

## **Introduction to the E-commerce Website System**

The e-commerce website was developed for Martium Company during my academic year at Info Myanmar University. The website features a user-friendly interface, an intuitive search bar, and various sorting options, among other functionalities. These features and functionalities are implemented to improve the overall shopping experience for customers. Currently, the recent version of the website showcases mechanical keyboards and keycaps as the main products offered by Martium. However, the administrator of the e-commerce website can expand the range of products. This can be accomplished by adding new categories through the category manager available in the admin panel of the website.

Additionally, the website goes beyond simply displaying keyboards to customers. The products are organized based on factors such as brands, popularity, product type, and latest arrivals. This categorization allows customers to conveniently explore and find products based on their preferences. Moreover, the website ensures a seamless shopping experience for users by allowing guests to browse the products without the need to create a user account. The requirement for account creation is only prompted when a user wishes to place an order. By adopting this approach and not limiting guests to window shopping, the website successfully increases the conversion rate and attracts a larger user base.

### **Structure of the e-commerce website**

The e-commerce website of Martium Company is structured around two bases: the customer base and the admin base. These two bases serve distinct purposes and have separate login authentication forms. Depending on their role, customers and administrators access different areas of the website tailored to their respective needs.

### **Explanation of the web pages that are shown in customer base**

As customers or guest of the website, they can explore and use the following pages.

1. Home page or landing page
2. Shop page
3. Product detail page
4. Cart list page
5. Invoice page

6. About page
7. Contact page
8. Setting page
9. Sign-in and sign-up page
10. 404 page

## 1. Home page or landing page

The home page is the landing page that the users will see when they visit the website. It serves as the central hub of the website. It provides an overview of featured products, promotions, new arrivals, and any important announcements from Martium.

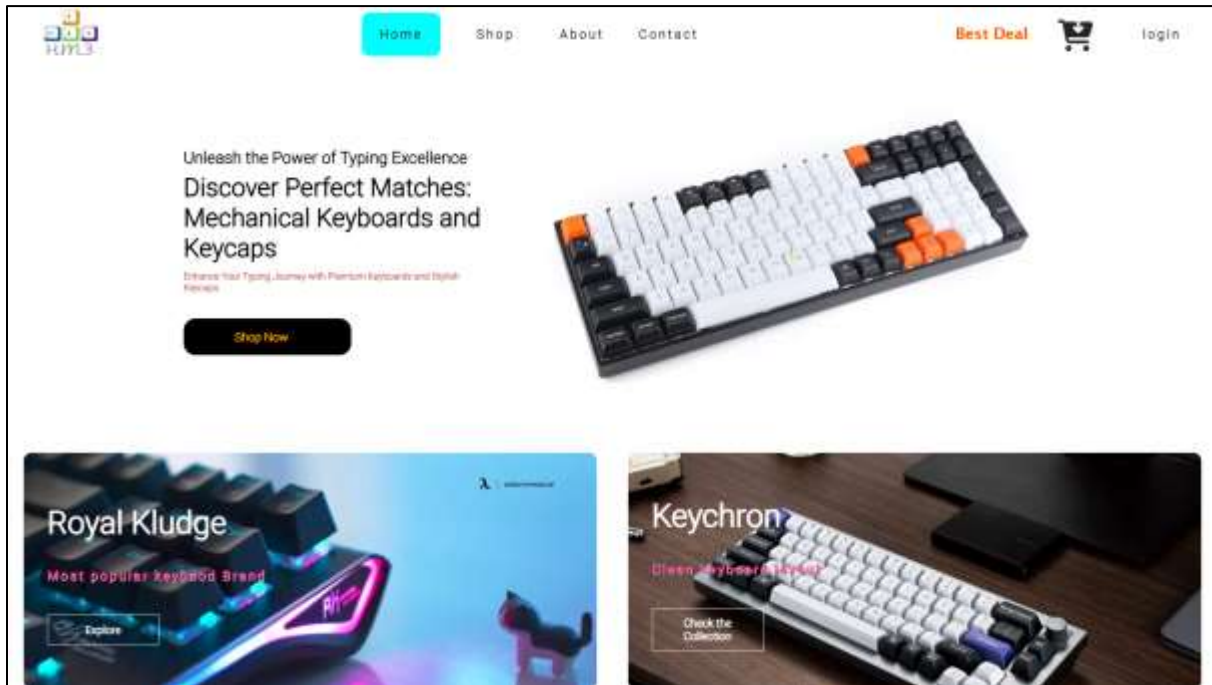


Figure 1.0: home page of the e-commerce website

## 2. Shop page

The shop page provides customers with the opportunity to explore a collection of products. It allows customers to browse through the products using various sorting options. Moreover, customers can easily search for specific products by entering their names. To enhance the display of product cards, pagination is implemented on the shop page.

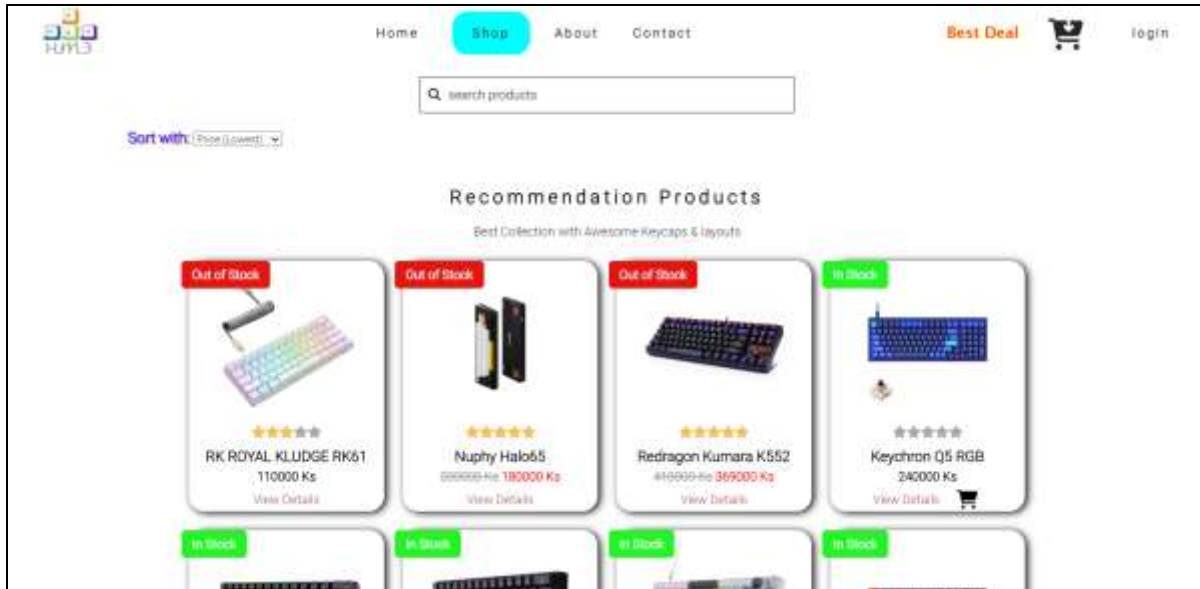


Figure 1.1: shop page of the e-commerce website

### 3. Product detail page

When a customer clicks the shop-cart icon that is shown on a specific product of the website, the customer will be directed to the product detail page.

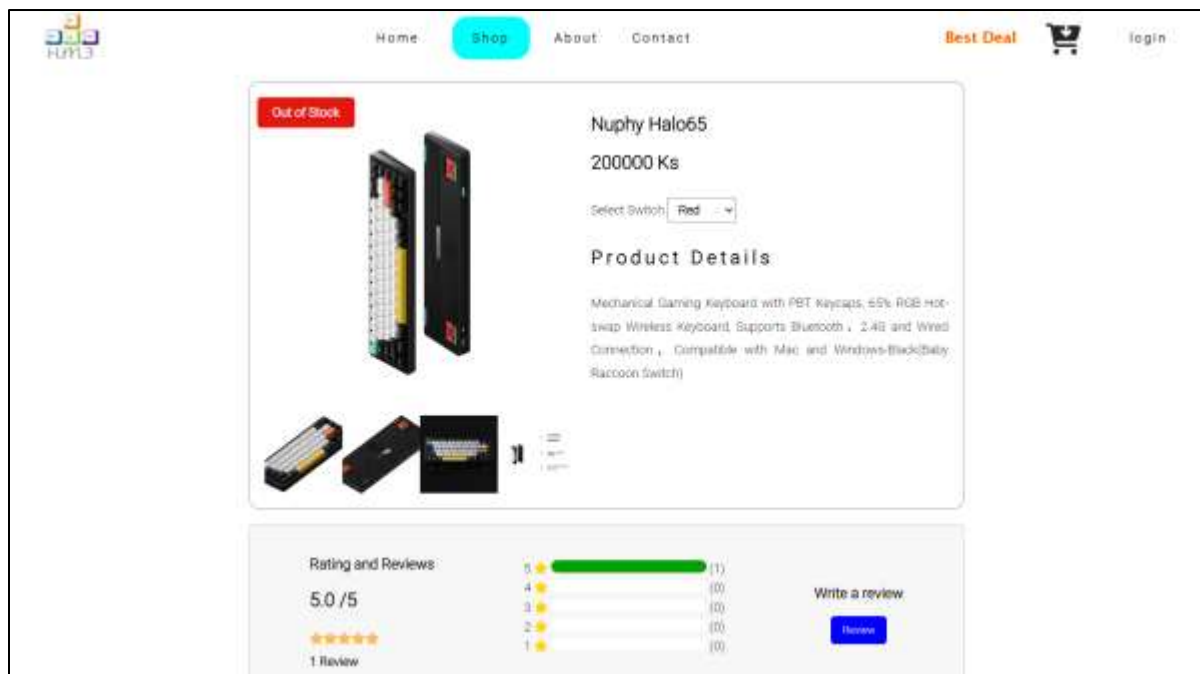


Figure 1.2: product-detail page of the e-commerce website

In the product detail page, customers can read comprehensive information about the product, including high-quality images, detailed descriptions, specifications, available, pricing details, customer reviews, and ratings. This page helps customers make informed decisions about the products they are interested in.

#### 4. Cart-list page

The cart-list page contains a table that displays the products that customers have added to their shopping cart. It provides an overview of the items, quantities, and prices. From this page, customers can review and modify the contents of their cart, update quantities and proceed to check out.

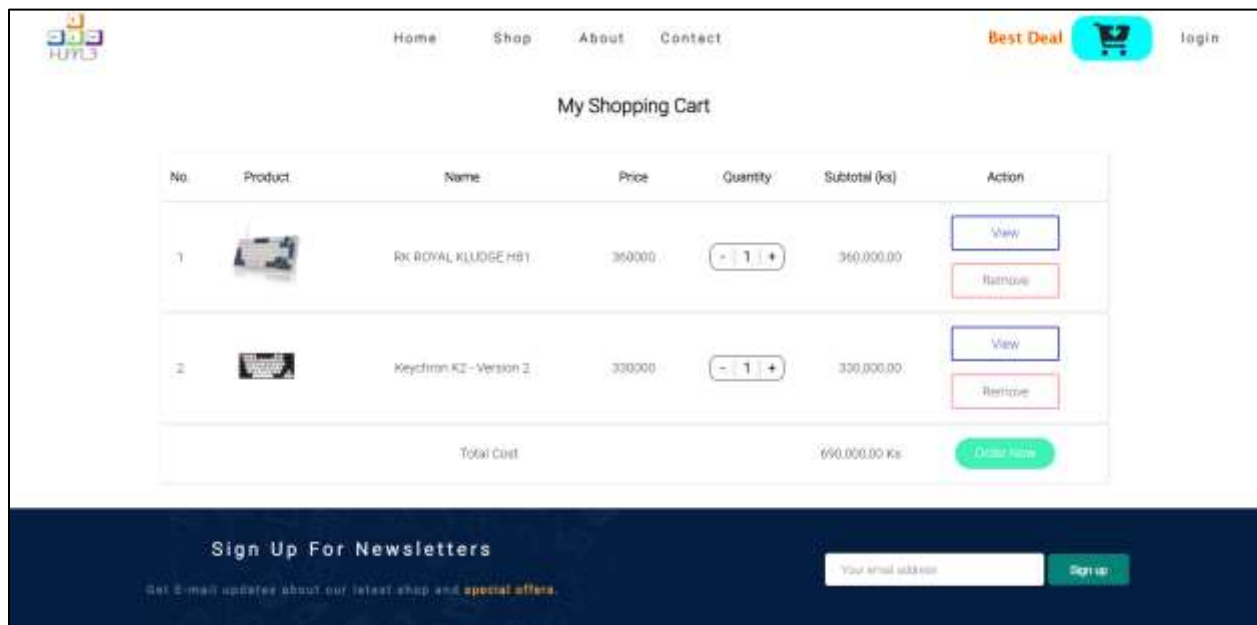


Figure 1.3: Cart-list page of the e-commerce website

If customers have not logged into their accounts, the cart-list page will prompt them to sign in when they click the 'Order Now' button. On the other hand, if the customers have already logged into their accounts, the page will direct them to the checkout form section located at the bottom of the page. Moreover, the cart-list page includes a checking process to determine whether the visiting customer is a logged-in user or not. If the customer is logged in, the checkout form will be displayed upon the initial loading of the page. On the other hand, if the customer is not logged in, the checkout form will be hidden and will only become visible once the customers have logged into their accounts.

Home Shop About Contact Best Deal Setting

### Checkout Form

Shipping address

Email

Country/Region

City

Zipcode/Postal Code

Additional request

Payment method: Cash On Delivery ☒ KBZ-Pay ☐

**Sign Up For Newsletters**

Get E-mail updates about our latest shop and **special offers**.

Your email address

Figure 1.4: checkout form contained in the cart-list page

Additionally, the page is implemented with a predefined condition that displays a form to customers if they have not added any products to their carts yet. The following figure shows the visual representation of this form that popup when customers visit the cart-list page without having any products in their shop carts.

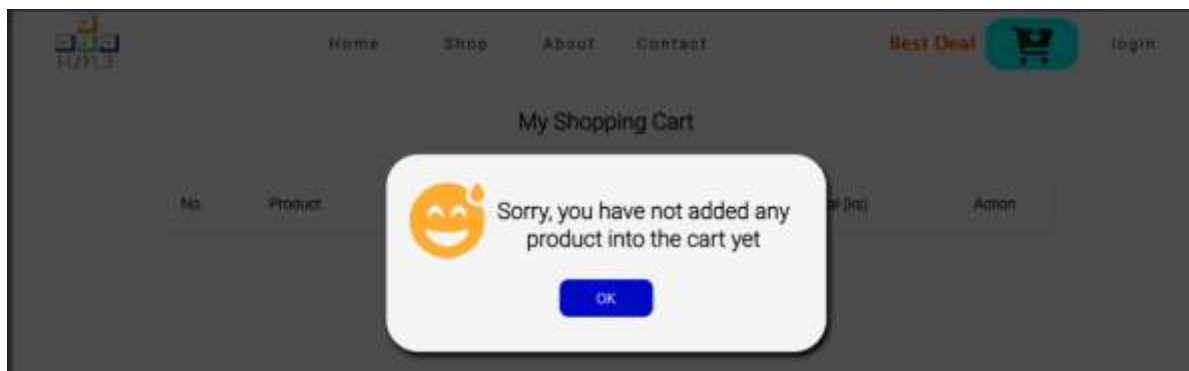


Figure 1.5: popup notification form of the cart-list page

## 5. Invoice page

After completing the checkout process, customers will be directed to the invoice page. This page provides detailed information about the order that the customers have placed, including the total cost, item breakdown, shipping details, and the business contact information. Additionally, the

page offers an option to download invoices, allowing customers to review or check their orders at a later time.

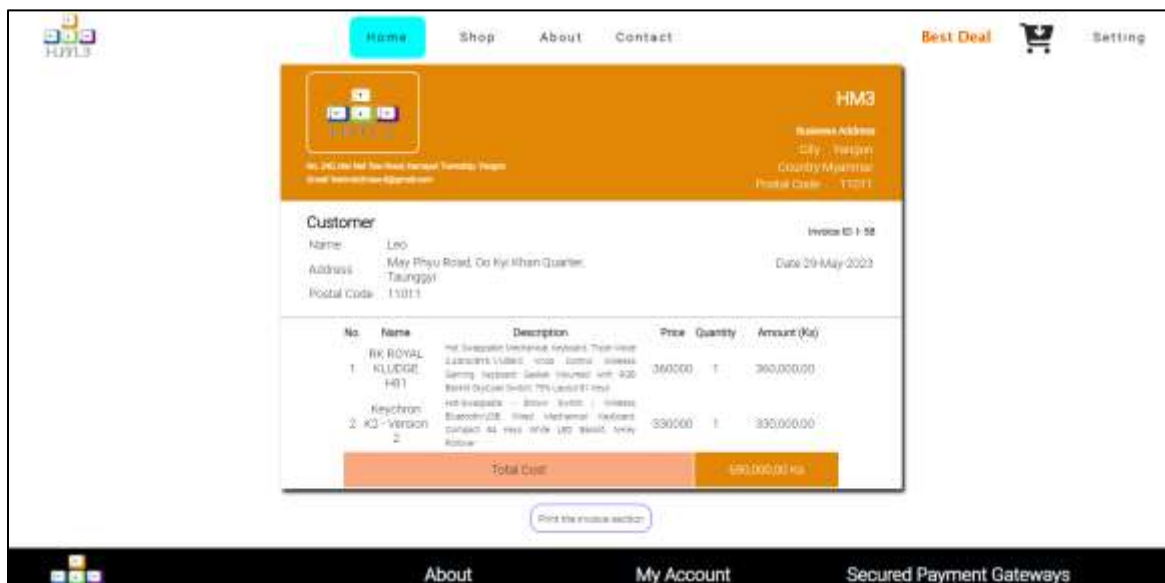


Figure 1.6: invoice page of the e-commerce website

## 6. About page

The About page provides customers with background information about Martium Company. It offers insights into the company's vision, mission, frequently asked questions, and unique selling points that differentiate them from competitors. This page serves to enhance customers' understanding of the brand, build trust in their products and services, and establish a stronger connection between the company and its customers.

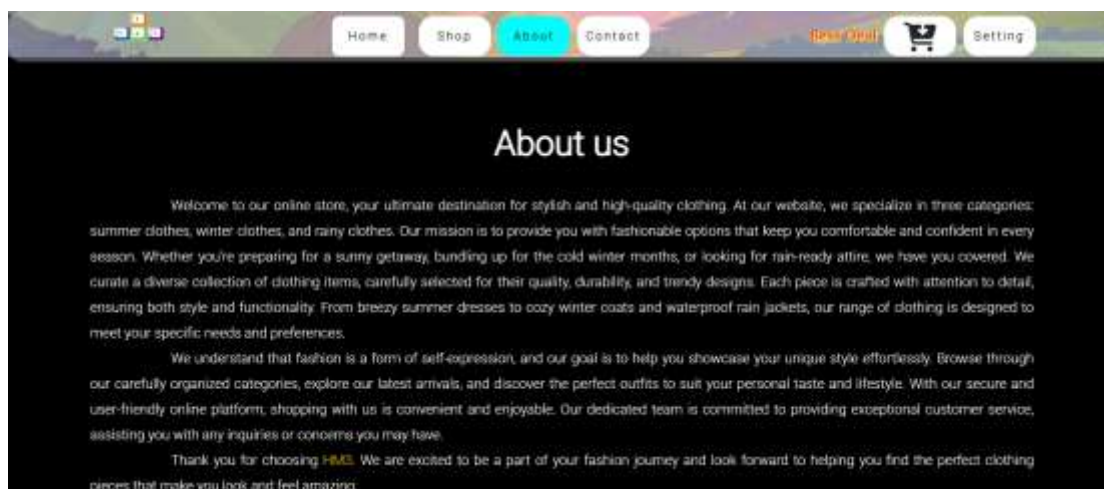


Figure 1.7: about page of the e-commerce website

## 7. Contact page

The Contact page serves as a means to connect with Martium's customer support team. The page includes a contact information such as email addresses, phone numbers, the working hours, and the office location of the company so that the customers can reach out to the company whether it is for businesses or complaints. Additionally, the page also provides an inquiry form that customers can submit their email addresses to get personalized message, enabling customers to seek assistance when needed.

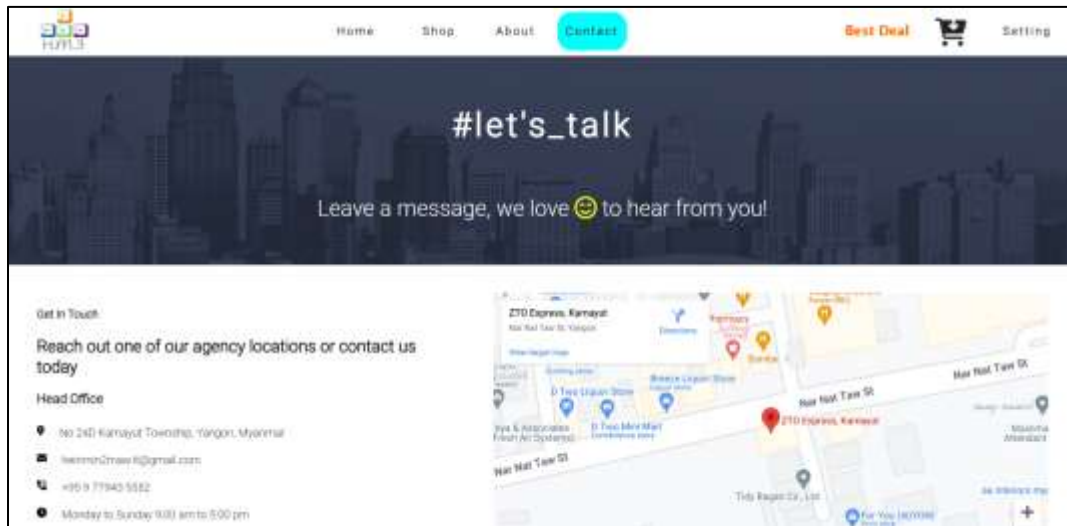


Figure 1.8: contact page of the e-commerce website

## 8. Setting page

The setting page allows customers to update their information such as username, password, profile image, shipping and email addresses.

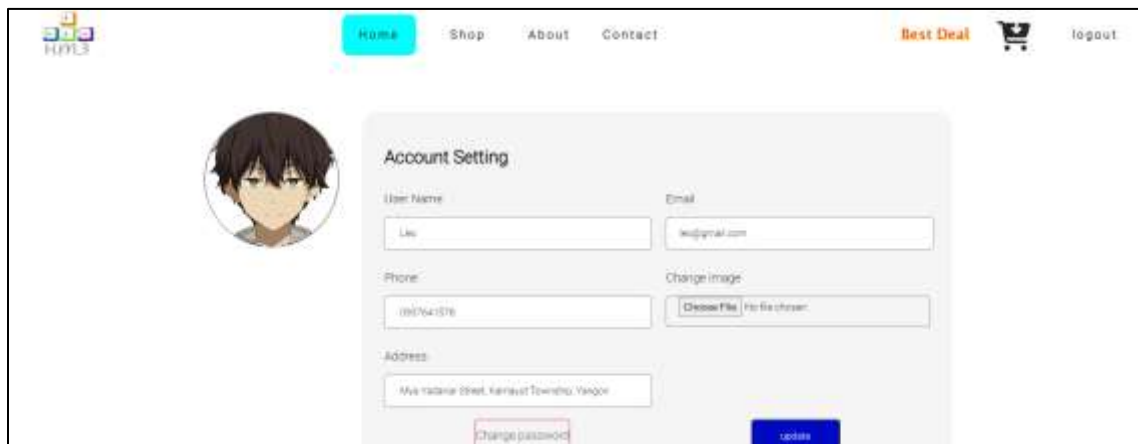
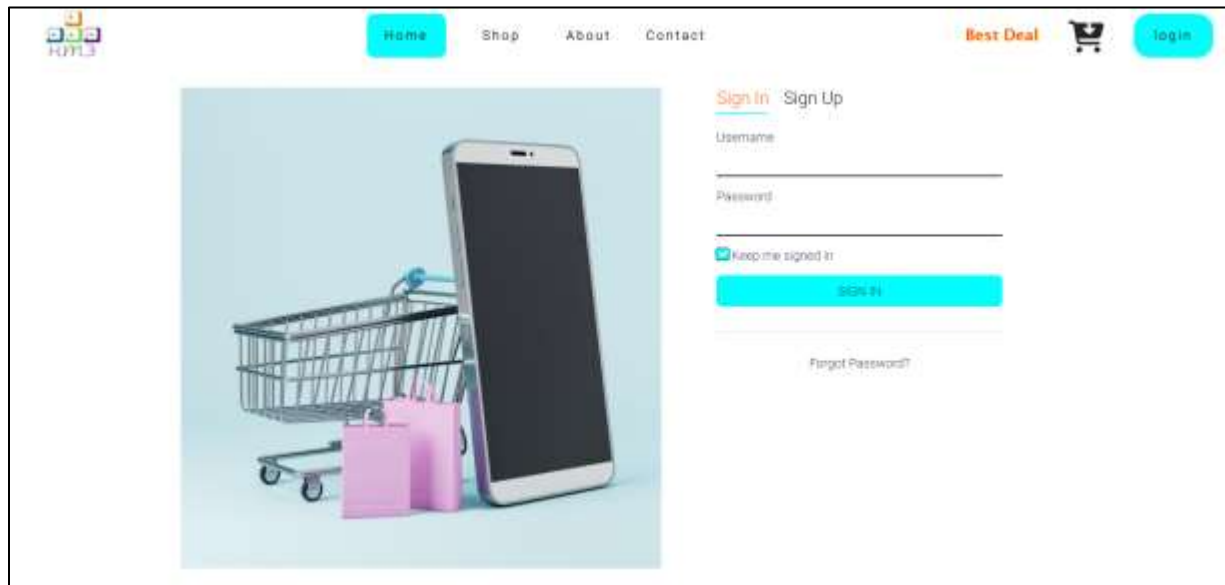


Figure 1.9: setting page of the e-commerce website

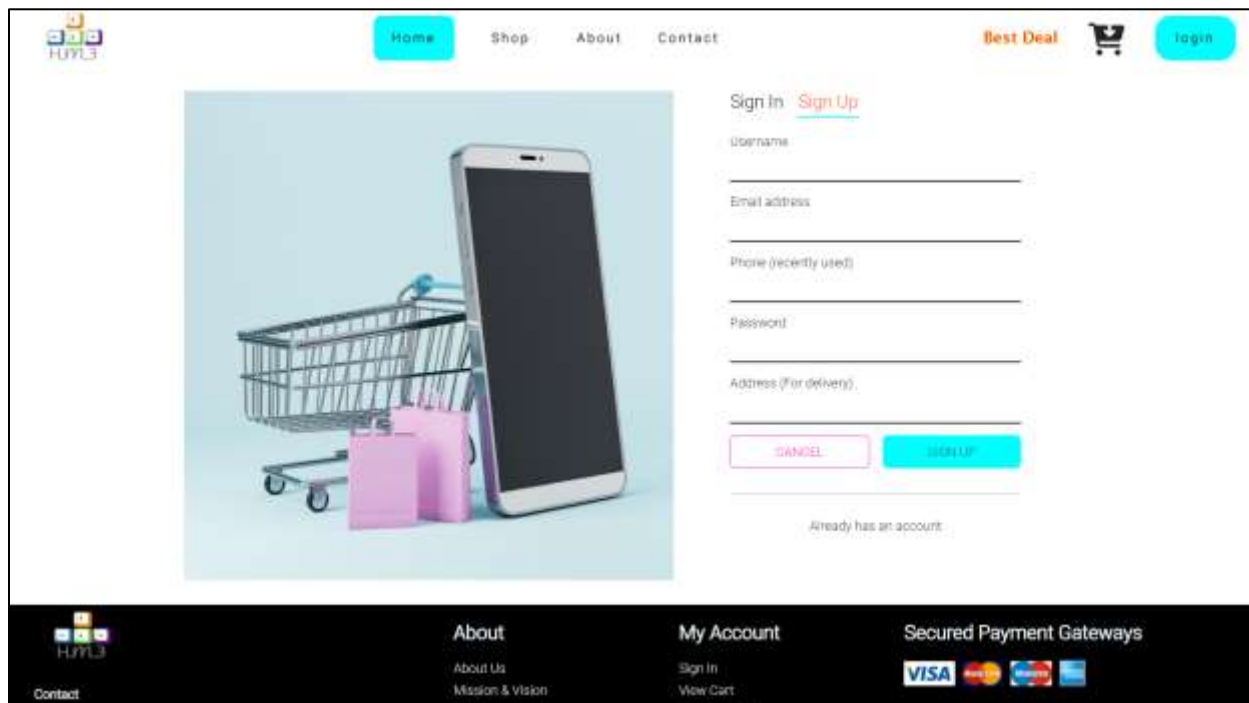
## 9. Sign-in and sign-up page

The sign-in and sign-up page is where guests or customers can either create a new account or log in to their existing account. By creating an account, customers gain access to extra features and benefits provided by the website for a long-term relationship. This includes receiving personalized recommendations and messages in the future.



The image shows a web page for signing in. At the top, there is a navigation bar with links: Home, Shop, About, and Contact. On the right side of the navigation bar, there is a 'Best Deal' banner, a shopping cart icon, and a 'login' button. The main content area features a large image of a smartphone next to a shopping cart with two pink bags. To the right of the image, there is a sign-in form. The form has two tabs: 'Sign In' (selected) and 'Sign Up'. Below the tabs, there are input fields for 'Username' and 'Password'. There is a checkbox labeled 'Keep me signed in' and a 'SIGN IN' button. Below the button, there is a link for 'Forgot Password?'. The footer of the page is not visible in this image.

Figure 1.10: sign-in form of the e-commerce website



The image shows a web page for signing up. At the top, there is a navigation bar with links: Home, Shop, About, and Contact. On the right side of the navigation bar, there is a 'Best Deal' banner, a shopping cart icon, and a 'login' button. The main content area features a large image of a smartphone next to a shopping cart with two pink bags. To the right of the image, there is a sign-up form. The form has two tabs: 'Sign In' and 'Sign Up' (selected). Below the tabs, there are input fields for 'Username', 'Email address', 'Phone (recently used)', 'Password', and 'Address (For delivery)'. There are 'CANCEL' and 'SIGN UP' buttons. Below the buttons, there is a link for 'Already has an account'. The footer of the page is visible and contains links for 'Contact', 'About' (with sub-links 'About Us' and 'Mission & Vision'), 'My Account' (with sub-links 'Sign In' and 'View Cart'), and 'Secured Payment Gateways' with logos for VISA, MasterCard, and American Express.

Figure 1.11: sign-up form of the e-commerce website



## Explanation of the web pages that the admin can use

For the administrator of the Martium's e-commerce website, the admin can control and use the following pages.

1. Dashboard page
2. Customer table page
  - a. Customer detail page
3. Product manager page
  - a. Update product page
  - b. Add product page
4. Order manager: View and update
5. Category manager
  - a. Update category page
  - b. Add category page
  - c. Remove category page
6. Account setting page
7. Login page

### 1. Dashboard page

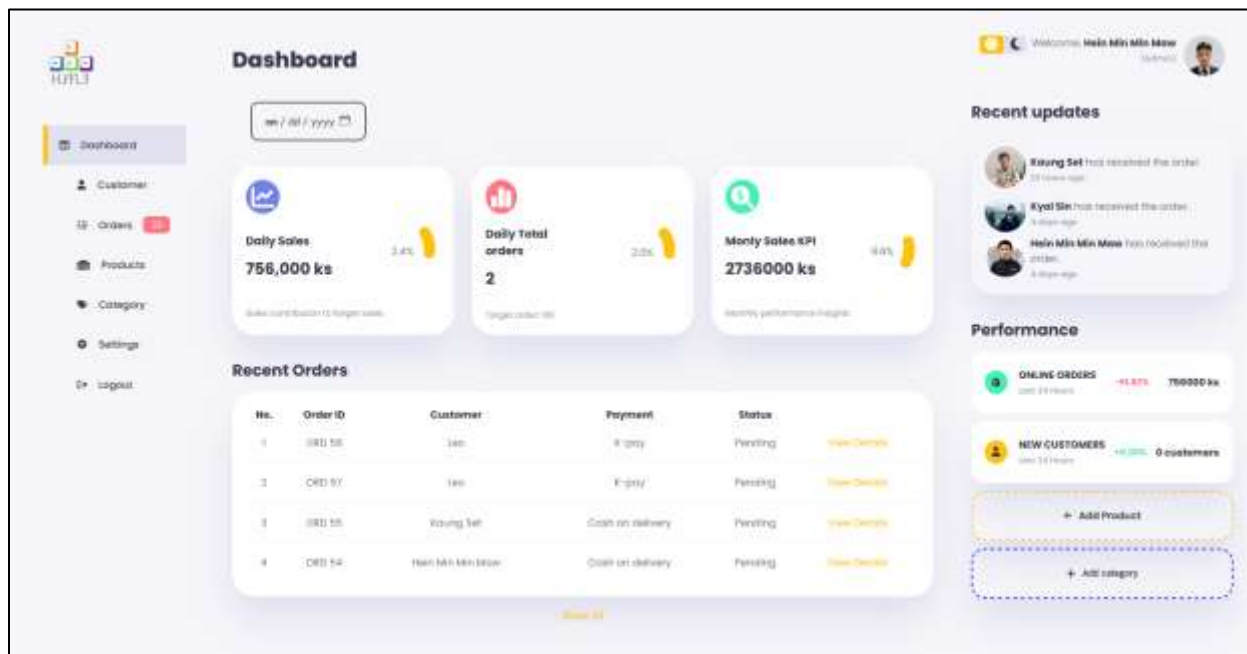


Figure 1.12: admin dashboard of the admin panel

The Dashboard page serves as the central hub for the administrator upon logging in. It provides a comprehensive overview of important metrics, including daily or monthly sales data, website traffic, order status, and customer activity. These metrics are displayed in real-time, enabling the admin to have an up-to-date snapshot of the e-commerce website's performance. By monitoring these key statistics, the admin can make informed decisions and effectively manage the online business.

## 2. Customer table page

This page presents a tabular view of the customer database. It displays essential customer information such as names, contact details, order history, and account status. The admin can search, sort, and filter the customer data, as well as perform actions like editing customer details or managing their accounts. To facilitate the implementation while reducing the development time of the data management for the table, a “dataTables” JavaScript library is used.

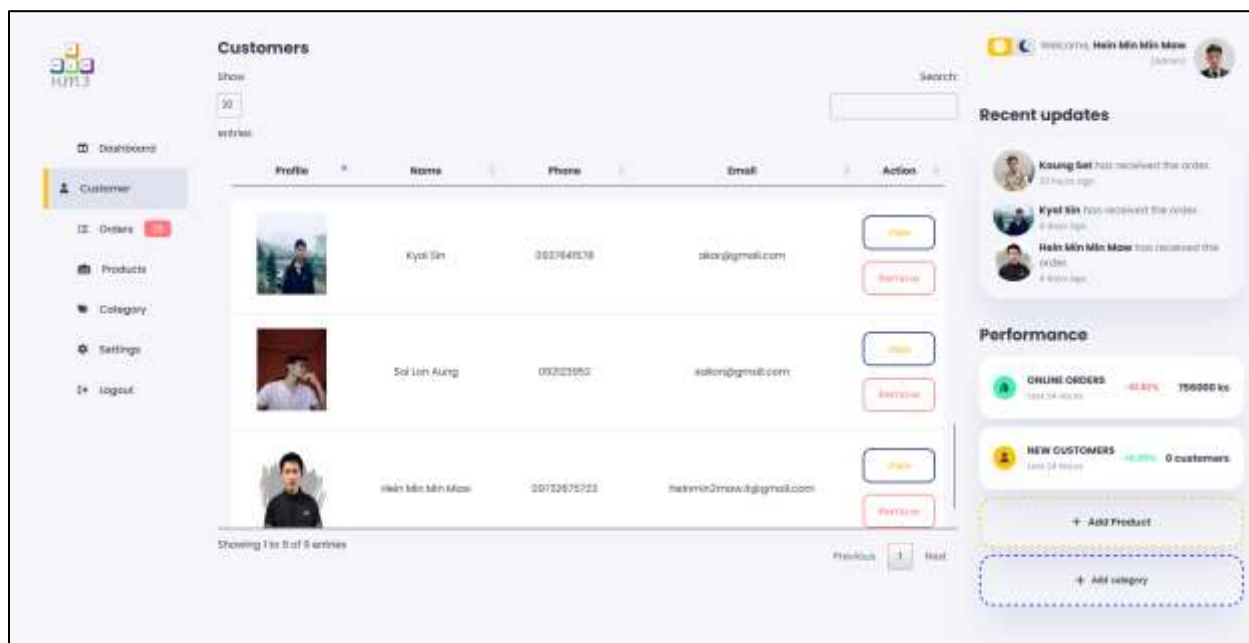


Figure 1.13: Customer manager page of the admin panel

**Customer detail page:** When the admin selects a specific customer from the customer table, they are directed to the customer detail page. This page provides a comprehensive view of an individual customer's profile, including personal information, order history, preferences, and any interactions or support tickets associated with their account. The admin can manage customer-specific settings, update details, and respond to inquiries or issues.

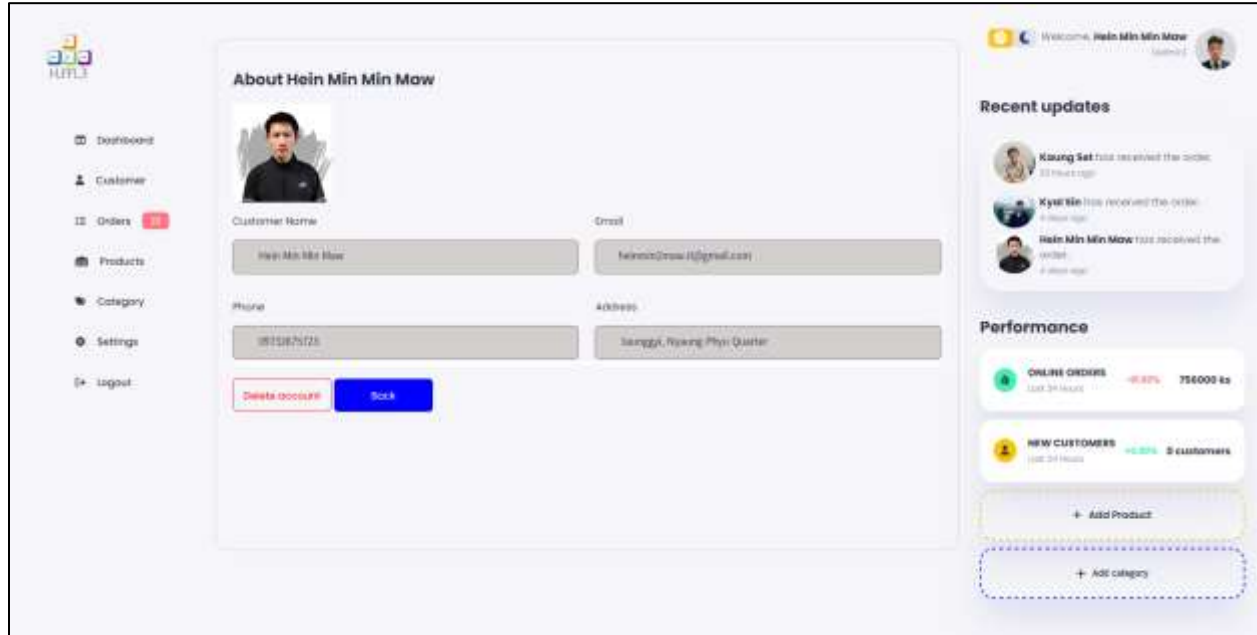


Figure 1.14: customer-detail page of the admin panel

### 3. Product manager page

The product manager page is a central hub for managing the product inventory. It allows the admin to view, organize, and control the product through a comprehensive table. Similar to the customer manager page, the product manager page is also used the “dataTables” library to enable admin organizing the product data efficiently.

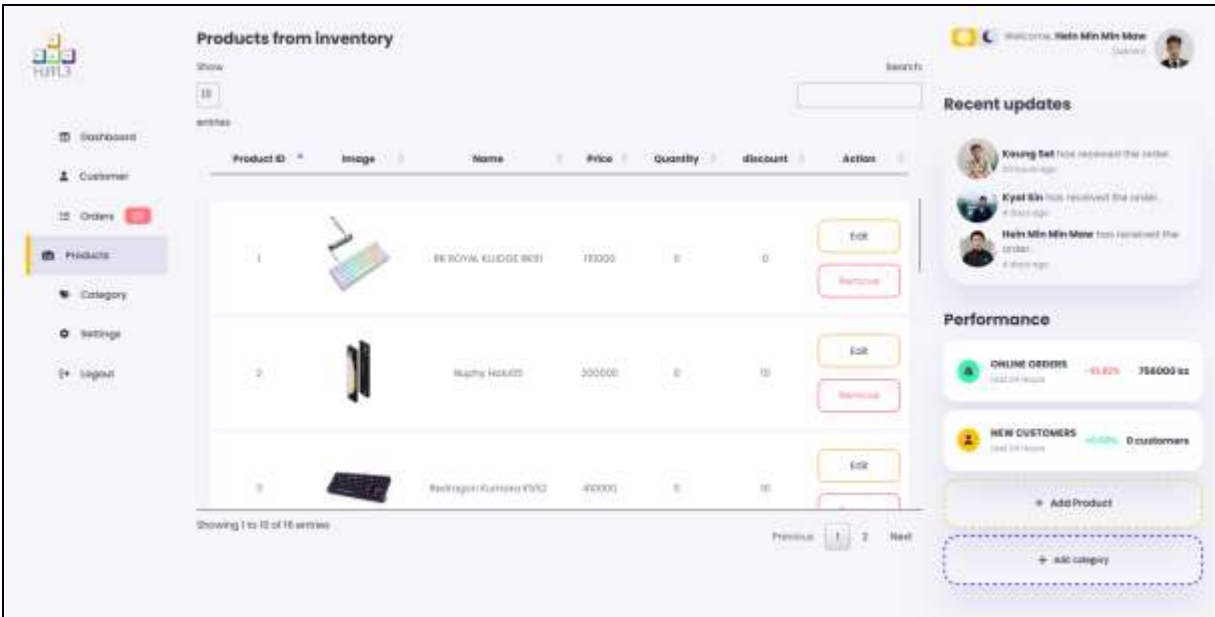


Figure 1.15: product manager page of the admin panel

**Update product page:** This page enables the admin to edit and update the details of existing products. The admin can modify information like product descriptions, pricing, availability, images, and other relevant attributes. The admin will need to go the product manager page firstly, to update the information of a specific product.

Figure 1.16: update product form of the admin panel

**Add product page:** As the name suggests, this page facilitates the addition of new products to the inventory. The admin can enter all the necessary details, including product name, description, pricing, discount, images, and categorization.

The screenshot displays the 'Add product Form' interface within an admin dashboard. The central form is titled 'Add product Form' and contains the following fields and controls:

- Enter product name:** A text input field.
- Product Specification:** A large text area for detailed description.
- Price:** A text input field with a placeholder 'Enter price in Kyat'.
- Category:** A dropdown menu with 'Royal Kledge' selected.
- Discount percent:** A text input field with a placeholder '0 percent'.
- Quantity:** A text input field with a placeholder '1'.
- Select Main Featured Image:** A file selection area with a 'Browse...' button and 'No file selected' status.
- Additional images (up to 4):** A file selection area with a 'Browse...' button and 'No file selected' status.
- Buttons:** 'Cancel' (red) and 'submit' (green) buttons at the bottom.

The dashboard includes a left sidebar with navigation links: Dashboard, Customer, Orders (with a red notification badge), Products, Category, Settings, and Logout. The right sidebar features a 'Recent updates' section with three entries, a 'Performance' section with two metrics (Online Orders and New Customers), and two buttons: '+ Add Product' and '+ Add category'.

Figure 1.17: add product form of the admin panel

#### 4. Order manager

The order manager page provides an overview of all customer orders. It allows the admin to track and manage the order. This include allowing admin to view and update the status of individual orders. Correspondingly, the “dataTables” library is used to allow admin to manage the order data to improve productivity. Additionally, the side bar of the admin panel also shows a number that indicate the number of products that the Martium’s company stored.

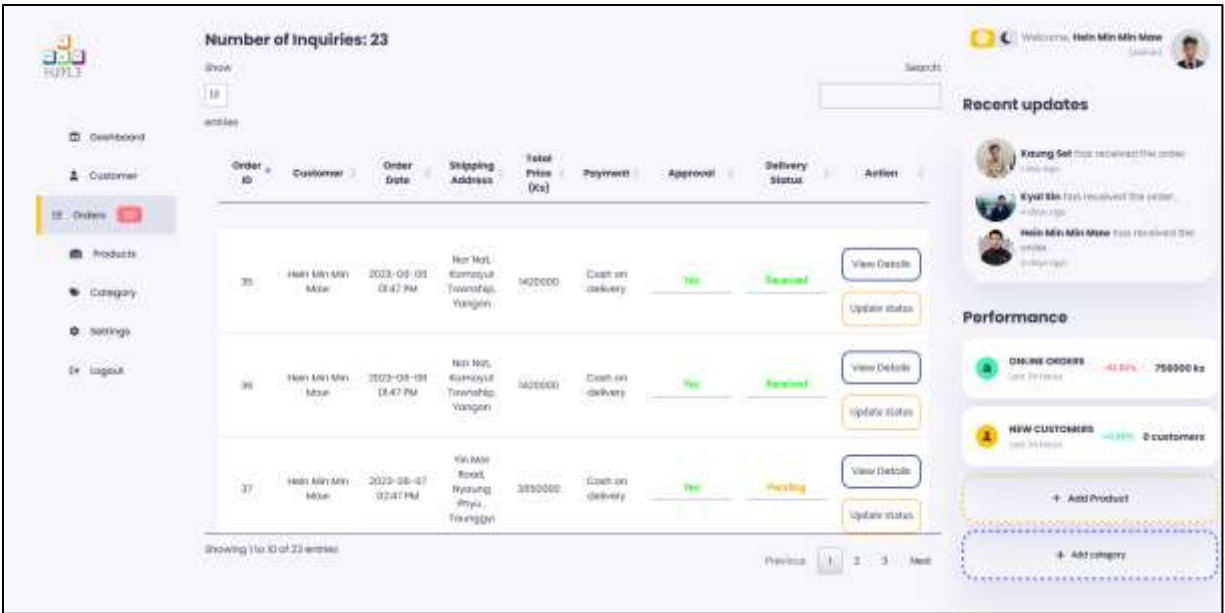


Figure 1.18: order manager page of the admin panel

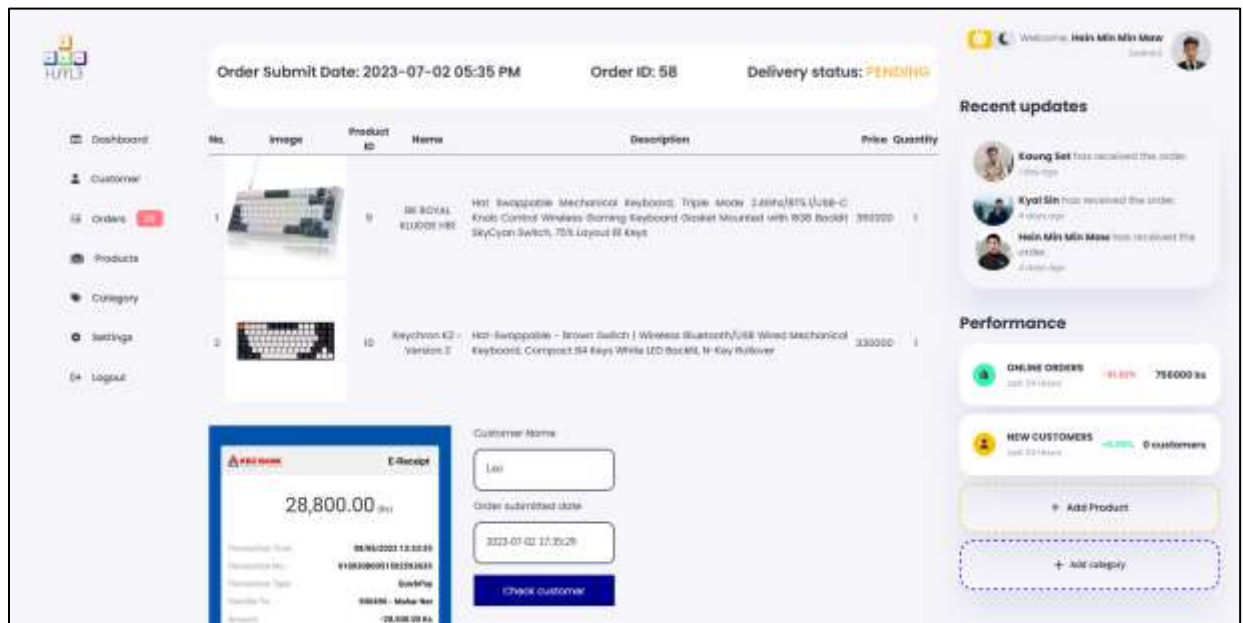


Figure 1.19: view-order page of the admin panel

## 5. Category manager

The category manager page enables the admin to control and organize the product categories within the e-commerce website. The admin can modify the category names of existing categories. Moreover, the admin can also create new categories in the event if the company decided to sell new type of product. Consequently, the page also allows the admin to remove category that

are no longer needed. However, the admin can only delete categories if there have no products that are showcased using that particular category.

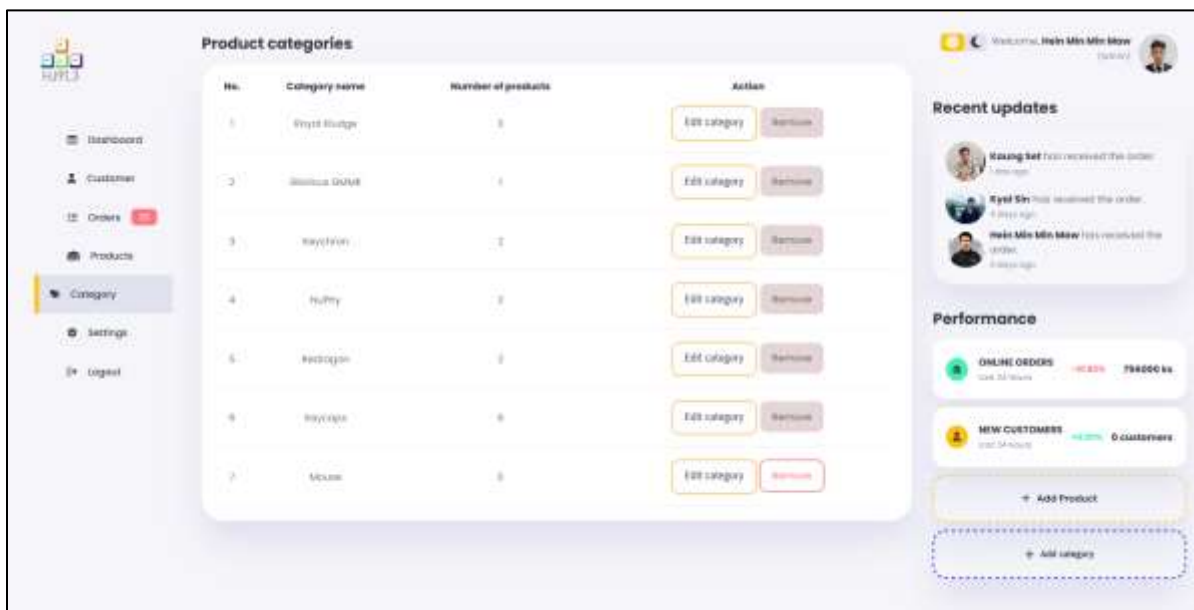


Figure 1.20: category manager of the admin panel

## 6. Setting

The settings page allows the admin to update its personal information including name, profile image, password, phone and email. However, the admin can only update after passing through the authentication check.

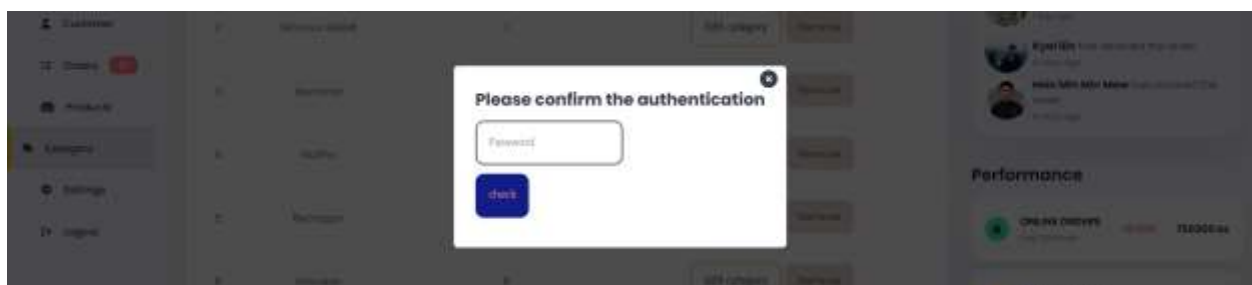


Figure 1.21: authentication check form before directing the user to the setting page

Moreover, to enhance the authentication check process, the admin can set up a custom question along with an answer. Additionally, to change the admin's password, the admin will need

to fill in the new password in the popup form when clicking the ‘Change Password’ button provided on the page.

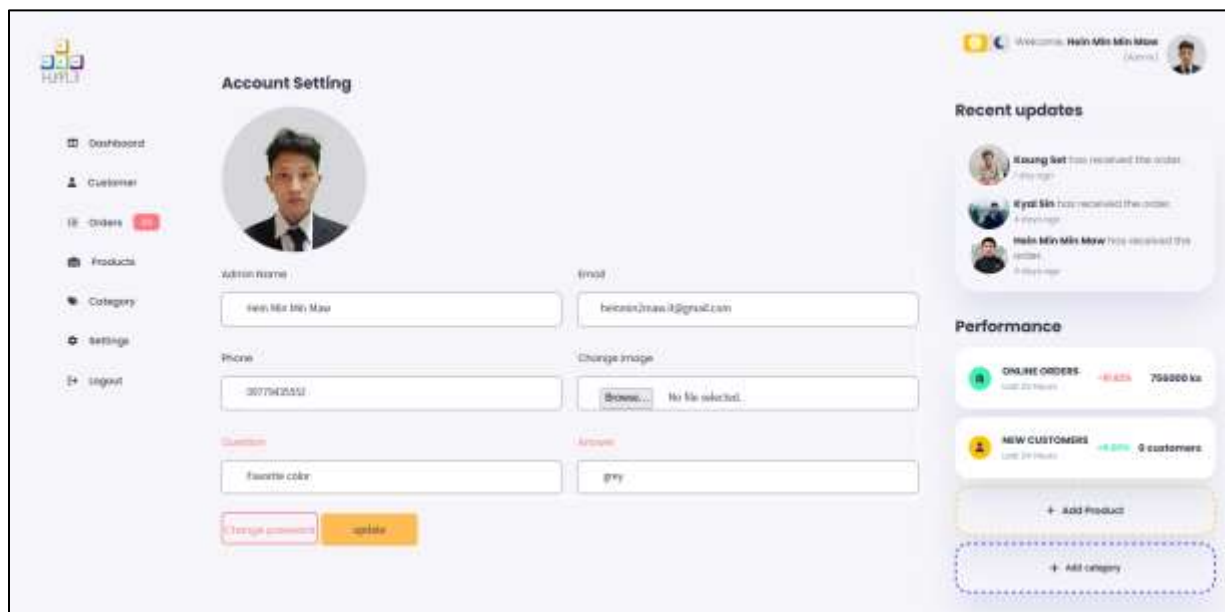


Figure 1.22: account setting page of the admin panel

To ensure that the admin is fully aware of the new password, a measure is implemented to check the entered password and confirm password for consistency.

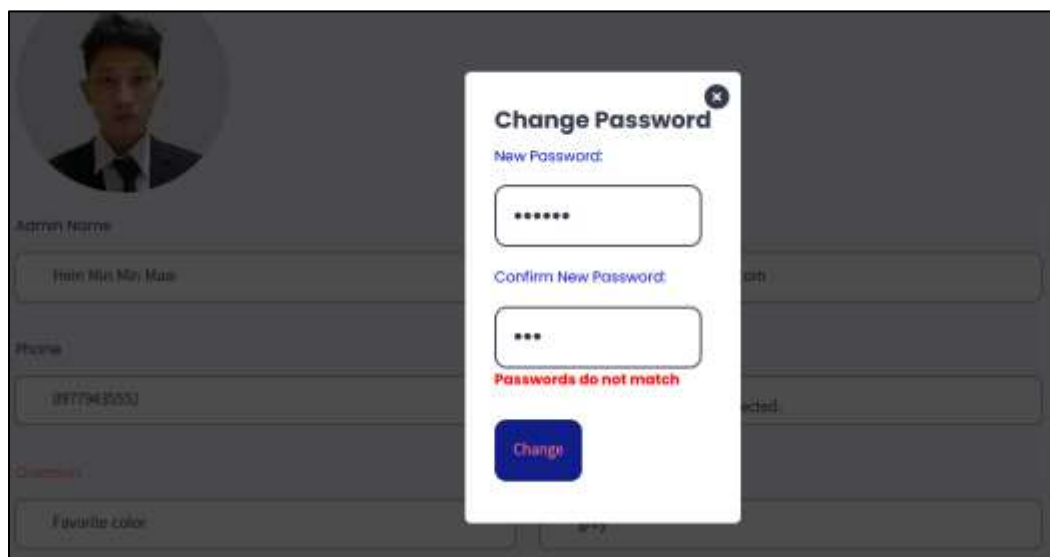


Figure 1.23: popup form after the admin clicked the “Change password” button



**Login form of the admin panel:** The Login form of the admin panel is implemented to operate differently compared to the login form on the client-site. In the admin panel, users or admins are required to login in order to validate their authentication. Moreover, the login form is designed to prompt users with a security question set up in the setting page of the admin panel. This additional security measure ensures a higher level of user authentication and access control within the admin panel.

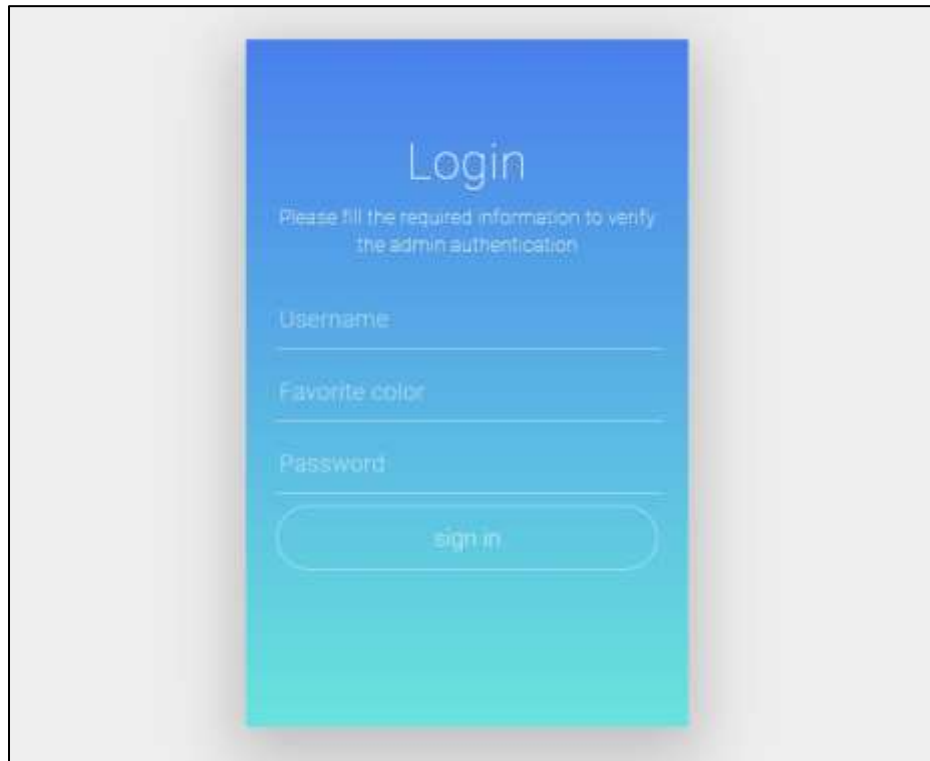


Figure 1.24: login form of the admin panel of Martium company

These pages provide the e-commerce website administrator of Martium company with the necessary functionality to efficiently manage customer information, product inventory, orders, and categories.

#### **404 page**

Additionally, 404 page is provided for both customers and admin. It is an error page that appears when customers or the admin encounter a broken or non-existent link or try to access a page that is no longer available. It informs users that the requested page cannot be found and offers a button that will direct users to the home page. This page is implemented to ensure a user-friendly experience even in situations where errors occur.

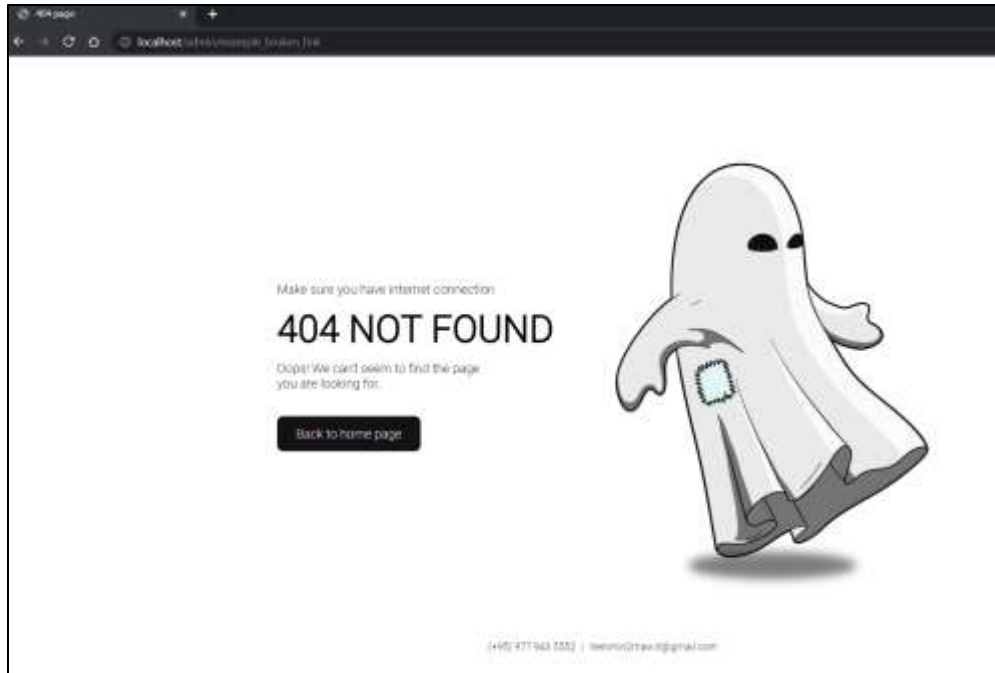


Figure 1.25: 404 page of the e-commerce website

## Implementation of Martium's e-commerce website

### 1. Navigation bar

The navigation bar contains buttons that direct users to key pages of the website such as shop page, contact page, about page, setting, login pages and shop cart page. Additionally, the links that direct user to promotion products, trends products and new arrived products are included in the navigation bar.

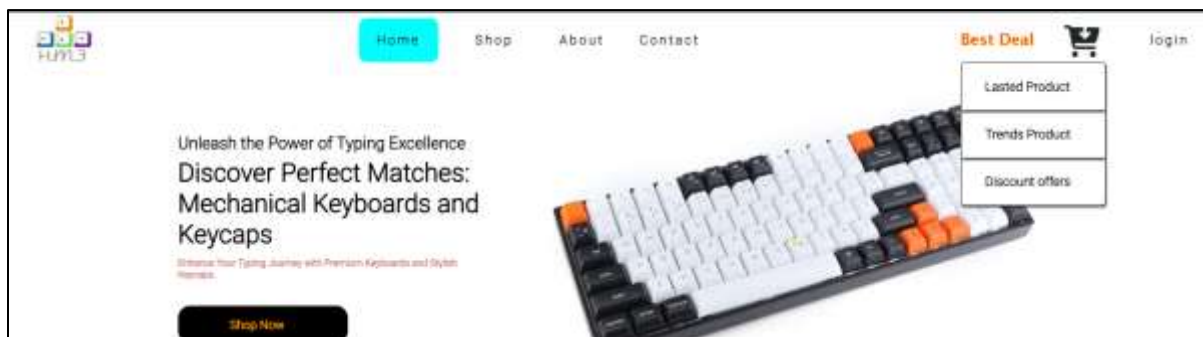


Figure 1.26: the implemented navigation bar of the website

Moreover, the navigation bar can change its displayed style when user is view in mobile phone, specifically pixel size that are less than 920 widths. This navigation bar will transform into a side bar menu that user can view through the click of the three-line or hamburger icon. When the user

is in the side bar navigation mode where the side bar is open, the three-line or hamburger icon will be highlighted in red color.



Figure 1.27: side navigation bar view of mobile users

As for the implementation, the navigation is implemented using the un-order list and list tags from HTML as well as event listeners from JavaScript to toggle the side bar menu.

## 2. Footer section

The footer section of Martium’s website serves multiple purposes to assist customers. It includes essential contact information for reaching out to Martium, as well as social media icons to facilitate communication and engagement. Additionally, the footer section incorporates a sitemap, providing easy access to key pages and sections such as the FAQ (frequently asked questions) section, mission and vision statements, and more. Lastly, the footer section prominently displays the accepted payment methods, accompanied by a “support” text.



Figure 1.28: Footer section of the website

The implementation of the footer section involved the utilization of the dedicated HTML tag called “footer.” This HTML tag ensures proper structuring and helps maintain semantic organization within the codebase of the website. Therefore, it will lead easier to maintain and make adjust to the footer of the web page in the future.

### 3. Search box

The search box feature is implemented using php and JavaScript languages. An “key up” event listener of JavaScript is added to the element that user will input the searched keywords.

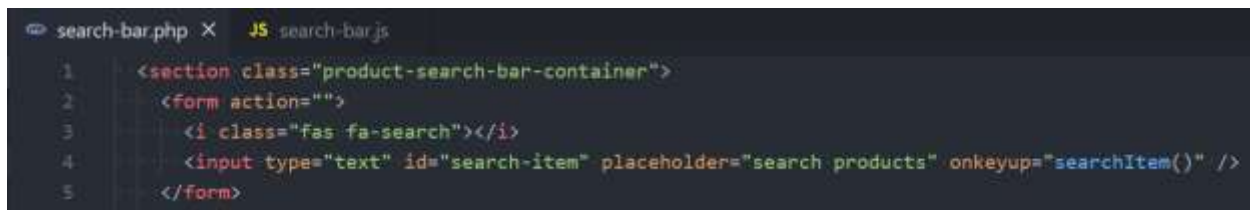
A screenshot of a code editor with a dark background. The editor shows two tabs: 'search-bar.php' and 'JS search-bar.js'. The 'search-bar.php' tab is active, displaying HTML code. The code consists of five lines: 1. <section class="product-search-bar-container">, 2. <form action="">, 3. <i class="fas fa-search"></i>, 4. <input type="text" id="search-item" placeholder="search products" onkeyup="searchItem()" />, 5. </form>. The code is color-coded: tags are in blue, attributes and values are in green, and the class and id names are in red. The line numbers 1 through 5 are visible on the left side of the editor.

Figure 1.29: code implementation of the search box function

Based on these keywords, the system will find the product that matched the user input keywords. Instead of finding the exact product that matched only with the inputted keywords, the function is implemented to be able to find the product without requiring all the information about the product. This help users easily find the products, improving user shopping experience.

In the implementation of this search box feature, the pre-defined elements are created by retrieving the data from the ‘products,’ ‘images,’ and ‘category’ tables. After that, these created elements are hidden using “display: none” property from CSS. When the user releases the key from the keyboard, the function will be executed.

```

6     <div id="search-bar-result">
7         <ul class="matched-item-lists">
8             <?php
9                 $get_product_images_sql = "SELECT p.*, i.primary_img, i.additional_image1, i.additional_image2, i.
10                    additional_image3, i.additional_image4, c.category_name
11                FROM product p
12                LEFT JOIN images i ON p.id = i.product_id
13                LEFT JOIN category c ON p.category_id = c.id";
14                $stmt = $connection->query($get_product_images_sql);
15                $search_data_source = $stmt->fetchAll(PDO::FETCH_ASSOC);
16
17                foreach ($search_data_source as $data) {
18                    $id = $data["id"];
19                    $name = $data["name"];
20                    $price = $data["price"];
21                    $quantity = $data["quantity"];
22                    $description = $data["description"];
23                    $primary_image = $data["primary_img"];
24                    $category = $data["category_name"];
25                    $quantity = $data["quantity"];
26                }
27                <li>
28                    <a href="./product-detail.php?view-product-id=?php echo $id ?>">

```

Figure 1.30: pre-creating elements by retrieving product data from a MySQL query that joins the ‘products,’ ‘images,’ and ‘category’ tables

As an example, “Royal” is entered as a sample input and the system output the product that matched with the input text “Royal.” Therefore, this feature will help customers to easily search and check their desired products efficiently.

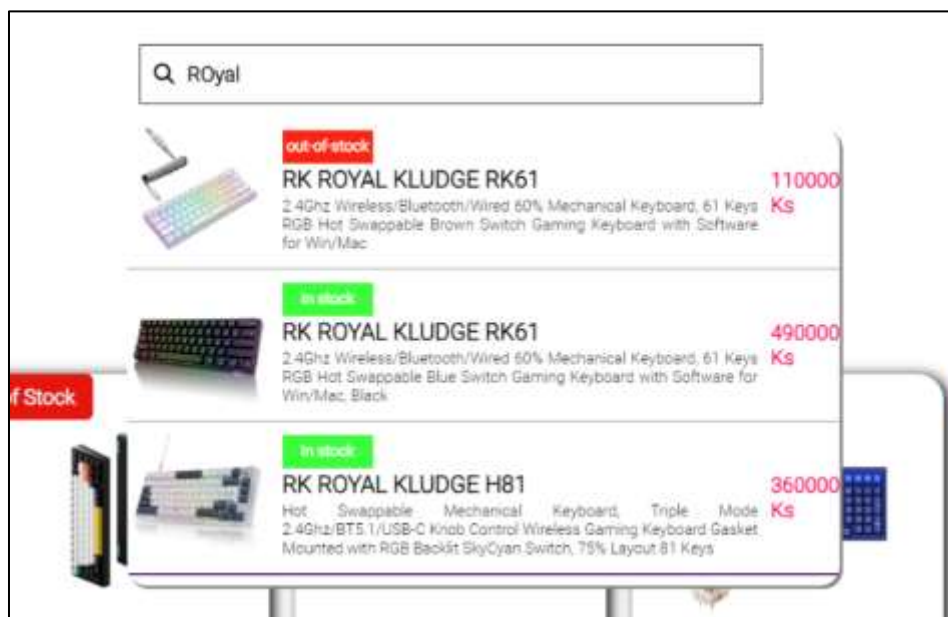


Figure 1.31: results of the search box feature with the input text “Royal”

#### 4. Sorting options

The sort options of the website allow customers to see a collection of product cards based on various options. These options include discount, most popular, highest price and lowest price. This feature will further facilitate customers to check the product.

In the implementation of this feature, it involved retrieving product data with different variant depending on the value of selection selected by the customers. However, the ordering of the products based on price involve additional calculation as the lowest price's products are displayed by taking discount into consideration.

```
47 if (isset($_POST["sort-type"])) {  
48     $selectedValue = $_POST['sort-type'];  
49     $orderBy = '';  
50     $_SESSION["sort-type"] = $selectedValue;  
51  
52     switch ($selectedValue) {  
53         case 'discount':  
54             $orderBy = 'ORDER BY discount DESC';  
55             break;  
56         case 'price-lowest':  
57             $orderBy = 'ORDER BY (price - (price * discount / 100)) ASC';  
58             break;  
59         case 'price-highest':  
60             $orderBy = 'ORDER BY (price - (price * discount / 100)) DESC';  
61             break;  
62         case 'popular':  
63             $orderBy = 'ORDER BY sold_quantity DESC';  
64             break;  
65         default:  
66             $orderBy = 'ORDER BY (price - (price * discount / 100)) ASC';  
67             break;  
68     }  
69     $get_item_per_page = "SELECT * FROM product $orderBy LIMIT $offset, $item_per_page";
```

Figure 1.32: creating MySQL query dynamically based on the user selected sort option

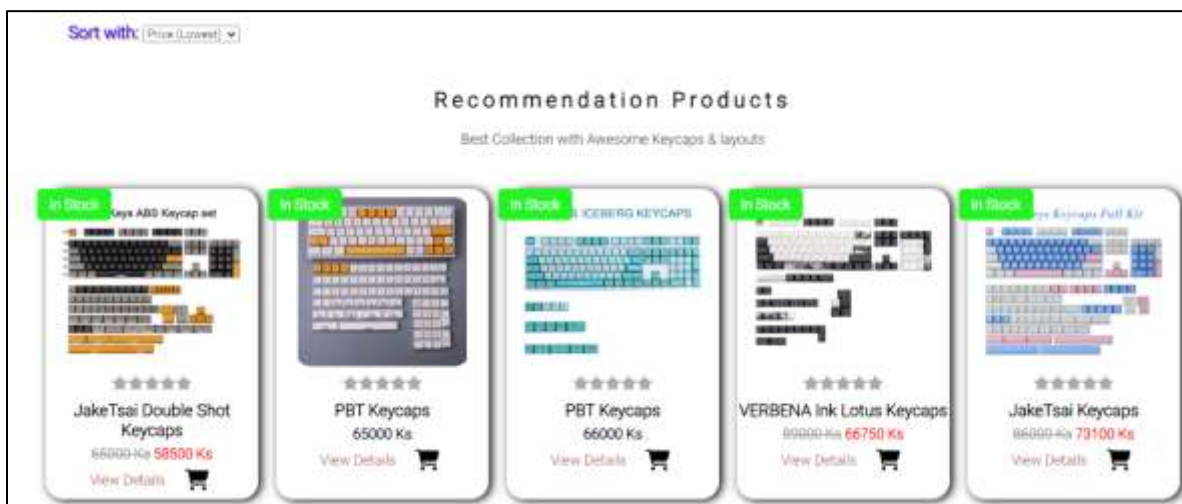


Figure 1.33: viewing products starting from the lowest price offered by Martium's e-commerce website

## 5. Dynamic Service and Product Showcase with Swiper.js

In the implementation of the product-swiper and service-swiper sections on Martium's e-commerce website, it involves the use of a JavaScript library called 'Swiper.js'. Swiper.js is a powerful and flexible library that enables the creation of responsive and interactive sliders or carousels. It allows for seamless looping of the product slides within a specified time period, providing a dynamic and engaging display of the service offers. By utilizing this library, the product swiper and service swiper sections showcase the various products and service offers provided by Martium in a unique way.



Figure 1.34: showcasing service offers of Martium using swiper.js library

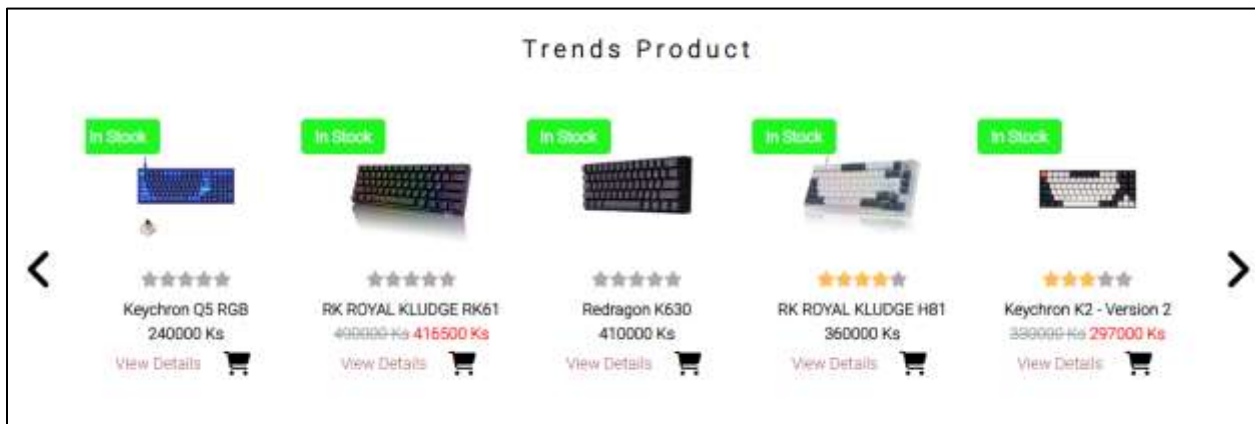


Figure 1.35: Product swiper section

By implementing Swiper.js, these swiper sections automatically transition between slides, creating a continuous loop that ensures all service offers and product are showcased to the user. This automated looping feature eliminates the need for manual navigation and ensures that users



have the opportunity to view all the available service offers and product without missing any. Additionally, Swiper.js enables users to have control and flexibility over the slides. Users can easily drag and swipe the slides horizontally, allowing them to navigate through the service offers at their own pace. This intuitive interaction capability enhances the overall user experience, empowering users to explore the product swiper section with ease and convenience.

## 6. FAQ section

The FAQ section on Martium's website is designed to cater to the most frequently asked questions by customers. This section serves as a comprehensive resource to provide answers and valuable information. To enhance usability and engagement, the FAQ section incorporates dynamic expansion functionality. When a user clicks the arrow button next to a question, the layout dynamically expands, revealing the corresponding answer. This interactive feature allows users to effortlessly access the information they seek, promoting a seamless and intuitive browsing experience.

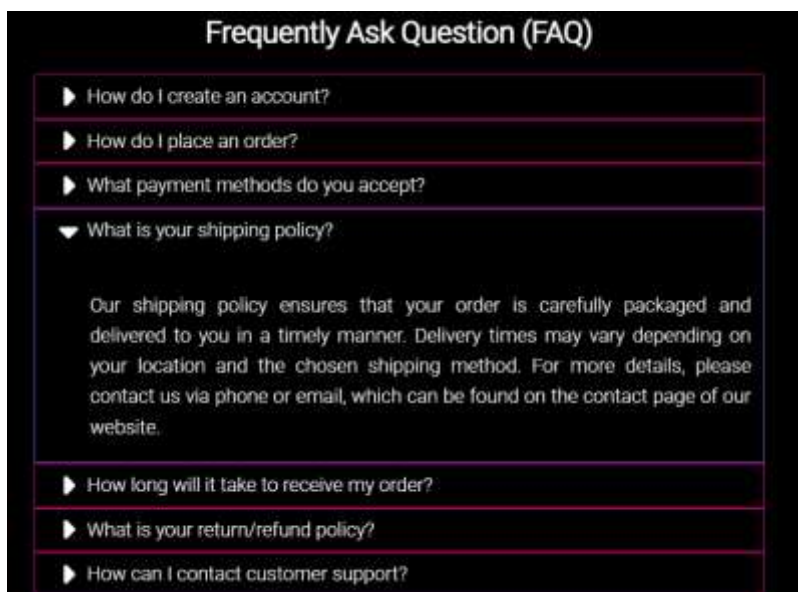


Figure 1.36: Interactive FAQ section

To further improve the visual appeal of the FAQ section, CSS styles have been carefully implemented. These styles enhance the aesthetics of the section, ensuring a visually pleasing presentation. Additionally, a transform animation is applied to facilitate a smooth and elegant expansion effect when revealing the answers.



By combining user-friendly functionality, visually appealing design elements, and an intuitive expandable layout, the FAQ section on Martium’s website provides customers with a convenient and engaging resource for finding answers to their most common questions.

## 7. Product Card: Showcasing Essential Product Information

Product cards are vital elements of an e-commerce website as they effectively display key details about each product. A product card includes the main product image, title, customer rating stars, discount, and price. This concise presentation allows customers to quickly assess the product and make informed purchasing decisions.

To facilitate convenient shopping, customers can add the product card to their cart by simply clicking the shop-cart icon, prominently displayed at the bottom of each card. This intuitive feature ensures a seamless shopping experience, allowing customers to effortlessly add desired products to their cart without navigating away from the product card. Moreover, users can check deeper into the product details by clicking the “View Detail” button. This action directs them to a dedicated page where comprehensive information about the product is provided. This enables customers to make a more informed decision, considering various aspects such as specifications, descriptions, and additional images.

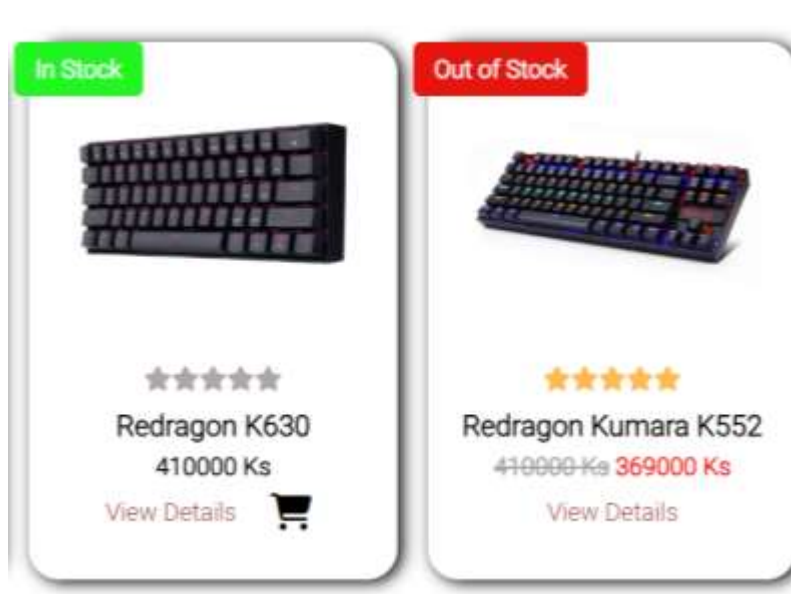


Figure 1.37: Visual outputs of in-stock product and out-of-stock product cards

At the top-left corner of the product cart, the stock status is displayed to inform the state of the product whether it is in stock or out of stock. Additionally, a certain condition is added in the implementation as if the product is out of stock, that is hiding the shop-cart icon to avoid user adding out of stock product to their shopping cart.

```
<?php
if ($quantity > 0) {
?>
<button type="submit" name="add_to_cart" class="add-to-cart">
  <i id="cart-btn" class="fa-solid fa-cart-shopping"></i>
</button>
<?php
}
?>
```

Figure 1.38: checking whether the product is in stock or not

Moreover, the product cart also includes another useful information for customers: customer ratings. These ratings are displayed on a five-star scale and are provided by previous customers of Martium's website. Therefore, customers can make more informed decisions as they examine the quality of the product.

```
<div class="product-info-div">
  <div class="rating-scale">
    <?php
    for ($i = 0; $i < $blank_stars; $i++) {
    ?>
    <i class="fa-solid fa-star disable-text"></i>
    <?php
    }
    for ($i = 0; $i < $average_rating; $i++) {
    ?>
    <i class="fa-solid fa-star warning"></i>
    <?php
    }
    ?>
  </div>
```

Figure 1.39: generating the star dynamically by looping the data calculated from all the review data retrieved from the 'product\_review' table

The implementation of this feature also involves the use of a form tag. When a user clicks the shop-cart icon to add product to shopping cart, the form carries all the necessary data related

to the product. This data is then cached in a session, allowing for smooth processing and tracking of the selected products as customers continue their shopping journey.

## 8. Cart list popup form

The Cart List Popup Form is a unique feature implemented in Martium's e-commerce website to significantly improve the customer shopping experience and boost conversion rates. This feature allows users to conveniently overview the products they have added to their carts without the need to navigate to a separate page. By clicking the shop bag icon displayed in the right-bottom corner of any page, the Cart List Popup Form promptly appears, providing a seamless and efficient way to manage cart items.

Within the form, users have the flexibility to easily adjust the quantity of products they have already added. They can increase or decrease the quantity as desired, facilitating effortless customization of their cart contents. Additionally, users can seamlessly remove specific products from their cart, eliminating any unwanted items.

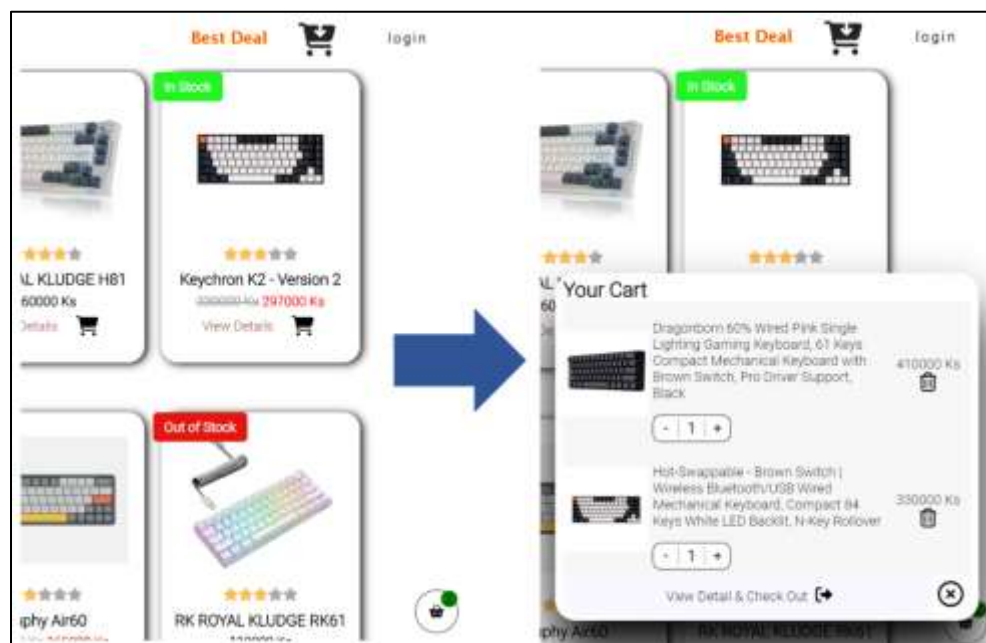


Figure 1.40: Visual Output of the Cart List Popup Form

The implementation of this feature incorporates various conditions, popup forms, and dynamic elements through the use of JavaScript and PHP. These enhancements ensure a smooth and intuitive user experience while preventing certain undesirable scenarios.

To maintain a balanced inventory and prevent abuse, the website sets a condition that restricts users from ordering more than five quantities of each product. If a customer attempts to exceed this limit, a popup form appears to inform them about the restriction, ensuring a fair shopping environment.

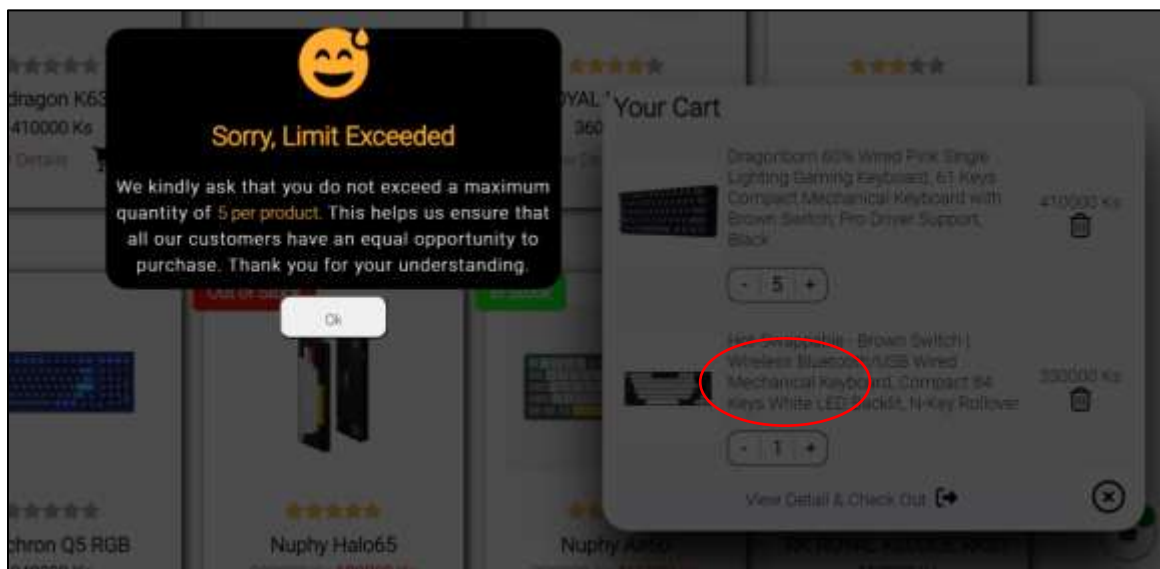


Figure 1.41: Alert Message for Exceeding Maximum Quantity Limit in Shopping Cart

Another crucial aspect of the feature is checking whether the requested quantity exceeds the available stock quantity. This process further enhances inventory management. If a customer tries to order more than the available stock, a corresponding popup form alerts them about the limitation, preventing disappointment and ensuring accurate stock allocation.

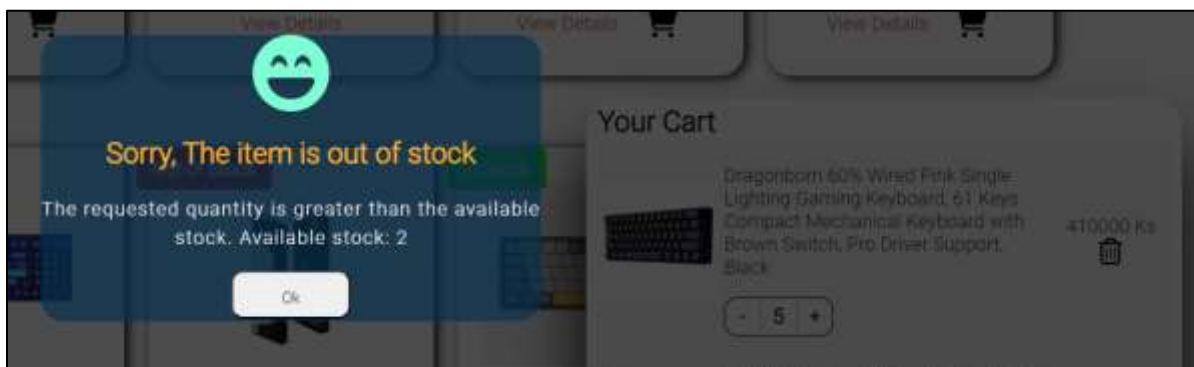


Figure 1.42: Inform Message for Exceeding in-stock Quantity Limit of the product

Furthermore, the cart list popup Form incorporates dynamic elements to enhance the user experience. For instance, if a customer removes all products from their cart, a crying face element is displayed, providing a lighthearted visual cue. Similarly, when a user clicks the shop bag icon without adding any products to the cart, another element appears to guide them, indicating an empty cart. These dynamic elements add a touch of uniqueness to the shopping experience, making it more engaging and enjoyable.

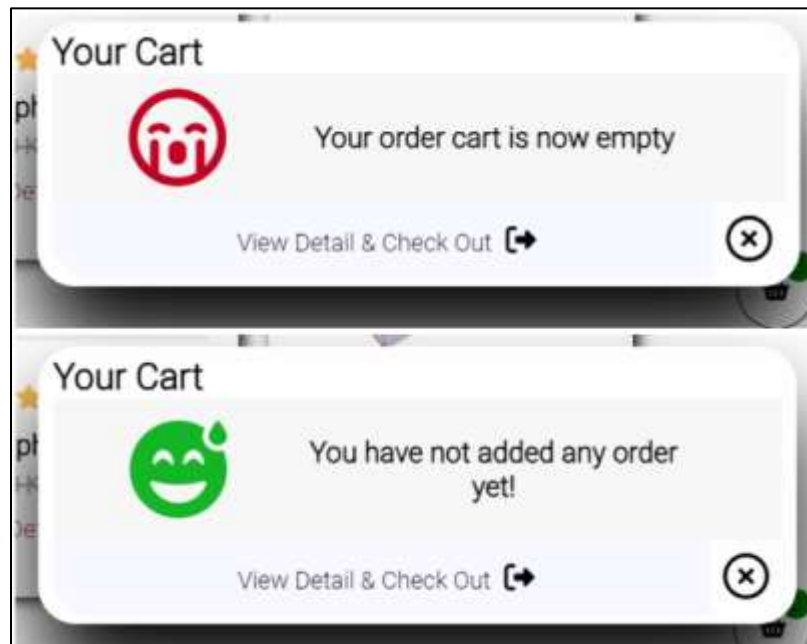


Figure 1.43: Dynamic elements of the cart list popup form

By implementing the cart list popup form with its interactive features, conditions, and dynamic elements, Martium's e-commerce website offers customers a seamless and efficient cart management system. This feature streamlines the shopping experience, prevents misuse, ensures stock availability, and adds an element of delight to the overall process.

## 9. Review sections and a review form

In Martium's e-commerce website, a robust review feature is implemented to foster trust among customers and promote transparency. The corresponding product detail page of each product includes a dedicated review section where customers can access and evaluate the reviews provided by previous customers. The reviews are displayed on a 5-star scale, derived from the

feedback shared by users who have purchased and used the product. These reviews are stored in the product\_review table for further usages.

To enhance the visual appearance of the review status, progress bars are incorporated. These progress bars represent the percentage of users who have given reviews for each star rating. For example, the progress bar for 5-star reviews represents the number of users who have rated the product with 5 stars. This visual representation offers a quick overview of the overall customer satisfaction level.



Figure 1.44: average review and the progress bar of reviews

Additionally, there are two conditions that need to be met in order to provide a review or feedback. Firstly, customers have to be logged in to ensure the collection of data alongside their customer profile for future recommendations and personalized experiences. Secondly, customers can only provide a review for one product once, emphasizing the importance of unique and genuine feedback. If both conditions are met, a review form will appear as a pop-up window, allowing customers to provide a star rating and accompanying feedback. Upon submitting the review, the page will responsively update to display the latest review, ensuring the availability of up-to-date information for potential customers.

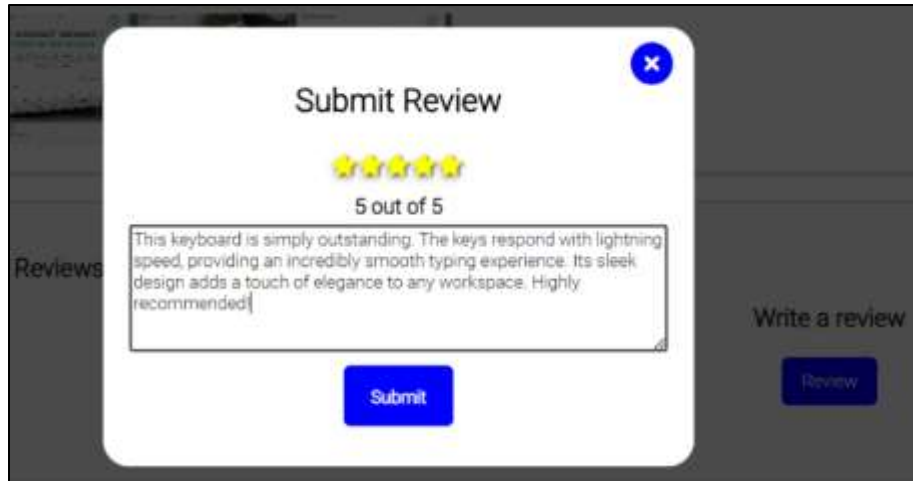


Figure 1.45: a review form that popup when the logged in users click the “Review” button

In the review display section, an additional condition is implemented to manage the visibility of reviews. If there are more than two reviews for a product, the review display section will not show all reviews by default.

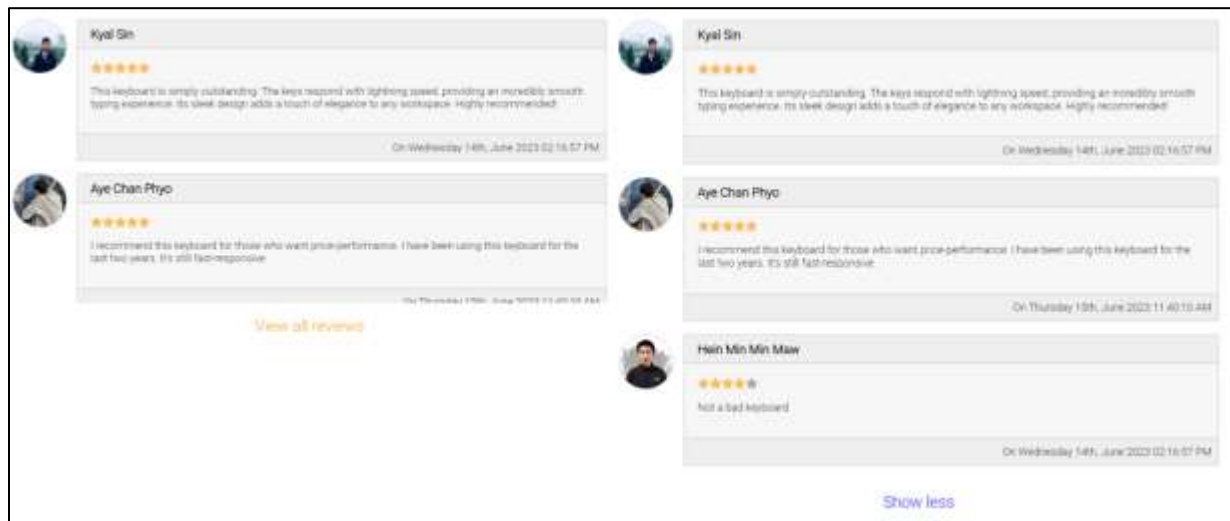


Figure 1.46: review section with expand and shrinks

Instead, a “View all reviews” button will appear at the bottom of the review section. Users can click this button to expand the review display section and view all reviews, or they can choose to shrink the section to show fewer reviews. This approach provides a user-friendly way to manage and access reviews, allowing customers to easily explore the feedback shared by others.

## **10. Check out form**

The checkout form, as its name implies, is a crucial component implemented using the HTML form tag, facilitating the storage of order information. However, to proceed with the checkout process, customers are required to be logged in to their accounts. In the case of the customers are not logged in, the system will request them to log in. Once the customer successfully logs in or creates an account, they can proceed with filling out the checkout form. The checkout form prompts customers to provide necessary information. This includes their shipping address, zip code, preferred payment methods, and any additional requests they may have. The available payment methods for customers to choose from are cash-on-delivery and mobile payment method KBZ-pay.

If a customer selects the cash-on-delivery option, there is no need for them to upload any transaction slips. However, if the customer chooses a mobile payment option, they will be required to upload transaction slips or screenshots as evidence of payment. This step ensures that the admin can verify the validity of the order. To streamline the process and avoid collecting unnecessary information, the form will not be submitted unless the customer uploads the required transaction slips.



**Checkout Form**

Shipping address


Zipcode/Postal Code

Additional request

Payment method:

☐ Cash On Delivery
☒ KBZ-Pay

Please use Kpay app and scan to pay



Hein Min Min Maw(\*\*\*\*\*5552)

Please upload your transaction Image

Figure 1.47: Visual representation of Checkout form when customers select mobile payment option

Upon submitting the checkout or order form, the system seamlessly directs the customer to the invoice page, where they can review the final details of their order before finalizing the purchase.

By implementing the checkout form with user authentication, various information fields, and specific requirements for different payment methods, Martium’s e-commerce website ensures a secure and efficient order process. This approach prioritizes customer convenience while maintaining the necessary steps for a reliable and trustworthy transaction.

## 11. Download Invoice method

The invoice page serves as a comprehensive summary of the customer’s order, providing essential information about the customer, the service provider responsible for delivering the product, and the details of the order itself. This page plays a pivotal role in ensuring transparency

and facilitating a smooth transaction process. The core feature of the invoice page is its printing capability. Users have the option to print the invoice form directly or save it as a PDF for future reference. This functionality enables customers to keep a physical or digital copy of their invoice for their records, ensuring they have all the necessary documentation regarding their purchase.

Home Shop About Contact

**HM3**  
Business Address  
City Yangon  
Country Myanmar  
Postal Code 11011

No. 34D, Nar Nat Taw Road, Kamayut Township, Yangon.  
Email: helenin2mawit@gmail.com

**Customer**  
Name: Kyai Sin  
Address: Insein Road, Myae Ni Township, Yangon  
Postal Code: 11011  
Invoice ID: I-2303  
Date 29-May-2023

NO.	NAME	DESCRIPTION	PRICE	QUANTITY	AMOUNT (KS)
1	PBT Japanese Style Keycaps	Japanese Keycaps for 128 Keys, Mechanical Keyboard Caps, Ergonomic Design, with Oil-Resistant PBT Materials, for Universal PC Gaming Keyboard	89000	2	178,000.00
Total Cost					178,000.00 Ks

Print the invoice section

Figure 1.48: Invoice page: a preview of the invoice

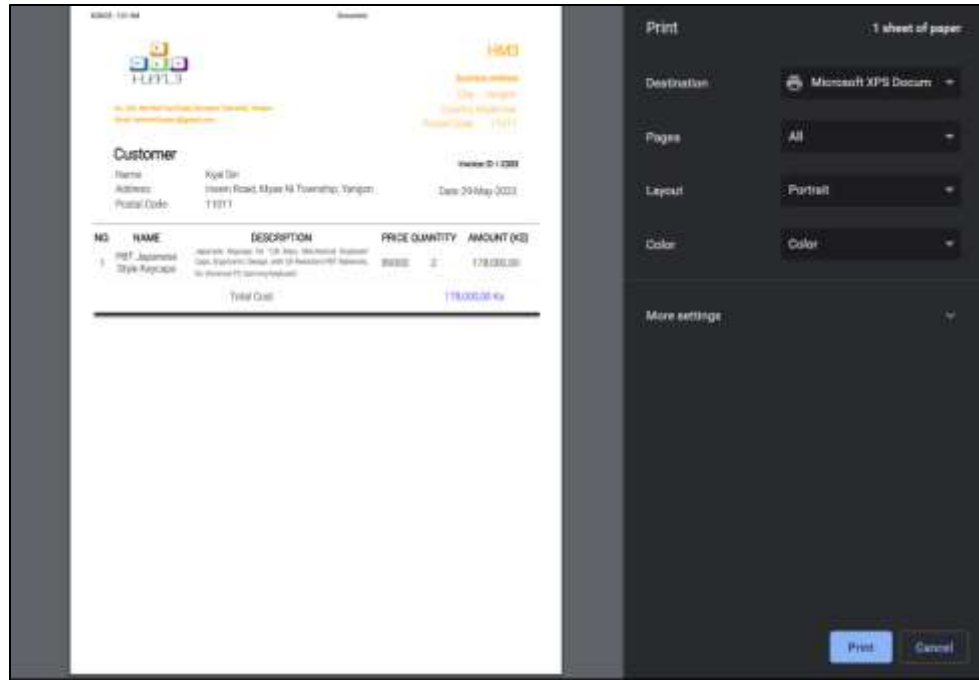


Figure 1.49: printing the invoice

This printing process is achieved by utilizing the print method provided by the window object in the browser.

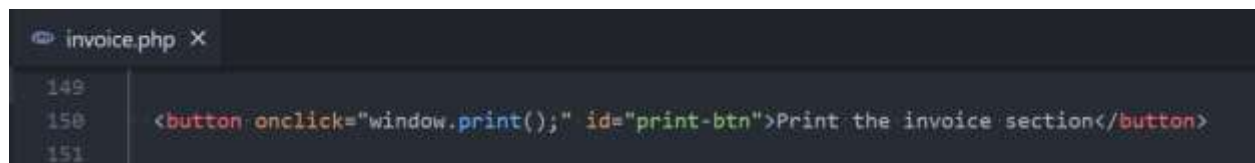


Figure 1.50: code implementation of print function

By incorporating a well-designed invoice page, Martium's e-commerce website enhances the customer experience by providing a comprehensive order summary and giving users the convenience of printing or saving the invoice for their convenience. This feature further promotes transparency, enables better record-keeping, and ensures a seamless post-purchase experience for customers.

## 12. Enhancing Admin Panel Functionality with 'dataTables' Library

The implementation of the admin panel in Martium's e-commerce website incorporates the powerful 'dataTables' jQuery library. This library is employed to enhance the functionality and user experience within the admin panel. 'dataTables' provides a wide range of features and

capabilities for managing and displaying tabular data. It allows the admin to efficiently organize, sort, search, and filter data within tables. With the help of 'dataTables', the admin panel becomes more interactive and user-friendly, enabling administrators to effectively handle large amounts of data.

The screenshot displays an 'Order Manager' interface. At the top, it shows 'Number of Inquiries: 16'. Below this is a search bar with the text 'Hein Min' and a 'Search' button. A red box highlights the search bar, with an arrow pointing to it from a label 'Search box'. The table below has columns: Order ID, Customer, Order Date, Shipping Address, Total Price (Ks), Payment, Approval Status, Delivery Status, and Action. The first three rows of data are visible. The first row shows Order ID 35, Customer Hein Min Min Maw, Order Date 2023-06-06 01:47 PM, Shipping Address Nar Nat, Kamayut Township, Yangon, Total Price 1420000, Payment Cash on delivery, Approval Status Yes, and Delivery Status Received. The second row shows Order ID 36, Customer Hein Min Min Maw, Order Date 2023-06-06 01:47 PM, Shipping Address Nar Nat, Kamayut Township, Yangon, Total Price 1420000, Payment Cash on delivery, Approval Status No, and Delivery Status Pending. The third row shows Order ID 37, Customer Hein Min Min Maw, Order Date 2023-06-07 02:47 PM, Shipping Address Yin Mar Road, Nyaung Phyu, Taunggyi, Total Price 3850000, Payment Cash on delivery, Approval Status Pending, and Delivery Status Pending. A red box highlights the bottom of the table with the text 'Showing 1 to 3 of 3 entries (filtered from 16 total entries)', with an arrow pointing to it from a label 'Filtering the orders that contain "Hein Min"'. The table also includes 'View Details' and 'Update status' buttons for each row.

Order ID	Customer	Order Date	Shipping Address	Total Price (Ks)	Payment	Approval Status	Delivery Status	Action
35	Hein Min Min Maw	2023-06-06 01:47 PM	Nar Nat, Kamayut Township, Yangon	1420000	Cash on delivery	Yes	Received	View Details Update status
36	Hein Min Min Maw	2023-06-06 01:47 PM	Nar Nat, Kamayut Township, Yangon	1420000	Cash on delivery	No	Pending	View Details Update status
37	Hein Min Min Maw	2023-06-07 02:47 PM	Yin Mar Road, Nyaung Phyu, Taunggyi	3850000	Cash on delivery	Pending	Pending	View Details Update status

Showing 1 to 3 of 3 entries (filtered from 16 total entries)

Figure 1.51: Application of datatable to the Order manager of the admin panel

In the implementation of the order manager, the process of retrieving data is accomplished using AJAX, with the assistance of jQuery to simplify the AJAX functionality. The retrieval of data is managed by the controller named "order\_tbl\_controller.php."

To fetch the necessary data for the order manager, AJAX is employed to send asynchronous requests to the server. This allows for seamless data retrieval without the need to reload the entire web page. jQuery, a popular JavaScript library, is utilized to streamline the AJAX implementation, providing convenient methods and syntax for making AJAX requests. Within the server-side codebase, the "order\_tbl\_controller.php" controller takes charge of handling these AJAX requests. It interacts with the database and processes the requested data, ensuring that the relevant information is fetched and delivered back to the client-side interface.

By utilizing AJAX and jQuery in the order manager's implementation, Martium's e-commerce website achieves efficient and dynamic data retrieval. This approach enhances the user experience by enabling real-time updates and seamless interactions with the order manager interface.

```
40 | $(document).ready(function() {  
41 |     $("#empTable").DataTable({  
42 |         processing: true,  
43 |         serverSide: true,  
44 |         scrollY: '400px',  
45 |         scrollCollapse: true,  
46 |         serverMethod: "post",  
47 |         ajax: {  
48 |             url: "../controller/order_tbl_controller.php",  
49 |         },  
50 |         // order data  
51 |         columns: [{ ...  
78 |     }],  
79 |     });  
80 | });
```

Figure 1.52: code implementation of AJAX code and custom customization of the table using 'dataTables' library

### 13. Performance cards

In the admin panel of Martium company, performance cards are implemented. One of the cards displays the new incoming customers, providing valuable insights into the growth of the website. It presents the percentage change (increase or decrease) in customer count compared to the previous day's performance. Additionally, it displays the total number of new customers acquired on the current day. This blog serves as a helpful indicator of customer acquisition trends and highlights the website's ability to attract and engage new users.

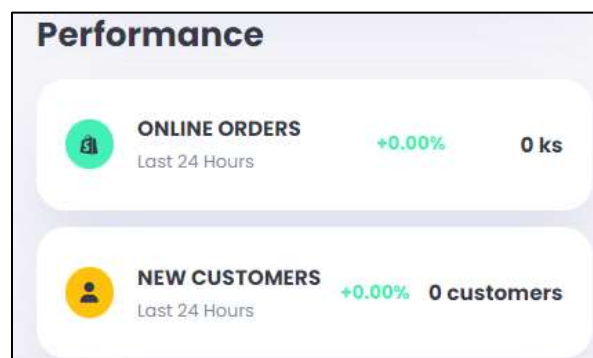
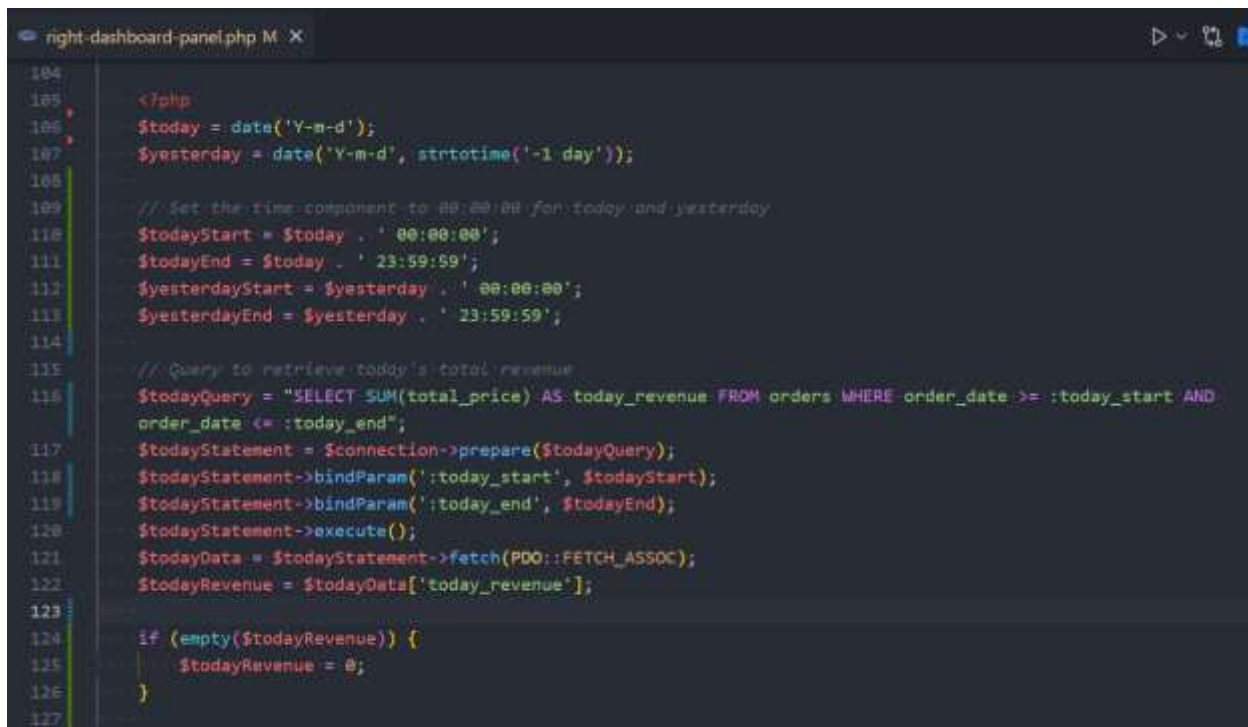


Figure 1.53: daily orders and new customers of the e-commerce website

Similarly, the second card focuses on the number of orders placed on the website. It provides information on the total number of orders processed on the current day and presents the percentage change in order count compared to the previous day. This card serves as a valuable metric for tracking daily order volumes and gauging the website's performance in terms of generating sales and transactions.

The implementation of these blogs involves performing calculations based on data from the previous day. To compare the customer count and order count for the current day with those from the previous day, relevant data is retrieved from the order table.

The image shows a code editor window titled 'right\_dashboard\_panel.php M X'. The code is in PHP and is used to retrieve today's total revenue from an 'orders' table. It starts by defining variables for the current day and yesterday's date, then sets time components to 00:00:00 for the start of the day and 23:59:59 for the end. A SQL query is prepared and executed to sum the 'total\_price' for orders within the current day's time range. The result is stored in '\$todayRevenue', and a fallback value of 0 is set if the result is empty.

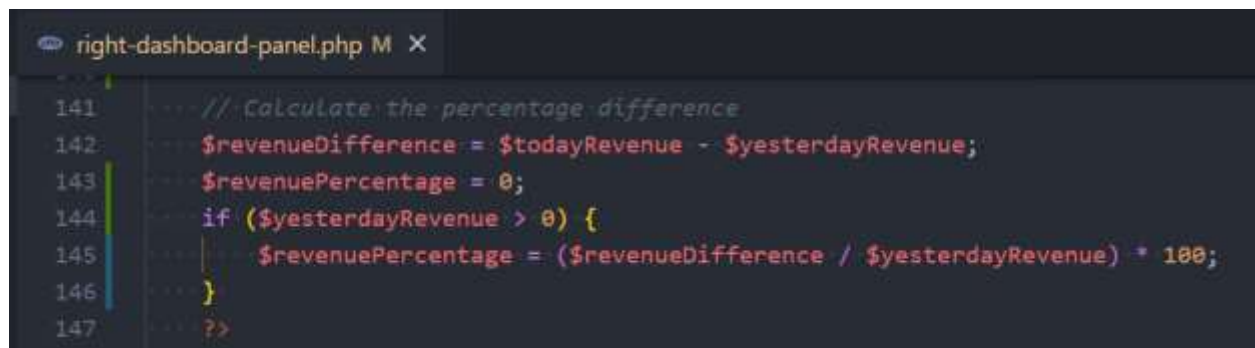
```
104
105
106 <?php
107 $today = date('Y-m-d');
108 $yesterday = date('Y-m-d', strtotime('-1 day'));
109
110 // Set the time component to 00:00:00 for today and yesterday
111 $todayStart = $today . ' 00:00:00';
112 $todayEnd = $today . ' 23:59:59';
113 $yesterdayStart = $yesterday . ' 00:00:00';
114 $yesterdayEnd = $yesterday . ' 23:59:59';
115
116 // Query to retrieve today's total revenue
117 $todayQuery = "SELECT SUM(total_price) AS today_revenue FROM orders WHERE order_date >= :today_start AND
118 order_date <= :today_end";
119 $todayStatement = $connection->prepare($todayQuery);
120 $todayStatement->bindParam(':today_start', $todayStart);
121 $todayStatement->bindParam(':today_end', $todayEnd);
122 $todayStatement->execute();
123 $todayData = $todayStatement->fetch(PDO::FETCH_ASSOC);
124 $todayRevenue = $todayData['today_revenue'];
125
126 if (empty($todayRevenue)) {
127     $todayRevenue = 0;
128 }
```

Figure 1.54: retrieving the orders that are submitted yesterday

In order to retrieve the orders submitted yesterday, a period-based retrieval approach is used. This is necessary because the `order_date` field stores timestamps along with the date information. Therefore, the "todayQuery" incorporates calculations based on time intervals rather than solely comparing days, months, and years. This approach ensures accurate data retrieval.

The same retrieval and calculation methods are also applied to the second card, which displays the number of new customers on the website. By utilizing the appropriate time intervals

and retrieving data from the customer table, the number of new customers can be accurately calculated for both today and yesterday.

A screenshot of a code editor window titled 'right-dashboard-panel.php M X'. The code is in PHP and shows lines 141 through 147. Line 141 is a comment: '// Calculate the percentage difference'. Line 142: '\$revenueDifference = \$todayRevenue - \$yesterdayRevenue;'. Line 143: '\$revenuePercentage = 0;'. Line 144: 'if (\$yesterdayRevenue > 0) {''. Line 145: ' \$revenuePercentage = (\$revenueDifference / \$yesterdayRevenue) \* 100;'. Line 146: '}'. Line 147: '?>'.

```
141 // Calculate the percentage difference
142 $revenueDifference = $todayRevenue - $yesterdayRevenue;
143 $revenuePercentage = 0;
144 if ($yesterdayRevenue > 0) {
145     $revenuePercentage = ($revenueDifference / $yesterdayRevenue) * 100;
146 }
147 ?>
```

Figure 1.55: implemented code that calculate the percentage of revenue as compare to yesterday

This data retrieval and comparison process enables the generation of accurate and up-to-date information for the performance cards, ensuring that users are provided with timely insights into the website's performance and growth.

Furthermore, real-time performance cards are implemented for daily and monthly sales as well as daily orders, allowing the admin to effectively gain insights into the company's situation. The implementation of these cards involves the retrieval of data using AJAX and PHP. This combination enables data updates without the need to reload the page whenever the admin selects a date from the calendar provided in the admin dashboard of the admin panel. Moreover, the calendar restricts users from selecting dates that have not yet been reached. By default, the data of the performance cards will be displayed for today date.

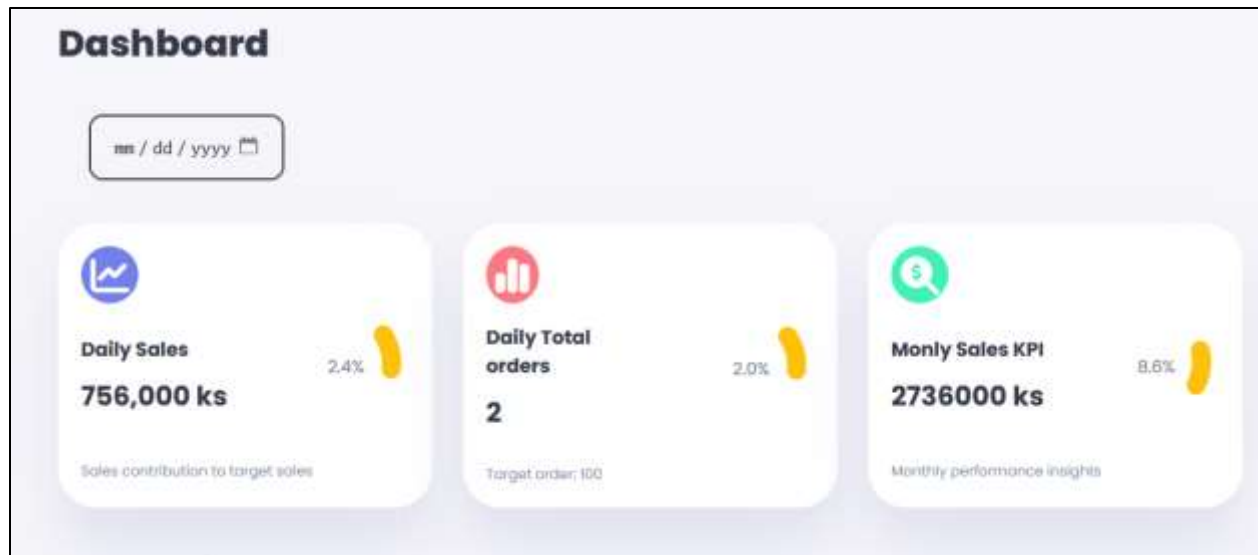


Figure 1.56: Performance cards: daily sales, daily number of orders and monthly sales of Martium's e-commerce website