Aphromas Diamond Project

Software Requirements Specification

11/06/2024

**Prepared for**

SWT301 - Team 3 - NET1817

**1. ERD**

[ERD link](https://app.diagrams.net/#G10Yncq7tlKNYtF9-91SSkL5seX_rpaPbv#%7B%22pageId%22%3A%22wwAg_wcQQsyr1mWvpO55%22%7D)

**2. UI Screen**

| Public | Customer | Sale staff | Delivery Staff | Admin/  Manager |
| --- | --- | --- | --- | --- |
| Home | Account details | Order list | Order list | Dashboard |
| Login | Order list | Chatting | Chatting | Order |
| Register | History | Feedbacks |  | Product |
| Forgot password | Notifications |  |  | Marketing |
| Set password | Vouchers |  |  | Customer |
| Product list | Cart |  |  | Staff |
| Product details | Checkout |  |  | Manager |
| 404 | Payment |  |  | Theme |
| Learn about | Gratitude |  |  | Support center |
| About us |  |  |  |  |

**3. Functional Requirement**

**User Authentication**

* Login
* Register
* Forgot Password
* Change Password

**User Profile Management**

* View Profile
* Edit Profile

**Product Management**

* View Product List
* View Product Details
* Search Product
* Filter Product

**Shopping Cart**

* Add to Cart
* View Cart
* Update Cart
* Remove from Cart

**Order Management**

* Place Order
* View Order List
* View Order Details
* Cancel Order
* Track Order

**Payment Management**

* Select Payment Method
* Apply Discount Codes
* Confirm Payment
* Handle Payment Failures

**Notification Management**

* Send Order Confirmation
* Send Payment Confirmation
* Send Delivery Status Updates

**Customer Support**

* Chat with Support
* Submit Feedback

**Admin/Manager Functions**

* Dashboard Overview
* Manage Products
* Manage Orders
* Manage Users
* Manage Staff
* Manage Vouchers
* Generate Reports

**Delivery Management**

* Assign Orders to Delivery Staff
* Track Delivery Status

**4. Technical Requirements**

**Login account**

T1 Username - Username must not be blank

T2 Password - Password must not be blank

**Register account**

T3 Username - Username must not be blank

T4 Username - Username cannot contain special characters

T5 Username - Username must not be started with number

T6 Customer Email - Email must not be blank

T7 Customer Email - Invalid email

T8 Password - Password must not be blank

T9 Confirm password - Password must not be blank

T10 Confirm password - Confirm password does not matched

**Edit customer info**

T11 First name - First Name must not be blank

T12 First name - First Name cannot contain special characters

T13 First name - First Name cannot contain numbers

T14 First name - First Name must between 1 to 30 characters

T15 Last name - Last Name must not be blank

T16 Last name - Last Name cannot contain special characters

T17 Last name - Last Name cannot contain numbers

T18 Last name - Last Name must between 1 to 30 characters

T19 Phone number - Phone number must not be blank

T20 Phone number - Phone number cannot contain special characters

T21 Phone number - Phone number cannot contain characters

T22 Phone number - Phone number must between 5 to 20 characters

T23 Customer address - Address must not be blank

**Order List**

T24 Order List - View Order List

T25 Order List - Order List Pagination

T26 Order List - Order Details

T27 Order List - Filter Orders by Status

T28 Order List - Filter Orders by Categories

T29 Order List - Filter Orders by Price

T30 Order List - Filter Orders by Date

T31 Order List - Search Order by ID

**Change Password**

T32 Change Password - Valid Change Password

T33 Change Password - Password confirmation must match the new password

T34 Change Password - New password must not be the same as the old password.

T35 Change Password - Password must be 8-20 characters

T36 Change Password - Password cannot be contain blanks

T37 Change Password - Confirm Password cannot be empty

**Forgot Password**

T38 Forgot Password - Password recovery email must be sent to the registered email address

T39 Forgot Password - Email must be valid

T40 Forgot Password - Email must be registered

T41 Forgot Password - Expired recovery link must not be used

T42 Forgot Password - Email Address cannot be blank

**Add To Cart**

T43 Add To Cart - Add Single Item to Cart

T44 Add To Cart - Add Multiple Items to Cart

T45 Add To Cart - Remove Item from Cart

T46 Add To Cart - Cart Persistence after Logout/Login

T47 Add To Cart - Validate Cart Item Quantity Limits

T48 Add To Cart - Cart can be empty

T49 Add To Cart - Can navigate to the product detail page from Cart

T50 Add To Cart - The cart must display out-of-stock items

T51 Add To Cart - Guest User Redirected to Login/Register

**Checkout**

T52 Checkout - User can select shipping address.

T53 Checkout - User can select payment method.

T54 Checkout - Order total must be calculated correctly.

T55 Checkout - User can apply discount codes.

T56 Checkout - Stock levels must be checked before order is placed.

T57 Checkout - User can edit cart before finalizing order.

T58 Checkout - Payment failures must display appropriate error messages.

T59 Checkout - User must be able to view order details in the account section.

#### **Create Product**

T60 Create Product - Product name must not be blank.

T61 Create Product - Product name must be unique.

T62 Create Product - Product description must not be blank.

T63 Create Product - Product price must not be blank.

T64 Create Product - Product price must be a positive number.

T65 Create Product - Product stock level must be a positive integer.

T66 Create Product - Product must be marked as active or inactive.

T67 Create Product - Inactive products must not be displayed on the store.

T68 Create Product - Product creation date must be recorded.

T69 Create Product - Product must support variant options (e.g., size, color).

T70 Create Product - Variant options must affect pricing if applicable.

#### **Edit Product**

T71 Edit Product - Admin can update product name.

T72 Edit Product - Admin can update product description.

T73 Edit Product - Admin can update product price.

T74 Edit Product - Admin can update product stock level.

T75 Edit Product - Admin can delete existing product images.

T76 Edit Product - Admin can change product status (active or inactive).

T77 Edit Product - Admin can update variant stock levels.

T78 Edit Product - Admin can update variant pricing.

**Delete product**

T79 Verify that an authenticated user can successfully delete a product.

T80 Verify that a non-authenticated user cannot delete a product.

T81 Verify that an authenticated user cannot delete a non-existing product.

T82 Verify that an authenticated user cannot delete a product if it is in use by administrators.

T83 Verify that an authenticated user cannot delete a product without confirming the deletion.

T84 Verify that an authenticated user cannot delete a product in case of a system error.

**Create staff**

T84 Username - Username must not be blank

T85 Username - Username cannot contain special characters

T86 Username - Username must not be started with number

T87 Role - Role must not be blank

T88 Role - Invalid Role

T89 Password - Password auto generated

**Edit staff**

T90 Change Password - Valid Change Password

T91 Change Password - Invalid Current Password

T92 Change Password - Mismatched New Password Confirmation

T93 Change Password - Password Reuse Prevention

T94 Change Password - Password Length Validation

T95 Change Password - Password Should Not Contain Blanks  
T96 First name - First Name must not be blank

T97 First name - First Name cannot contain special characters

T98 First name - First Name cannot contain numbers

T99 First name - First Name must between 1 to 30 characters

T100 Last name - Last Name must not be blank

T101 Last name - Last Name cannot contain special characters

T102 Last name - Last Name cannot contain numbers

T103 Last name - Last Name must between 1 to 30 characters

T103 Phone number - Phone number must not be blank

T104 Phone number - Phone number cannot contain special characters

T105 Phone number - Phone number cannot contain characters

T106 Phone number - Phone number must between 5 to 20 characters

T107 Staff address - Address must not be blank

**Ban staff**

T108 Confirmation Dialog must appear when the Ban button is clicked.

T109 Ban Action must delete the staff account.

T110 Cancel Action must close the dialog without deleting.

**Divide task**

T112 Verify button - Order detail must appear when the Verify button is clicked.

T113 Verify Button - Divide button must appear after clicking "Verify".

T114 Verify Button - Verify button must disappear after verification.

T115 Divide Button - Clicking "Divide" must display a list of Delivery Staff.

T116 Delivery Staff selection menu - The staff selection menu must not be blank.

**Client Caring**

T117 Message Field - Maximum length must be 500 characters.

T118 Message Field - Special characters are allowed.

T119 Message Field - Spaces are not allowed.

T120 Message Field - First character cannot be a space.

T121 Message Send Button - The display status of the Send Button.

T122 Feedback Reply Field - Maximum length must be 500 characters.

T123 Feedback Reply Field - Special characters are allowed.

T124 Feedback Reply Field - Spaces are allowed.

T125 Feedback Reply Field - First character cannot be a space.

T126 Feedback Reply Send Button - The display status of the Send Button

**5. Business Rule**

|  | **UC-1 Update staff information** | | |
| --- | --- | --- | --- |
| Business Rule: | **BR-1:** Any changes to an employee's job role or salary must be approved by a manager before they can be updated in the system.  **BR-2:** Administrators can only update information for employees within their assigned region or department.  **BR-3:** The system must log all updates made to employee information, including the date, time, and the administrator who made the changes.  **BR-4:** Any updates to an employee's contact information should trigger a notification to the employee in website | | |

—----------------------------------------------------------------

| ID and Name: | **UC-2 Divide the delivery task** | | |
| --- | --- | --- | --- |
| Business Rules: | * **BR-1**: The Manager must review all orders that have been confirmed by the Sales Staff. * **BR-2**: The Manager must verify the details of each order before proceeding with the assignment. * **BR-3**: The Manager must assign each verified order to a Delivery Staff member for dispatch. * **BR-4**: The Manager must ensure that the order is assigned and handed over to the Delivery Staff * **BR-5**: The manager can cancel task assign and assign to another Delivery Staff | | |

—-----------------------------------------------------------------

| ID and Name: | **UC-3 Confirm customer’s order** | | |
| --- | --- | --- | --- |
| Business Rules: | **BR-1:** Customer order data must include order ID, customer ID, product details, quantity, price, shipping address, and contact information. **BR-2:** Each order must be linked to a unique customer ID in the customer database.  **BR-3:** Sales staff must verify the customer's contact information before confirming the order.  **BR-4:** An order confirmation email and website notification must be sent to the customer once the order is confirmed by the sales staff. **BR-5:** An order confirmation event must trigger the initiation of the shipping process. **BR-6:** The system must check product availability before allowing the order to be confirmed. **BR-7:** An order object should transition from 'Pending' to 'Confirmed' once the sales staff verifies all details. **BR-8:** An order object should be archived in the system one year after the order fulfillment. **BR-9:** All customer orders must comply with the local consumer protection laws. **BR-10:** Customer data must be handled in accordance with data privacy regulations such as GDPR or CCPA. | | |

—----------------------------------------------------------------

| ID and Name: | **UC-4 View Product Information** | | |
| --- | --- | --- | --- |
| Business Rules: | **BR - 1:** Customers can view details without logging in, but adding to cart will require logging in  **BR - 2:** Images/videos are required for all products to give customers a clear view.  **BR - 3:** Products can be filtered by category, price range, attributes (e.g. color), brands, customer reviews/ratings, etc. | | |

—----------------------------------------------------------------

| ID and Name: | **UC-5 Order products** | | |
| --- | --- | --- | --- |
| Business Rules: | **BR - 1:** Customers can order diamond with diamond shell and it have the same code to collaborate  **BR - 2:** The system can accept customer order only diamond, customize diamond and jewelry  **BR - 3:** Set state for orders to customers follow  **BR - 4:** Consider complete when payment success | | |

**6. Screen Flow**

**7. Use Case List**

**User Authentication**

* UC-1: Login
* UC-2: Register
* UC-3: Forgot Password
* UC-4: Change Password

**User Profile Management**

* UC-5: View Profile
* UC-6: Edit Profile

**Product Management**

* UC-7: View Product List
* UC-8: View Product Details
* UC-9: Search Product
* UC-10: Filter Product

**Shopping Cart**

* UC-11: Add to Cart
* UC-12: View Cart
* UC-13: Update Cart
* UC-14: Remove from Cart

**Order Management**

* UC-15: Place Order
* UC-16: View Order List
* UC-17: View Order Details
* UC-18: Cancel Order
* UC-19: Track Order

**Payment Management**

* UC-20: Select Payment Method
* UC-21: Apply Discount Codes
* UC-22: Confirm Payment
* UC-23: Handle Payment Failures

**Notification Management**

* UC-24: Send Order Confirmation
* UC-25: Send Payment Confirmation
* UC-26: Send Delivery Status Updates

**Customer Support**

* UC-27: Chat with Support
* UC-28: Submit Feedback

**Admin/Manager Functions**

* UC-29: Dashboard Overview
* UC-30: Manage Products
* UC-31: Manage Orders
* UC-32: Manage Users
* UC-33: Manage Staff
* UC-34: Manage Vouchers
* UC-35: Generate Reports

**Delivery Management**

* UC-36: Assign Orders to Delivery Staff
* UC-37: Track Delivery Status

**Client Caring**

* UC-38: Send Messages
* UC-40: Reply to Feedback