



AquaSpace

Second-year Group Project

Final Report

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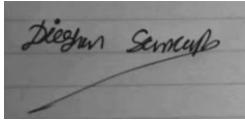
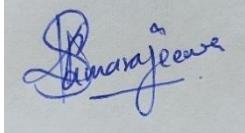
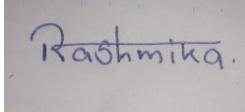
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System Design

1.1 Use Case Diagram

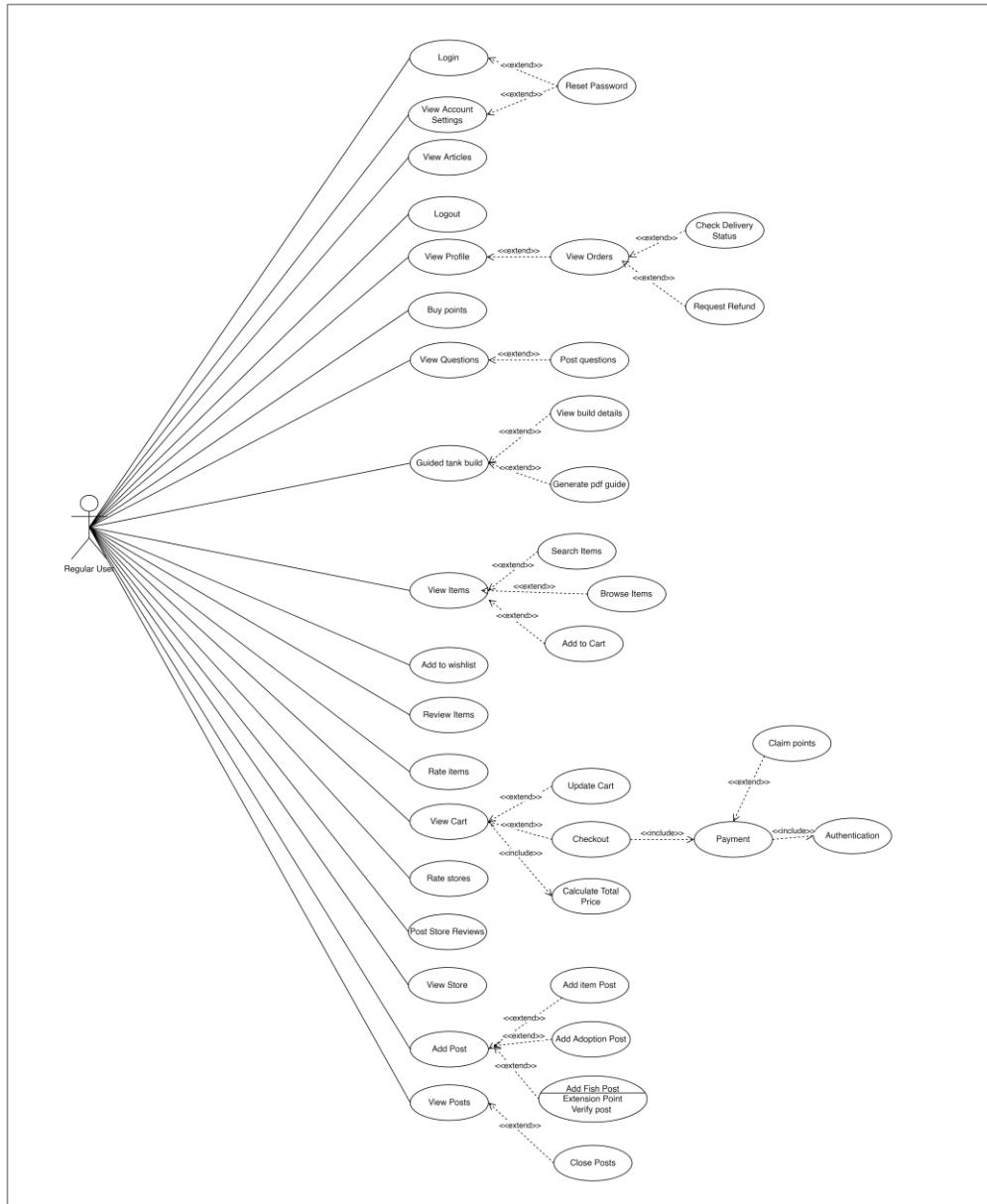


Figure 1.1.1: Regular User Use Case Diagram

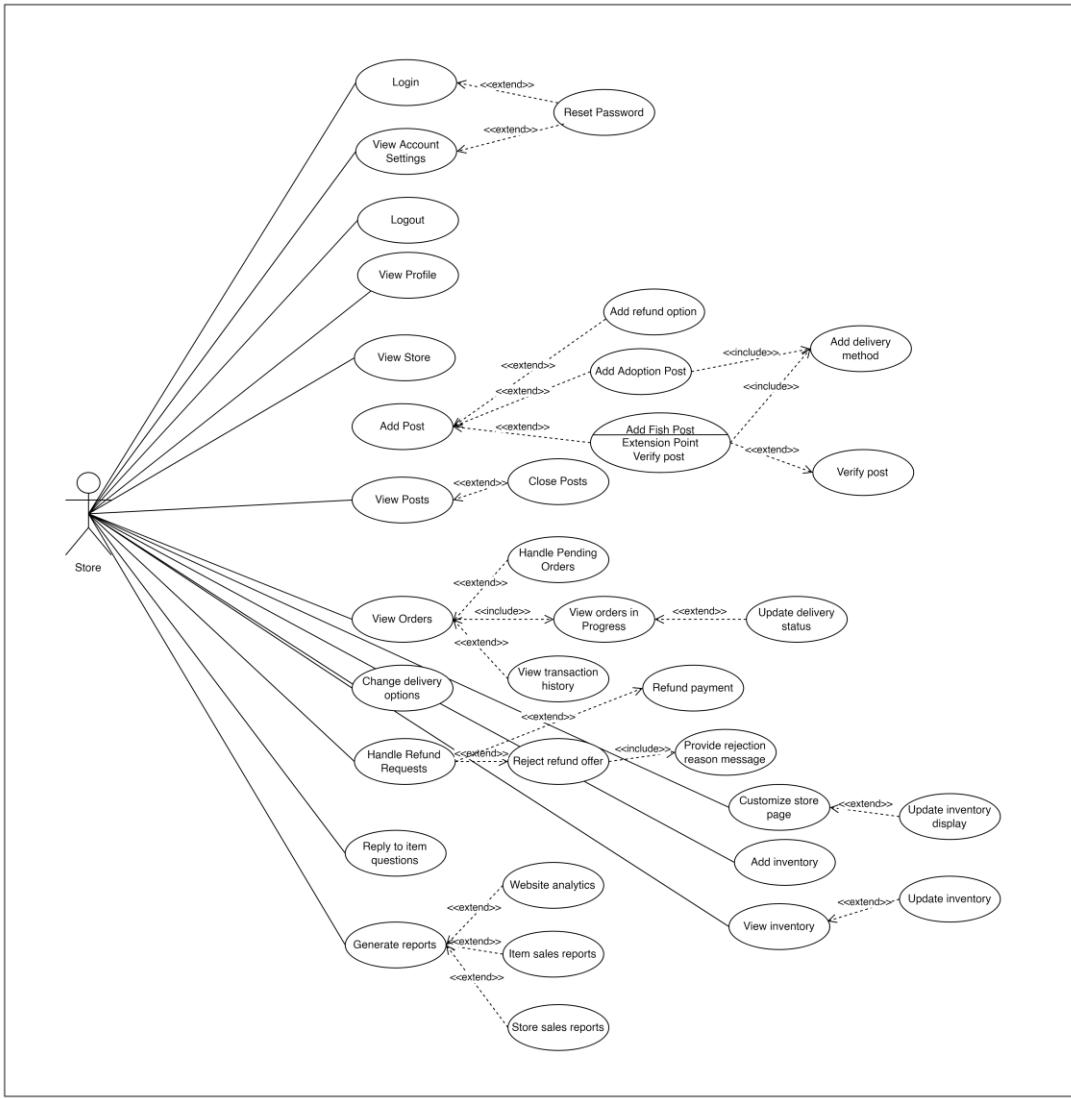


Figure 1.1.2: Store User Use Case Diagram



Figure 1.1.3: Admin Use Case Diagram

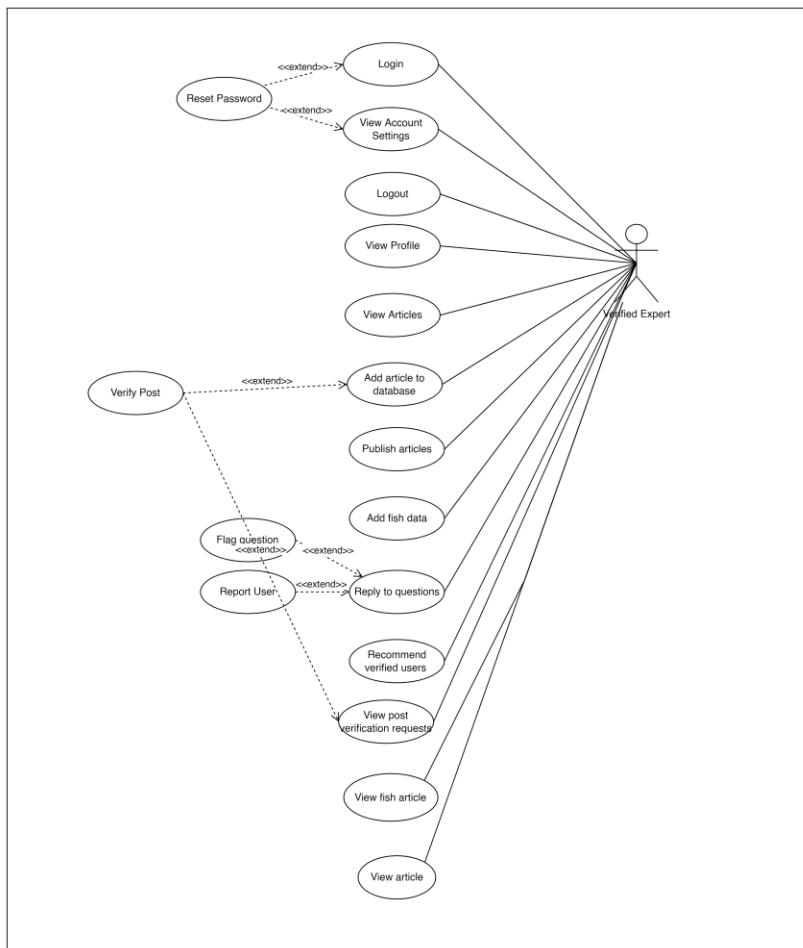


Figure 1.1.3: Verified Expert Use Case Diagram

(<https://drive.google.com/file/d/1CAcBuqEfyanp8Nd-l6S9ClNvlqAaI9N0/view?usp=sharing>)

1.2 Use Case Narratives

Table 1.2.1 Narrative for Register

Use case	Register
Summary	A new user can register to the website and create their profile

Actors	Registered User
Pre-conditions	None
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Regular Account' in the signup page 2. The user enters first name last name, profile picture, email address and password 3. The system will prompt the user to re-enter the password 4. The user shall agree to the terms and conditions of the website. 5. The user will receive an e-mail verification to authenticate login.
Alternate Flows	None
Post-conditions	A new Registered User account is created.

Table 1.2.2 Narrative for Login

Use case	Login
Summary	A user can login to an existing account.
Actors	Registered User
Pre-conditions	The user has a pre-existing account in the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Sign In' from the landing page 2. The user enters their email and password 3. The user confirms 'Login'
Alternate Flows	If the user has forgotten their password, 2. The user selects 'Forgot Password' 3. The system redirects the user to the Reset Password page.
Post-conditions	The user has logged in to the system.

Table 1.2.3 Narrative for View Account Settings

Use case	View Account Settings
Summary	The user can update account details entered to the system.

Actors	Registered User
Pre-conditions	Logged into the system.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Account Settings' from the user profile page. 2. The user selects the fields that need to be changed. 3. For select fields such as email and shipping address user will be prompted to re-confirm password and will be sent an email with the changes. 4. The user submits the changes
Alternate Flows	None
Post-conditions	The user will be redirected to the updated profile page

Table 1.2.4 Narrative for Reset Password

Use case	Reset Password
Summary	The user can change the account password
Actors	Registered User
Pre-conditions	Have a pre-existing account
Description / Main flow	<ol style="list-style-type: none"> 1. Go to account settings and select 'Reset Password' 2. Enter e-mail address, the system will send an e-mail containing a link to reset the password 3. The user will be prompted to enter new password from the link received 4. The user confirms the new password
Alternate Flows	None
Post-conditions	The user has changed their password

Table 1.2.5 Narrative for Logout

Use case	Logout
Summary	The user logs out of the system
Actors	Registered User

Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Logout' from the navigation bar 2. The system redirects the user to the landing page
Alternate Flows	None
Post-conditions	The user is logged out and redirected to the landing page.

Table 1.2.6 Narrative for View Profile

Use case	View Profile
Summary	The user can view their profile details saved in the system.
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects the profile icon from the navigation bar. 2. The system displays user details, cart, and active posts of the user.
Alternate Flows	None
Post-conditions	The user is redirected to their profile page.

Table 1.2.8 Narrative for Buy Coins

Use case	Buy Coins
Summary	The user can obtain points to ask questions from a Verified Expert
Actors	Registered User
Pre-conditions	Logged into the system and
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Buy Points' under Coin interface 2. The system displays the prices and points the user can obtain. 3. The user selects the relevant number of points 4. The user enters the payment details
Alternate Flows	None

Post-conditions	The user has obtained a number of points.
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Table 1.2.9 Narrative for Guided Tank Build

Use case	Guided tank build
Summary	The system provides a checklist of instructions and items needed to build a tank for a specific fish and cost approximation.
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Build a Tank' from the landing page 2. The user selects the type of fish 3. The system generates a checklist of instructions needed for the selected fish and the items that are necessary to raise it. 4. The system displays all items from all stores that match with the requirements.
Alternate Flows	None
Post-conditions	The system generates a tank build with the tank ad filter capacity approximation for a select type of fish.

Table 1.2.11 Narrative for View Items

Use case	View Items
Summary	The user can view all details, reviews and descriptions of an item or a fish for sale
Actors	Registered User
Pre-conditions	None
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects the item, and the system will redirect the user to the relevant product page 2. The user can view product images, price, description, reviews for the item 3. The user can select 'Post Question' under questions to ask for more information.
Alternate Flows	None

Post-conditions	The system shall give users full details on a product.
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Table 1.2.12 Narrative for Search Items

Use case	Search Items
Summary	The user can enter a keyword or use filters to search for a product
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user enters the keyword in the search bar 2. The user can select 'More Options' next to the search bar for all filters available. 3. The user can search and sort from location, price range and category. 4. The user selects 'Search' 5. The system will display the relevant results.
Alternate Flows	If the search keyword is invalid, <ol style="list-style-type: none"> 1. The user will be shown an error message in the search bar.
Post-conditions	The items that match the search are displayed by the system.

Table 1.2.13 Narrative for Add to Cart

Use case	Add to Cart
Summary	The user can add an item or a fish to their cart to purchase it
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user opens the relevant product page 2. The user selects the quantity (if listed), delivery option and selects 'Add to Cart'
Alternate Flows	None
Post-conditions	The user can continue browsing or proceed to checkout

Table 1.2.14 Narrative for Review Item

Use case	Rate and review Item
Summary	The user can rate and leave a written review for a product they have purchased.
Actors	Registered User
Pre-conditions	The user has purchased the product
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Post Review' under the review section of the relevant product page 2. The user can enter the review and post 3. The system will prompt the user to rate the item if they have not rated it before. 4. The user posts the review.
Alternate Flows	None
Post-conditions	A new review is posted under the relevant product page.

Table 1.2.16 Narrative for View Cart

Use case	View Cart
Summary	The user can view all the items and current total currently in their cart.
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Cart' from the navigation bar 2. The user is redirected to their cart which includes all the items added to cart. 3. The total excluding shipping costs will be displayed by the system.
Alternate Flows	None
Post-conditions	The user can update or checkout the items in their cart.

Table 1.2.17 Narrative for Checkout

Use case	Checkout
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Summary	The user can purchase all items present in the cart.
Actors	Registered User
Pre-conditions	Logged into the system and has at least one item in the cart.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Checkout' from the cart. 2. The user enters billing their select shipping address. 3. The total price including shipping will be calculated by the system. 4. The system will display an order summary for the user. 5. The user enters billing details including payment details and billing address. 6. The user confirms the order. 7. The payment will be processed once the order is confirmed by the relevant sellers and stores.
Alternate Flows	None
Post-conditions	Orders will be placed for the items in the user's cart upon checkout.

Table 1.2.20 Narrative for View Store

	View Store
Summary	The user can view and sort through the digital storefront of a store registered to the system.
Actors	Registered User
Pre-conditions	Logged into the system.
Description / Main flow	None
Alternate Flows	None
Post-conditions	The user is redirected to the relevant store page.

Table 1.2.21 Narrative for Add Item Post

Use case	Add Item Post
Summary	Create a new post to sell an item

Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Item' from the 'Add Post' page 2. The user selects the relevant category for the item. 3. The user inputs name, price, delivery options, payment options and images of the item. 4. The user selects the life span of the post. 5. The system calculates the amount needed to be paid for the creation of the post. 6. The user enters their payment details, and the payment is processed.
Alternate Flows	None
Post-conditions	A new post is created under the relevant 'Item' category and can be viewed from the user's active post sections as well.

Table 1.2.22 Narrative for Add Adoption Post

Use case	Add adoption post
Summary	Create an adoption post for a fish
Actors	Registered User
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Fish' from the 'Add Post' page 2. The user selects the type of fish from the list of names provided by the system. 3. The system fills in the care detail and basic items needed sections. 4. The user selects the option 'For Adoption' 5. The user inputs delivery options and images of the fish. 6. The user confirms the creation of the post.
Alternate Flows	None
Post-conditions	A new adoption post is created under the 'Fish' Category and can be viewed from the user's active post sections as well.

Table 1.2.23 Narrative for Add Fish Post

Use case	Add Fish Post
Summary	Create a post to sell a fish
Actors	Registered User
Pre-conditions	Logged in
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Fish' from the 'Add Post' page 2. The user selects the type of fish from the list of names provided by the system. 3. The system fills in the care detail and basic items needed sections. 4. The user selects the option 'To sell' 5. The user inputs the price, delivery options, payment options and images of the fish being sold. 6. The user selects the life span of the post. 7. The system calculates the amount needed to be paid for the creation of the post. 8. The user enters their payment details, and the payment is processed.
Alternate Flows	<ol style="list-style-type: none"> 4. The fish is not listed in the database and the user will be prompted to verify the post before creation.
Post-conditions	A new post will be created under the 'Fish' category and can be viewed from the user's active post sections as well.

Table 1.2.25 Narrative for Register (store)

Use case	Register
Summary	A new store can register to the system
Actors	Store
Pre-conditions	None
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'store account' on sign up page 2. The user enters store details including company name, Registration number, telephone number, store address and the name, ID number and telephone number of store manager 3. The user selects the delivery modes they wish to use

	4. Agree to the terms and conditions and refund policy
Alternate Flows	If the store has an in-house delivery system, 5. Enter shipping rates charged as prompted by the system. 6. The user confirms the entered details. 7. Agree to the terms and conditions and refund policy.
Post-conditions	The store is directed to the store dashboard

Table 1.2.26 Narrative for View Orders

Use case	View Orders
Summary	A store can view all pending, current, and past orders they have received
Actors	Store, Seller
Pre-conditions	Logged into the system
Description / Main flow	1. The user selects 'Orders' from the dashboard 2. System displays three options, 'Pending Orders', 'Current Orders' and 'Past Orders' 3. The user selects the order list they wish to view.
Alternate Flows	None
Post-conditions	The user is directed to the relevant order page

Table 1.2.27 Narrative for View Pending Orders

Use case	View Pending Orders
Summary	The user can accept orders and update shipping status
Actors	Store, Seller
Pre-conditions	Logged into the system
Description / Main flow	1. The system displays all pending orders from newest to oldest. 2. The user selects an order and clicks on 'Confirm Order' 3. The system notifies the buyer that the order has been confirmed. 4. The user selects then clicks on 'Update Shipping Status' 5. The user changes the status to 'shipping in progress'

	If the delivery mode is a third-party service, 6. The user adds the tracking ID to the order
Alternate Flows	If the order is cancelled by the seller, 2. The user selects 'Cancel Order' 3. The user is redirected to the 'Pending orders' page
Post-conditions	The system updates the order to the 'Current Orders' section and removes it from pending orders

Table 1.2.28 Narrative for View Current Orders

Use case	View Current Orders
Summary	The user can view all orders that are in the process of being shipped out.
Actors	Store, Seller
Pre-conditions	Logged into the system
Description / Main flow	<ol style="list-style-type: none"> 1. The system displays all orders that have their status as 'Shipping in progress' with late shipments on the top and then from newest to oldest dates shipped. 2. The user selects an order that has been delivered and clicks on 'Update Shipping Status' 3. The user changes the status to 'Delivered'
Alternate Flows	None
Post-conditions	The system transfers the order to the 'Past Orders' section from the 'Current Orders' section.

Table 1.2.29 Narrative for Change Delivery Option

Use case	Change delivery option
Summary	The store can change the delivery options offered to a buyer
Actors	Store
Pre-conditions	Logged into the system
Description / Main	<ol style="list-style-type: none"> 1. The user selects 'Settings' from the dashboard

flow	<ol style="list-style-type: none"> 2. The user selects 'Delivery methods' 3. The user selects the relevant modes of delivery that can be offered. 4. The system prompts the user to enter the necessary details required.
Alternate Flows	None
Post-conditions	The user has changed the modes of delivery available that can be listed with their products.

Table 1.2.30 Narrative for Handle Refund Requests

Use case	Handle Refund requests
Summary	The store can either accept refunds and refund the user or reject the refund request.
Actors	Store
Pre-conditions	The store has received a refund request.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Refunds and Returns' from the dashboard 2. The system lists the refund requests received from newest to oldest. 3. The user selects a request, and the system displays the message and item being requested for a refund. <p>If the store accepts the request,</p> <ol style="list-style-type: none"> 4. The user selects 'Accept Request' 5. The system then generates the refund details and send to the user to seller contact details.
Alternate Flows	<p>If the store rejects the request,</p> <ol style="list-style-type: none"> 4. The user selects 'Reject Request' 5. The system prompts the store to enter the reason for rejecting the request. 6. The reason is stored in the system.
Post-conditions	A refund request is transferred to 'Past Requests'

Table 1.2.31 Narrative for Reply to Item Questions

Use case	Reply to item questions
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Summary	The user can reply to questions posted on product pages.
Actors	Store
Pre-conditions	Logged into the system and product has been posted.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Reviews and Questions' from the dashboard 2. The system displays the questions from latest to oldest. 3. The user selects a question. 4. The user is redirected to the product page with the question. 5. The user selects 'Reply to message' and enters the reply. 6. The user confirms the reply. 7. The system notifies the original poster of the reply.
Alternate Flows	None
Post-conditions	A reply has been posted to the question.

Table 1.2.32 Narrative for Customize Storefront

Use case	Customize storefront
Summary	The user can change the display page of the store.
Actors	Store
Pre-conditions	Logged into the system.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Storefront' from the dashboard 2. The user selects 'Edit Storefront' 3. The user can change the display picture and the store description 4. The user can activate or disable product listing sections such as featured items, new arrivals, and best sellers. 5. The user can add, delete items shown in the featured items section.
Alternate Flows	None
Post-conditions	The user has customized the storefront.

Table 1.2.33 Narrative for Add Inventory

Use case	Add inventory
Summary	The user can add items to the inventory.
Actors	Store
Pre-conditions	Logged into the system
Description / Main flow	<p>1. The user selects 'Inventory' from the store dashboard.</p> <p>To add new item,</p> <p>2. The user selects 'Add New Item'</p> <p>3. The user enters the name, display images, the number of items available, price, delivery options and an item description.</p> <p>4. The system prompts the user to select the necessary tags for the item.</p> <p>5. The system displays a preview of the product page.</p> <p>6. The user confirms the new item addition.</p>
Alternate Flows	None
Post-conditions	The inventory is updated as specified by the user.

Table 1.2.34 Narrative for View Inventory

Use case	View inventory
Summary	The user can view, update the inventory listed for their store.
Actors	Store
Pre-conditions	Logged into the system
Description / Main flow	<p>1. The system displays all items the user has added to their inventory.</p> <p>2. The user can filter the results for number of items available from product and alphabetically.</p>
Alternate Flows	<p>To activate an existing item,</p> <p>1. The user selects the item from the list of disabled items.</p> <p>2. The user selects 'Activate'</p> <p>3. The user enters the number of items available for restock.</p> <p>4. The system updates the item status and makes it visible in product listings.</p>

	<p>To disable an existing item,</p> <ol style="list-style-type: none"> 1. The user selects the item from the list of available items. <p>The user selects 'Disable' and the product is hidden from all product listings.</p>
Post-conditions	The user can view, select and sort all products in their inventory.

Table 1.2.35 Narrative for Generate Reports

Use case	Generate Reports
Summary	The user can generate reports regarding store activities.
Actors	Store
Pre-conditions	Logged into the system.
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Reports' from the dashboard. 2. The user can select to generate reports for sales store-wide or item sales. 3. The user will be able to see a periodically updated site-wide analytics report.
Alternate Flows	None
Post-conditions	The system generates the relevant report.

Table 1.2.37 Narrative for Register (Verified Expert)

Use case	Register
Summary	A new Verified Expert can register to the system
Actors	Verified Expert
Pre-conditions	None
Description / Main flow	<ol style="list-style-type: none"> 1. The user selects 'Verified Expert' on sign up page 2. The user enters details including first name, last name, qualifications, email address and phone number. 3. The user selects categories under area of expertise. 4. Agree to the terms and conditions and refund policy 5. The account will be created once an administrator verifies the account.

Alternate Flows	None
Post-conditions	The registration request is sent to an administrator for approval.

Table 1.2.38 Narrative for Publish Articles

Use case	Publish articles
Summary	Verified Experts can write and add articles to the system
Actors	Verified Expert
Pre-conditions	The user has to be logged into the system as a verified expert
Description / Main flow	<ol style="list-style-type: none"> 1. Log in to the system 2. Go to the “Articles” in the dashboard 3. Press “Add” button 4. Select the type of article 5. Write the article 6. Publish the article
Alternate Flows	None
Post-conditions	A new article is added to the system and the user gets directed to the “Article” page

Table 1.2.39 Narrative for Add to Database

Use case	Add article to database
Summary	Verified experts can add new fish types to the system along with all the details about that fish
Actors	Verified expert
Pre-conditions	The user must be logged into the system as a verified expert
Description / Main flow	<ol style="list-style-type: none"> 1. Log in to the system 2. Go to the “Articles” in the dashboard 3. Press “Add” button 4. Select the type of the article as “Fish” 5. Add data to the form

	6. Press “submit” button 7. Add to the database
Alternate Flows	None
Post-conditions	New fish type is added to the database and the user gets redirected the “Articles” page

Table 1.2.40 Narrative for Reply to Questions

Use case	Reply to questions
Summary	Verified Experts can reply to questions asked by the users.
Actors	Verified expert
Pre-conditions	The user must be logged in as a Verified Expert
Description / Main flow	1. Log in to the system 2. View the notifications 3. Select the question 4. Reply to the user’s question
Alternate Flows	1. Go to View the notifications 2. Select the question 3. Go to user’s profile 4. Report user
Post-conditions	1. Reply sent to the user 2. User account reported

Table 1.2.41 Narrative for View Post Verification Requests

Use case	View post verification requests
Summary	If a user tries to create a post using a name of a fish that is not recorded in the database, such posts should be verified by a verified expert before adding to the system. The verification requests will be sent to every verified expert in the system, and once one of them claims the post, it will be marked as ‘claimed’.
Actors	Verified expert

Pre-conditions	User must be logged into the system as a Verified Expert
Description / Main flow	<ol style="list-style-type: none"> 1. View the verification requests received 2. Claim the post 3. Review the post 4. If the fish already exists in the database, update the post details accordingly and verify the post 5. If it's a new fish type, add the fish type to the database and verify the post 6. (Need admin verification?) 7. Add post to the system
Alternate Flows	None
Post-conditions	<ol style="list-style-type: none"> 1. Post added to the system 2. New fish type added to the system

Table 1.2.42 Narrative for Administrator

Use case	Verify store
Summary	If a user needs to register as a store, user needs to send a request and admin must give permission for the request
Actors	Admin
Pre-conditions	<ol style="list-style-type: none"> 1. Admin has to login to the system 2. User needs to send a request for registration
Description / Main flow	<ol style="list-style-type: none"> 1. View store request 2. Check whether form details are correct and complete 3. If user details are complete, then accept the request and send a notification through system and as well email
Alternate Flows	<ol style="list-style-type: none"> 1. If user details are not complete, then cancel the request and send a notification through system and as well email
Post-conditions	<ol style="list-style-type: none"> 1. Clear the notification about verify request 2. Save relevant data in the database

Table 1.2.43 Narrative for Send Admin Request

Use case	Send Admin Request
Summary	System administrators can add new administrator accounts
Actors	Admin
Pre-conditions	<ol style="list-style-type: none"> 1. Admin needs to login to the system
Description / Main flow	<ol style="list-style-type: none"> 1. Click add admin button in the admin pages 2. Enter relevant data 3. Grant Privileges 4. Submit the form
Alternate Flows	None
Post-conditions	<ol style="list-style-type: none"> 1. Save the data in the database. 2. Send a notification to the new admin about his privileges through email.
Assumptions	Admin knows the person from outside the system and has the required persons email address

Table 1.2.44 Narrative for Confirm Admin Request

Use case	Confirm Admin Request
Summary	To have an administrator account, user has to register with the link provided by a current admin and get approved.
Actors	Admin
Pre-conditions	<ol style="list-style-type: none"> 1. Admin has to login to the system 2. A new Admin Registration request should be received.
Description / Main flow	<ol style="list-style-type: none"> 1. Go to confirm requests. 2. Validate the information which is provided by the user. 3. If user provided valid information admin will accept and new admin will be notified through email
Alternate Flows	<ol style="list-style-type: none"> 1. If user provided invalid information admin will reject the request. 2. User will be notified through email
Post-conditions	New Administrator data will be saved in the database

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Table 1.2.45 Narrative for Verify Expert

Use case	Verify Expert
Summary	To have verified expert privileges, admin must verify the user.
Actors	Admin
Pre-conditions	<ol style="list-style-type: none"> 1. Admin needs to login to the system 2. Person who needs to be a verified expert must register.
Description / Main flow	<ol style="list-style-type: none"> 1. View Verified Expert registration details 2. If the qualifications are satisfactory, confirm request. 3. Assign the new user to a category. 4. Grant Privileges.
Alternate Flows	None
Post-conditions	A new verified expert account is created, and the user will be notified via email.

Table 1.2.46 Narrative for View User Related Issues

Use case	View user related issues
Summary	Admin can view and handle reports on users for misbehavior and misconduct.
Actors	Admin
Pre-conditions	<ol style="list-style-type: none"> 1. Admin has to login to the system 2. A reappeal report must be submitted by a user.
Description / Main flow	<ol style="list-style-type: none"> 1. Go to View User Related Issues page. 2. Select Issue. 3. If the users reply is satisfactory, select 'Unblock' 4. The user will be notified via email.
Alternate Flows	<ol style="list-style-type: none"> 1. If a buyer has 5 reports, seller has 10 reports, store has 20 reports system will automatically block the user.

	2. The relevant user will be notified via email.
Post-conditions	If action is taken against the report, relevant users will be notified.

Table 1.2.48 Narrative for View Contribution

Use case	View contribution
Summary	Admin can view the contribution of Verified Expert for the system
Actors	Admin
Pre-conditions	Admin needs to login to the system
Description / Main flow	<ol style="list-style-type: none"> 1. Go to the view contribution page 2. View the contribution details 3. The admin can sort the contribution according to highest percentage and according to category.
Alternate Flows	None
Post-conditions	The administrator can view the contributions of verified experts to the system.

Table 1.2.49 Payment for Contribution

Use case	Payment for Contribution
Summary	Admin can pay the Verified Expert for their contributions
Actors	Admin
Pre-conditions	Admin needs to go to view contribution page
Description / Main flow	<ol style="list-style-type: none"> 1. Select 'Proceed to Payments' 2. The system will autofill the payment details of the verified experts as provided when registering. 3. The system will generate separate payments for each user individually. 4. Admin selects 'Confirm Payment'
Alternate Flows	None

Post-conditions	Verified Users will be sent the invoice via email and onsite of their contribution payment.
-----------------	---

Table 1.2.50 Narrative for Generate Reports

Use case	Generate Reports
Summary	Admin can get reports about what are the most selling items, revenue, most searched item, most selling items, most searched but not found items.
Actors	Admin
Pre-conditions	Admin needs to login to the system
Description / Main flow	<ol style="list-style-type: none"> 1. Go to generate report page. 2. Select Relevant category. 3. Select Generate Report.
Alternate Flows	None
Post-conditions	A report will be generated for the administrator by the system.

1.3 Component Diagram

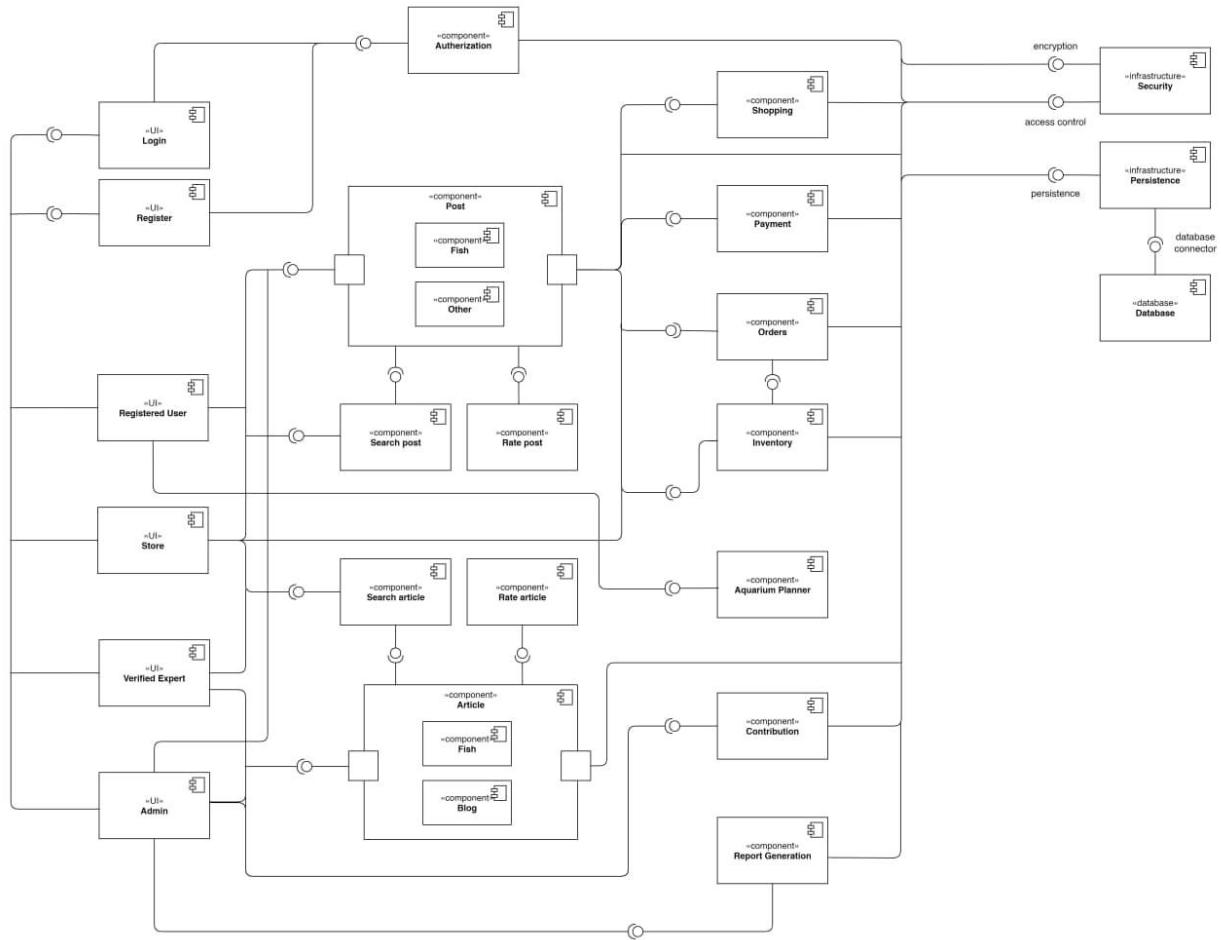


Figure 1.3.1 Component Diagram

1.4 Class Diagram

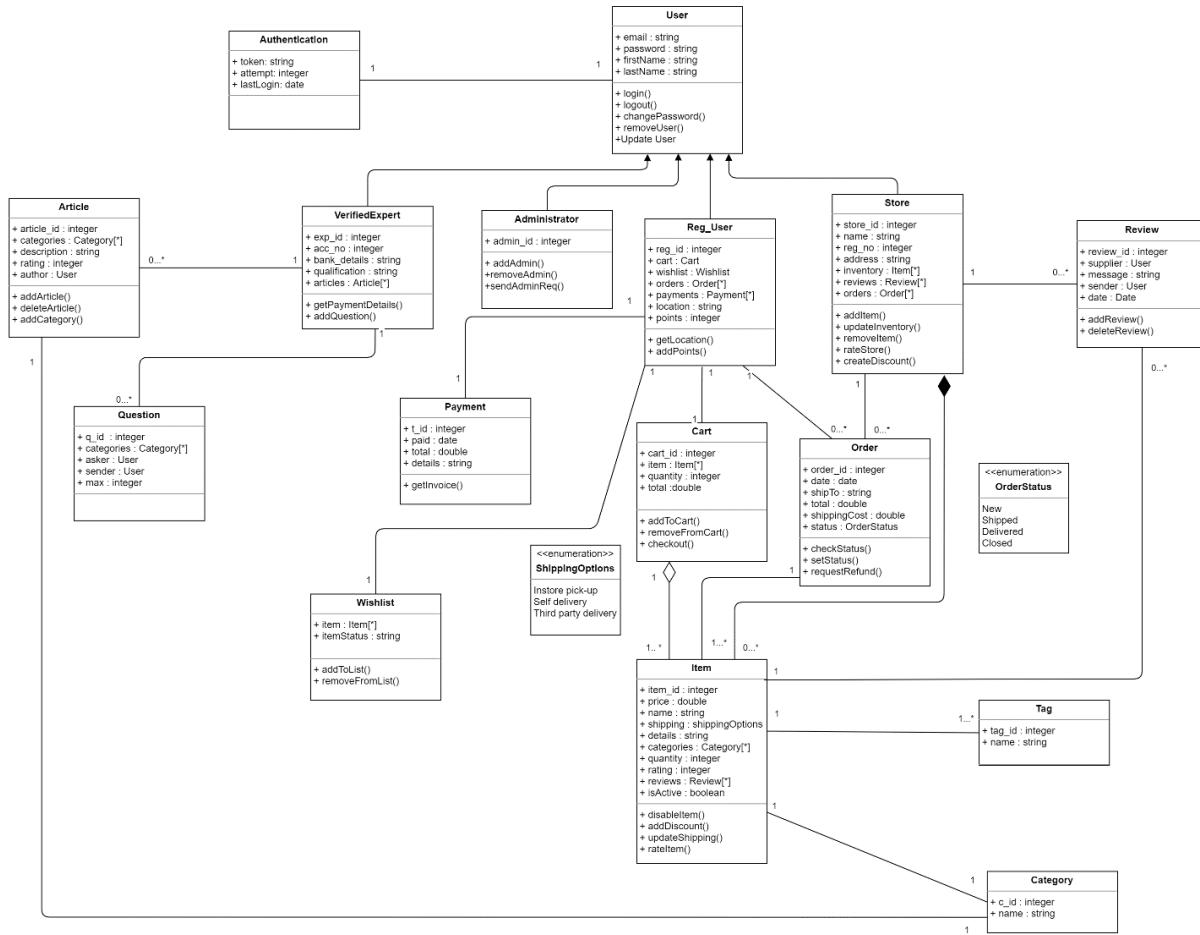


Figure 1.4.1 Class Diagram

1.5 ER Diagram

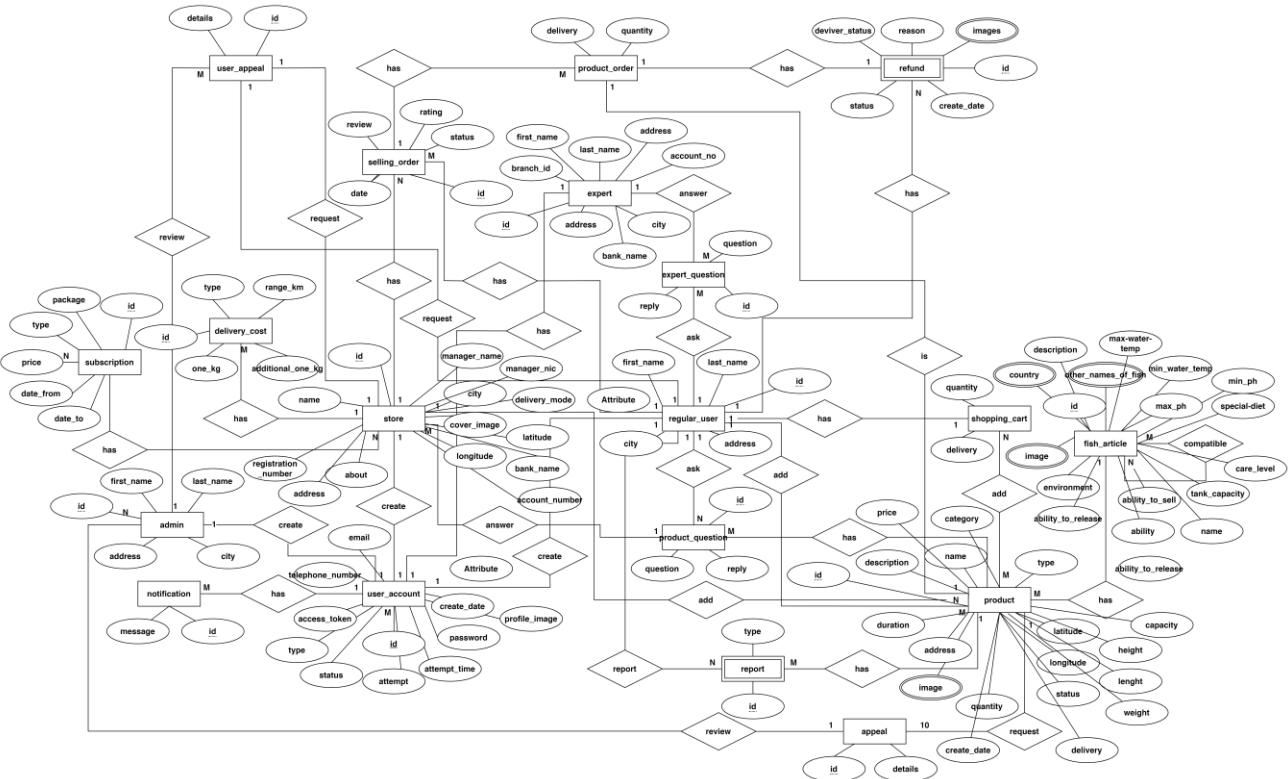


Figure 1.5.1 ER Diagram

(<https://drive.google.com/file/d/1SihVEuqWz--sYNmzMjSGhfA2kIMYxNeZ/view?usp=sharing>)

1.6 Sequence Diagrams

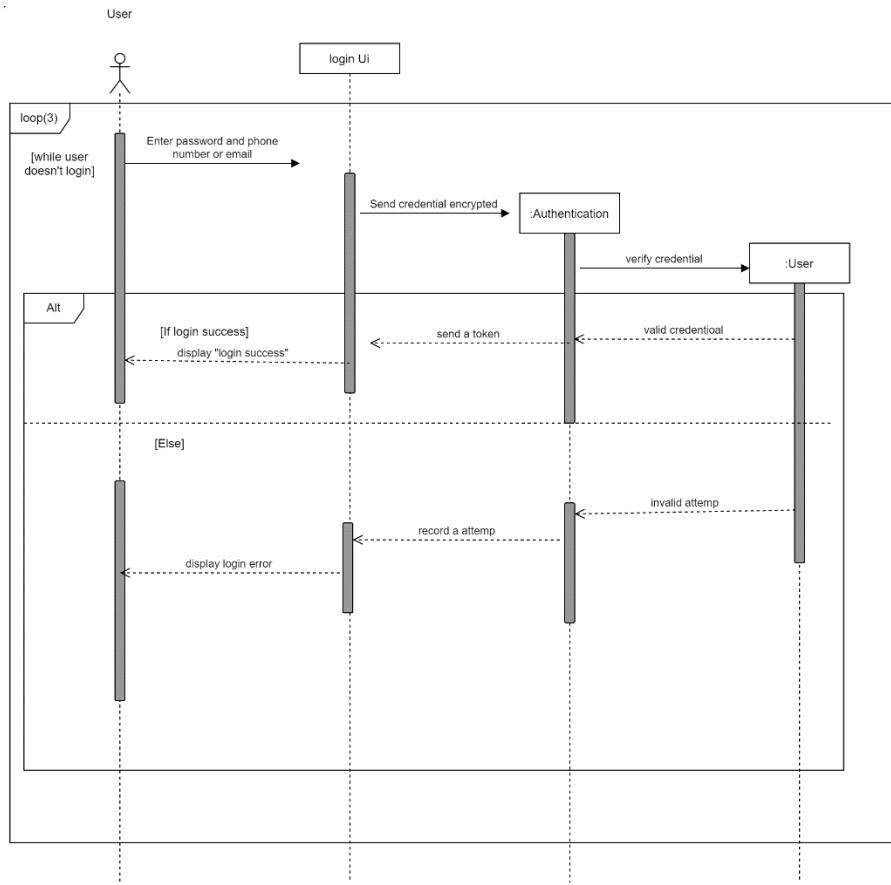


Figure 1.6.1 Login

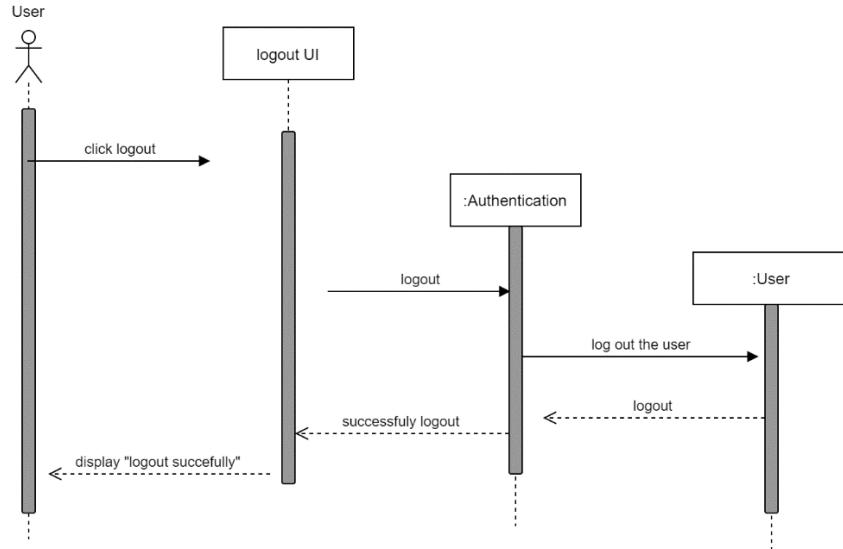


Figure 1.6.2 Logout

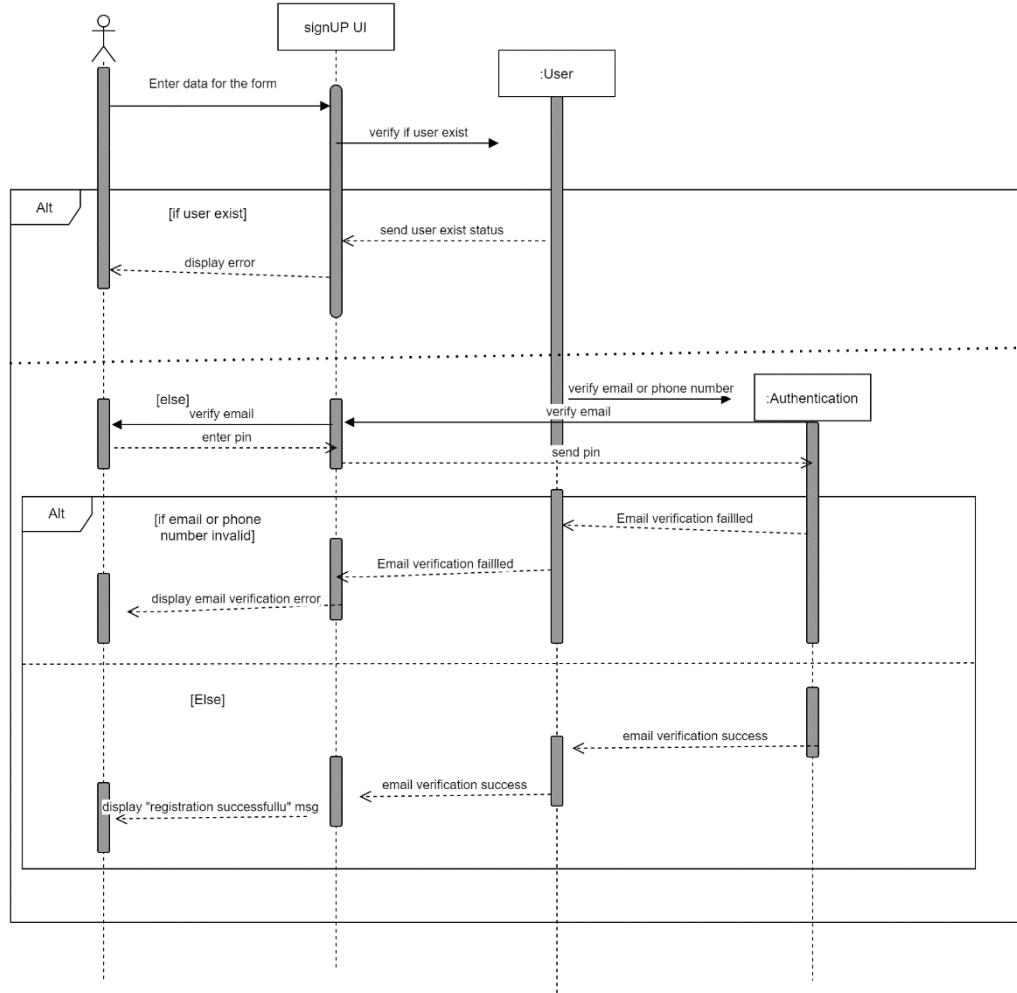


Figure 1.6.3 Sign up

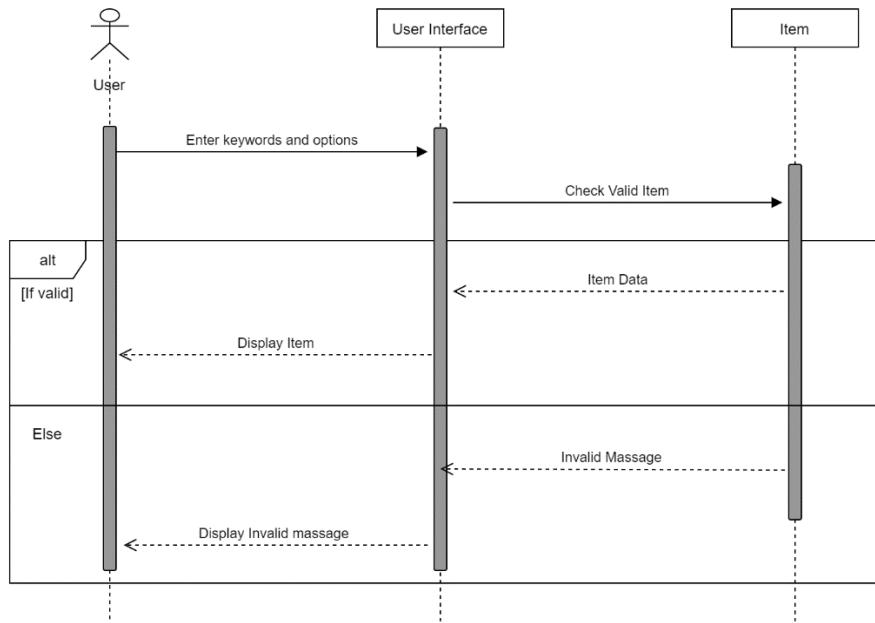


Figure 1.6.4 View Item

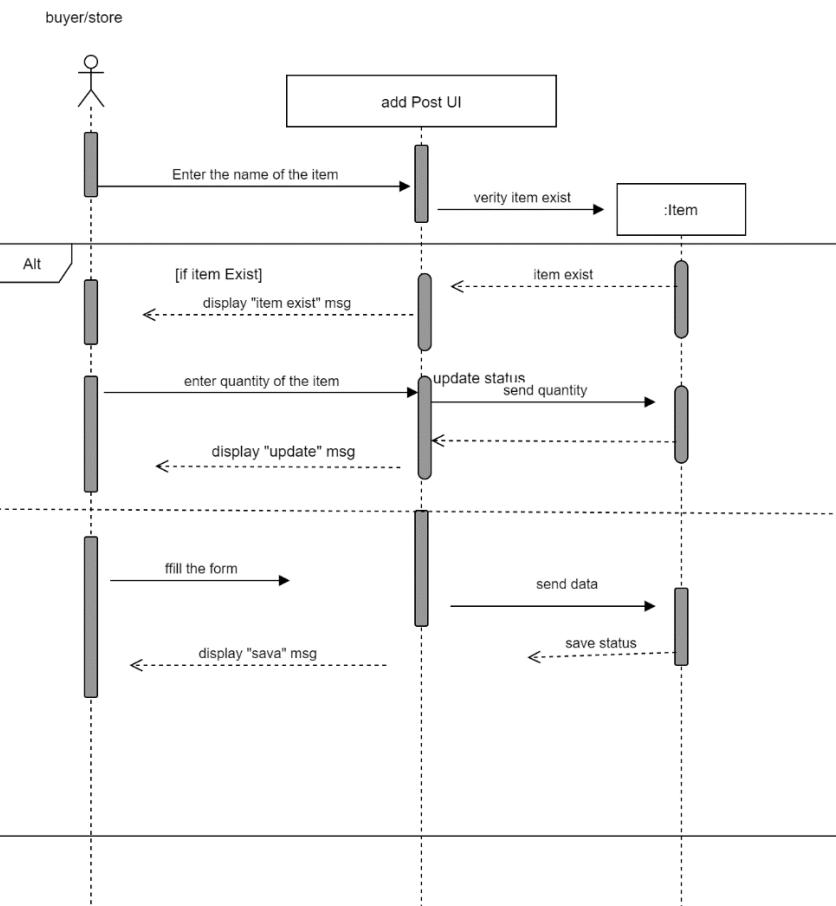


Figure 1.6.5 Add post

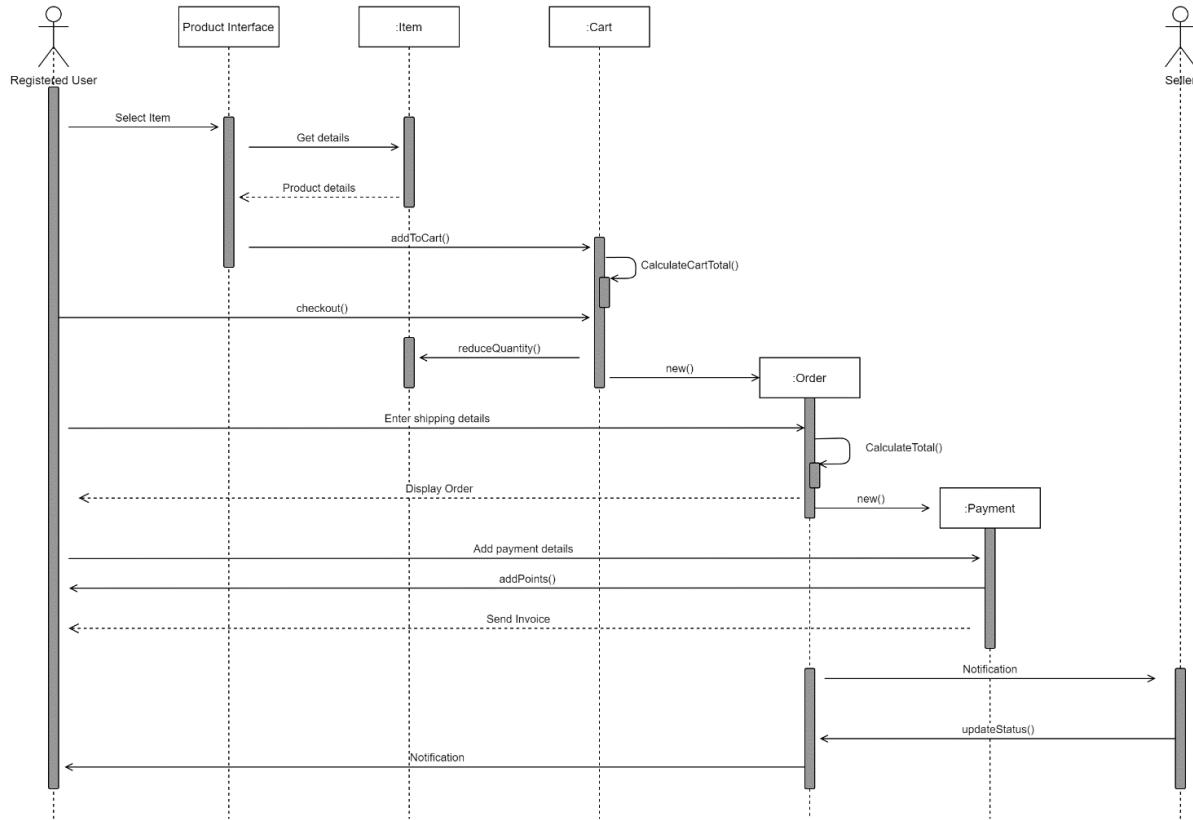


Figure 1.6.7 Buy Item

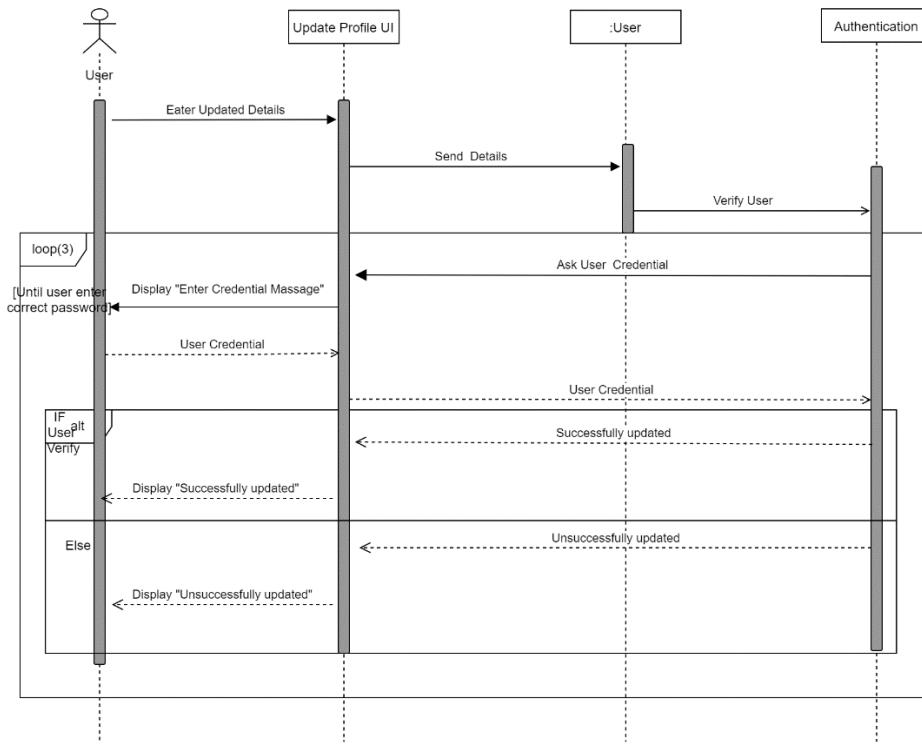


Figure 1.6.8 Update profile

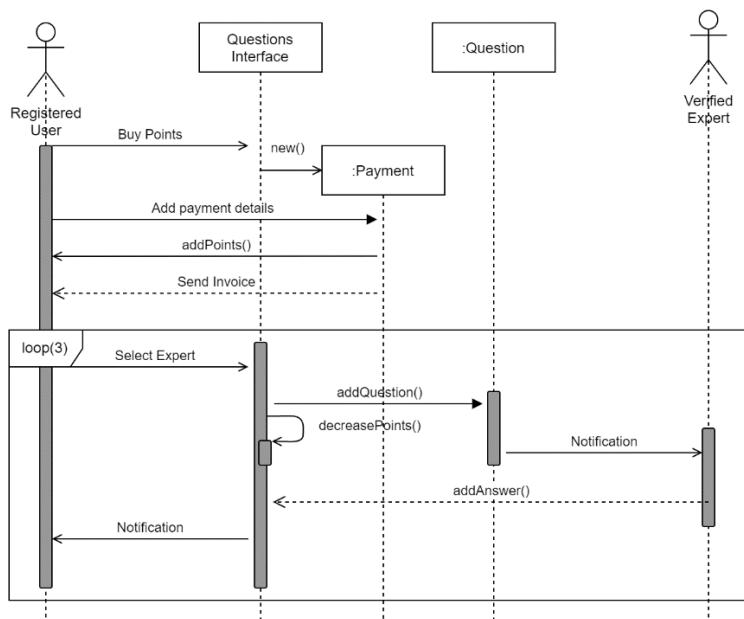


Figure 1.6.9 Post questions

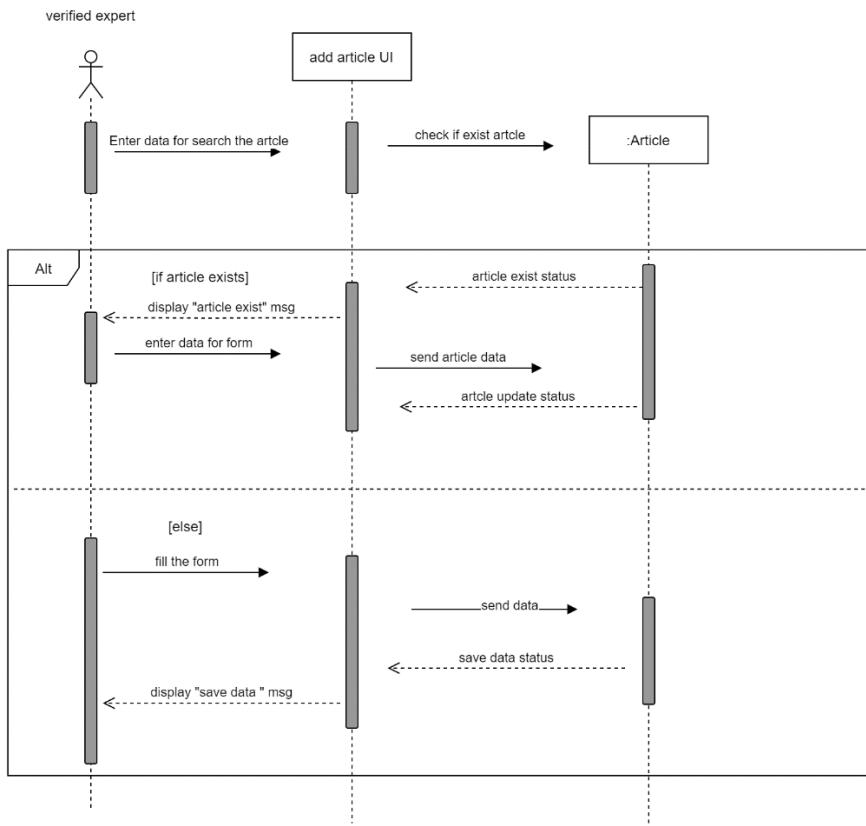


Figure 1.6.10 Add article

AquaSpace | Final Report

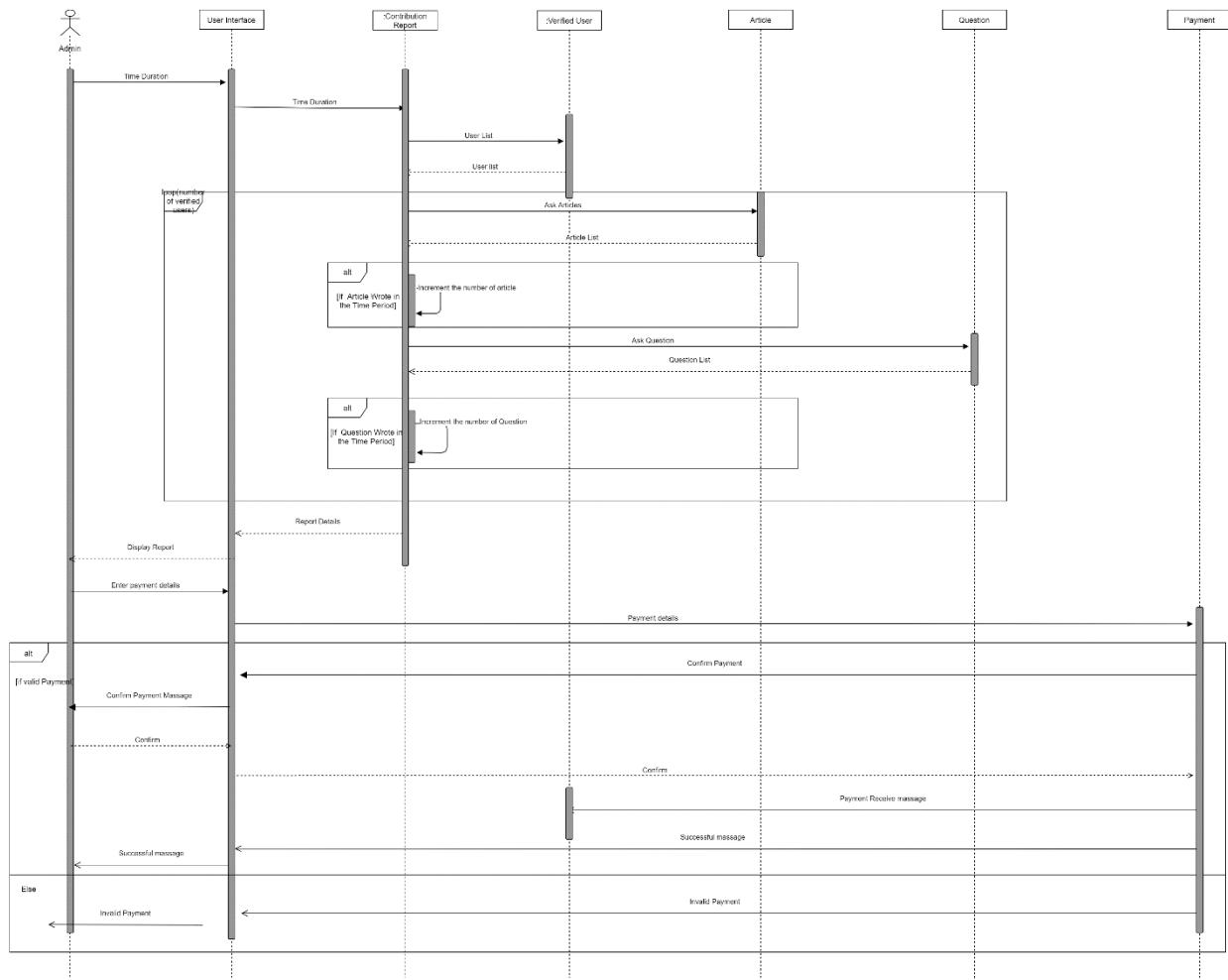


Figure 1.6.11 Contribution

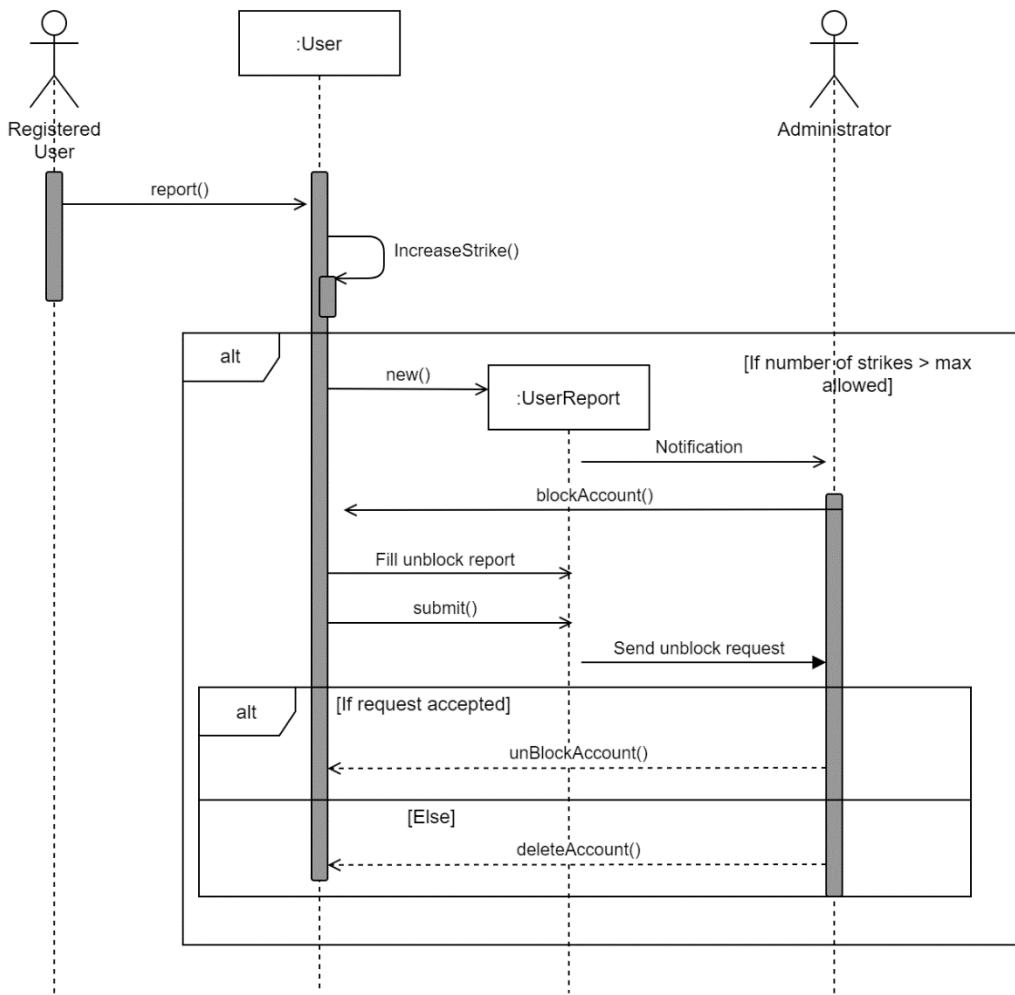


Figure 1.6.12 Handle Issues

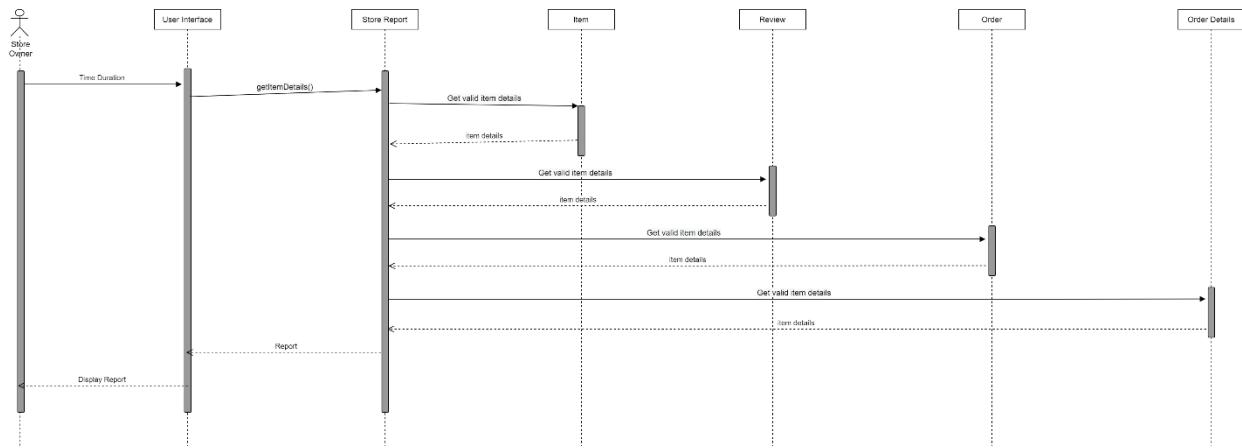


Figure 1.6.13 Report Generation (Store)

AquaSpace | Final Report

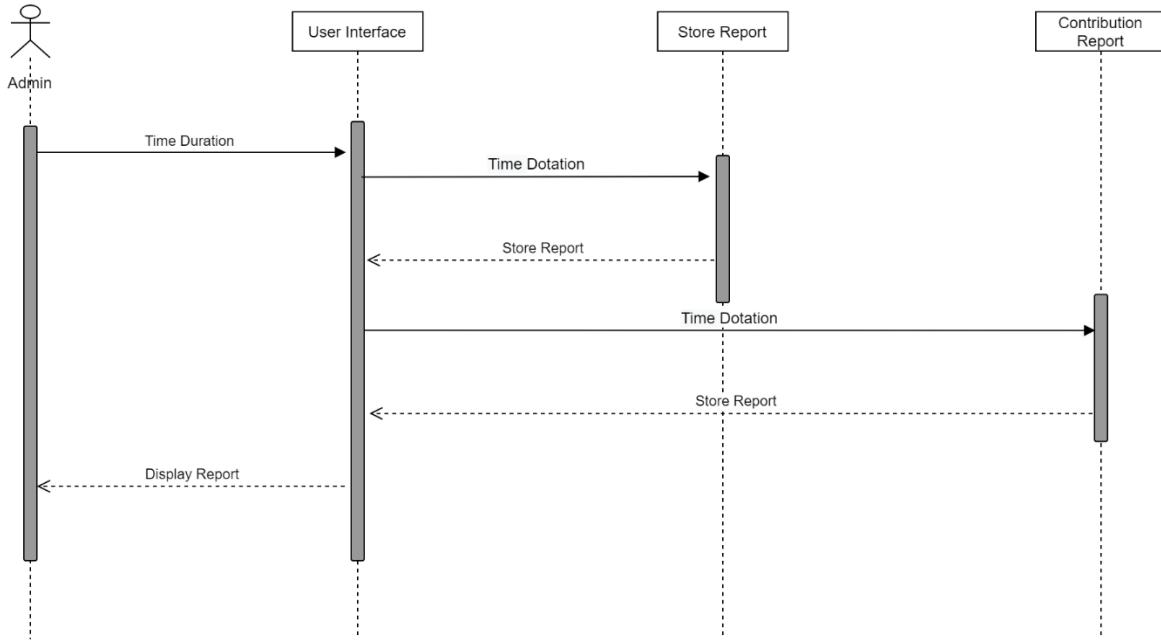


Figure 1.6.14 Report Generation (Admin)

1.7 Activity Diagrams

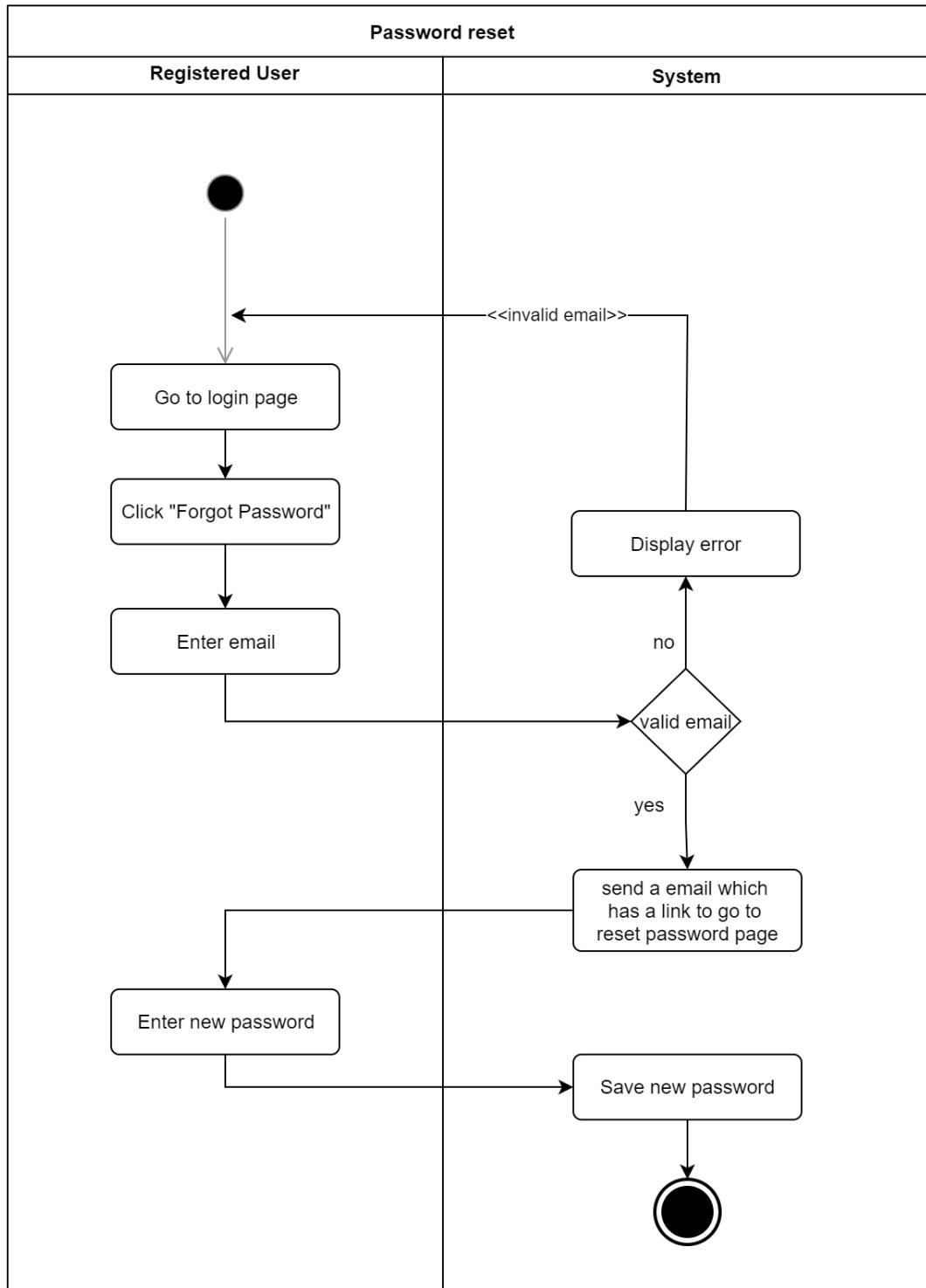


Figure 1.7.1 Password Reset

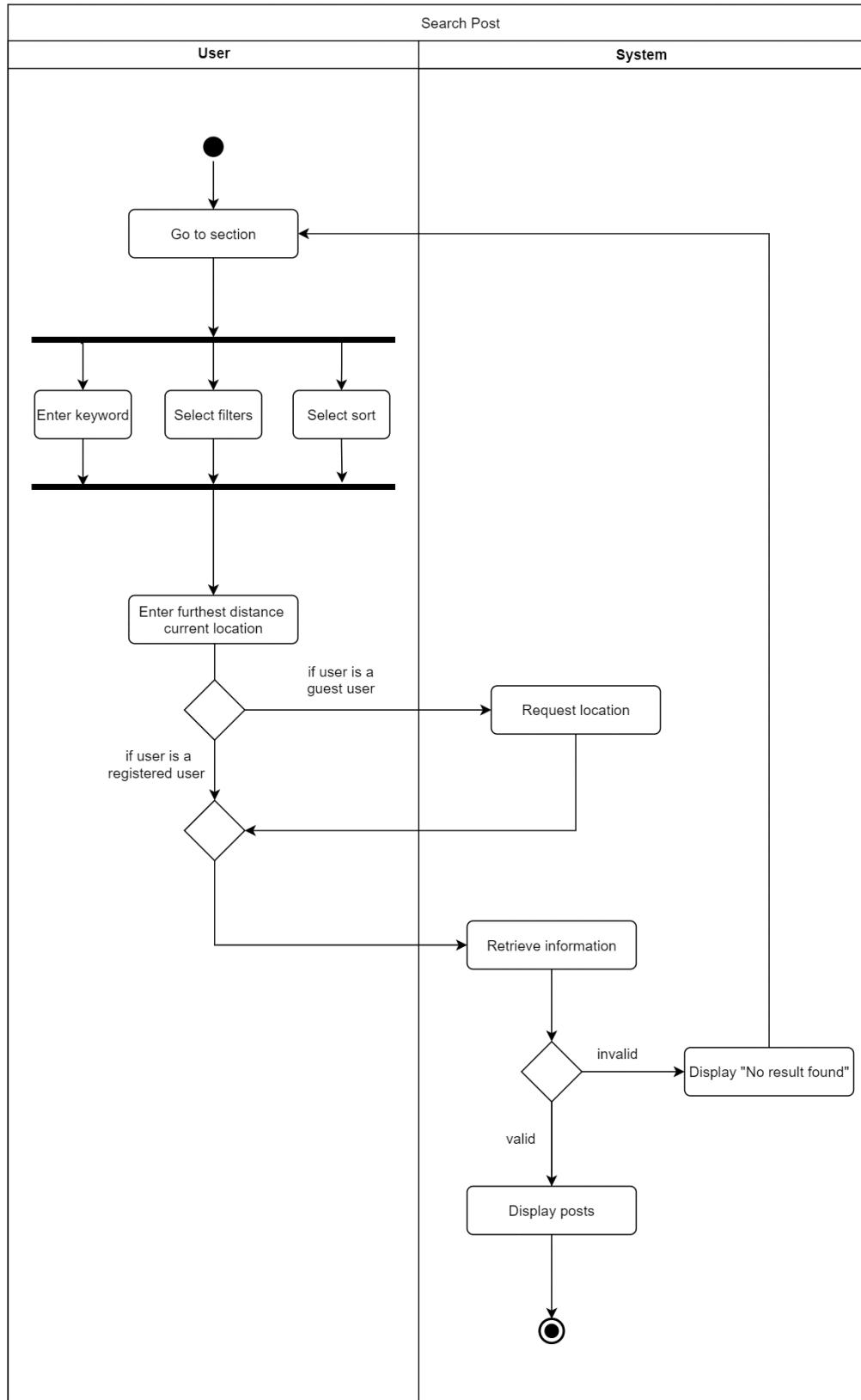


Figure 1.7.2 Search Post

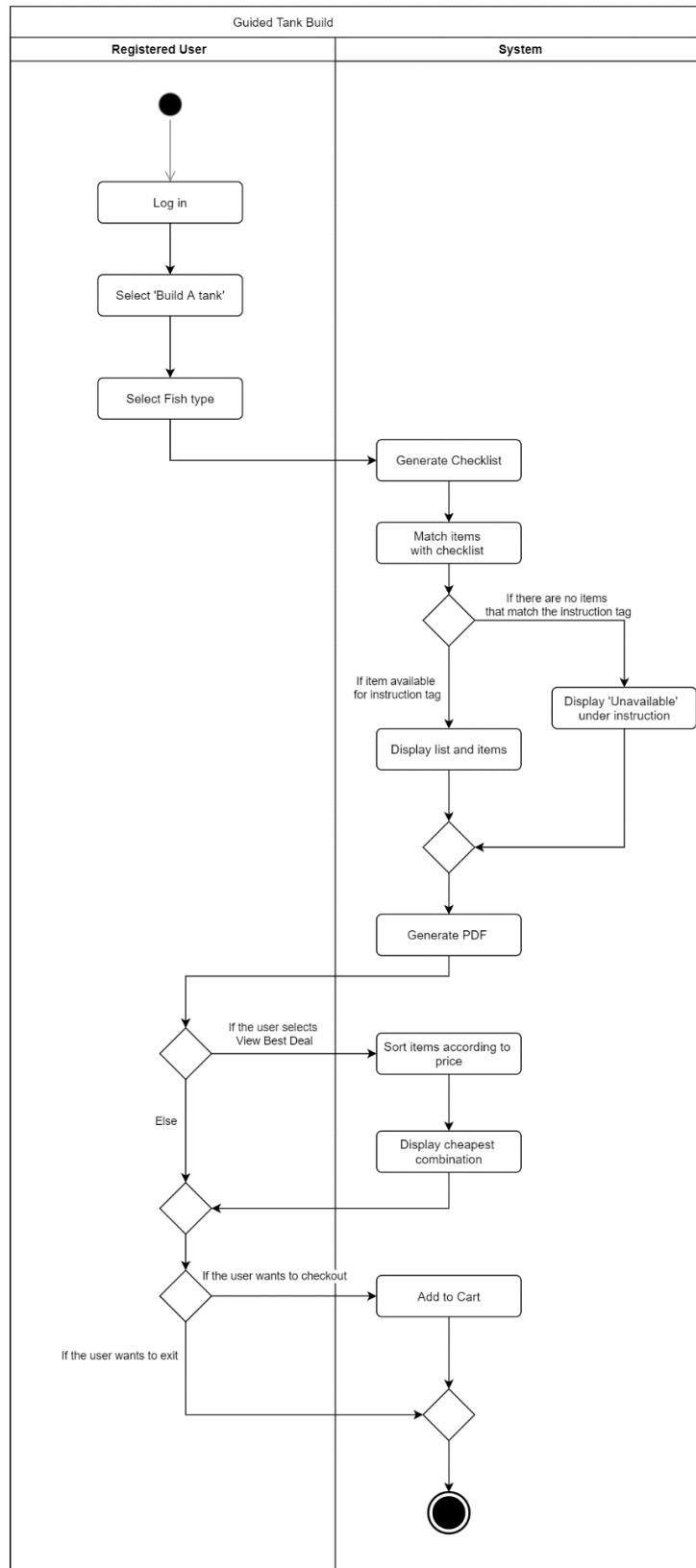


Figure 1.7.3 Guided Tank Build

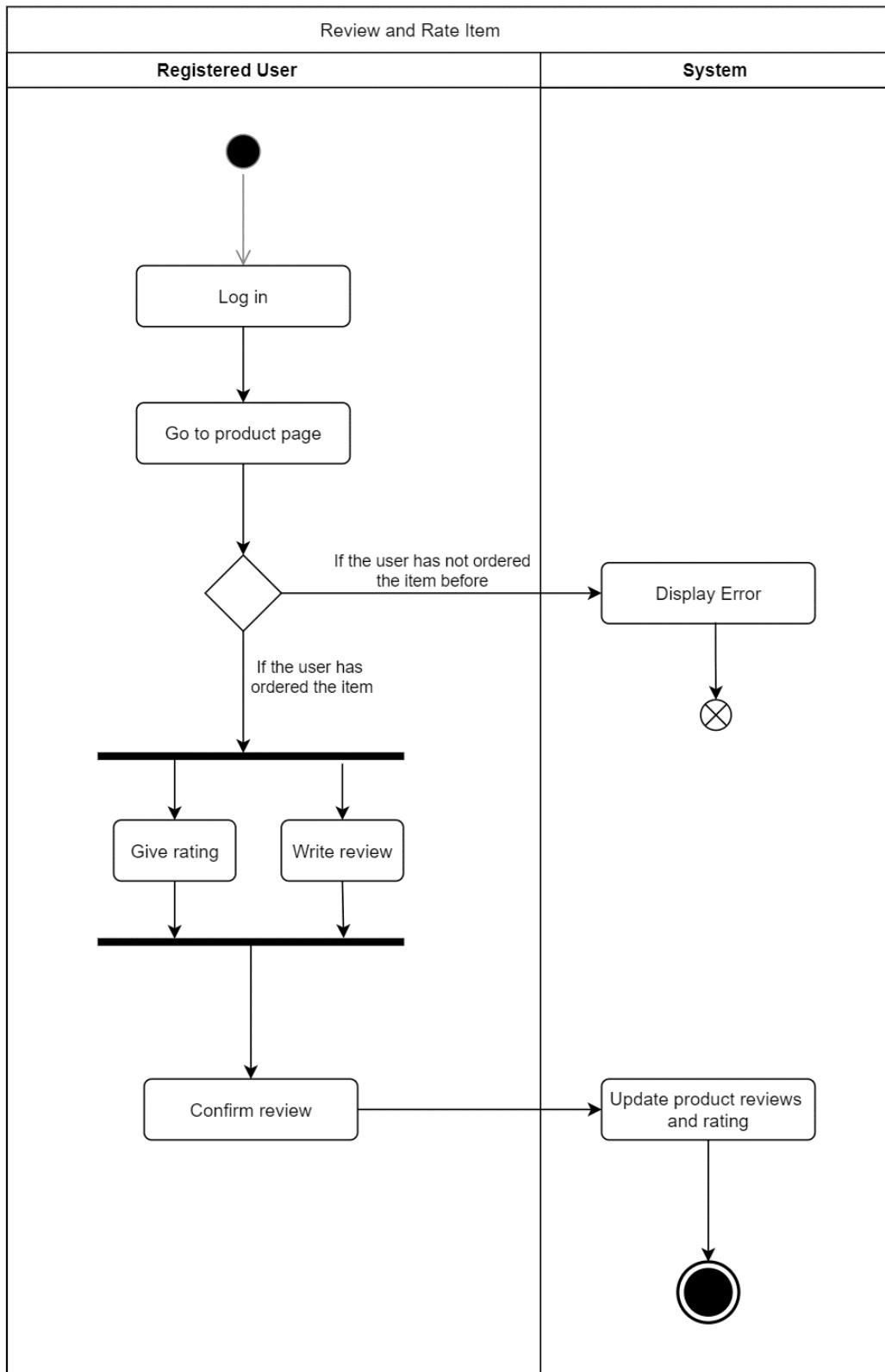


Figure 1.7.4 Review and Rate Item

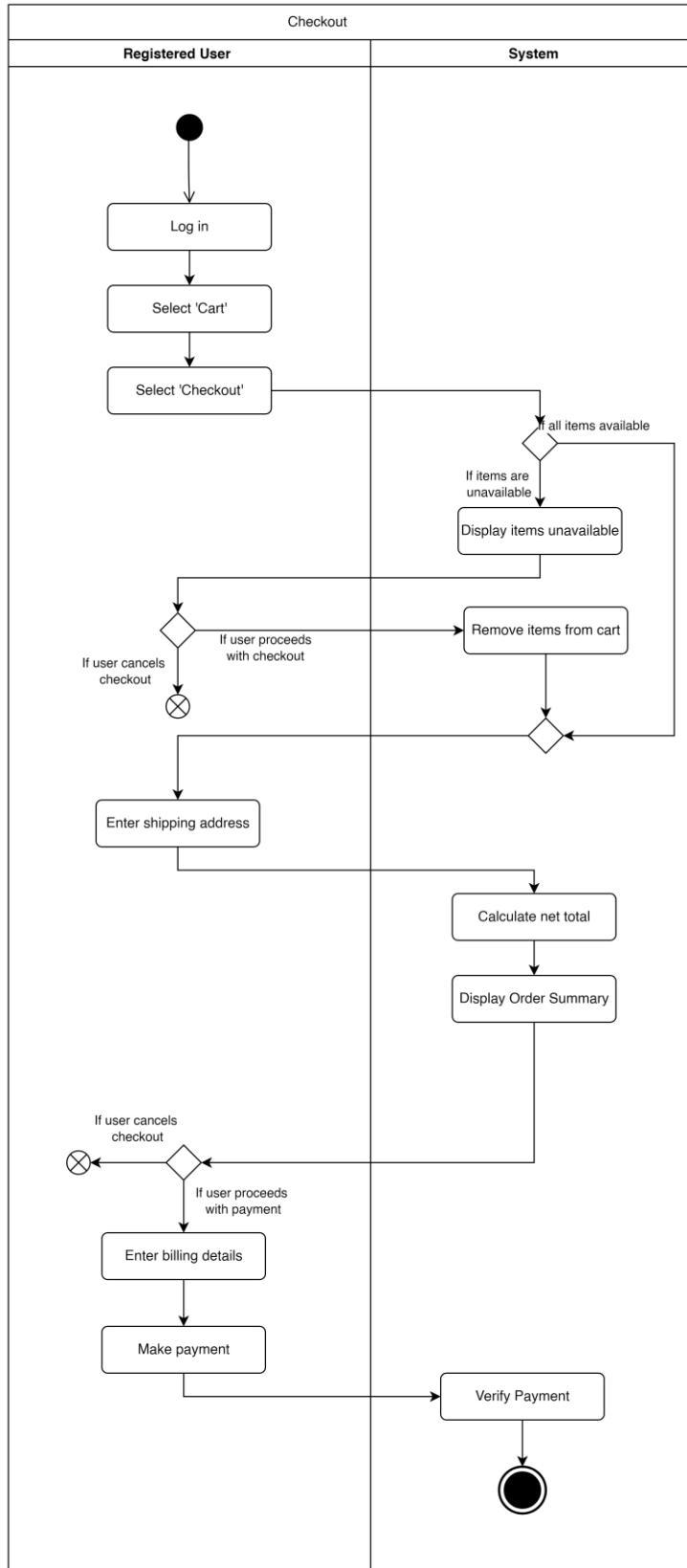


Figure 1.7.6 Checkout

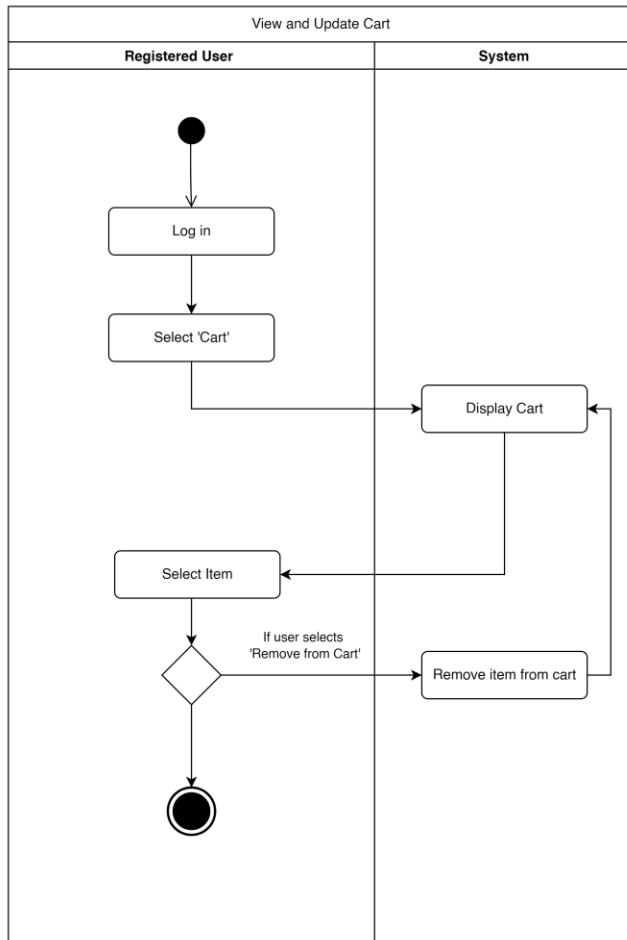


Figure 1.7.7 View and Update Cart

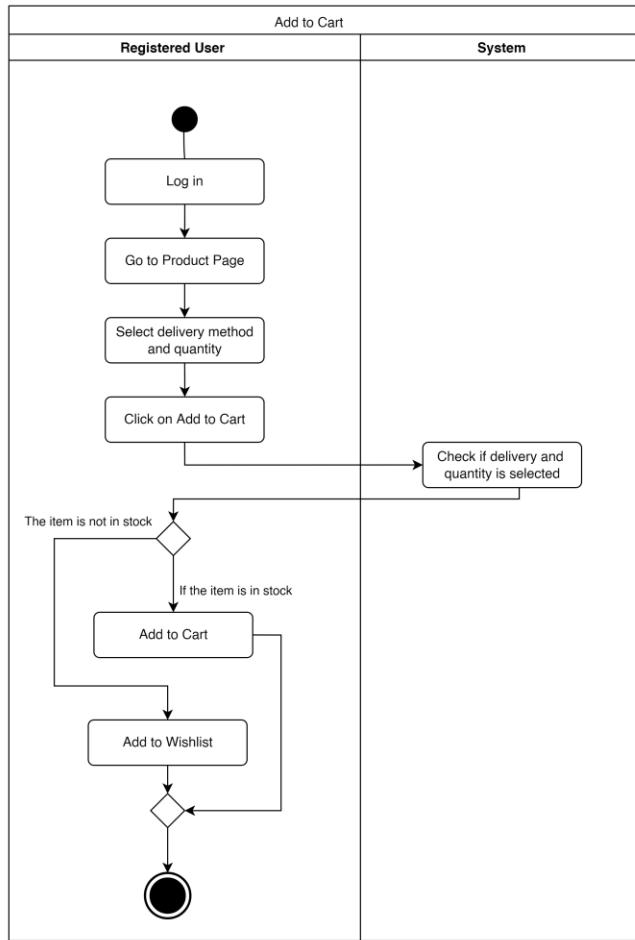


Figure 1.7.8 Add to cart

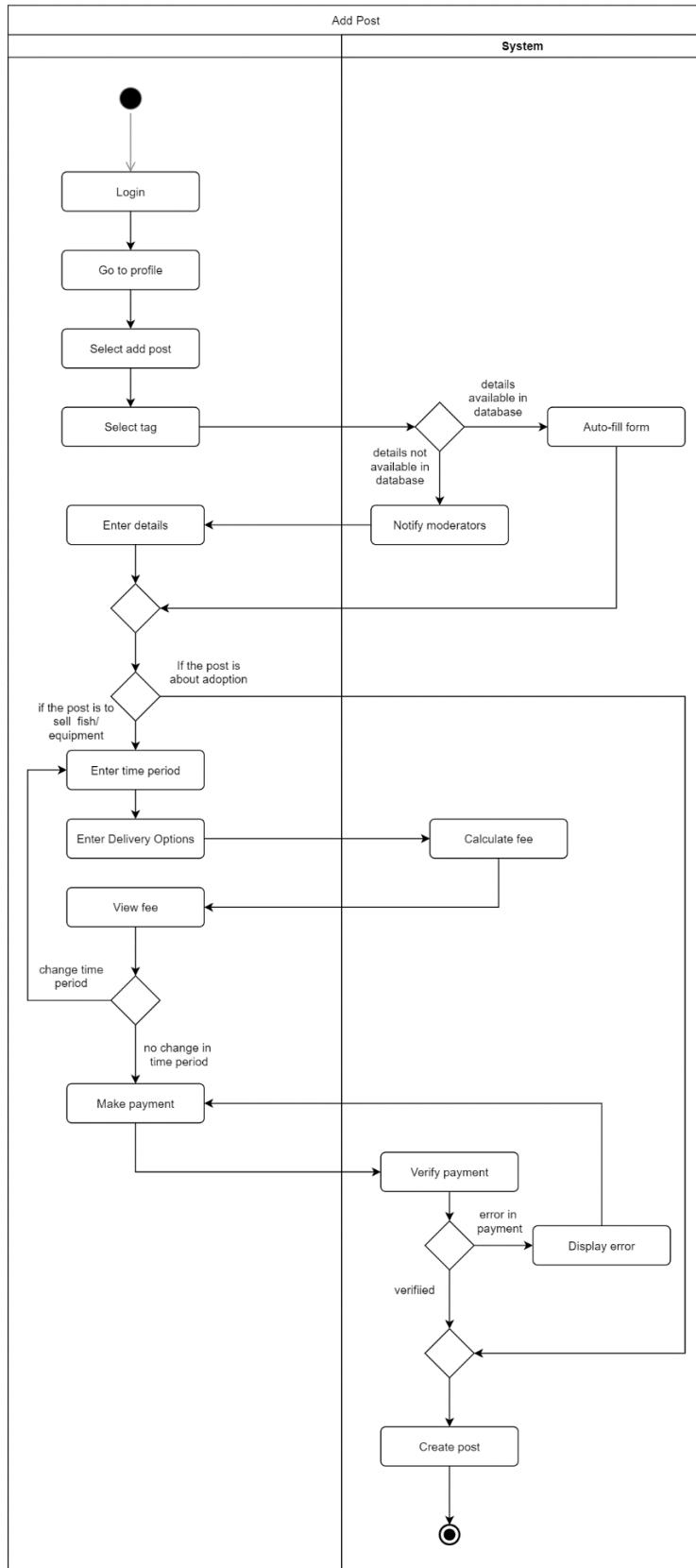


Figure 1.7.9 Add Post

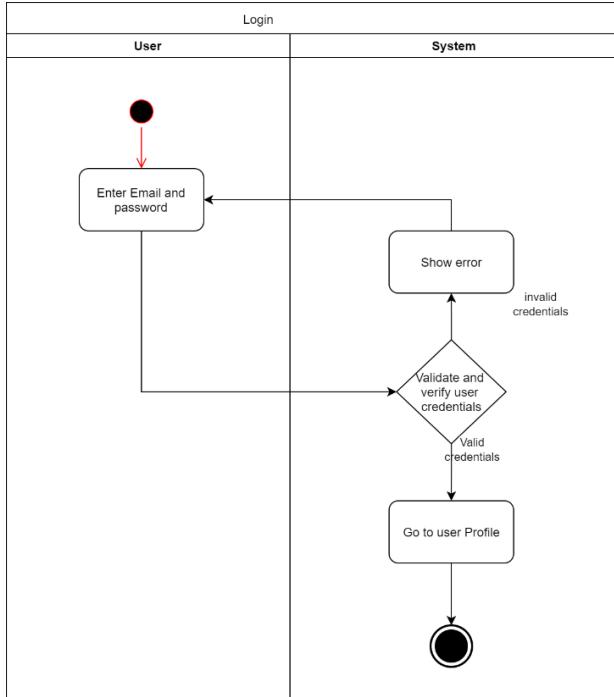


Figure 1.7.10 Login

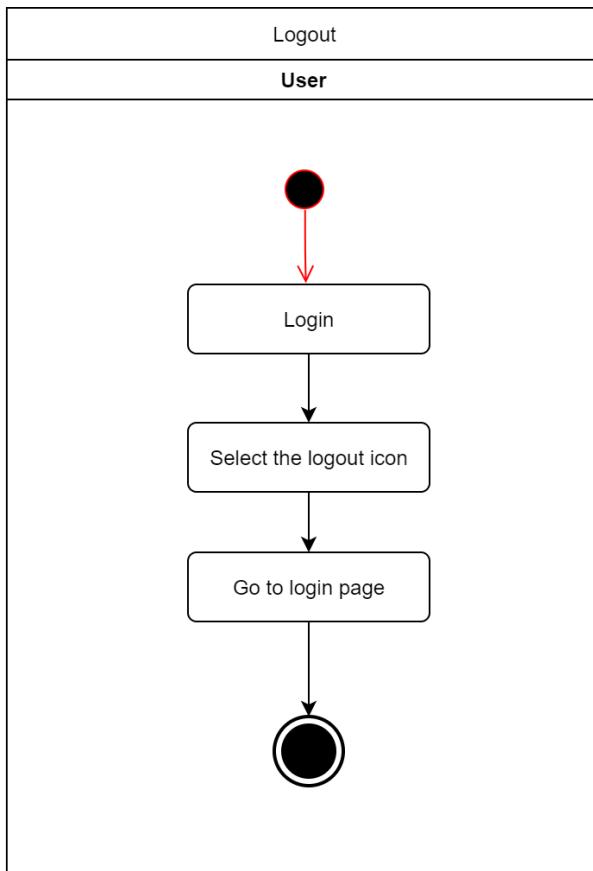


Figure 1.7.11 Logout

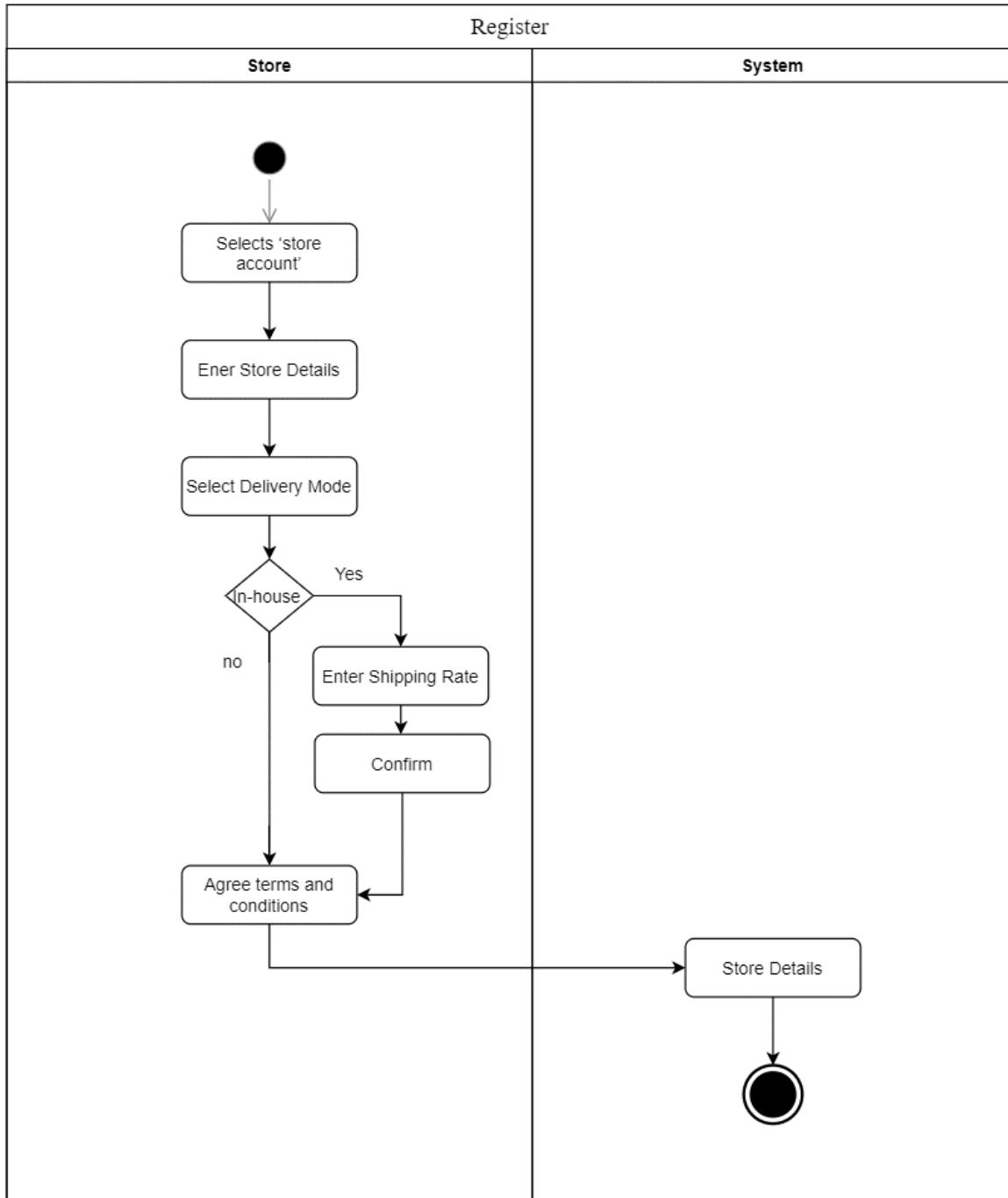


Figure 1.7.12 Register

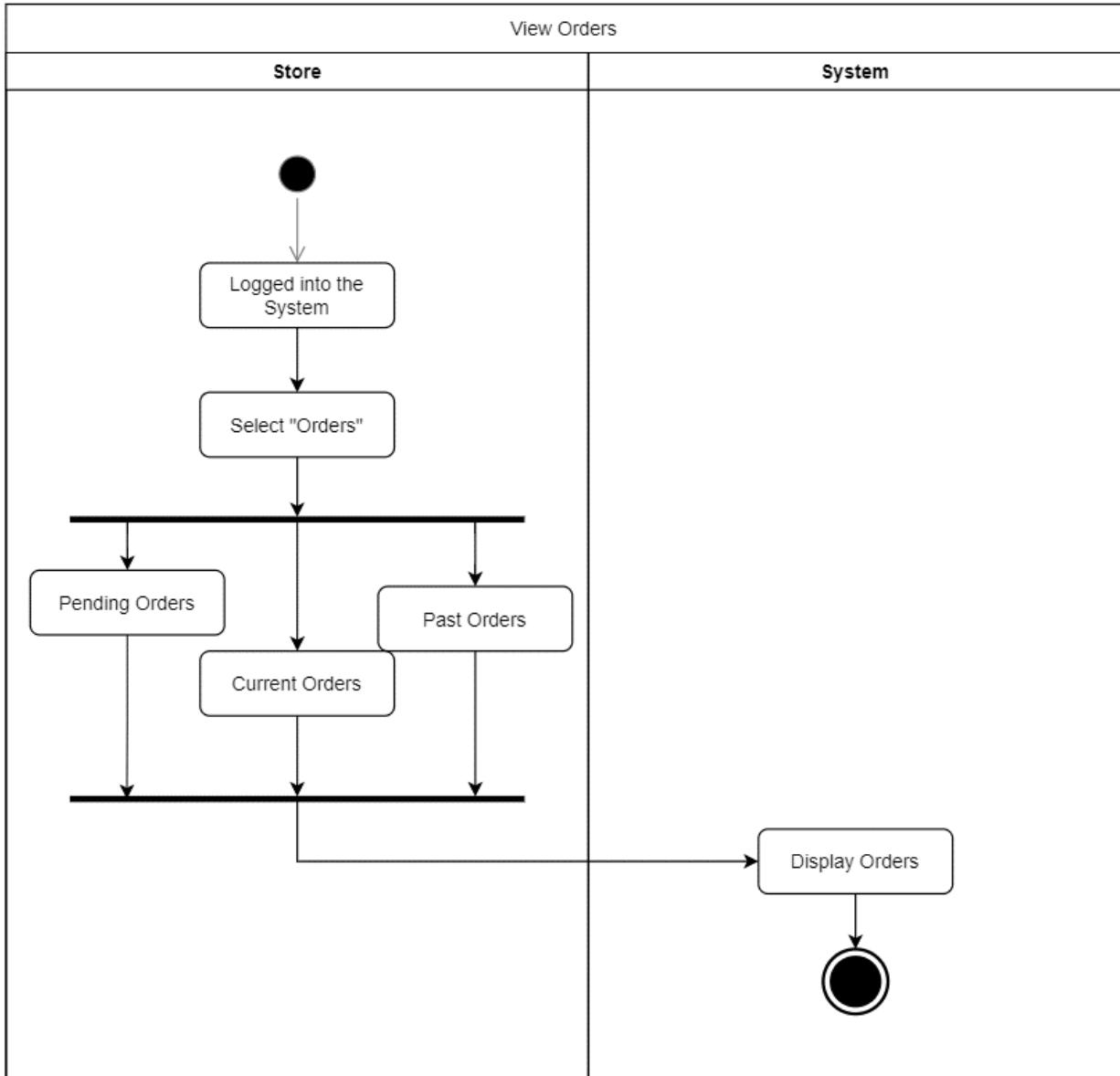


Figure 1.7.13 View Orders

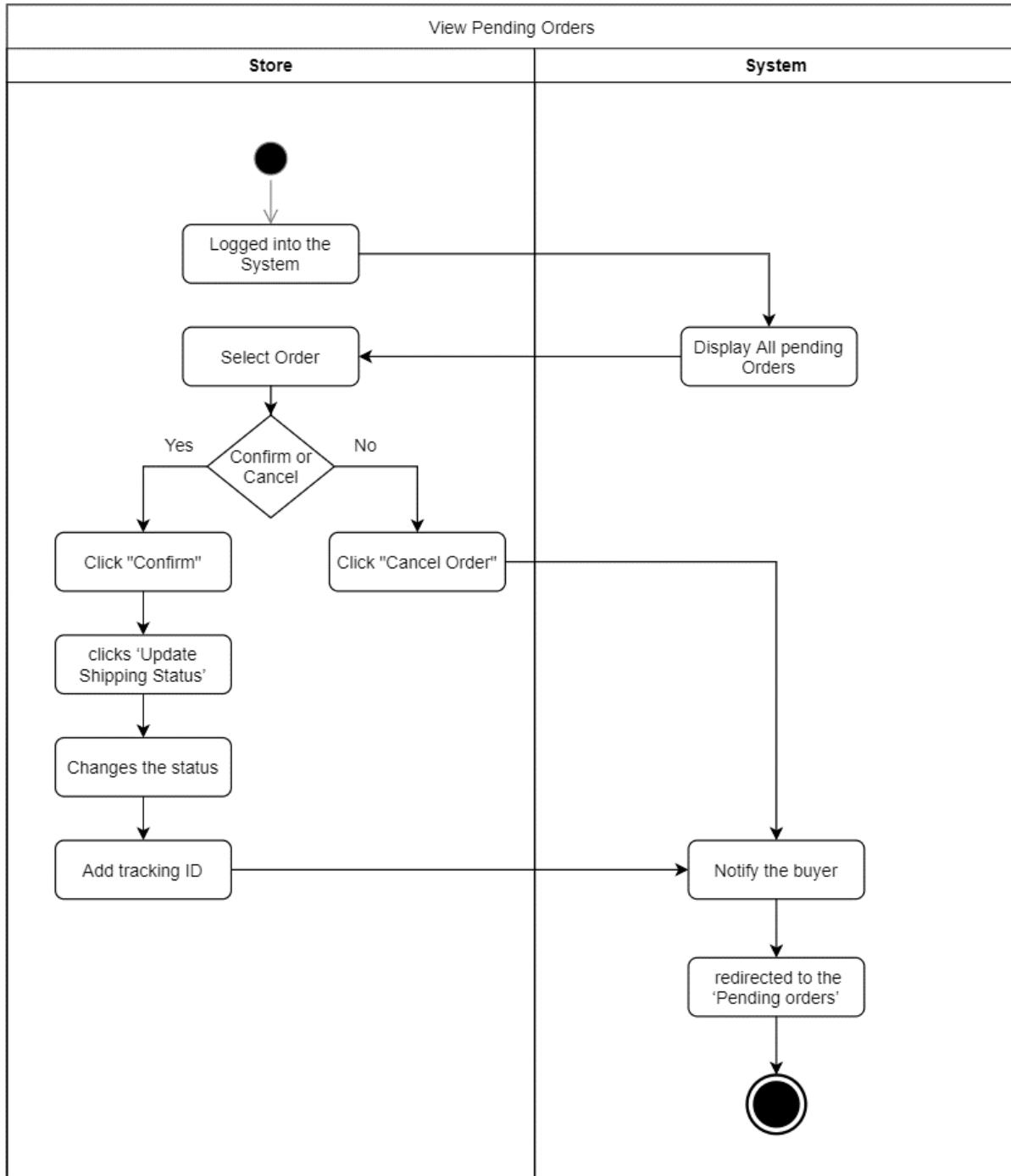


Figure 1.7.14 View Pending Orders

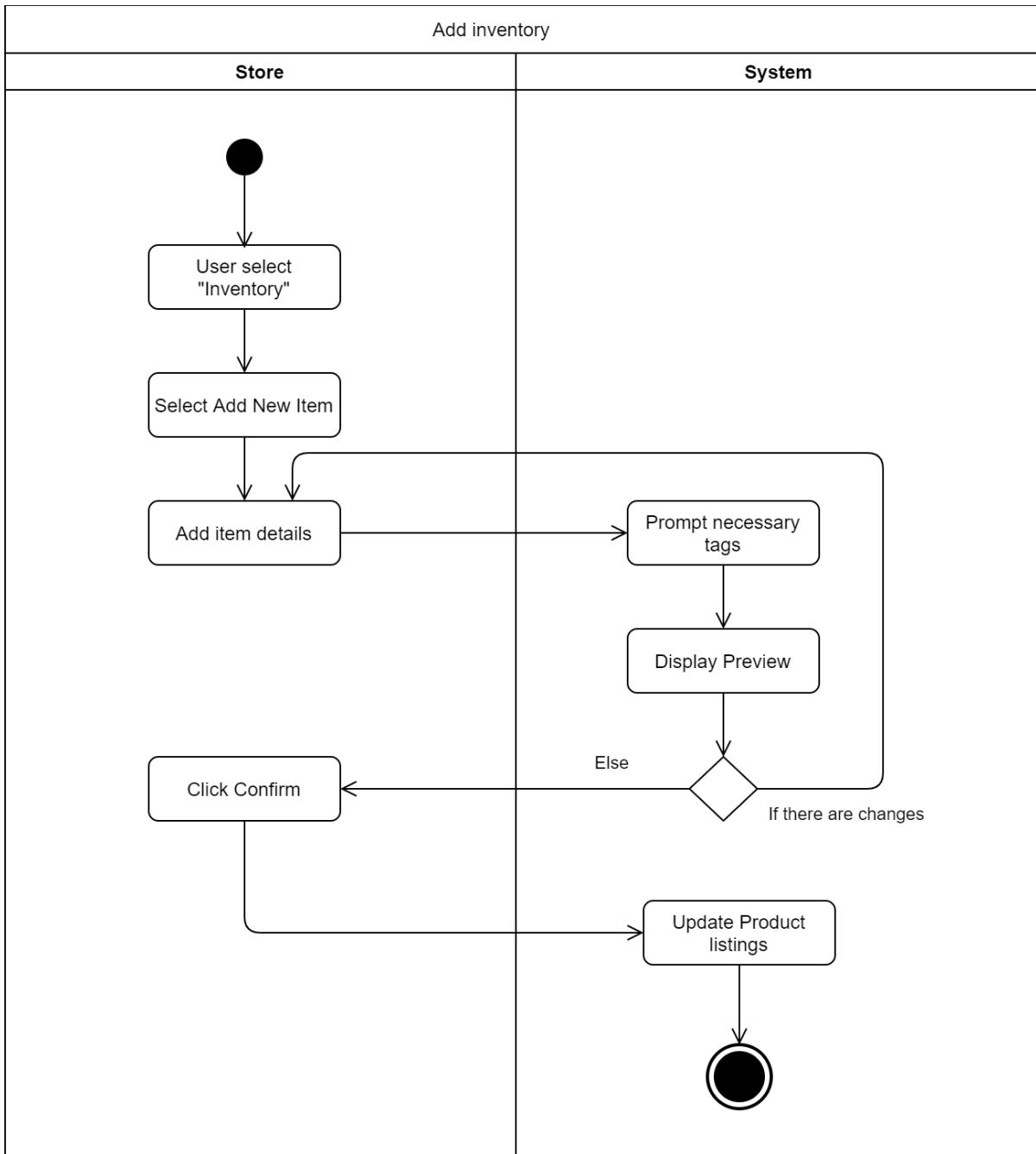


Figure 1.7.15 Add Inventory

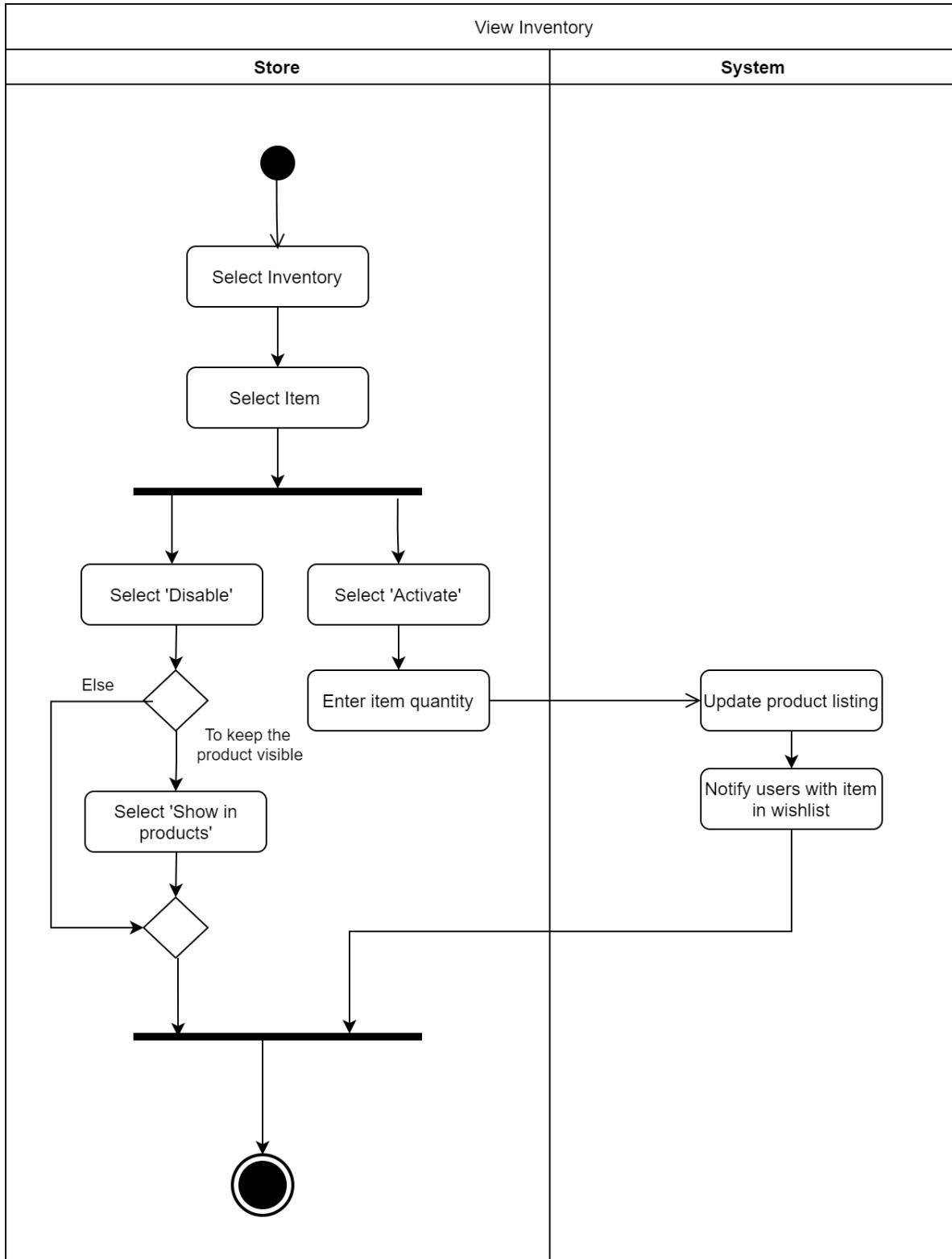


Figure 1.7.16 View Inventory

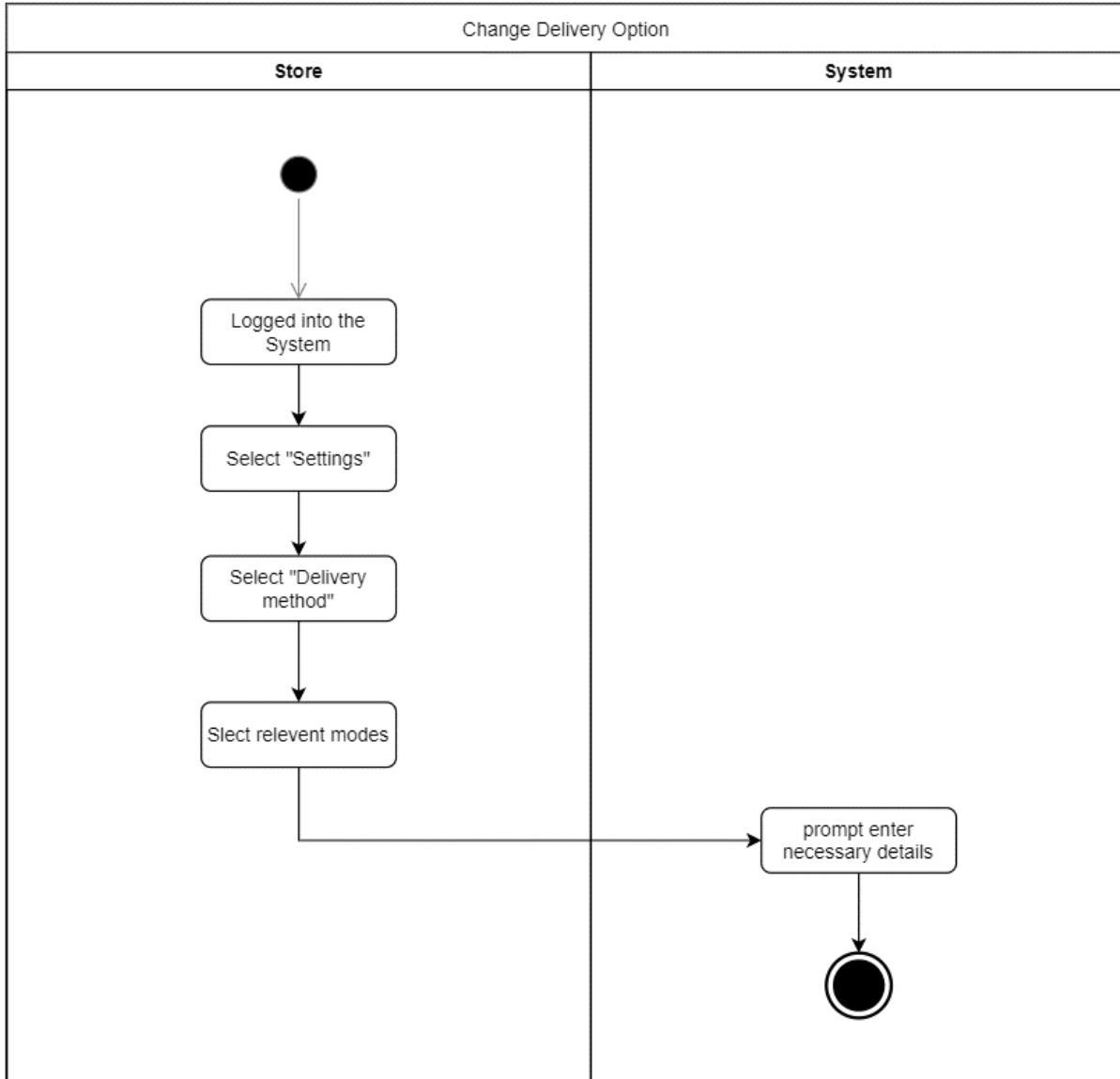


Figure 1.7.17 Change Delivery Option

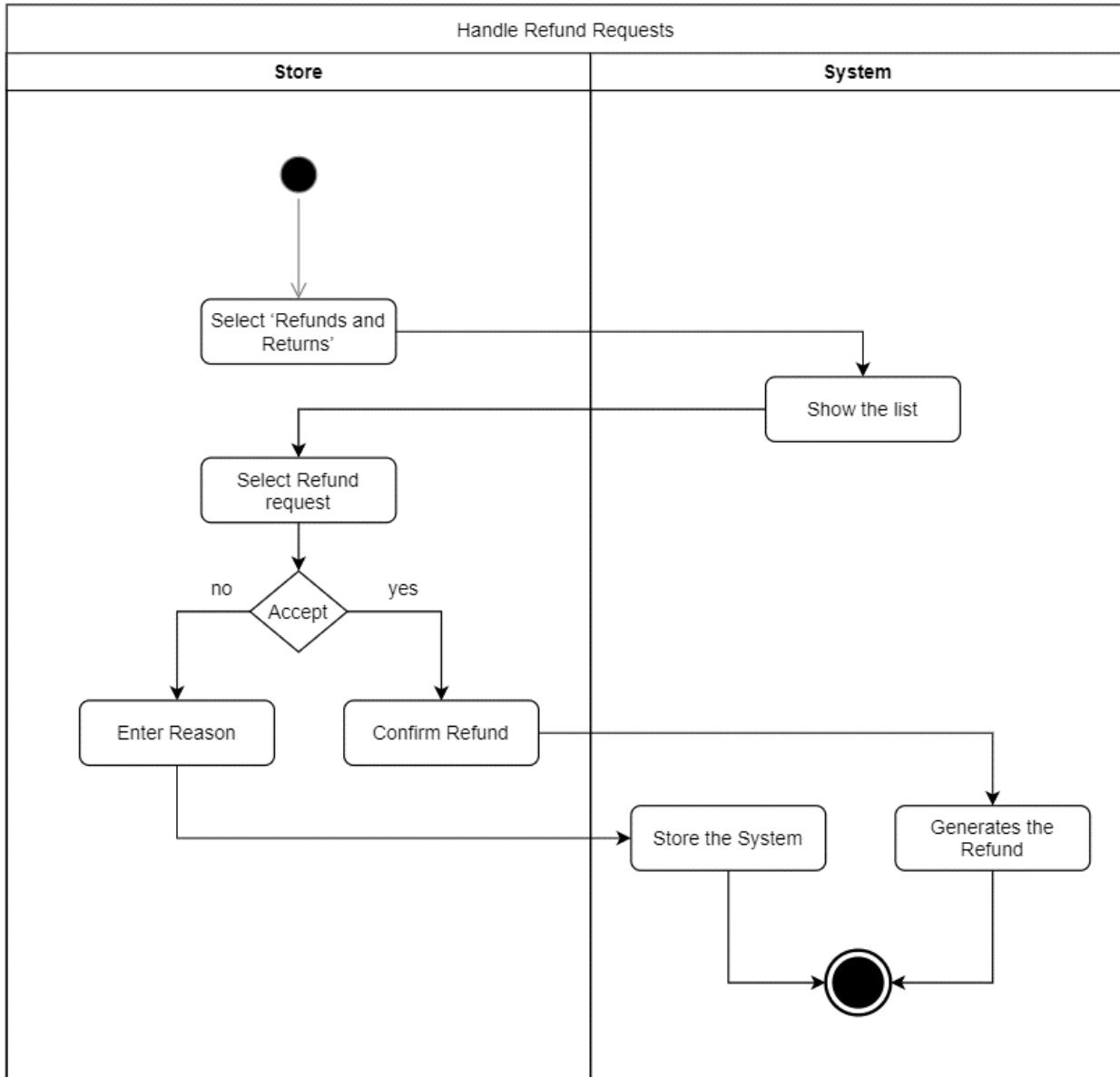


Figure 1.7.18 Handle Refund Requests

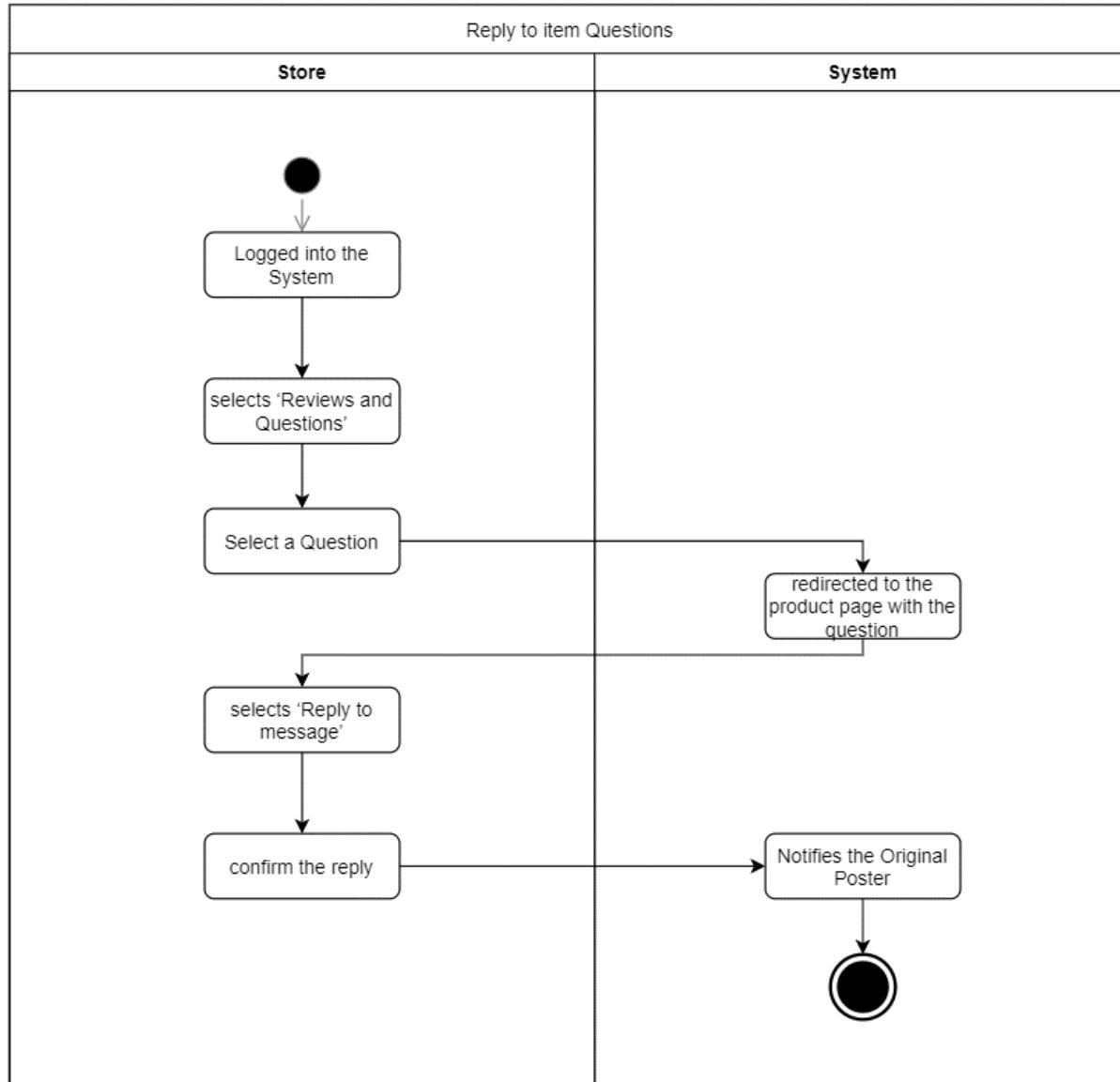


Figure 1.7.19 Reply to Item Questions

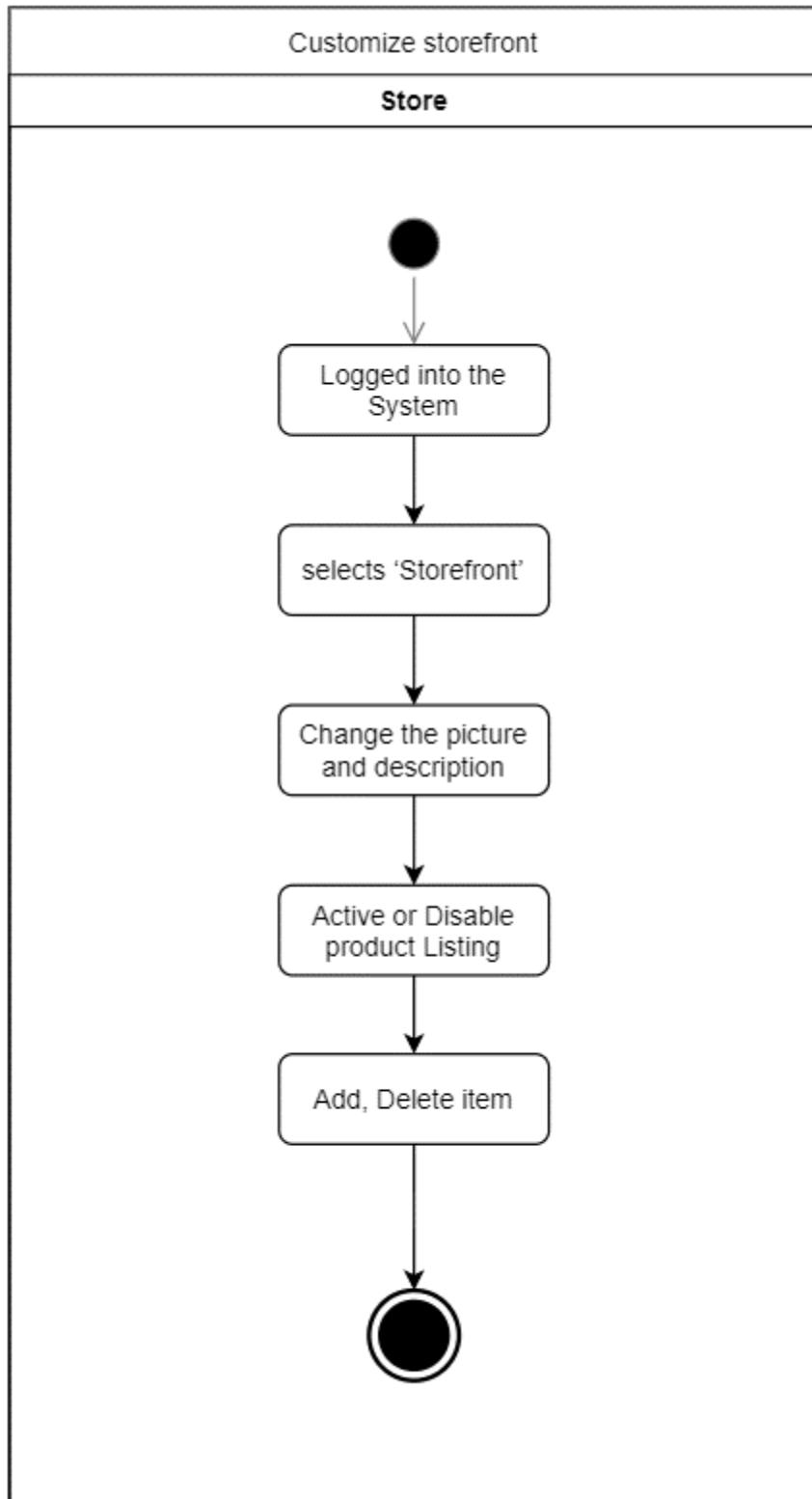


Figure 1.7.20 Customize storefront

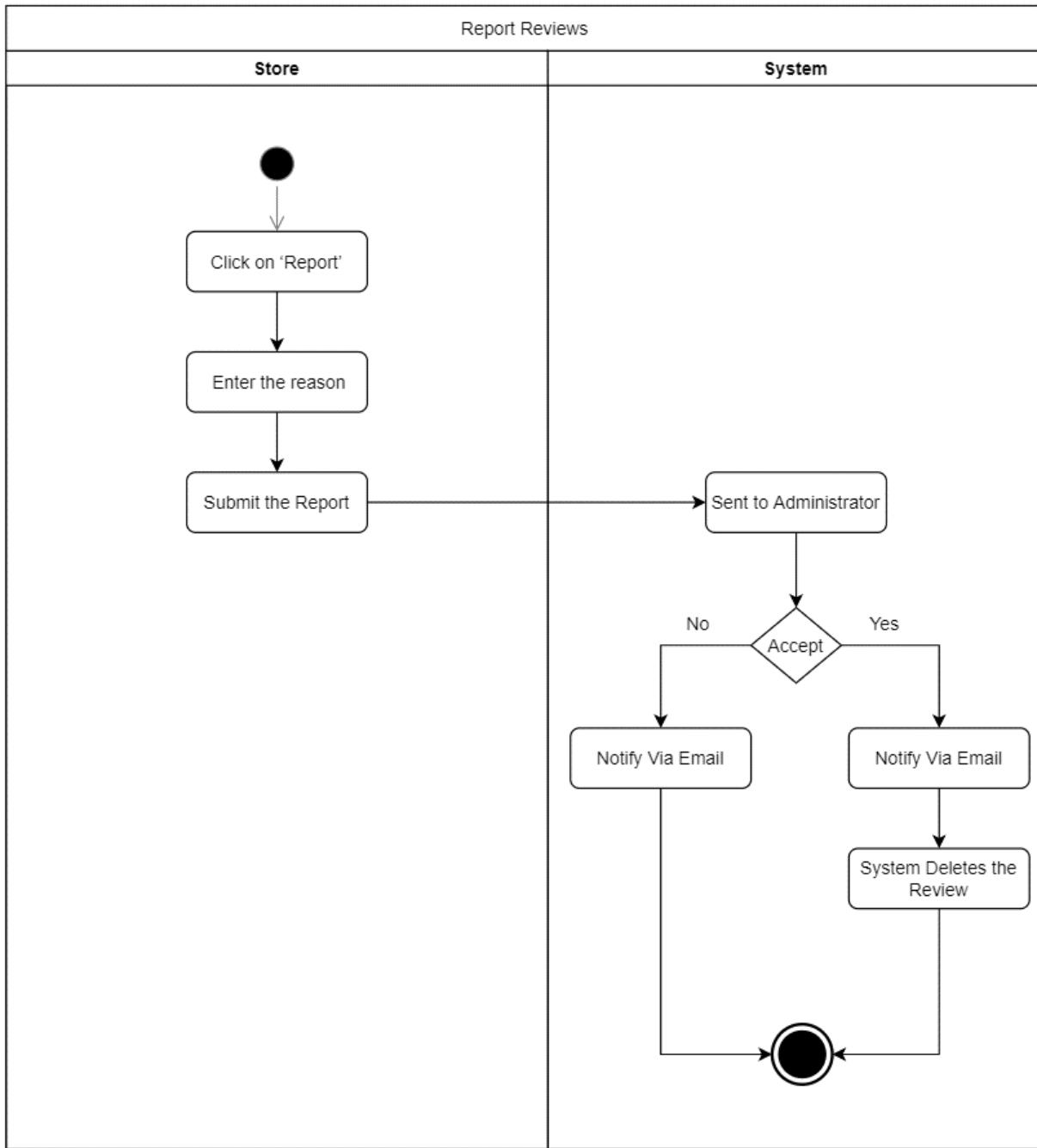


Figure 1.7.21 Report Review

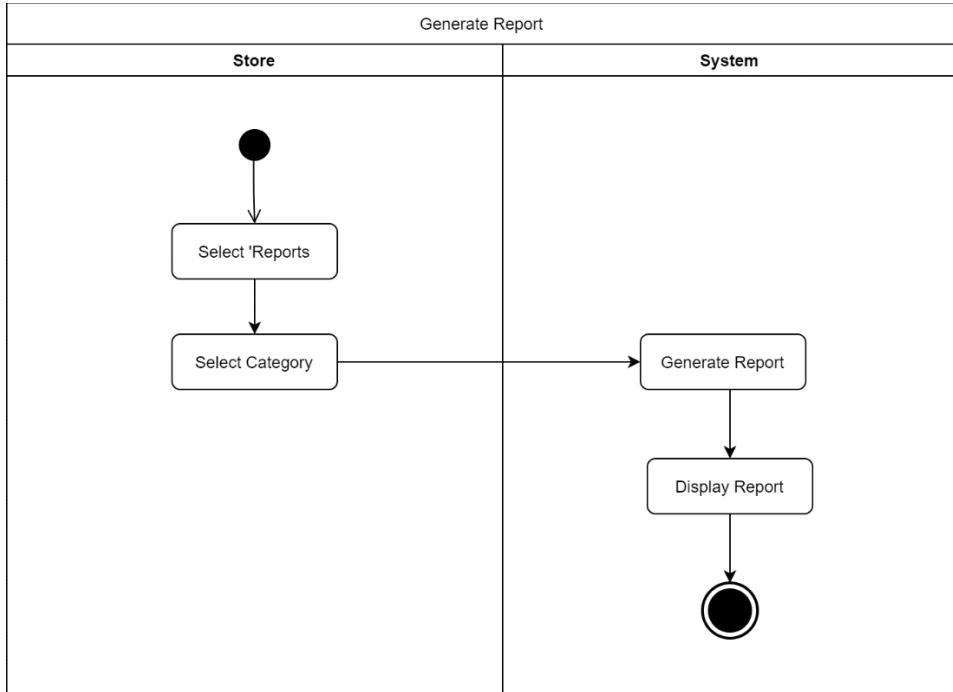


Figure 1.7.22 Generate Report

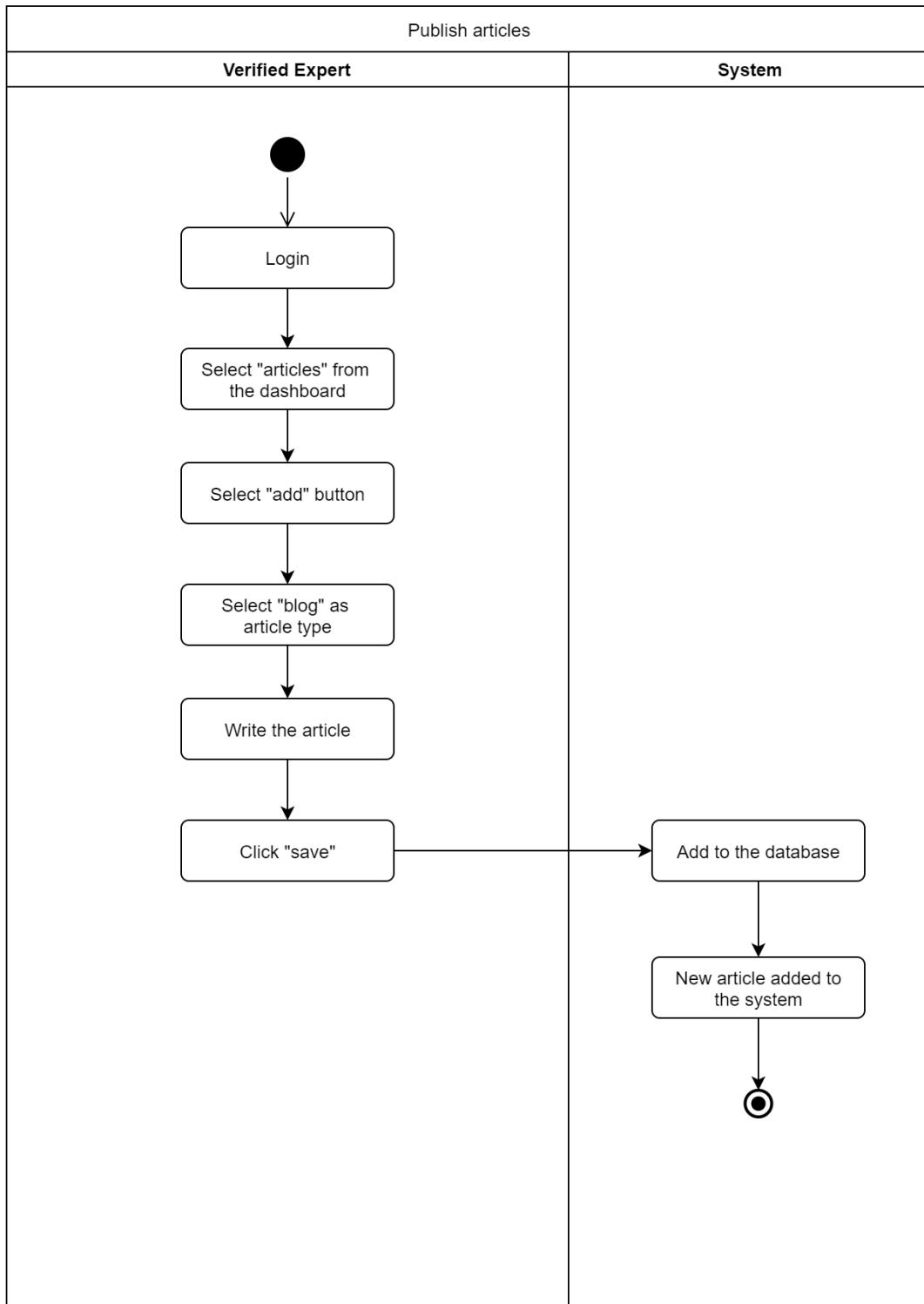


Figure 1.7.23 Publish Article

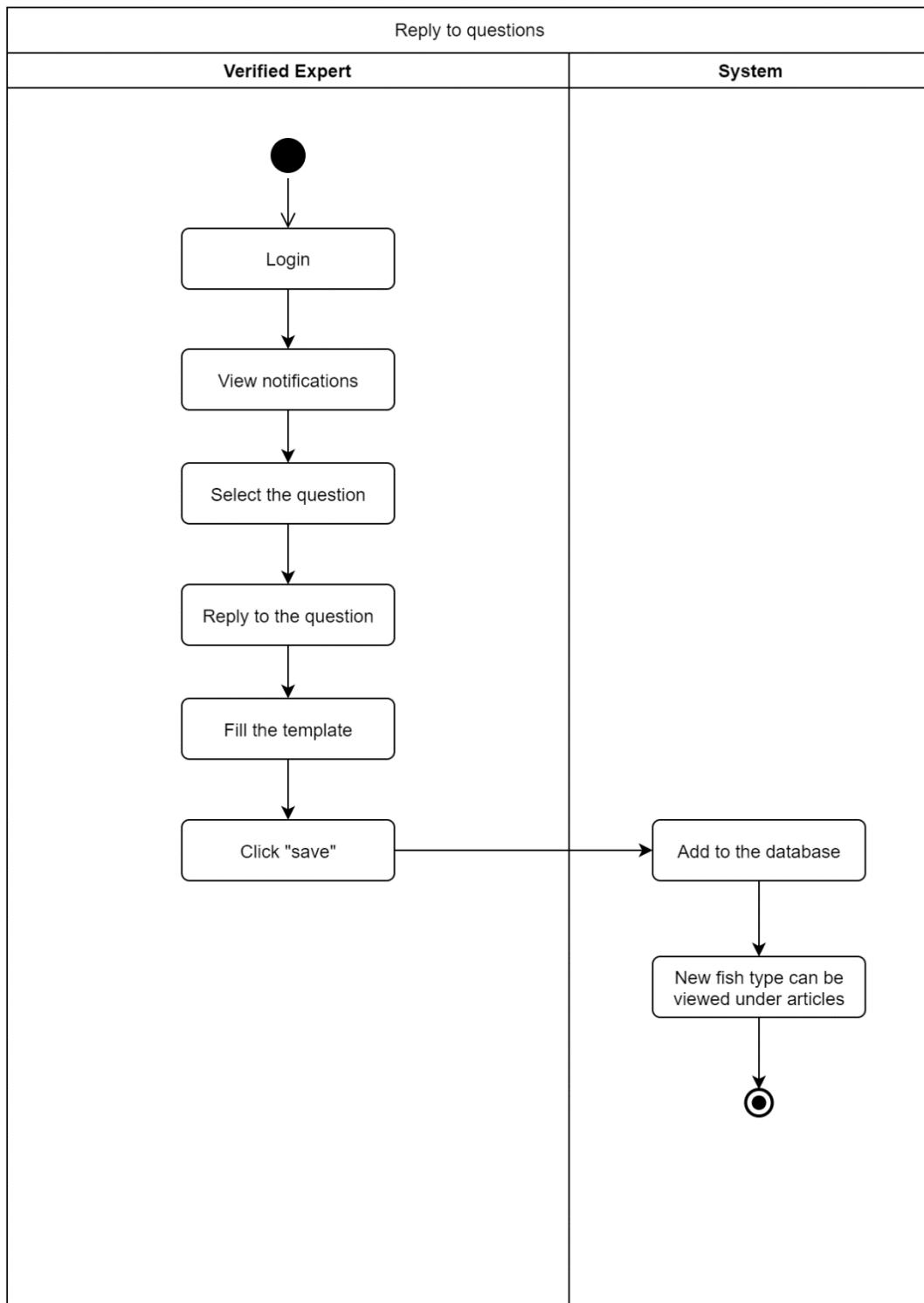


Figure 1.7.24 Reply to Question

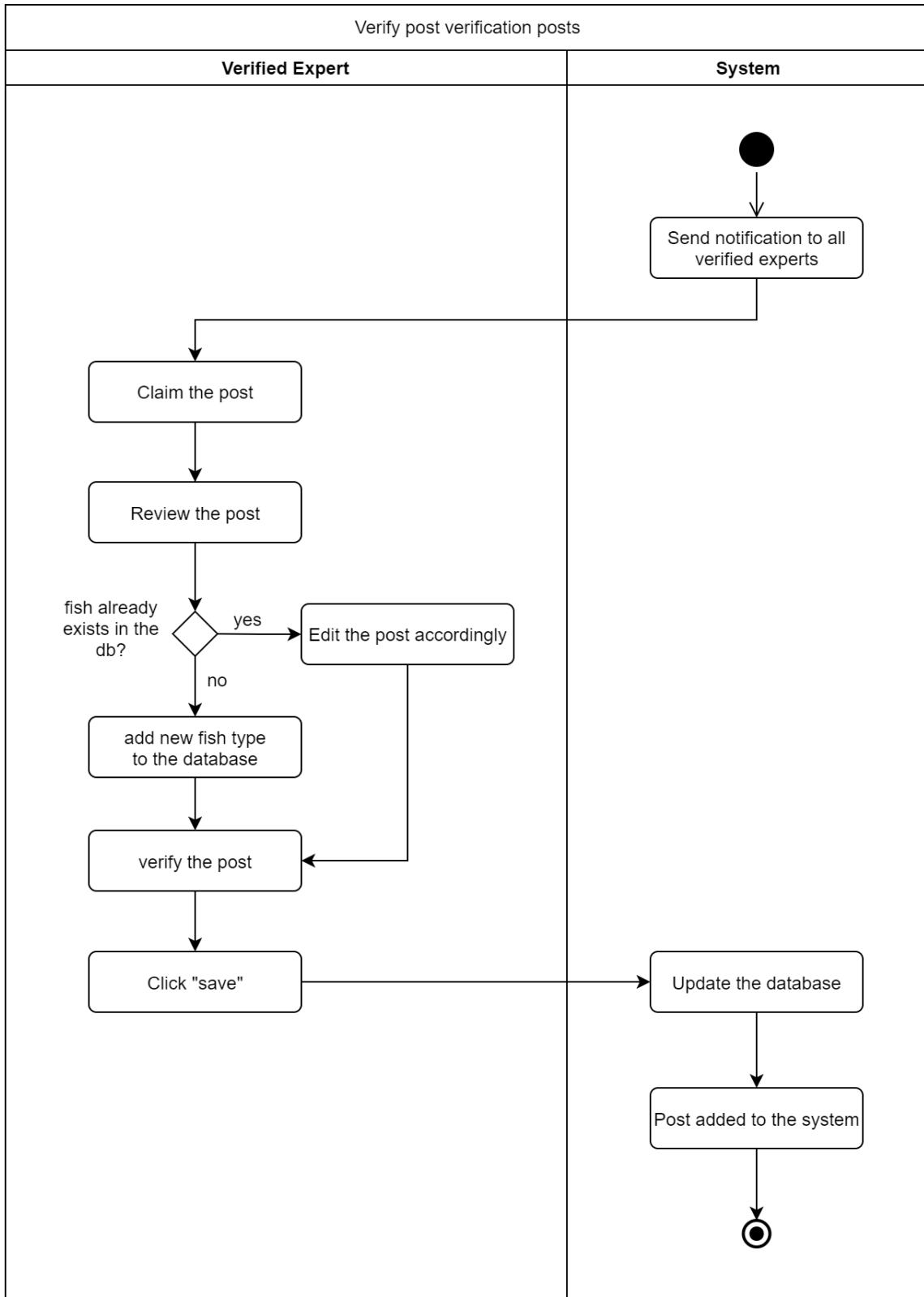


Figure 1.7.25 Verify Post

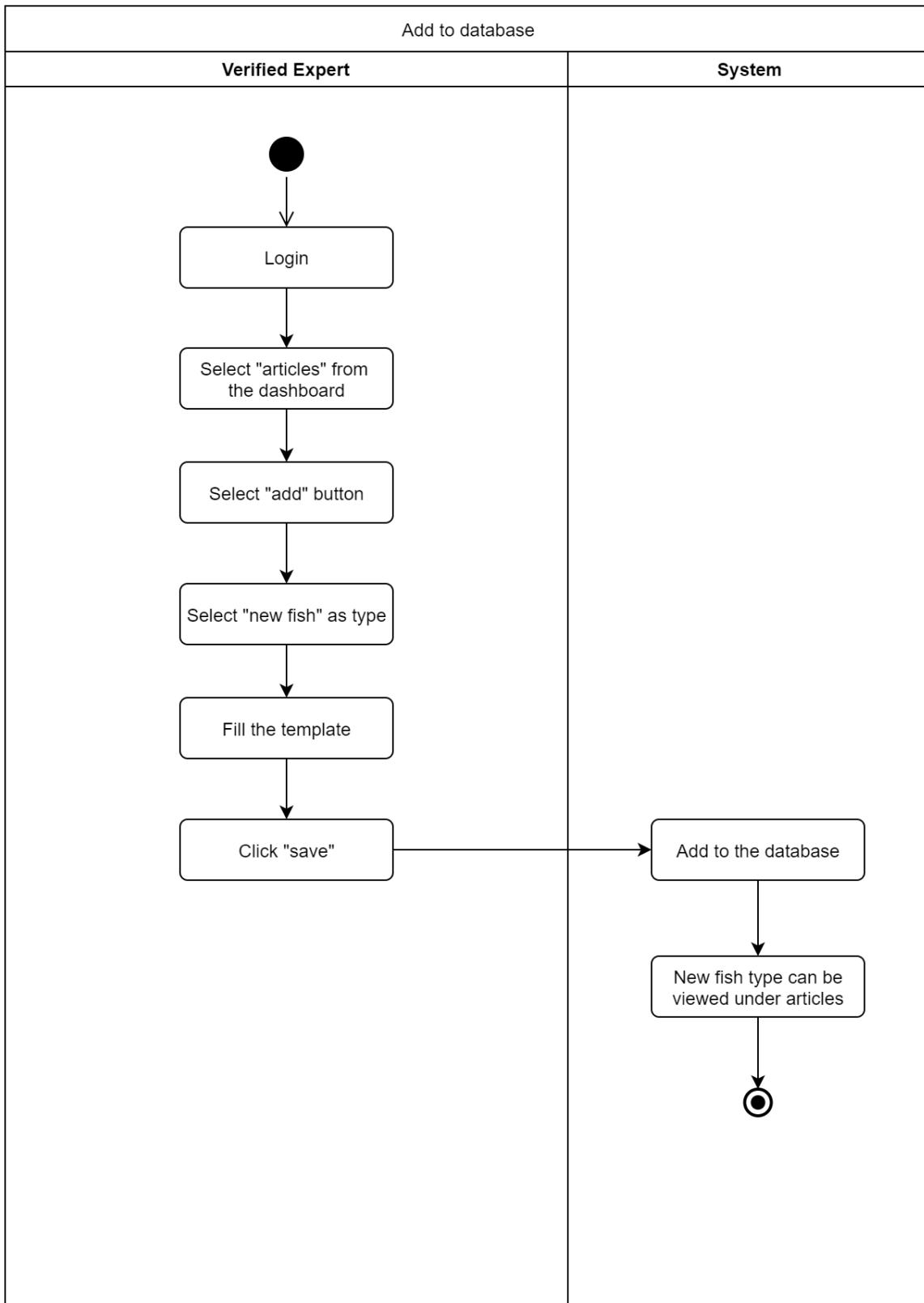


Figure 1.7.26 Add to Database

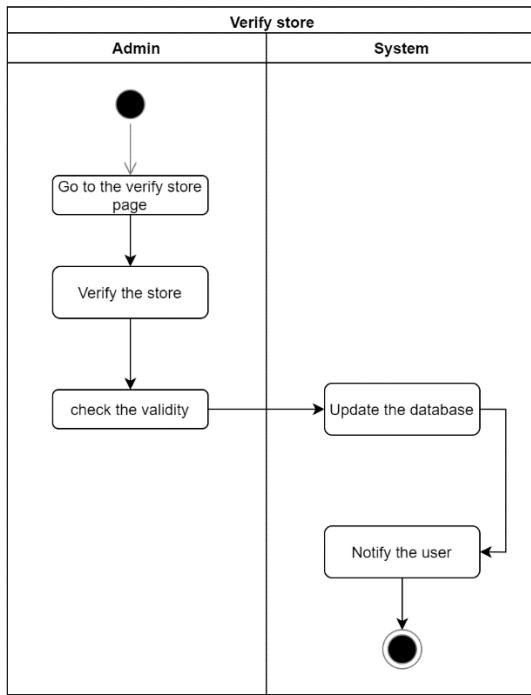


Figure 1.7.27 Verify Store

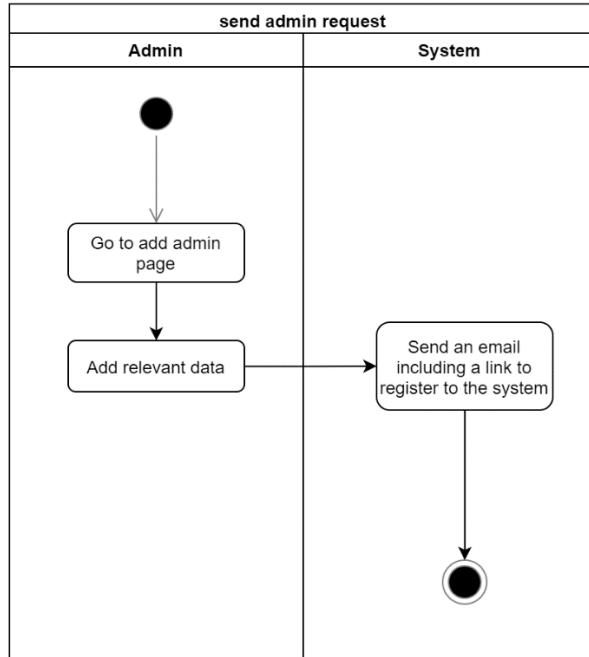


Figure 1.7.28 Send Admin Request

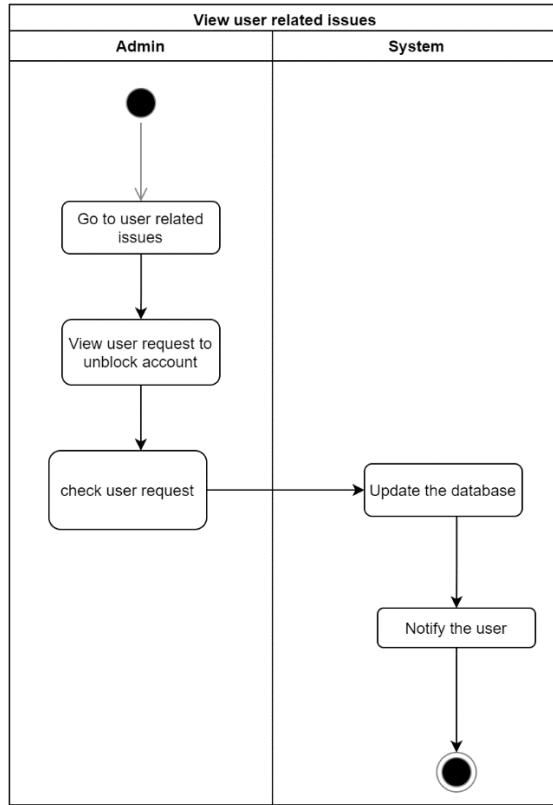


Figure 1.7.29 View User Related Issues

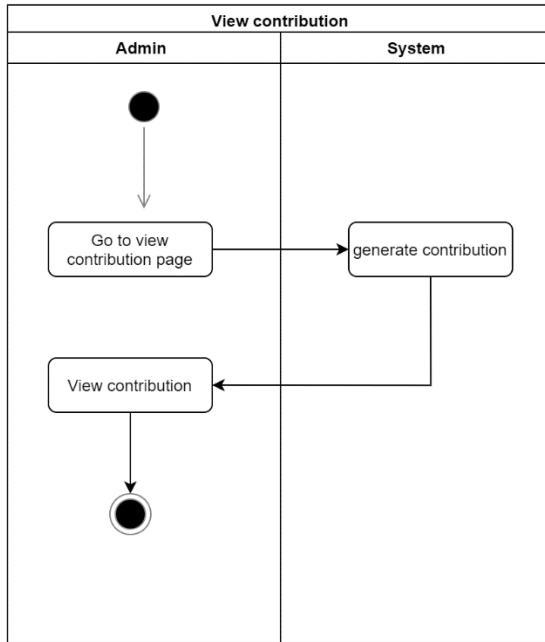


Figure 1.7.30 View Contribution

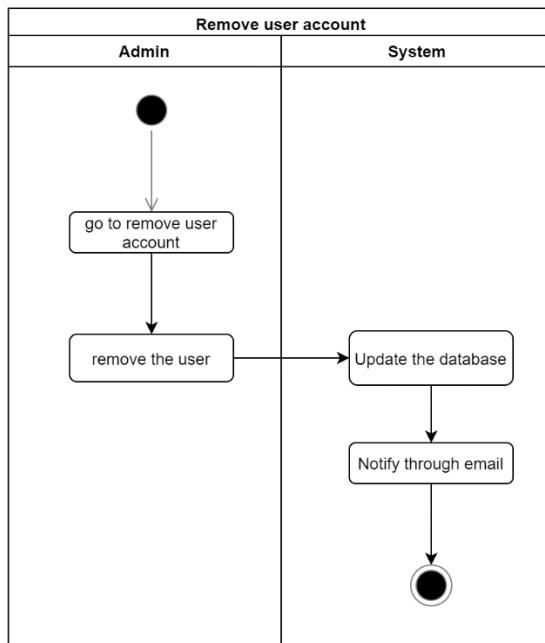


Figure 1.7.31 Remove User Account

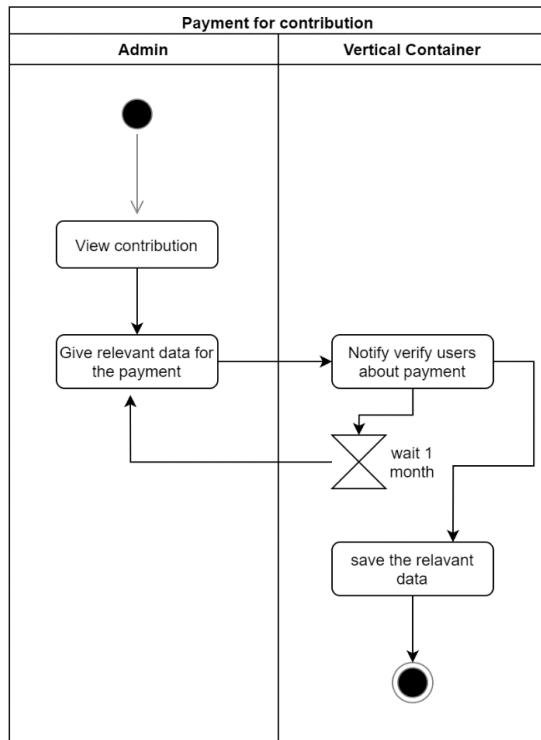


Figure 1.7.32 Payment for Contribution

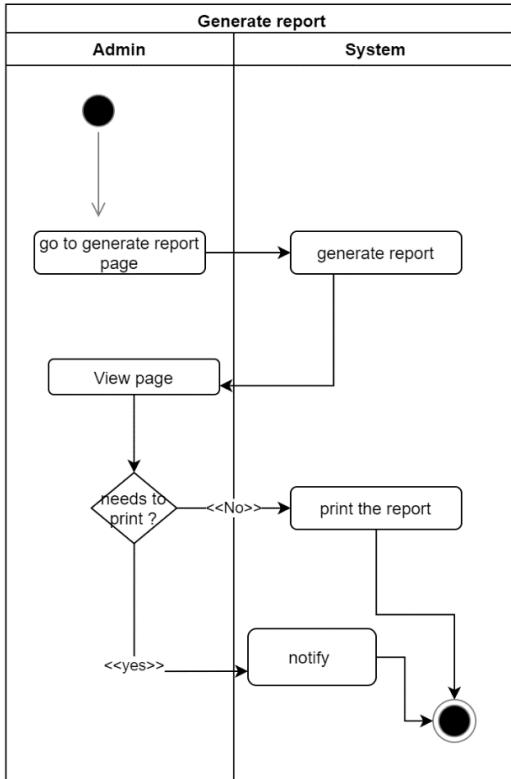


Figure 1.7.33 Generate Report

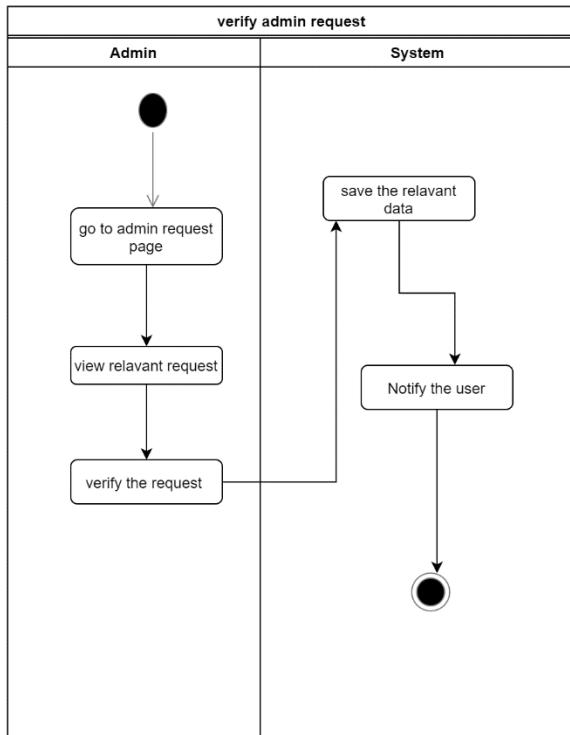


Figure 1.7.34 Verify Admin Request

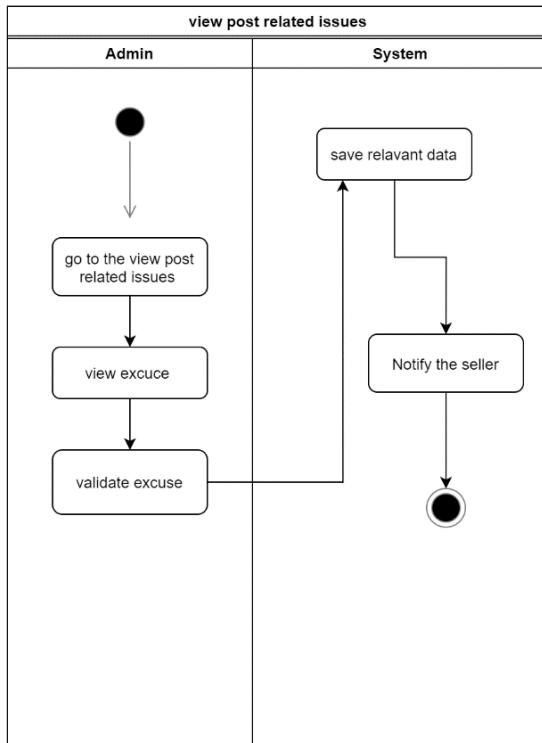


Figure 1.7.35 Verify Post Related Issues

1.8 State Transition Diagrams

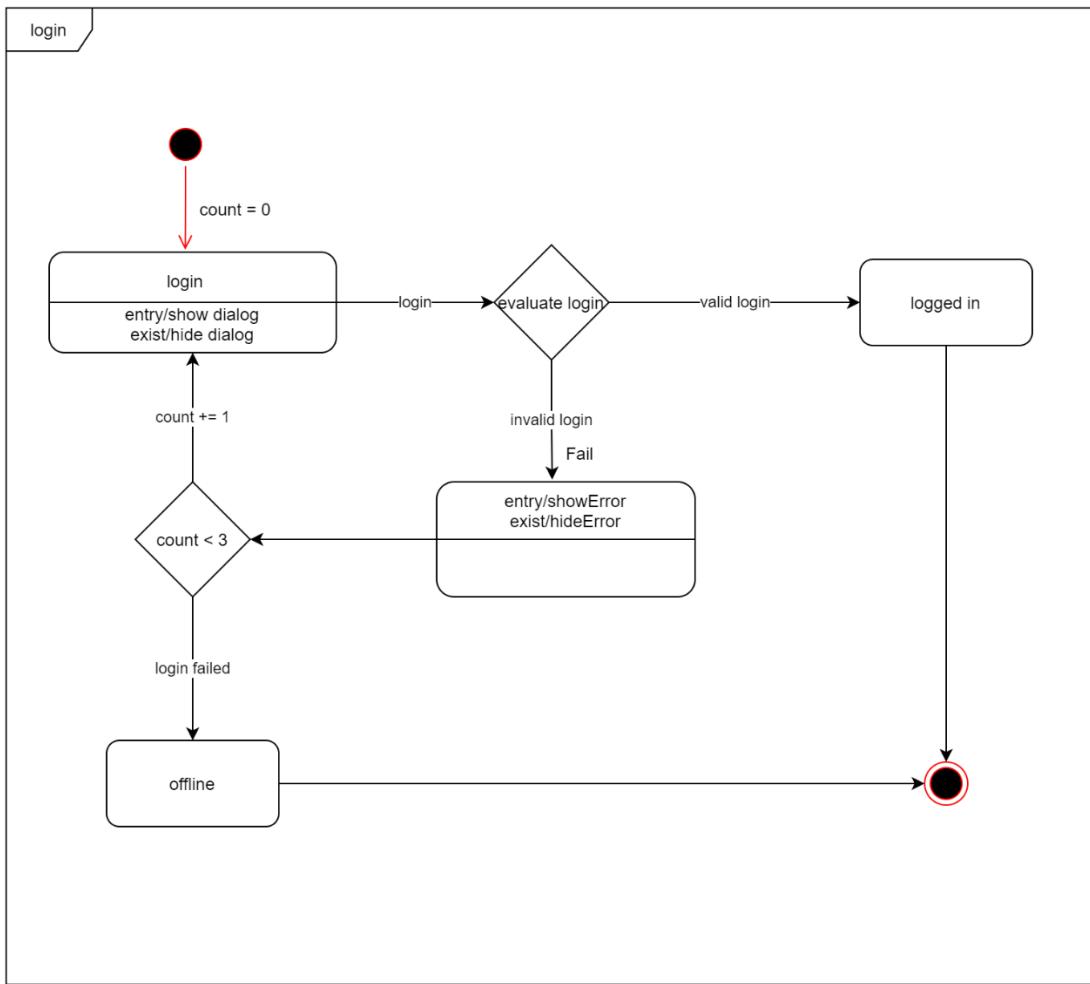


Figure 1.8.1 Login

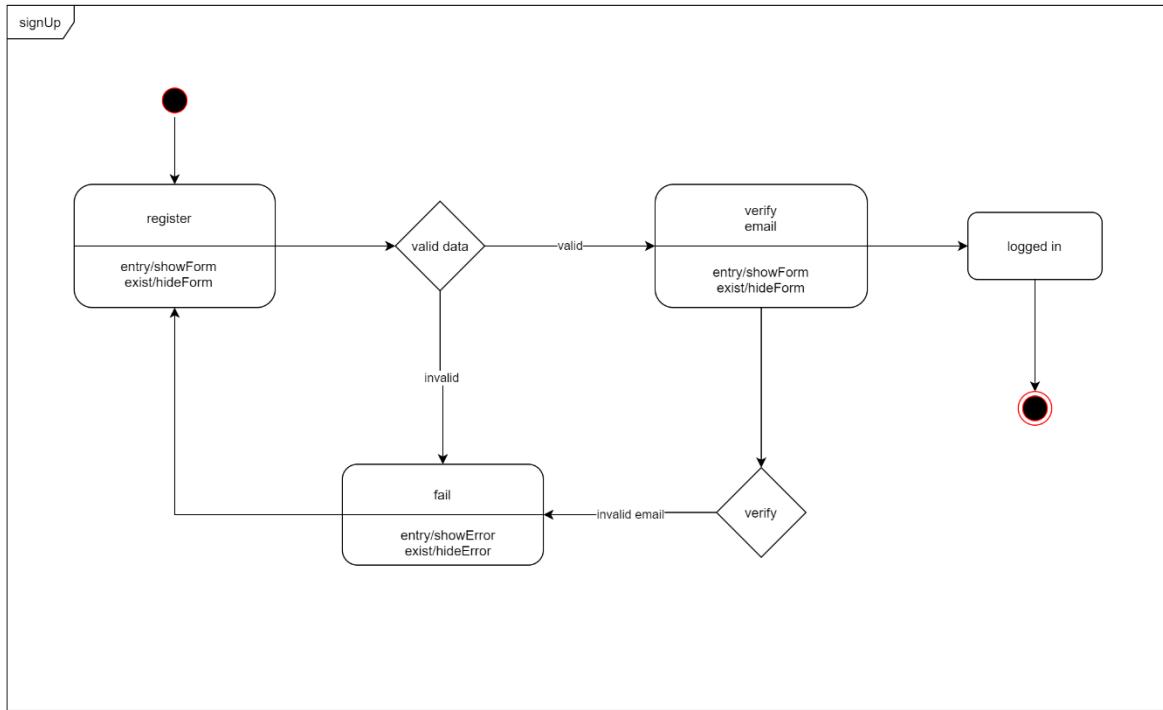


Figure 1.8.2 Sign up

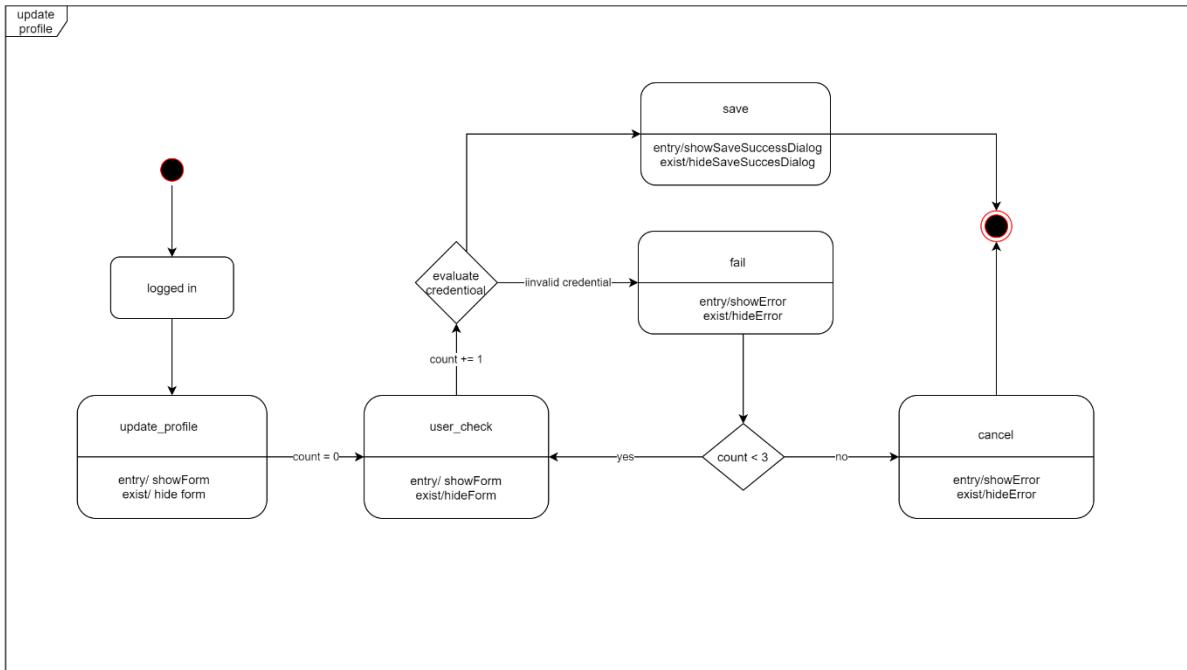


Figure 1.8.3 Update Profile

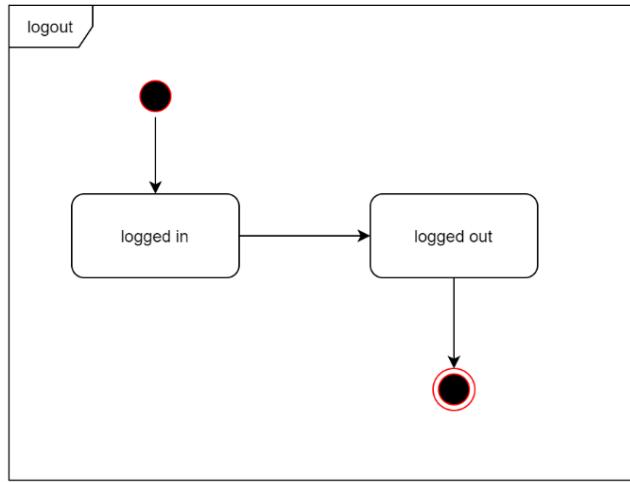


Figure 1.8.4 Logout

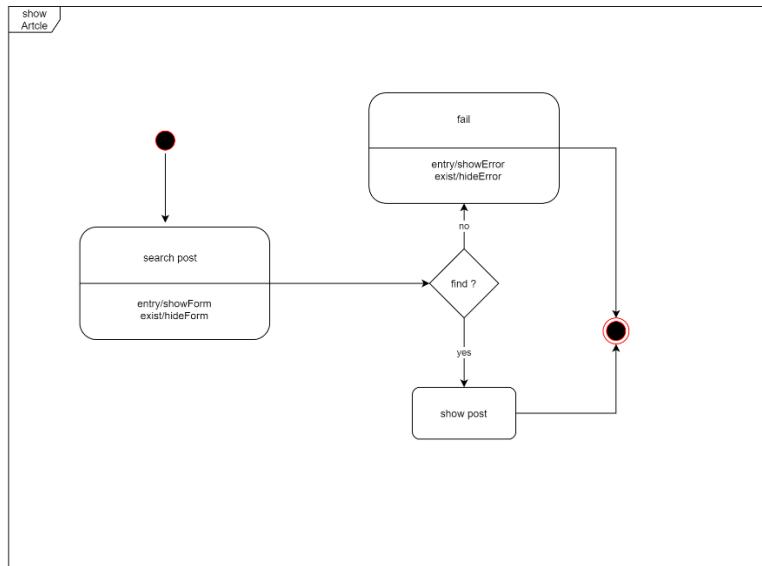


Figure 1.8.5 View Article

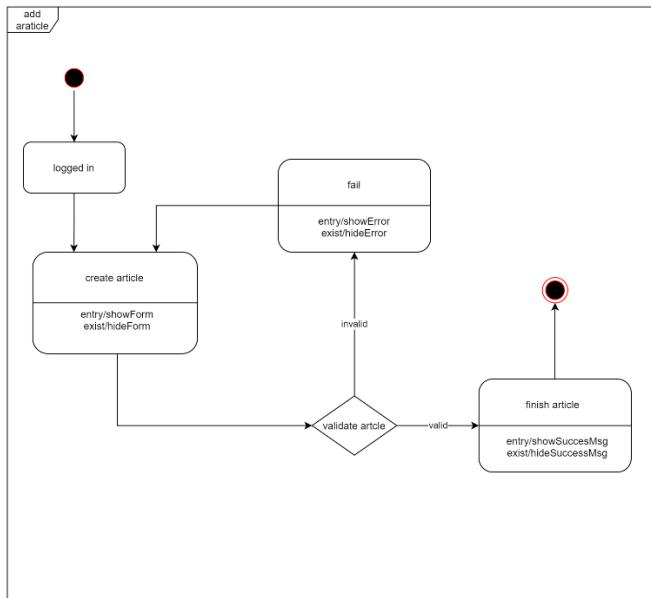


Figure 1.8.6 Add Article

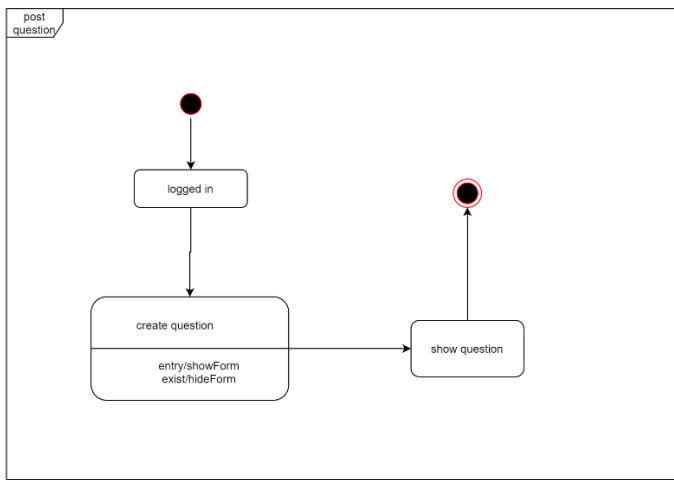


Figure 1.8.7 Post Question

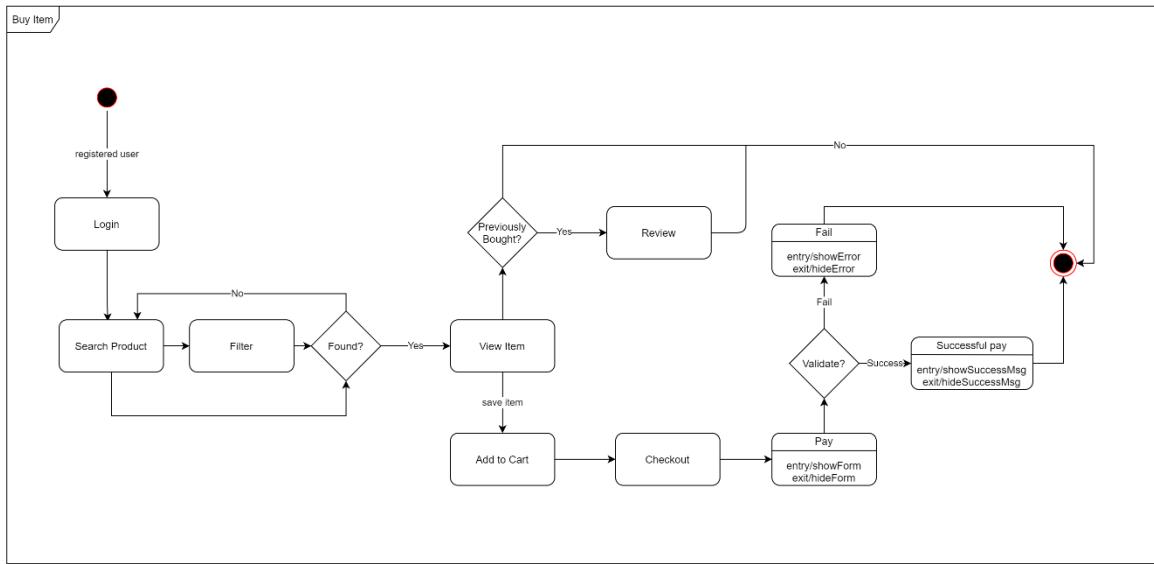


Figure 1.8.8 Buy Item

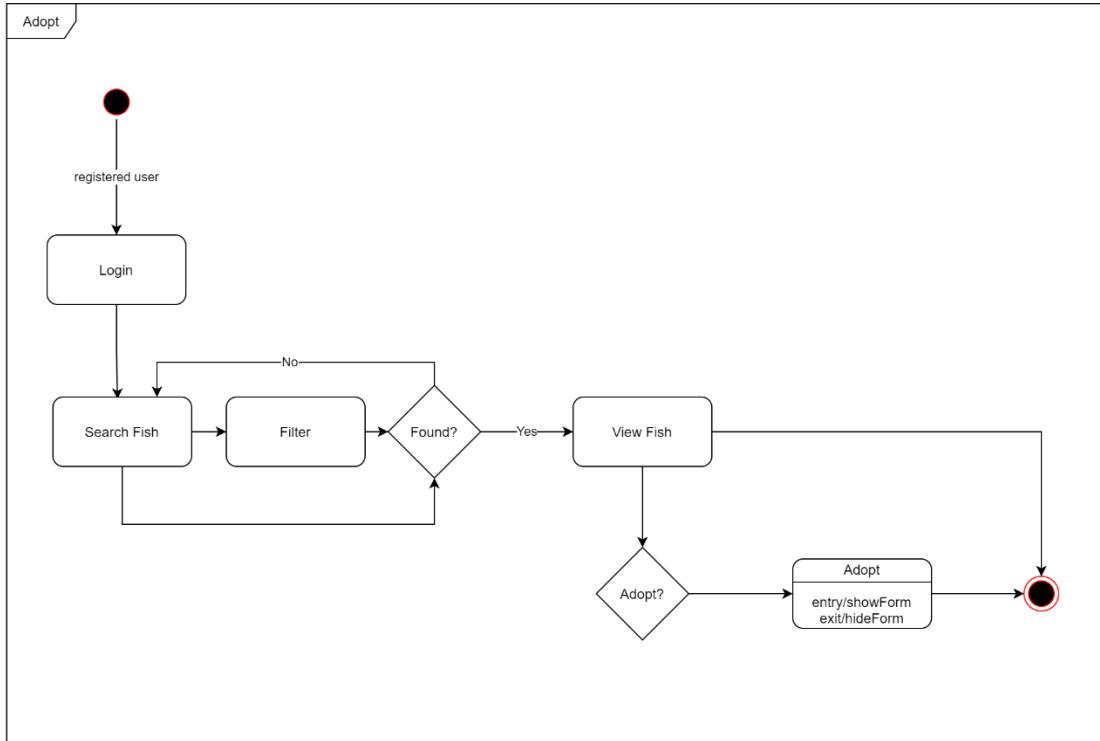


Figure 1.8.9 Adopt

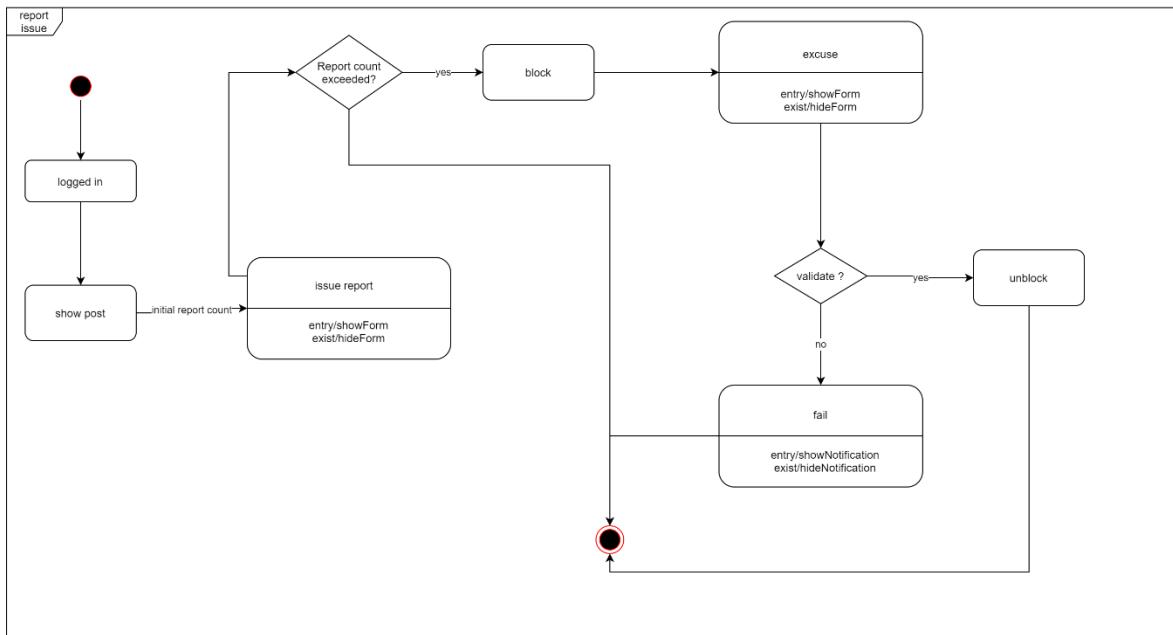


Figure 1.8.10 Report Issue

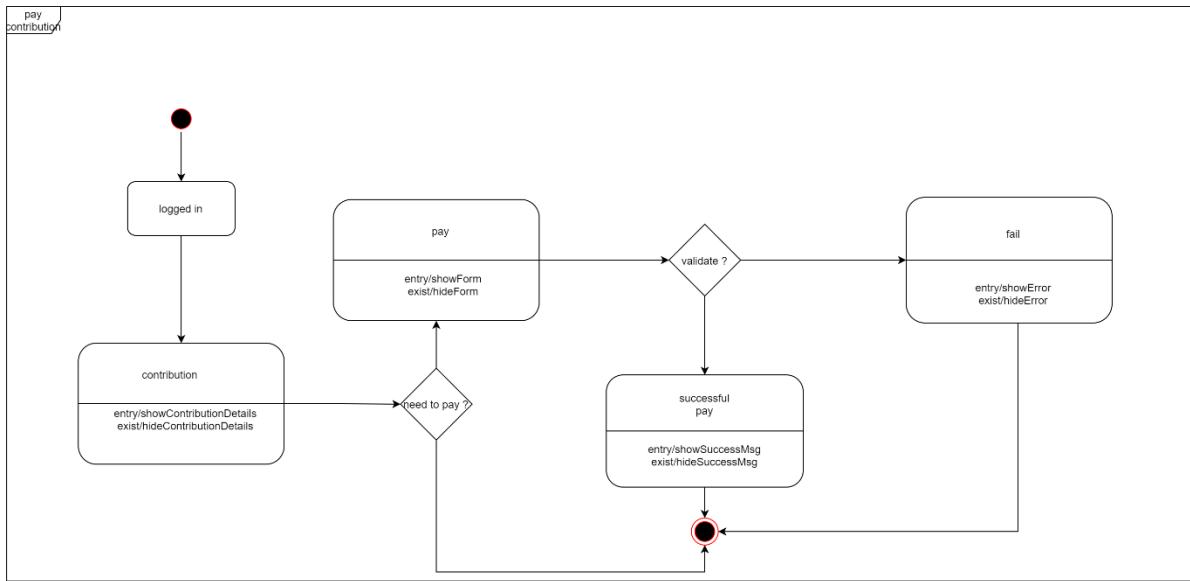


Figure 1.8.11 Pay Contribution

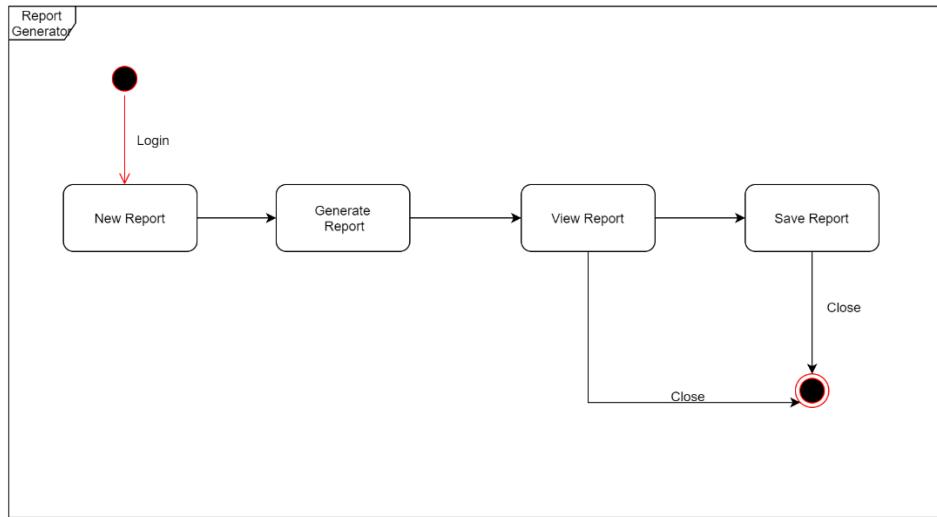
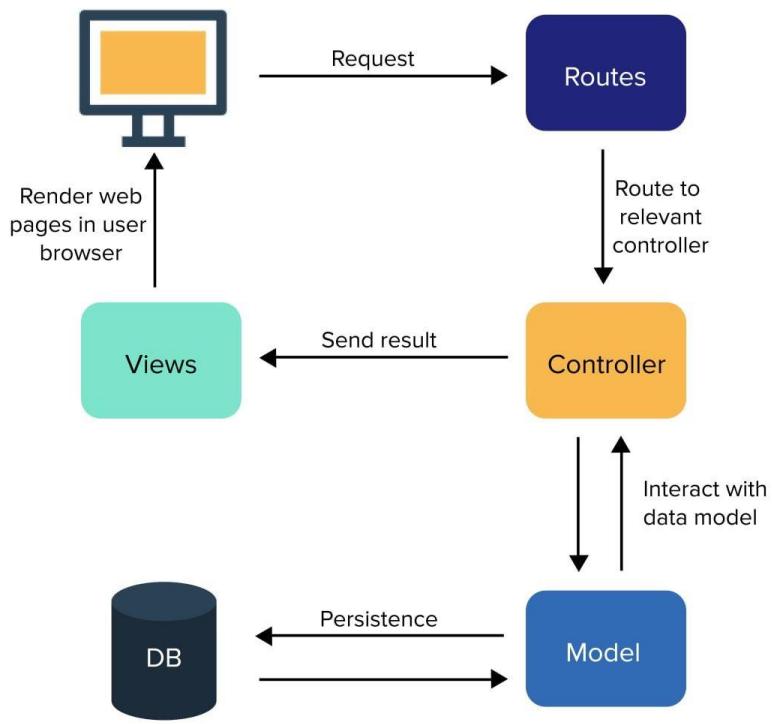


Figure 1.8.12 Report Generation

1.9 High Level System Architecture



1.10 Test Cases

Test Case No	01		
Description	User login		
Test Data	Expected Results	Actual Result	Pass/Fail
email:dilshansankalp a98@gmail.com password: Admin@123	login as a Admin	login as a admin	Pass
email:wrlakshan@gm ail.com password:Store@123	login as a store	login as a store	pass
email: kalshasamarajeewa @gmail.com password:Reg@123	login as a regular user	login as a regular user	pass
email:dil@gmail.com password:Expert@123	login as a expert	login as a expert	pass
email:wrong@gmail. com password:wrong@123	show the login error	show the login error	pass

Test Case No	02		
Description	go to the landing page		
Test Data	Expected Results	Actual Result	Pass/Fail
enter http://127.0.0.1/aquaspace/frontend/src/ in the url	go to the home page	go to the home page	pass

Admin

Test Case No	01		
Description	view the dashboard of the admin		
Test Data	Expected Results	Actual Result	Pass/Fail
login as admin and go to the dashboard by clicking profile icon	show the total number of admins, total number of expert account needs to be verified, total number of store account needs to be verified, total number of appeals for the product and users , and their working navigation links	show the total number of admins, total number of expert account needs to be verified, total number of store account needs to be verified, total number of appeals for the product and users , and their working navigation links	Pass

Test Case No	02		
Description	edit admin account		
Test Data	Expected Results	Actual Result	Pass/Fail
rashmika, lakshan,Burgos Street, Makati,09797986798 376,Poblacion	successfully updated profile message	successfully updated profile message	Pass
rashmika,lakshan,po	missing value error	missing value error	pass

blacion	showing	showing	
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Test Case No	03		
Description	update admin password		
Test Data	Expected Results	Actual Result	Pass/Fail
Admin@123,Admin @123,Admin@123	same password error message	same password error message	pass
Admin@123,Admin @1234,Admin@1234	successfully update the password message	successfully updated password message	Pass
Admin@123,Admin @1234,Admin@1234 5	new password and confirm password not matching error message	new password and confirm password not matching error message	Pass
Admin@12,Admin@1234,Admin@1234	wrong old password error message	wrong old password error message	Pass

Test Case No	04		
Description	Add admins		
Test Data	Expected Results	Actual Result	Pass/Fail
dilshan,sankalpa,dils hansankalpa98@gmail.com	data missing error showing	data missing error showing	pass
dilshan,sankalpa,dils hansankalpa98@gmail.com,077123456,an uradhapura	successfully admin adding message and send a email to the email	successfully admin adding message and send a email to the email	pass

	dilshansankalpa98@gmail.com	dilshansankalpa98@gmail.com	
--	--	--	--

Test Case No	05		
Description	verify store and expert account		
Test Data	Expected Results	Actual Result	Pass/Fail
Cancel the request	send an email about cancel the request	send an email about cancel the request	Pass
add to the system	send an email about adding to the store or expert	send an email about adding to the store or expert	Pass

Test Case No	06		
Description	Get paysheet for the month		
Test Data	Expected Results	Actual Result	Pass/Fail
Click get paysheet button	Downloading the pay sheet as pdf with correct amounts	Downloading paysheet as pdf with correct amounts	pass

Test Case No	07
--------------	----

Description	Adding a new admin to the system		
Test Data	Expected Results	Actual Result	Pass/Fail
Dilshan , Sankalpa , dilshansankalpa98@gmail.com ,dutuwewa , 0771234567, anuradhapura	Successfully admin added msg and redirect to admin list	Successfully admin added msg and redirect to admin list	Pass
Dilshan , Sankalpa ,,dutuwewa , 0771234567, anuradhapura	Show email is empty error	Show email is empty error	Pass

Test Case No	08		
Description	Changing rating of the system		
Test Data	Expected Results	Actual Result	Pass/Fail
Add relevant data	Update values and refresh the page	Update values and refresh the page	Pass
Add data but missing several data	Error showing of missing values	Error showing of missing values	Pass

Test Case No	09		
Description	Generate report gives a summary of the system		
Test Data	Expected Results	Actual Result	Pass/Fail
GROUP CS48	Generate report gives a summary of the system	Generate report gives a summary of the system	Pass

Test Data	Expected Results	Actual Result	Pass/Fail
Change date from and date to values	Gives total earning , monthly earning , previous month product adding and selling	Gives total earning , monthly earning , previous month product adding and selling	Pass

Store User

Test Case No	01		
Description	Add Post to the Inventory		
Test Data	Expected Results	Actual Result	Pass/Fail
Fill all the required fields in the form (Select correct category)	Show "Success" popup message	Show "Success" popup message	Pass
Not filled all requirement field	Show "Error" popup message	Show Error message and required field not filled	pass

Test Case No	02		
Description	Delete post from inventory		
Test Data	Expected Results	Actual Result	Pass/Fail
Click the delete button	Show confirmation popup and verifying the request	Show confirmation box and delete the post	Pass

Test Case No	03		
Description	Edit inventory item		
Test Data	Expected Results	Actual Result	Pass/Fail
Insert the new data from the required field	Show "Success" popup message	Show "Success" popup message	Pass
Not filled all requirement field	Show "Error" popup message	Show Error message and required field not filled	pass

Test Case No	04		
Description	Edit storefront		
Test Data	Expected Results	Actual Result	Pass/Fail
About - "welcome to store"	Show "Success" popup message	Show "Success" popup message	Pass
About - " "	Show "Success" popup message	Show "Success" popup message	Pass

Test Case No	05		
Description	Reply to the product question		
Test Data	Expected Results	Actual Result	Pass/Fail
Answer - "this is 15L tank"	Show "Success" popup message	Show "Success" popup message	Pass
Answer - " "	Show "Error" popup message	Show "Error" popup message	Pass

Test Case No	06		
Description	Edit the store profile		
Test Data	Expected Results	Actual Result	Pass/Fail
Telephone no - "0772821117"	Show "Success" popup message	Show "Success" popup message	Pass
Telephone no -""	Show "Error" popup message and show The required field "Telephone No"	Show Error message and required field not filled	pass
Change the Delivery Modes	Show "Success" popup message	Show "Success" popup message	Pass

Test Case No	07		
Description	View store report		
Test Data	Expected Results	Actual Result	Pass/Fail
From - "2021-02-23" To - "2022-09-30"	View relevant report Details and chart	View relevant report Details and chart	Pass

Regular User

Test Case No	01		
Description	Visit the landing page		
Test Data	Expected Results	Actual Result	Pass/Fail
Open localhost/aquaspace/src/index.html in the browser	Show results in the fish, plant, equipment and adopt post sections	Show results in the fish, plant, equipment and adopt post sections	Pass

Test Case No	02		
Description	Visit category page and filter the products		
Test Data	Expected Results	Actual Result	Pass/Fail
Click on the “SHOP” icon on the landing page and filter the products by post type, delivery method, price and distance	Products get filtered according to what is selected in the filter options	Products did get filtered according to what is selected in the filter options	Pass

Test Case No	03
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Description	Add Fish post		
Test Data	Expected Results	Actual Result	Pass/Fail
Fill all the required fields in the form (select one of the suggested fish names)	Show “post successfully added” popup message	Show “post successfully added” popup message	Pass
Fill all the required fields in the form (select a fish name which is not present in the database)	Show “post successfully added” popup message	Show “post has been sent for verification”	Pass
Enter a fish name which is not there in the database fish-article table	The post should get sent to verified expert to get verified	Post did get sent to the expert and status set to “verify by expert”	Pass

Test Case No	04		
Description	Go to build tank page and build a plan a customized fish tank		
Test Data	Expected Results	Actual Result	Pass/Fail
Select fish to be added to the build plan	For every fish added, the suggested fish list only consists the fish which are compatible with the already selected fish	The system only suggest the fish that are compatible with the only selected fish	Pass

Test Case No	05
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Description	Add items to shopping cart		
Test Data	Expected Results	Actual Result	Pass/Fail
Click on "Add to Cart" without selecting a delivery method or the quantity	Throw an alert asking the user to select the delivery method and a correct quantity	Gets a popup with the message	Pass
Select the delivery method and the quantity, then click on the "Add to Cart" button	Show "item successfully added to the cart" message	Show "item successfully added to the cart" message	Pass

Test Case No	06		
Description	Checkout from shopping cart		
Test Data	Expected Results	Actual Result	Pass/Fail
Select the items you want to checkout by clicking the checkboxes and click on proceed and give the details to click on "Pay" button. Then enter the bank details	Get directed to payment page and then to payhere gateway to enter the bank details. Should get redirected to the home page if payment successful	Got redirected to home page once the payment is successful	Pass
Click on "pay" button without filling all the required fields in the form	Throw an alert asking the user to fill all the details	Alert popped up with the message	Pass

Expert

Test Case No	01		
Description	Verify post		
Test Data	Expected Results	Actual Result	Pass/Fail
Gold fish	Successfully update msg	Successfully update msg	Pass

Member Contribution

Student ID - 19001495

Student Name - K. P. Samarajeewa

Regular User

- Landing page
- View notifications
- Category Page - This allows the user to filter the products by the distance between the seller and the user, the price, type of the post and the delivery methods.
- Product page - Users can view each of the products and their details. Allows them to add items to the shopping cart (by selecting the quantity and the delivery method) and report the seller/ product.
- Add post - The users can add posts to the system using this component. There are multiple post types such as fish, plants, equipment and fish adoption posts. Since we are maintaining a database of fish data added by the experts, the system will auto-suggest the names of the fish, and once the name is selected by the user, the system will prompt the user to confirm if the suggested fish and the actual fish is the same by showing an image of the fish, fetched from the database. Users can enter other related data and post the product after paying the required fee for the advertisement.
- Shopping cart and checkout - Users get to pick the items from the cart they want to check out. The payment process is completed using the PayHere payment gateway.
- View transactions - Displays all the transactions completed by the user through the system. The transaction table should get updated every time the user checkouts an item.
- Refund - Users can ask for a refund, providing reasons and other details. It will either get accepted or denied by the sellers.
- Ask Questions - Users can ask questions from the verified experts of our system. They can ask questions and receive answers. (this is handled by a coin system)
- Gain coins - For every purchase done by the users, they may receive a certain amount of coins depending on the price of the item purchased. Users can use these coins to ask questions from the experts. If the coin amount is not sufficient, they can also buy coins separately.
- Build tank - Users can make their own customized fish tank, adding fish they wish to have in their tank. The system will calculate the size of the tank and the filters required to build the tank.

- Read blogs and fish data - Users can read blogs and fish details from the article/blog section.

Student ID - 19000405

Student Name - D.M.D.Sankalpa Dissanayake

General Components

- Authentication
- Account recovery - If a user cannot remember the password, the system will send an email verification email to the user.
- Product appeal request - If a post receives a certain number of reports, the post will automatically get blocked by the system. The owner of the post can then send a request appealing for the product to be unblocked.
- Account appeal request - If there is a considerable number of post blocks for a certain user, the account will be automatically blocked by the system. The user can then appeal to get their account unblocked.
- User-friendly error handling - End users being able to see the errors downgrades the user experience. It is also a security threat for the application. Our application hides server-side errors from the end-users and we keep a log of the errors for the convenience of the developers.

Admin

- Account verification - Store and verified expert accounts need to be verified by the admins before allowing access to the application.
- Generate report - Produce an overall report about the system
- View verified expert contribution - The system generates a monthly report about expert contribution and calculates the monthly payment for each verified expert based on their contribution.
- Change account details - Admin can change his details and password
- Adding new Admins - Admin can add new admins to the system
- Change the rating of the system as an example payment for post which adding by regular user
- Answering user related and post related issues

Expert

- Add Article - AquaSpace provides reliable information about fish related blogs.
- Add fish article - Aquaspace provide reliable information about fish.
- View individual contribution - experts can view their contribution details and their monthly payment.
- Post verification - When a regular user adds a post related to a fish that is not present in the AquaSpace fish database, such posts must be verified by one of the experts.
- Answer questions - Experts can reply to the questions asked by regular users.

Student ID - 19000792

Student Name - W.Rashmika Lakshan

Store Owner

- Add posts - Store owners can sell their products on the website. When adding a post to the system, the user would have to select the delivery methods, and price ranges for each product.
- Handle orders - When the store account receives orders from regular users, they can either accept or reject the order. Let's the store account user handle and manage the product orders.
- Handle refund requests - Store owners can either accept or reject refund requests sent by regular users based on the reasons provided by the users.
- Manage inventory - Users can add new items to the inventory, edit details of each item and delete items from the inventory.
- Reply to product-related questions - Store owners can give answers to the questions asked by regular users regarding their products.
- Generate report - Store owners can generate reports to view the stats of their account for a given time period. This includes the product sales, total income, etc.
- Maintain store profile and storefront - Store owner accounts can maintain their store profile and their storefront and edit how they would want their store page to look.

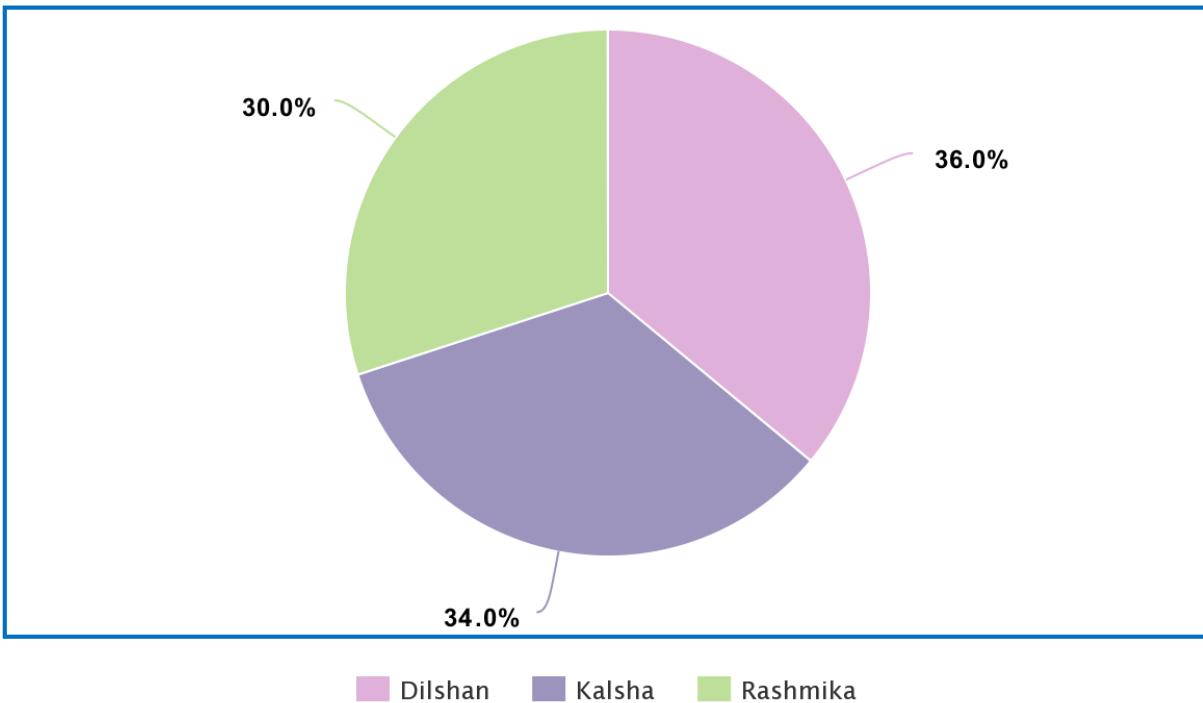


Figure 1.9.1 Member Contribution Chart

