**Use Cases**

**for**

MerchantDice

**Version 1.0 approved**

**Prepared by APT200**

**Nanyang Technological University**

**31 August 2022**

**Revision History**

| **Name** | **Date** | **Reason For Changes** | **Version** |
| --- | --- | --- | --- |
| Lee Wen Bin Andre | 31/08/2022 | Initial Draft | 1.0 |
| Lee Wen Bin Andre | 06/09/2022 | Update existing use cases and their descriptions. Add new use cases. | 1.1 |

**Use Case List**

| ***Primary Actor*** | ***Use Cases*** |
| --- | --- |
| User (Initiating), User Database (Participating) | 1.1 - Login |
| User (Initiating), User Database (Participating) | 1.2 - Register |
| User (Initiating) | 1.3 - Logout |
| User (Initiating) | 2 - Manage Product |
| Product Database (Participating) | 2.1 - Create Product |
| Product Database (Participating) | 2.2 - Read Product |
| Product Database (Participating) | 2.3 - Update Product |
| Product Database (Participating) | 2.4 - Delete Product |
| User (Initiating), User Database (Participating) | 3 - View Purchase History |
| User (Initiating), Application Interface (Participating) | 4 - Manage Explore Page |
| Product Database (Participating) | 4.1 - Show Product Listing |
| - | 4.2 - Search Products |
| - | 4.3 - Sort Products |
| User Database (Participating) | 4.4 - Favorite Products |
| Application Interface (Participating) | 5 - View Merchant Page |
| Application Interface (Participating) | 5.1 - Manage Reviews |
| Reviews Database (Participating) | 5.1.1 - Display Reviews |
| Reviews Database (Participating) | 5.1.2 - Write Review |
| Reviews Database (Participating) | 5.1.3 - Update Review |
| Reviews Database (Participating) | 5.1.4 - Delete Review |
| User Database (Participating), Product Database (Participating) | 5.2 - Purchase Product |
| User (Initiating), Application Interface (Participating) | 6 - View Chat Page |
| Message Database (Participating) | 6.1 - Display Message |
| Message Database (Participating) | 6.2 - Send Message |

**Use Case** Descriptions

| Use Case ID: | 1.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Login | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating), User Database (Participating) |
| --- | --- |
| Description: | The user must be able to login to access the application’s features. |
| Trigger: | The user launches the application. |
| Preconditions: | 1. The user must have an internet connection. 2. The user is not already logged in. 3. The user must have previously registered an account. |
| Postconditions: | 1. The user has been logged into the application. |
| Normal Flow: | 1. The user launches the application. 2. The system will display a login screen with fields for “Username/Email” and “Password” and button “Login”. 3. The user enters their username/email in the “Username/Email” field. 4. The user enters their password in the “Password” field. 5. The user presses the “Login” button. 6. The system queries the user database and checks that the user exists and the password matches. 7. The system logs the user in and displays the main page. |
| Alternative Flows: | AF-S6: Account does not exist   1. The user enters an invalid username/email. 2. An error message is displayed “Please enter a valid username/email!”. 3. The user acknowledges the error message. 4. The application clears the input fields. 5. The use case returns to step 3.   AF-S6: Wrong password   1. The user enters a valid username/email but an invalid password. 2. An error message is displayed “Please check your password is entered correctly!”. 3. The user acknowledges the error message. 4. The application clears the input field for “Password”. 5. The use case returns to step 4. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | Low - Only once per session |
| Business Rules: | Each device can only have a maximum of 1 logged in user. |
| Special Requirements: | SR1 - The system should be able to authenticate the user within 3 seconds. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 1.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Register | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating), User Database (Participating) |
| --- | --- |
| Description: | The user must be able to create a new user account. |
| Trigger: | The user navigates to the Registration screen. |
| Preconditions: | 1. The user must be on the Registration screen. 2. The user account must not already exist in the user database. 3. The user must have an internet connection. |
| Postconditions: | 1. The user successfully registered for a user account. 2. The system redirects the user to the login page. |
| Normal Flow: | 1. The user navigates to the Registration screen. 2. The Registration screen will include fields for “Name”, “Email Address”, “Username” and “Password” and the button “Register”. 3. The user enters their name in the “Name” field. 4. The user enters their email address in the “Email Address” field. 5. The user enters their username in the “Username” field. 6. The user enters their password in the “Password” field. 7. The user presses the “Register” button. 8. The system registers the user and navigates them to the login page. |
| Alternative Flows: | AF-S4: Account already exist   1. The user enters an email address that has already been registered. 2. An error message is displayed “A user with that email already exists!”. 3. The user acknowledges the error message. 4. The application clears the input field for “Email Address”. 5. The use case returns to step 4.   AF-S4: Invalid email format   1. The user enters an invalid email address. 2. An error message is displayed “Please enter a valid email address!”. 3. The user acknowledges the error message. 4. The application clears the input field for “Email Address”. 5. The use case returns to step 4.   AF-S6: Weak password   1. The user enters a weak password (length < 8). 2. An error message is displayed “Please check your password meets the security requirements”. 3. The user acknowledges the error message. 4. The application clears the input field for “Password”. 5. The use case returns to step 6.   AF-S7: Incomplete Fields   1. The user did not complete the fields in any of the steps 3-6. 2. An error message is displayed “Please ensure none of the fields are left empty!”. 3. The user acknowledges the error message. 4. The use case returns to the relevant step. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | Low - Once for every device. |
| Business Rules: | Each username/email can only be assigned to 1 user. |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 1.3 | | |
| --- | --- | --- | --- |
| Use Case Name: | Logout | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating) |
| --- | --- |
| Description: | The user must be able to sign out of the application. |
| Trigger: | The user presses the “Logout” button. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user has been logged out of the application. 2. The system redirects the user to the login page. |
| Normal Flow: | 1. The user presses the “Logout” button. 2. The system prompts for user confirmation to log out. 3. The user presses “Confirm”. 4. The system navigates the user back to the login page. |
| Alternative Flows: | AF-S3: User presses “Cancel”   1. The user presses the “Cancel” button. 2. The system closes the logout confirmation. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | Low - Only once per session |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Manage Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating) |
| --- | --- |
| Description: | The user can manage products such as create, read, update and delete functionalities. |
| Trigger: | The user navigates to the “Manage Product” screen. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The system will carry out the selected functionality. |
| Normal Flow: | 1. The user navigates to the “Manage Product” screen. 2. The screen will display 4 buttons in a drop-down menu - “Create Product”, “Read Product”, “Update Product” and “Delete Product”. 3. The user presses the “Create Product” button which triggers the use case 2.1 - Create Product. 4. The user presses the “Read Product” button which triggers the use case 2.2 - Read Product. 5. The user presses the “Update Product” button which triggers the use case 2.3 - Update Product. 6. The user presses the “Delete Product” button which triggers the use case 2.4 - Delete Product. |
| Alternative Flows: | AF-S3: No Selection   1. The user presses outside the drop-down menu. 2. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | Use case 2.1 - Create Product  Use case 2.2 - Read Product  Use case 2.3 - Update Product  Use case 2.4 - Delete Product |
| Priority: | Medium |
| Frequency of Use: | Medium - Depends if user is a buyer or seller |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 2.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Create Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Product Database (Participating) |
| --- | --- |
| Description: | The user creates a new product to be added to the product database. |
| Trigger: | Triggered by use case 2 - Manage Product . |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user adds a new product to the product database. |
| Normal Flow: | 1. The application will display a screen with the fields for “Product Name”, “Description”, “Price” and “Pick-up location”, a drop-down menu for “Category” and the buttons “Upload Image” and “Create Product”. 2. The user enters the product name in the “ Product Name” field. 3. The user enters the description in the “Description” field. 4. The user enters the price in the “ Price” field. 5. The user enters the pick-up location in the “ Pick-up location” field. 6. The user selects a category from the drop-down menu for “Category”. 7. The user presses the “Upload Image” button and uploads an image. 8. The user presses the “Create Product” button. 9. The system registers the creation of the new product into the product database. 10. The user is navigated to the “Manage Product” Screen. |
| Alternative Flows: | AF-S7: Invalid Image format   1. The user uploads a file with an extension other than .jpg or .png. 2. An error message is displayed “Only .jpg or .png files are allowed!”. 3. The user acknowledges the error message. 4. The use case returns to step 7.   AF-S8: Incomplete Fields   1. The user did not complete the fields in any of the steps 2-7. 2. An error message is displayed “Please ensure none of the fields are left empty!”. 3. The user acknowledges the error message. 4. The use case returns to the relevant step. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Depends if user is a buyer or seller |
| Business Rules: | - |
| Special Requirements: | SR1 - The uploaded image file size cannot exceed 10MB. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 2.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Read Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | Product Database (Participating) |
| --- | --- |
| Description: | The user reads an existing product in the product database. |
| Trigger: | Triggered by use case 2 - Manage Product . |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user has a view of their products in the product database. |
| Normal Flow: | 1. The system will query the product database tied to the logged in user. 2. The application will display a list of product items previously created by the user. |
| Alternative Flows: | AF-S1: No records found in product database   1. The system could not find any records in the product database tied to the logged in user. 2. The user is prompted by a system message “No Products found. Create one now!”. 3. The user acknowledges the system message. 4. The user is navigated to the “Create Product” screen. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Depends if user is a buyer or seller |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 2.3 | | |
| --- | --- | --- | --- |
| Use Case Name: | Update Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Product Database (Participating) |
| --- | --- |
| Description: | The user updates an existing product in the product database. |
| Trigger: | Triggered by use case 2 - Manage Product. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user updates an existing product in the product database. |
| Normal Flow: | 1. The system first triggers the use case 2.2 - Read Product. 2. The user clicks a product in the product list. 3. The application will display a screen with the existing contents in the fields “Product Name”, “Description”, “Price” and “Pick-up location”, the drop-down menu for “Category” and the buttons “Upload Image” and “Update Product”. 4. The user edits one or more of the fields. 5. The user presses the “Update Product” button. 6. The system registers the update of the existing product into the product database. 7. The user is navigated to the “Manage Product” Screen. |
| Alternative Flows: | AF-S4: Invalid Image format   1. The user uploads a file with an extension other than .jpg or .png. 2. An error message is displayed “Only .jpg or .png files are allowed!”. 3. The user acknowledges the error message. 4. The use case returns to step 4.   AF-S5: Empty Field(s)   1. The user updated one or more of the fields to be empty. 2. An error message is displayed “Please ensure none of the fields are left empty!”. 3. The user acknowledges the error message. 4. The use case returns to step 3. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Depends if user is a buyer or seller |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 2.4 | | |
| --- | --- | --- | --- |
| Use Case Name: | Delete Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Product Database (Participating) |
| --- | --- |
| Description: | The user deletes an existing product in the product database. |
| Trigger: | Triggered by use case 2 - Manage Product. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user deletes an existing product in the product database. |
| Normal Flow: | 1. The system first triggers the use case 2.2 - Read Product. 2. The user presses the “Delete Product” button beside one of his products in the list. 3. The system prompts the user for confirmation to delete the product. 4. The user presses “Confirm”. 5. The system registers the deletion of the existing product into the product database. 6. The user is navigated to the “Manage Product” Screen. |
| Alternative Flows: | AF-S4: User presses “Cancel”   1. The user presses the “Cancel” button. 2. The system closes the delete confirmation. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Depends if user is a buyer or seller |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 3 | | |
| --- | --- | --- | --- |
| Use Case Name: | View Purchase History | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating), User Database (Participating) |
| --- | --- |
| Description: | The user can view the purchase activity of their account. |
| Trigger: | The user navigates to the “View Purchase History” screen. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a view of their purchase activity. |
| Normal Flow: | 1. The user navigates to the “View Purchase History” screen. 2. The system queries the purchase history data from the user database. 3. The application displays the user’s purchase history on the screen. |
| Alternative Flows: | AF-S2: Empty Purchase History record   1. The system could not find any purchase records in the user database tied to the logged in user. 2. The user is prompted by a system message “Purchase History is empty. Purchase something today!”. 3. The user acknowledges the system message. 4. The user is navigated to the explore page. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Low |
| Frequency of Use: | Low - The user is unlikely to check their purchases very often. |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 4 | | |
| --- | --- | --- | --- |
| Use Case Name: | Manage Explore Page | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | User (Initiating), Application Interface (Participating) |
| --- | --- |
| Description: | The user can manage the explore page such as show product listing, as well as functionalities like search, sort and favorite products. |
| Trigger: | The user navigates to the Explore page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The system will carry out the selected functionality. |
| Normal Flow: | 1. The user navigates to the Explore page. 2. The system will trigger the use case 4.1 - Show Product Listing. 3. The screen will display 3 buttons in a menu - “Search Products”, “Sort Products” and “Favorite Products”. 4. The user presses the “Search Products” button which triggers the use case 4.2 - Search Products. 5. The user presses the “Sort Products” button which triggers the use case 4.3 - Sort Products. 6. The user presses the “Favorite Products” button which triggers the use case 4.4 - Favorite Products. |
| Alternative Flows: | AF-S4: No Selection   1. The user did not select a functionality in the menu. 2. The use case returns to step 3. |
| Exceptions: | - |
| Includes: | Use case 4.1 - Show Product Listing  Use case 4.2 - Search Products  Use case 4.3 - Sort Products  Use case 4.4 - Favorite Products |
| Priority: | High |
| Frequency of Use: | High |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 4.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Show Product Listing | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | Product Database (Participating) |
| --- | --- |
| Description: | The user can view the product listings. |
| Trigger: | Triggered by use case 4 - Manage Explore Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a view of the product listing from the product database. |
| Normal Flow: | 1. The system will query the product database for the product listing. 2. The application will display the product listing to the user. 3. The user presses a specific product and triggers the use case 5 - View Merchant Page. |
| Alternative Flows: | AF-S3: No Selection   1. The user did not select any product from the product listing. 2. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | Use case 5 - View Merchant Page |
| Priority: | High |
| Frequency of Use: | High |
| Business Rules: | - |
| Special Requirements: | SR1 - The system should show a minimum of 3 products per page. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 4.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Search Products | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | - |
| --- | --- |
| Description: | The user can search for a specific product in the explore page. |
| Trigger: | Triggered by use case 4 - Manage Explore Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a filtered view of the product listing, according to their search input. |
| Normal Flow: | 1. The user presses the “Search Products” button. 2. The user enters the product name to be searched in a text field provided. 3. The user presses on the “Begin Search” button. 4. The system arranges the product listing to present a filtered view according to the user’s search input. |
| Alternative Flows: | AF-S3: Product does not exist   1. The system is unable to find a product in the product listing that matches the user’s search input. 2. An error message is displayed “Product not found! Please try another name.”. 3. The user acknowledges the error message. 4. The text field is cleared. 5. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | High - Users are often on the lookout for a specific item while using the application. |
| Business Rules: | - |
| Special Requirements: | SR1 - The search should take no longer than 3 seconds. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 4.3 | | |
| --- | --- | --- | --- |
| Use Case Name: | Sort Products | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 31/08/2022 |

| Actors: | - |
| --- | --- |
| Description: | The user can sort product categories in the explore page. |
| Trigger: | Triggered by use case 4 - Manage Explore Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a filtered view of the product listing, according to their sorting parameters. |
| Normal Flow: | 1. The user presses the “Sort Products” button. 2. The user specifies the sorting parameters by checking the boxes provided. 3. The user presses on the “Begin Sort” button. 4. The system arranges the product listing to present a filtered view according to the user’s sorting parameters. |
| Alternative Flows: | AF-S3: Product does not exist   1. The system is unable to find a product in the product listing that matches the user’s sorting parameters. 2. An error message is displayed “Product not found! Please try broader sorting filters”. 3. The user acknowledges the error message. 4. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | High - Users are often on the lookout for a specific item while using the application. |
| Business Rules: | - |
| Special Requirements: | SR1 - The sort should take no longer than 3 seconds. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 4.4 | | |
| --- | --- | --- | --- |
| Use Case Name: | Favorite Products | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | User Database (Participating) |
| --- | --- |
| Description: | The user can add a product to their favorite list. |
| Trigger: | Triggered by use case 4 - Manage Explore Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user successfully marked a product as favorite. |
| Normal Flow: | 1. The user presses the “Favorite Product” button. 2. The system prompts the user for confirmation. 3. The user presses “Confirm”. 4. The system adds the product to the user’s favorite list. |
| Alternative Flows: | AF-S2: User presses “Cancel”   1. The user presses the “Cancel” button. 2. The system closes the delete confirmation.   AF-S3: Product already in favorites   1. The product selected already exists in the user’s favorite list. 2. An error message is displayed “Product already in favorites!”. 3. The user acknowledges the error message. 4. The use case returns to step 1. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5 | | |
| --- | --- | --- | --- |
| Use Case Name: | View Merchant Page | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Application Interface (Participating) |
| --- | --- |
| Description: | The user can engage with the merchant regarding the selected product such as display reviews, as well as functionalities like write review and purchase product. |
| Trigger: | Triggered by use case 4.1 - Show Product Listing when the user presses a specific product. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The system will carry out the selected functionality. |
| Normal Flow: | 1. The user is navigated to the Merchant page for the selected product. 2. The screen will display 2 buttons in a menu - “Purchase Product” and “Reviews”. 3. The user presses the “Reviews” button which triggers the use case 5.1 - Manage Reviews. 4. The user presses the “Purchase Product” button which triggers the use case 5.2 - Purchase Product. |
| Alternative Flows: | AF-S3: No Selection   1. The user did not select any product from the product listing. 2. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | Use case 5.1 - Manage Reviews  Use case 5.2 - Purchase Product |
| Priority: | High |
| Frequency of Use: | High |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Manage Reviews | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 06/09/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Application Interface (Participating) |
| --- | --- |
| Description: | The user can manage reviews such as display, write, update and delete reviews. |
| Trigger: | Triggered by use case 5 - View Merchant Page, when the user presses the “Reviews” button. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The system will carry out the selected functionality. |
| Normal Flow: | 1. The user presses the “Reviews” button in the Merchant Page. 2. The system will trigger the use case 5.1.1 - Display Reviews. 3. The screen will display 3 buttons in a menu - “Write Review”, “Update Review” and “Delete Review”. 4. The user presses the “Write Review” button which triggers the use case 5.1.2 - Write Review. 5. The user presses the “Update Review” button which triggers the use case 5.1.3 - Update Review. 6. The user presses the “Delete Review” button which triggers the use case 5.1.4 - Delete Review. |
| Alternative Flows: | AF-S4: No Selection   1. The user did not select a functionality in the menu. 2. The use case returns to step 3. |
| Exceptions: | - |
| Includes: | Use case 5.1.1 - Display Reviews  Use case 5.1.2 - Write Review  Use case 5.1.3 - Update Review  Use case 5.1.4 - Delete Review |
| Priority: | High |
| Frequency of Use: | High |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.1.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Display Reviews | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Reviews Database (Participating) |
| --- | --- |
| Description: | The user can see the reviews associated with the selected product. |
| Trigger: | Triggered by use case 5.1 - Manage Reviews. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a display of the reviews of the selected product. |
| Normal Flow: | 1. The system will query the reviews database for the product reviews. 2. The system will display the reviews of the selected product to the user. |
| Alternative Flows: | AF-S2: No Reviews   1. The system is unable to find a review for the selected product in the reviews database. 2. The system displays an empty body with text “No reviews yet!” |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | High - Users will often check the reviews to verify the reliability of the merchant. |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.1.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Write Review | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Reviews Database (Participating) |
| --- | --- |
| Description: | The user can write reviews associated with the selected product. |
| Trigger: | Triggered by use case 5.1 - Manage Reviews. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user writes a review of the selected product to the reviews database. |
| Normal Flow: | 1. The application will display a text field titled “Tell us what you think!” and the button “Submit”. 2. The user types his review in the text field. 3. The user presses the “Submit” button. 4. The system creates a new entry in the reviews database with the corresponding data. 5. The user is navigated to the Merchant Page. |
| Alternative Flows: | AF-S4: Blank Review   1. The user did not type his review in the text field. 2. An error message is displayed “Cannot submit empty review!”. 3. The user acknowledges the error message. 4. The use case returns to step 3. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | SR1 - The review must have a minimum of 40 characters. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.1.3 | | |
| --- | --- | --- | --- |
| Use Case Name: | Update Review | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 06/09/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Reviews Database (Participating) |
| --- | --- |
| Description: | The user updates a review associated with the selected product. |
| Trigger: | Triggered by use case 5.1 - Manage Reviews. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user updates a review of the selected product in the reviews database. |
| Normal Flow: | 1. The system first triggers the use case 5.1.1 - Display Review. 2. The user clicks the “Edit” button beside his review in the list of reviews displayed. 3. The application will display a text field titled “Update Review” and the button “Update”. 4. The user makes changes in his review in the text field. 5. The user presses the “Update” button. 6. The system updates the existing entry in the reviews database with the corresponding data. 7. The user is navigated to the Merchant Page. |
| Alternative Flows: | AF-S5: Blank Review   1. The user modifies his review in the text field to be an empty string. 2. An error message is displayed “Cannot submit empty review!”. 3. The user acknowledges the error message. 4. The use case returns to step 4. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Low - Users are unlikely to change their review. |
| Business Rules: | - |
| Special Requirements: | SR1 - The review must have a minimum of 40 characters. |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.1.4 | | |
| --- | --- | --- | --- |
| Use Case Name: | Delete Review | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 06/09/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Reviews Database (Participating) |
| --- | --- |
| Description: | The user can delete reviews associated with the selected product. |
| Trigger: | Triggered by use case 5.1 - Manage Reviews. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user deletes a review of the selected product from the reviews database. |
| Normal Flow: | 1. The system first triggers the use case 5.1.1 - Display Review. 2. The user clicks the “Delete” button beside his review in the list of reviews displayed. 3. The system prompts the user for confirmation. 4. The user presses “Confirm”. 5. The system deletes the existing entry in the reviews database. 6. The user is navigated to the Merchant Page. |
| Alternative Flows: | AF-S4: User presses “Cancel”   1. The user presses the “Cancel” button. 2. The system closes the delete confirmation. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 5.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Purchase Product | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | User Database (Participating), Product Database (Participating) |
| --- | --- |
| Description: | The user can purchase a product from the Merchant Page. |
| Trigger: | Triggered by use case 5 - View Merchant Page, when the user presses the “Purchase Product” button. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | The user has bought a product from the Merchant Page. |
| Normal Flow: | 1. The user presses the “Purchase Product” button in the Merchant Page. 2. The system prompts the user for confirmation. 3. The user presses “Confirm”. 4. The system will update the stock count in the product database. 5. The system will update the purchase history of the user in the user database. |
| Alternative Flows: | AF-S3: User presses “Cancel”   1. The user presses the “Cancel” button. 2. The system closes the delete confirmation. |
| Exceptions: | - |
| Includes: | - |
| Priority: | High |
| Frequency of Use: | High |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 6 | | |
| --- | --- | --- | --- |
| Use Case Name: | View Chat Page | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 31/08/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | User (Initiating), Application Interface (Participating) |
| --- | --- |
| Description: | The user can engage with merchants by sending and receiving messages, or vice versa. |
| Trigger: | The user navigates to the Chat Screen. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a chat box where he can view and send messages. |
| Normal Flow: | 1. The system first triggers the use case 6.1 - Display Message. 2. The application displays a chat box with the button “Send”. 3. The user presses the “Send” button which triggers the use case 6.2 - Send Message. |
| Alternative Flows: | AF-S3: No Action   1. The user did not press on the “Send” button. 2. The use case returns to step 1. |
| Exceptions: | - |
| Includes: | Use case 6.1 - Display Message  Use case 6.2 - Send Message |
| Priority: | Medium |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 6.1 | | |
| --- | --- | --- | --- |
| Use Case Name: | Display Message | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 06/09/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Message Database (Participating) |
| --- | --- |
| Description: | Users can view messages with the merchant that they are interacting with, or vice versa. |
| Trigger: | Triggered by use case 6 - View Chat Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user is presented with a display of the messages with the merchant, or vice versa. |
| Normal Flow: | 1. The system will query the message database for the messages between the user and the merchant. 2. The system will display the queried messages, with the sender’s message on the left side and the receiver’s message on the right side. |
| Alternative Flows: | AF-S2: No Messages   1. The system is unable to find a message for the user in the message database. 2. The system displays an empty body with text “Start Chatting now!” |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

| Use Case ID: | 6.2 | | |
| --- | --- | --- | --- |
| Use Case Name: | Send Message | | |
| Created By: | Lee Wen Bin Andre | Last Updated By: | Lee Wen Bin Andre |
| Date Created: | 06/09/2022 | Date Last Updated: | 06/09/2022 |

| Actors: | Message Database (Participating) |
| --- | --- |
| Description: | Users can send messages to the merchant that they are interacting with, or vice versa. |
| Trigger: | Triggered by use case 6 - View Chat Page. |
| Preconditions: | 1. The user must already be logged in. 2. The user must have an internet connection. |
| Postconditions: | 1. The user sends the messages to the merchant, or vice versa. |
| Normal Flow: | 1. The application displays a chat box with the button “Send”. 2. The user types his message in the chat box. 3. The user presses the “Send” button. 4. The system creates a new entry in the message database with the corresponding data. 5. The text in the chat box is cleared. |
| Alternative Flows: | AF-S3: Empty Message   1. The user did not type any message in the text box. 2. The use case returns to step 2. |
| Exceptions: | - |
| Includes: | - |
| Priority: | Medium |
| Frequency of Use: | Medium - Varies from user to user |
| Business Rules: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |