account
- Edit, Delete or View a specific account-



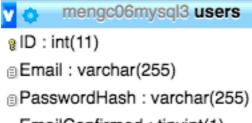
# **Order Management Page:**

- List all orders
- Edit, Delete order
- Change Order Status and automatically save DateTime record in to database.



# 4. DATABASE DESIGN

#### 4.1 Tables



#EmailConfirmed : tinyint(1)

@EmailHash : varchar(32)

@PhoneNumber: varchar(255)

Username : varchar(255)

Address : varchar(255)

@CustomerName : varchar(255)

#Enabled : tinyint(1)

# mengc06mysql3 hats

@ID: int(11)

#CategoryID : int(11)

SupplierID : varchar(255)

Name: varchar(255)

Description : varchar(3000)

#Price : decimal(10,2)

Image : varchar(255)

# v 👝 mengc06mysql3 categories

@ID: int(11)

Name : varchar(255)

Description : varchar(3000)

# 

mengc06mysql3 orders

mengc06mysql3 orderdetails

ID : int(11)

#GST : decimal(10,2)

#Price : decimal(10,2) #Total : decimal(10,2)

#UserID: int(11)

#Quantity: int(11)

■ModifiedTimestamp : timestamp

#UnitPrice : decimal(10,0)

#HatID: int(11)

#OrderID : int(11)

■ModifiedTimestamp : timestamp

v 😝 mengc06mysql3 suppliers

@ID: int(11)

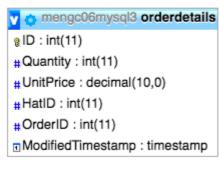
Name : varchar(255)

Description : varchar(3000)

# 4.2 ERD Diagram











# 5. SYSTEM DESIGN RATIONALE

# 5.1 Client Side

- JavaScript
  - To valid the user input
- Bootstrap
  - To develop a responsive, mobile first project on the web.
- PHP
  - To create the view page

# 5.2 Server Side

- PHP mysqli
  - To work with relational data using domain-specific objects
- MVC
  - This architectural pattern help to divide our application into three main groups of components.
- PHP
  - To build the server side applications

# 6. TEST PLAN

# **6.1 Customer Page Test**

# Registration

No.	Case	Action	Expected Result	As Expected? Or Actual Result
2	Empty Email	Click "Register"	Show "Invalid email format:"	Yes
4	Empty Password	Click "Register"	Show "The password must be more than 6 characters."	Yes
5	Improper Password	Click "Register"	Show "Password not match!"	Yes
6	Empty Confirm password or not the same with Password	Click "Register"	Show "Password not match!"	Yes

# Login

No.	Case	Action	Expected Result	As Expected? Or Actual Result
1	Empty Email	Click "Register"	Show "The Email field is required."	Yes
2	Empty Password	Click "Register"	Show "Invalid password or Email not confirmed or Account is disabled!"	Yes
3	Improper Password	Click "Register"	Show "Invalid password or Email not confirmed or Account is disabled!"	Yes

# Home

No.	Action	Expected Result	As Expected? Or Actual Result
1	Enter Home Page	Layout shows the same as designed	Yes
2	Click "MENS" navigation link	Navigate to "MENS" Page	Yes
3	Click "WOMENS" navigation link	Navigate to "WOMENS" Page	Yes
4	Click "KIDS" navigation link	Navigate to "KIDS" Page	Yes
5	Click Logo navigation image	Navigate back to "HOME" Page	Yes
6	Click "Register" navigation link	Navigate to "Registration" Page	Yes
7	Click "Login" navigation link	Navigate to "Login" Page	Yes
11	-	Copy right info is shown at the bottom left corner	Yes

# Shopping (HOME, MENS, WOMENS, KIDS, )

No.	Case	Action	Expected Result	As Expected? Or Actual Result
1	Pagination: More than 3 6 items in	-	Show only 6 items in two rows, the paginating button "Next" is clickable.	Yes
2	one page	Click the "Next" button	Show next 6 items(if exist), the paginating button "Previous" is clickable	
3	Pagination: Less than 3 6 items in one page	-	The paginating buttons "Previous" and "Next" are disabled.	Yes
4	Item	-	Each item has an image, a name, description, price and a select button +	
5	Search	Enter "white" and hit "enter" key	Show the item which its name or description contains keyword "white"	Yes
6	Add to Cart:	Click the ⊞	The Shopping Cart appears as designed, GST and Total price are shown	Yes
7		Click the $\boxplus$ button one more time	The quantity of that specific item add 1	Yes
8		Click another random item's	Shopping Cart shows more item	Yes
9	Quantity bigger than 1	Click ⊟	Decrease the quantity of the specific item	Yes
10	Quantity is 1	Click ⊟	Delete the row of that item	Yes
11	The last item and Quantity is 1	Click $\square$	Shopping Cart component disappear	Yes
12	-	Click "Clear Cart" button	All items in shopping cart is removed and this component disappear	Yes
13	-	Click Logo	Navigate to Home Page	
14	-	Click "MENS" navigation link	Navigate to "MENS" Page	Yes
15	-	Click "WOMENS" navigation link	Navigate to "WOMENS" Page	Yes
16	-	Click "KIDS" navigation link	Navigate to "KIDS" Page	Yes
17	-	Click "Checkout"	Navigate to "Order" Page	Yes

# Member Order Page

No.	Case	Action	Expected Result	As Expected? Or Actual Result
1	-	-	List all the orders belong to customer	Yes
2	-	Select Status	Change the Status to the Selected one	Yes
3	-	Click "Detail"	Show detail of corresponding order, show progress bar	Yes

# **5.2 Admin Page Test**

Do the test for creating Category or Supplier:

# Admin Maintenance - Create Category / Supplier

No.	Case	Action	Expected Result	As Expected? Or Actual Result
2	Empty Price	Click "Create"	Show "The Price field is required"	Yes

Do the same test above for creating Hat, and do more as below:

# Admin Maintenance - Create Hat

No.	Case	Action	Expected Result	As Expected? Or Actual Result
1	Haven't upload image	Click "Create"	The "Create" button is disabled	Yes
4	Empty Price	Click "Create"	Show "The Price field is required"	Yes

Do the same test above for Maintenance Member Account, and do more as below:

# Admin Maintenance - Member List / Edit / Detail / Delete

No.	Case	Action	Expected Result	As Expected? Or Actual Result
1	Account is Enabled	Click "Disable"	The account cannot login anymore	Yes
2	Account is Disabled	Click "Enable"	The account can login again	Yes