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User requirement specification

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03-03-2023

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Status: Open

Version: 0.01

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# Functional Requirements

## 2.1 Core Requirements

• FR-01: User Registration

o FR-01-A: The application shall provide a registration feature that allows users to create a new account by providing account information like email, password and address details.

• FR-02: User Login

o FR-02-A: The application shall provide a login feature that allows registered users to access their account by entering their email address and password.

• FR-03: Account Information

o FR-03-A: Registered users shall be able to view their account information, including their personal details, contact information, and purchase history.

• FR-04: Car Catalog

o FR-04-A: The application shall display a catalog of available cars for sale, including car models, makes, prices, and images.

• FR-05: Viewing Specific Car

o FR-05-B: The application shall display the detailed information of the car on a separate page, including its make, model, year, price, images, and features.

## 2.2 Major Requirements

• FR-06: Filtering and Searching

o FR-06-A: The application shall allow users to filter cars based on criteria such as price, make, model, and year.

o FR-06-B: The application shall provide a search bar that allows users to search for specific cars by entering keywords, such as make, model, or year.

• FR-07 User Experience

o FR-07-A: The website must be user-friendly and easy to navigate.

o FR-07-B: The website must be responsive.

o FR-07-C: The website must calculate shipping costs, discounts and taxes accurately.

o FR-07-D: The website must send confirmation emails to users after their orders have been placed.

• FR-08 Product Management

o FR-08-A: The website must have a large diverse product catalog.

o FR-08-B: The website must provide detailed product information, including images, descriptions, and pricing.

o FR-08-C: The website must allow users to easily search and filter products.

• FR-09: Shopping Cart

o FR-09-A: Users shall be able to add cars to their shopping cart and view the contents of their shopping cart.

• FR-10: Checkout

o FR-10-A: Registered users shall be able to checkout their shopping cart contents by providing their payment information and confirming the purchase.

• FR-11: Security

o FR-11-A: The application shall ensure the security of user information and payment details by implementing appropriate security measures, such as an independent payment screen and encrypted account credentials.

• FR-12: Administrator Login

o FR-12-A: The desktop application shall provide a login feature that allows administrators to access the backend of the webshop by entering their email address and password.

• FR-13: User Management

o FR-13-A: The desktop application shall allow administrators to view and manage user accounts, including creating new accounts, editing existing accounts, and deleting accounts.

• FR-14: Product Management

o FR-14-A: The desktop application shall allow administrators to view and manage the product catalog, including adding new products, editing existing products, and removing products.

• FR-15: Sales Management

o FR-15-A: The desktop application shall allow administrators to view and manage sales data, including tracking orders, managing inventory, and generating sales reports.

## 2.3 Minor Requirements

• FR-16: Social Media Integration

o FR-16-A: The application shall provide links to the company's social media pages, such as Facebook, Twitter, and Instagram, to allow users to follow the company and share their experience with others.

• FR-17: Product Reviews and Ratings

o FR-17-A: The application shall allow users to leave product reviews and ratings for cars they have purchased.

o FR-17-B: The application shall display the reviews and ratings on the car details page to provide social proof and help other users make informed purchasing decisions.

## 2.4 MoSCoW

|  |  |  |  |
| --- | --- | --- | --- |
| Must | Should | Could | Won’t |
| FR-01, FR-02, FR-03, FR-04, FR-05, FR-06, FR-07, FR-08, FR-09, FR-10, FR-12, FR-13, FR-14 | FR-11, FR-16 | FR-15 | FR-07-D, FR-17 |

# Use Cases

UC 01 - FR-01-A: User Registration

Actor: Website User

Description: User registers for a new account

Main Success Scenario:

1. The user navigates to the registration page.
2. The application displays a registration form that prompts the user to enter their personal information, such as their name, email address, password, and address details.
3. The user fills in the required fields and submits the form.
4. The application verifies the user's information and creates a new account.
5. The user can now login to their new account.
6. The user can now access their account and any other features that require authentication, such as placing an order.

Extensions: 4a. If the user enters invalid information, the application displays an error message and prompts the user to correct the information.

* 1. The application notifies the user that they entered invalid information.
  2. Return to MSS step 2.

4b. If the user's email already exists in the system, the application displays a message informing the user that they already have an account and prompts them to log in instead.

* 1. The application notifies the user that they already have an account.
  2. Return to MSS step 1.

Use Case - FR-02-A: User Login

Actor: Website User

Description: User login to their account

Main Success Scenario:

1. User navigates to the website login page.
2. The website displays a login form that prompts the user to enter their email address and password.
3. The user enters their email address and password and clicks the login button.
4. The website verifies the user's credentials and logs the user into their account.
5. The website displays a welcome message and redirects the user to their account page.
6. The user can now access their account and any other features that require authentication, such as paying from shopping cart.

Extensions: 3a. If the user enters incorrect login credentials, the website displays an error message and prompts the user to try again.

1. System notifies the user that they put in incorrect information.
2. Return to MSS step 2.

Use Case - FR-03-A: Account Information

Actor: Website User

Description: User views their account information

Main Success Scenario:

1. User logs into their account.
2. The website displays the user's account information, including their personal details, contact information, and purchase history.
3. The user can view and edit their account information as desired.

Extensions: 2a. If the user encounters any issues while viewing or editing their account information, the website displays an error message and prompts the user to try again.

* 1. System notifies the user of the error.
  2. Return to MSS step 2.

Use Case - FR-04-A: Car Catalog

Actor: Website User

Description: User views the car catalog

Main Success Scenario:

1. User navigates to the car catalog page.
2. The website displays a catalog of available cars for sale, including car models, makes, prices, and images.
3. The user can browse through the catalog and select a car they are interested in.

**Extensions**: 2a. If the website encounters any issues while displaying the car catalog, the website displays an error message and prompts the user to try again.

* 1. System notifies the user of the error.
  2. Return to MSS step 2.

Use Case - FR-05-B: Viewing Specific Car

Actor: Website User

Description: User views detailed information about a specific car

Main Success Scenario:

1. User selects a car from the car catalog.
2. The website displays the detailed information of the car on a separate page, including its make, model, year, price, images, and features.
3. The user can view additional information and images of the car, as well as add the car to their shopping cart if desired.

Extensions: 2a. If the website encounters any issues while displaying the car details, the website displays an error message and prompts the user to try again.

* 1. System notifies the user of the error.
  2. Return to MSS step 2.

Use Case - FR-06-A: Filtering Cars in Catalog

Actor: Website User

Description: User filters and searches for cars

Main Success Scenario:

1. User navigates to the car catalog page.
2. The website displays a catalog of available cars for sale, including car models, makes, prices, and images.
3. The user selects a filtering criteria such as price, make, model, and year or enters keywords into the search bar.
4. The website updates the car catalog to display only the cars that match the selected criteria.

Extensions: 3a. If the website encounters any issues while filtering or searching for cars, the website displays an error message and prompts the user to try again.

* 1. System notifies the user of the error.
  2. Return to MSS step 2.

Use Case - FR-06-B: Search Cars in Catalog

Actor: Website User

Description: User searches for a specific car in the catalog by entering keywords.

Main Success Scenario:

1. The user clicks on the search bar located on the catalog page.
2. The user enters keywords, such as model into the search bar.
3. The system displays a list of search results based on the entered keywords.
4. The user can then click on a specific car in the search results to view its details and add to cart.

Extensions: 3a. If no cars are found that match the user's search criteria, the website displays a message informing the user that no results were found and prompts them to modify their search.

* 1. System displays a message stating no results were found.
  2. Return to MSS step 2.

Use Case - FR-07-C: Accurate Calculation of Shipping, Discounts, and Taxes

Actor: Website User

Description: User purchases cars and pays for shipping, discounts, and taxes

Main Success Scenario:

1. The user adds one or more cars to their shopping cart and proceeds to checkout.
2. The website displays a summary of the user's order, including the total cost of the cars, any applicable discounts, shipping costs, and taxes.
3. The website accurately calculates and displays the total cost of the order, including all applicable charges and fees.
4. The user enters their payment information and confirms the purchase.
5. The website processes the payment and sends a confirmation email to the user.

Extensions: none

Use Case - FR-08-A: Product Catalog

Actor: Website User

Description: View Product Catalog

Main Success Scenario:

1. User opens the website and navigates to the product catalog page \*this product catalog can be mixed with car catalog.
2. The website displays a catalog of products available for sale, including images, descriptions, and pricing.
3. User can browse through the products and click on a product for more details.

Extensions: 2a. If the website cannot retrieve the product catalog from the database, the website displays an error message and prompts the user to try again later.

* 1. System notifies the user that there was an error retrieving the product catalog.
  2. Return to MSS step 1.

Use Case - FR-08-B: Product Details

Actor: Website User Description: View Product Details

Main Success Scenario:

1. User clicks on a specific product from the product catalog page.
2. The website displays the product details page, including images, descriptions, and pricing.
3. User can view additional information about the product.

Extensions: 2a. If the website cannot retrieve the product details from the database, the website displays an error message and prompts the user to try again later.

* 1. System notifies the user that there was an error retrieving the product details.
  2. Return to MSS step 1.

Use Case - FR-08-C: Search and Filter Products

Actor: Website User

Description: Search and Filter Products

Main Success Scenario:

1. User opens the website and navigates to the product catalog page.
2. The website displays a search bar and filter options.
3. User can enter keywords into the search bar to search for specific products or select filter options to narrow down the search results.
4. The website displays the search results or filtered products.

Extensions: 3a. If the website cannot retrieve the search results from the database, the website displays an error message and prompts the user to try again later.

* 1. System notifies the user that there was an error retrieving the search results.
  2. Return to MSS step 1.

Use Case - FR-09-A: Shopping Cart

Actor: Website User

Description: Adding cars to the shopping cart

Main Success Scenario:

1. The user is viewing the car catalog.
2. The user clicks the "Add to Cart" button for a desired car.
3. The website adds the car to the user's shopping cart.
4. The user can continue shopping and add more cars to their cart, or proceed to checkout.

Extensions: none

Use Case - FR-10-A: Checkout

Actor: Website User

Description: Checking out and purchasing cars

Main Success Scenario:

1. The user is viewing their shopping cart.
2. The user clicks the "Checkout" button to proceed with the purchase.
3. The website prompts the user to enter their payment information.
4. The user fills in the required fields and submits the payment information.
5. The website displays a confirmation message.
6. The user can now view their purchase history in their account information.

Extensions:

3a. If the user enters invalid payment information, the website displays an error message and prompts the user to correct the information.

1. System notifies the user that they put in invalid payment information.
2. Return to MSS step 3.

5a. If the payment is declined, the website displays an error message and prompts the user to provide valid payment information or choose a different payment method.

1. System notifies the user that their payment has been declined.
2. Return to MSS step 3.

Use Case - FR-12-A: Administrator Login

Actor: Administrator

Description: Administrator login to backend of the webshop

Main Success Scenario:

1. The desktop application displays the login page.
2. The administrator enters their email address and password.
3. The desktop application verifies the administrator's information.
4. The desktop application grants the administrator access to the backend of the webshop.
5. The desktop application displays the main dashboard of the backend.

Extensions: 3a. If the administrator enters invalid information, the desktop application displays an error message and prompts the administrator to correct the information.

* 1. The desktop application notifies the administrator that they entered incorrect information.
  2. Return to MSS step 2.

Use Case - FR-13-A: User Management

Actor: Administrator

Description: Administrator manages user accounts

Main Success Scenario:

1. The desktop application displays the user management dashboard.
2. The administrator selects the option to create a new user account.
3. The desktop application displays the user account creation form.
4. The administrator fills in the required fields and submits the form.
5. The desktop application verifies the user's information and creates a new user account.
6. The desktop application displays the updated user management dashboard, including the new user account.

Extensions: 4a. If the administrator enters invalid information, the desktop application displays an error message and prompts the administrator to correct the information.

* 1. The desktop application notifies the administrator that they entered incorrect information.
  2. Return to MSS step 3.

Use Case - FR-14-A: Product Management

Actor: Administrator

Description: Administrator manages product catalog

Main Success Scenario:

1. The desktop application displays the product management dashboard.
2. The administrator selects the option to add a new product.
3. The desktop application displays the product creation form.
4. The administrator fills in the required fields and submits the form.
5. The desktop application verifies the product information and adds the new product to the product catalog.
6. The desktop application displays the updated product management dashboard, including the new product.

Extensions: 4a. If the administrator enters invalid information, the desktop application displays an error message and prompts the administrator to correct the information.

* 1. The desktop application notifies the administrator that they entered incorrect information.
  2. Return to MSS step 3.

Use Case - FR-15-A: Sales Management

Actor: Administrator

Description: Administrator manages sales data

Main Success Scenario:

1. The desktop application displays the sales management dashboard.
2. The administrator selects the option to view sales reports.
3. The desktop application generates and displays the sales report.

Extensions: none