**2 Project Specification**

**2.1 Functional (User) Requirements**

There are FIVE types of users divided by front-end and back-end. For the front-end, users are visitors and customers. For the back-end, the users are administrators, salespersons, and the shipper.

* + 1. **Visitors and customers - View Categories and Items:**

The visitors and customers MUST be able to view the categories on the home page.

The visitors and customers MUST be able to view items in different categories.

The customer SHALL be able to view more information about an item before adding it to the cart.

* + 1. **Visitor - Registration:**

The visitor MUST be able to register as a customer.

* + 1. **Customers - View Shopping Cart:**

The customer MUST be able add items to the cart.

The customer MUST be able to able view the shopping cart.

The customer MUST be able to check out with the current items in the cart.

* + 1. **Customers - Checkout Items**

The customer SHALL be able to check out items if there are items in the shopping cart.

* + 1. **Customers - Login Authentication**

The customer MUST login or register using the authentication form, and verification code.

The customer SHOULD not login or register if the information is incomplete or invalid

* + 1. **Customers - Place Order:**

The customer MUST place an order by completing the information in the order form.

* + 1. **Admin - View User Information**

The administrator MUST be able to view all the customers and salespersons’ information.

* + 1. **Admin - Add, Update, and Delete Shopping Items**

The administrator MUST be able to add new items to the list of shopping items.

The administrator MUST be able to modify or update an item’s price and description.

The administrator MUST be able to delete items from the main page of the shopping-cart.

* + 1. **Salespersons - View User Information**

The salespersons SHALL be able to view all the users’ information that completes the order form and the checkout process.

* + 1. **Salespersons - Add, Update, and Delete Shopping Items**

The salespersons MUST be able to add new items to the list of shopping items.

The salespersons MUST be able to modify or update an item’s price and description.

The salespersons MUST be able to delete items from the main page of the shopping-cart.

**2.1.11 Shipper – View, Search, and Update Orders**

The shipper MUST be able to view orders.

The shipper MUST be able to search orders.

The shipper MUST be able to update orders’ status (picked, shipping or delivered)

* 1. **Non-Functional Requirements**

Non-functional Requirements define system attributes such as availability, accessibility, security, reliability, performance, scalability, and usability.

* + 1. **Availability**

Administrators and users CAN access the application all year round any time, 24/7.

* + 1. **Accessibility**

The website MUST be accessible from any devices connected to the Internet such as personal computer, laptop, tablet and smartphone.

* + 1. **Security**

Except for visitors, all users MUST use authentication and verification code to login their account.

Passwords MUST be encrypted instead of being displayed or stored in plain text.

* + 1. **Reliability**

The system shall be able to save items to the shopping cart when the website close unexpectedly.

The system MUST keep the user data persistent when system update.

* + 1. **Performance**

The website MUST be easy to use and does not require much training for all users.

The users SHALL be able to add an item to the shopping cart in fewer than 4 seconds.

The users SHALL be able to view information about an item in fewer than 4 seconds.

The users SHALL be able to check out the items in the shopping cart within 20 seconds after completing the order form.

The navigation between pages SHALL take fewer than 4 seconds.

* + 1. **Scalability**

The system SHOULD have scalability for developing on demand and running well under load.

The back-end and front-end applications SHALL be scaled separately.