

IT2020 – Software Engineering

Year 2, Semester 1, 2024

Group Assignment

Online Grocery Ordering System

Group Details

Campus: Metropolitan Campus

SE/OOP Group Number: SE/OOP/2024/S2/MTR/WD/G7

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Introduction

A user-friendly online platform called “FreshCo” was created to make grocery shopping easier. We know that ease of use is important, which is why “FreshCo” enables users to quickly explore, pick, and buy products from a variety of categories from the comfort of their own homes. Whether you’re shopping for specialist items, home basics, or fresh vegetables, our approach guarantees a seamless and pleasurable experience. You may easily add items to your cart, verify your order, and check out with only a few clicks.

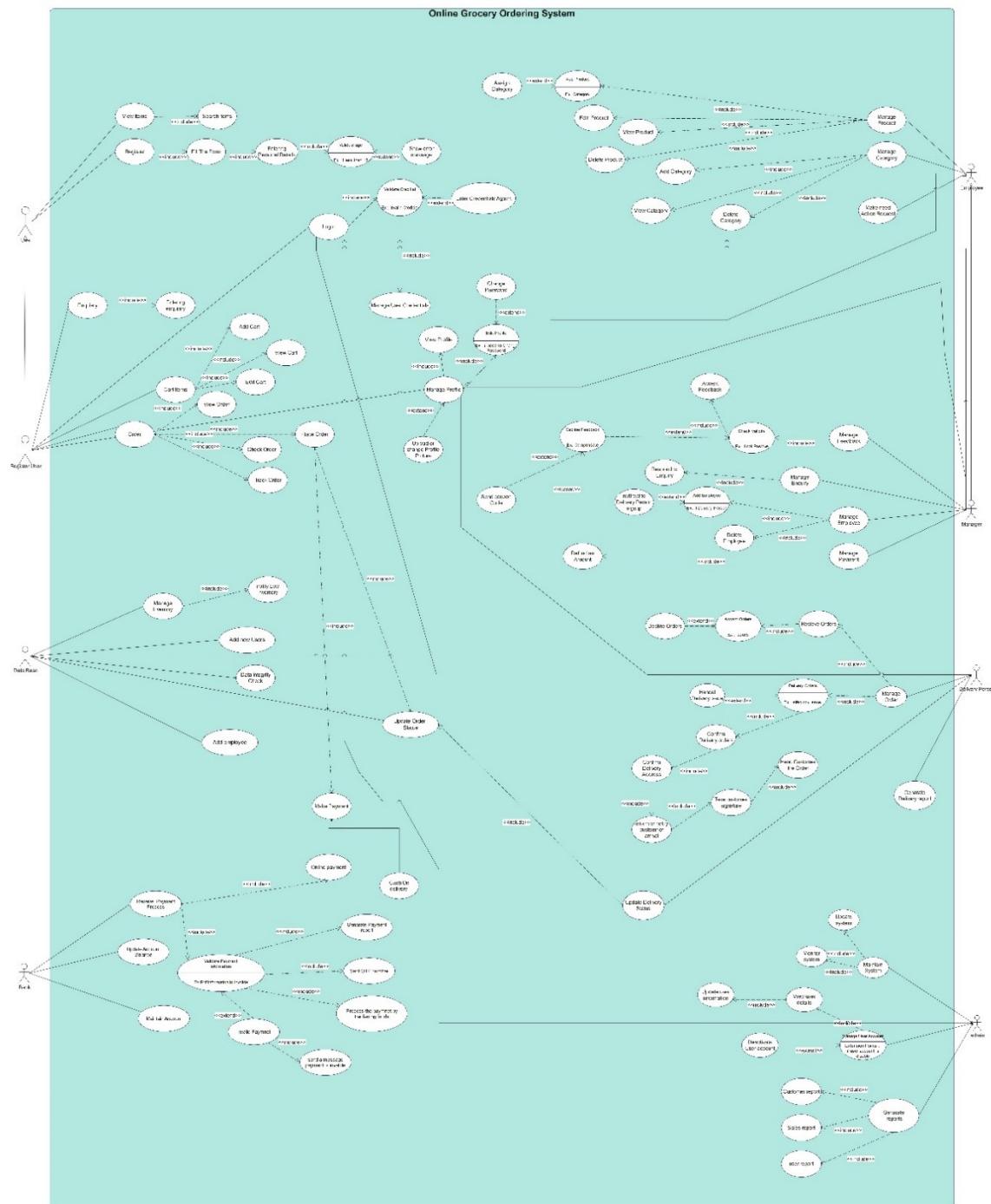
The duties at “FreshCo” are well-defined to ensure a smooth and organized operation. The platform's whole feature set is available to registered customers, and a committed staff takes care of order management and customer support behind the scenes. Our delivery staff makes sure your items get at your door on time, and the manager keeps an eye on things to make sure everything goes as planned. The administrator looks after the system's functioning and security, making sure that user information and platform efficiency are protected.

A dependable and pleasurable food shopping experience is “FreshCo's” mission. Whether it's for people seeking a more convenient method to shop or busy families, our goal is to simplify daily routines. “FreshCo” guarantees prompt and dependable fulfillment of your shopping needs by integrating efficiency, personalization, and simplicity. Come see with us how grocery shopping may be made into a simple, stress-free activity.


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Use Case Diagram

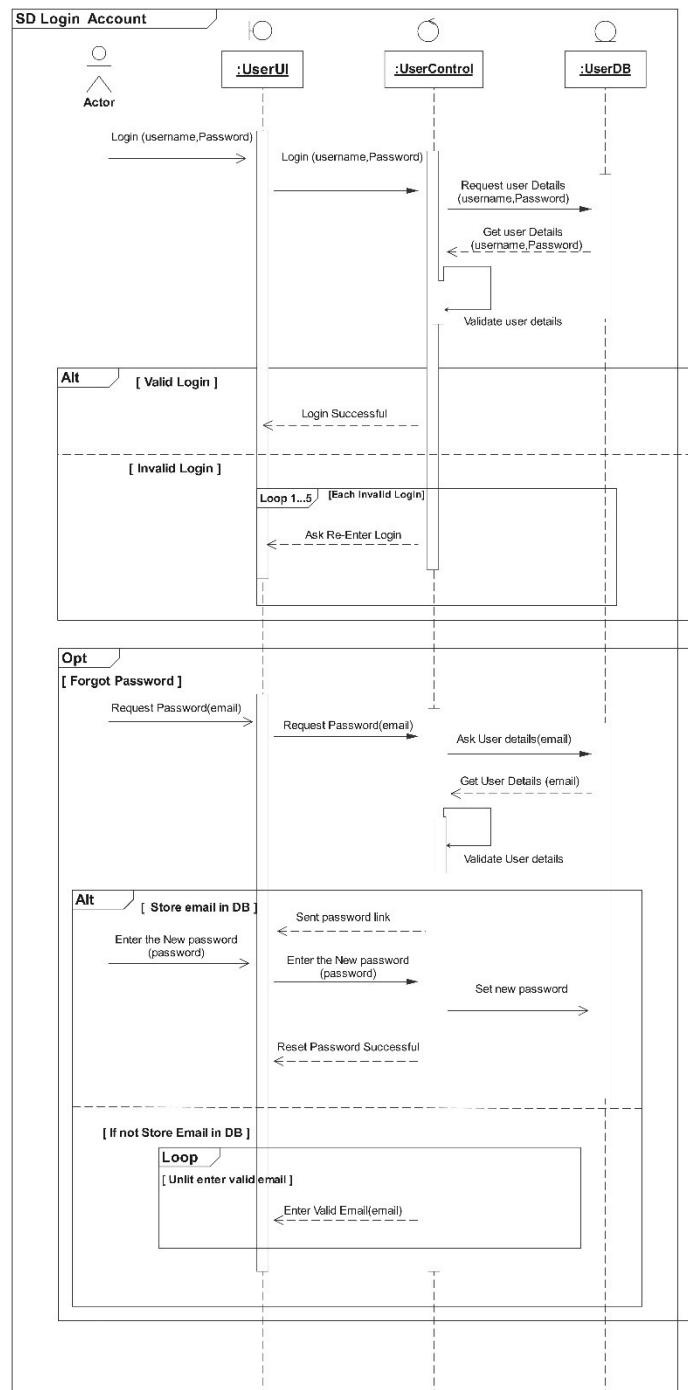


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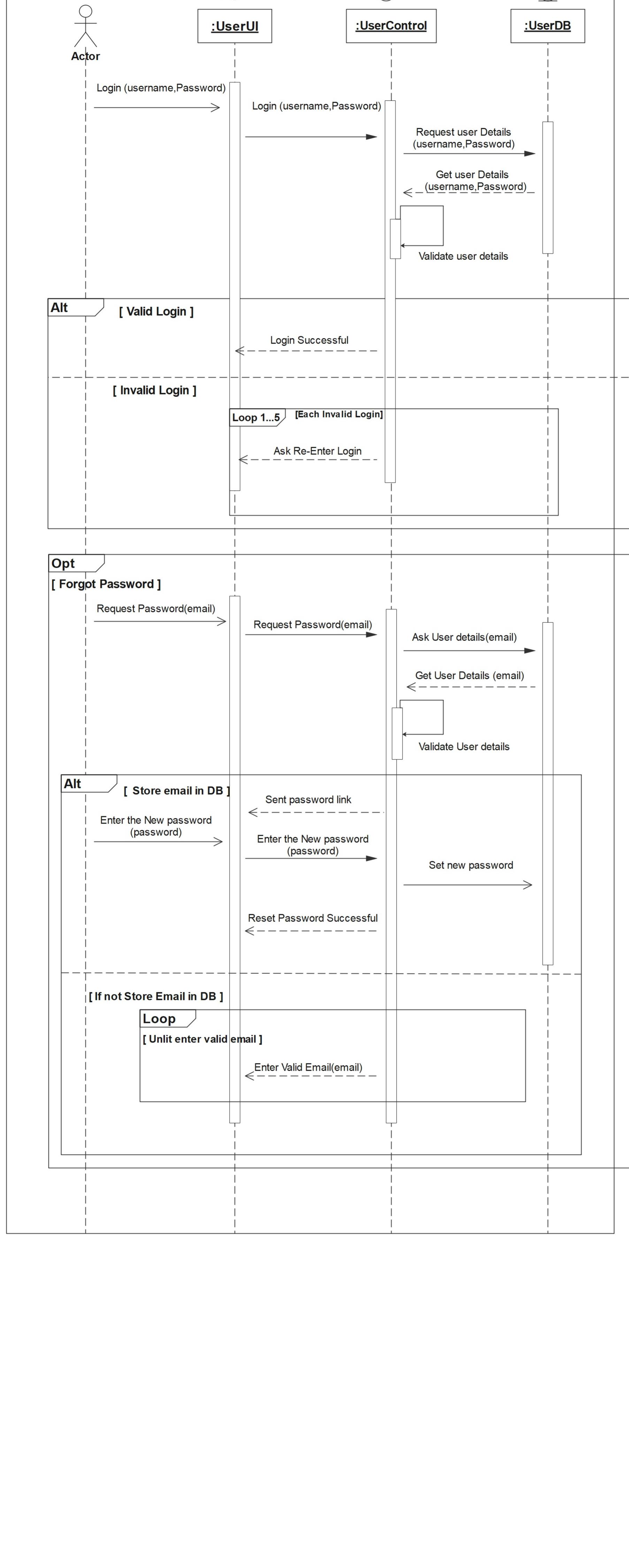


Login

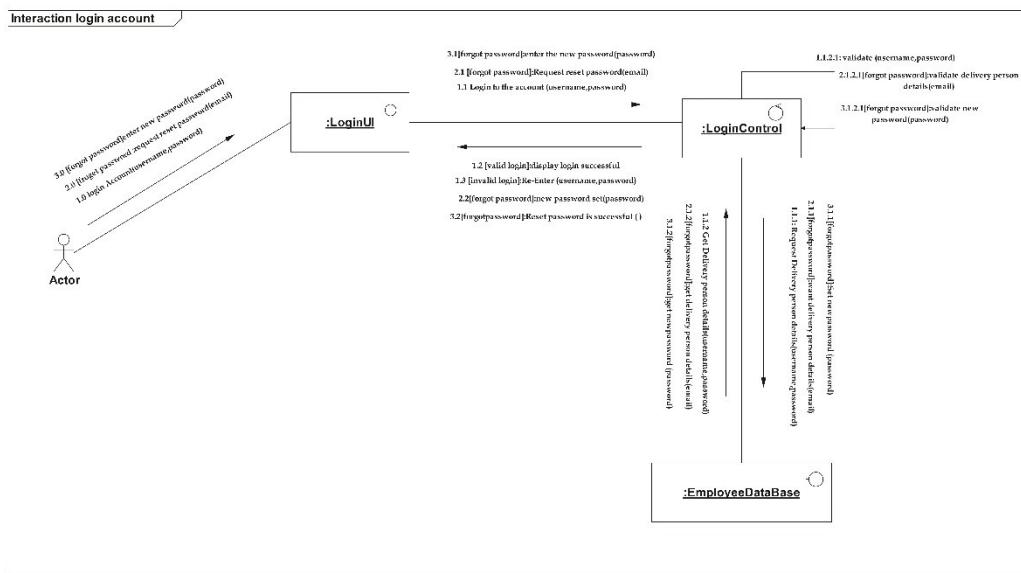
Sequence Diagram



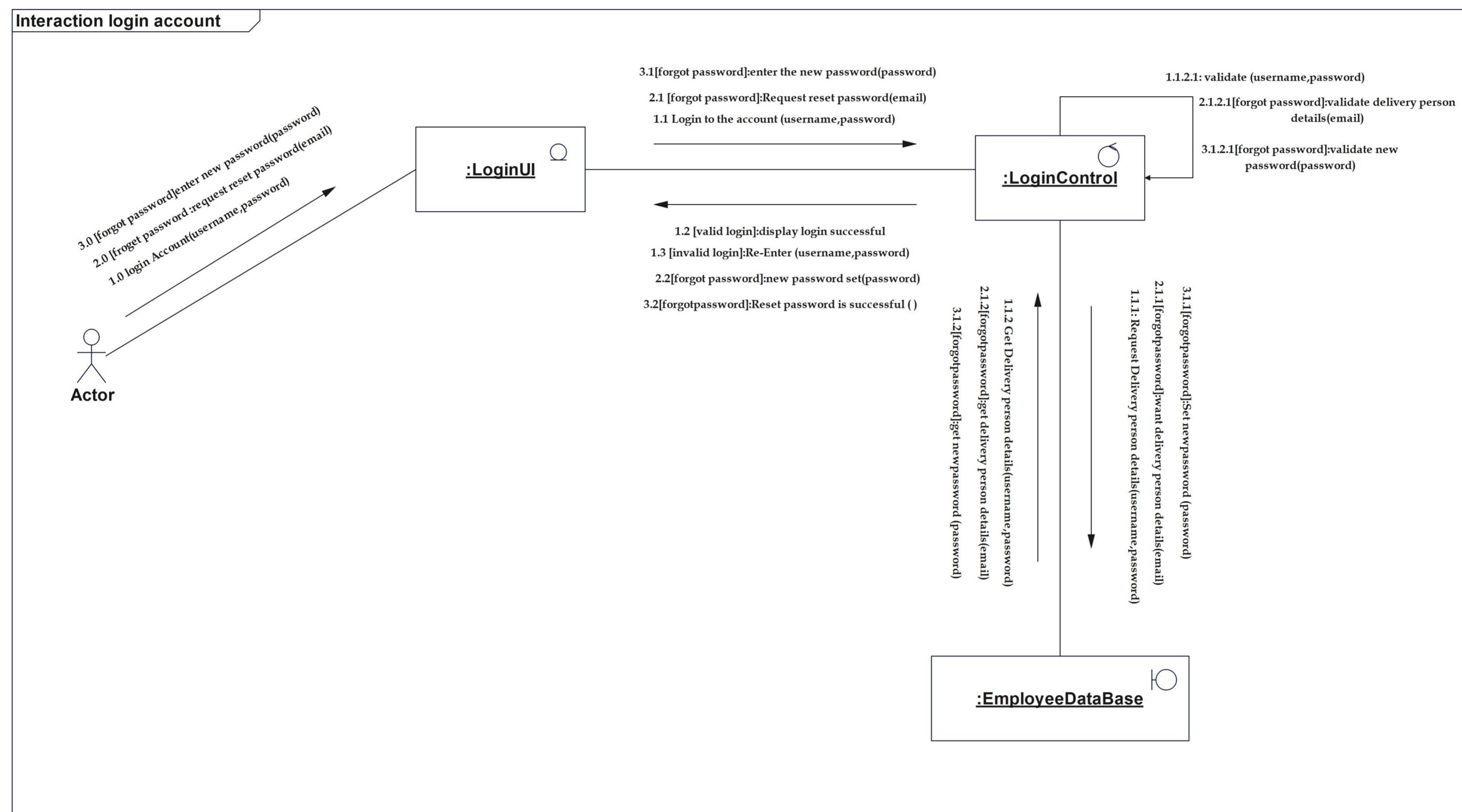
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Communication Diagram



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IT23432598 | Saabir S

Use Case Scenarios

Place Order

Name	Place Order	
Summary	A Customer (Registered User) can add products in any quantity and place an order.	
Priority	High	
Pre-Condition	Login to the System using user Credentials	
Post-condition	Products are added and Order is placed.	
Primary Actor	Customer (Registered User)	
Main Scenario	Step	Action
	1.	Customer login to the site using correct User and Password Credentials
	2.	Customer Visits Product and Category Page
	3.	System displays product details (e.g., name, price, description, category, image)
	4.	Customer selects Quantity and clicks "Add to Cart" button to add the product
	5.	System Checks for Product Availability, If Product Available add product to cart
	6.	Customer can add up to 20 or less products before confirming order
	7.	Once Customer adds all needed products to the cart, click on "Place Order" button
	8.	System Checks all the Products added and applies any product discount available
	9.	System Checks for Customer or Coupon Discount Available
	10.	If Available system applies the discount and calculates the total Amount

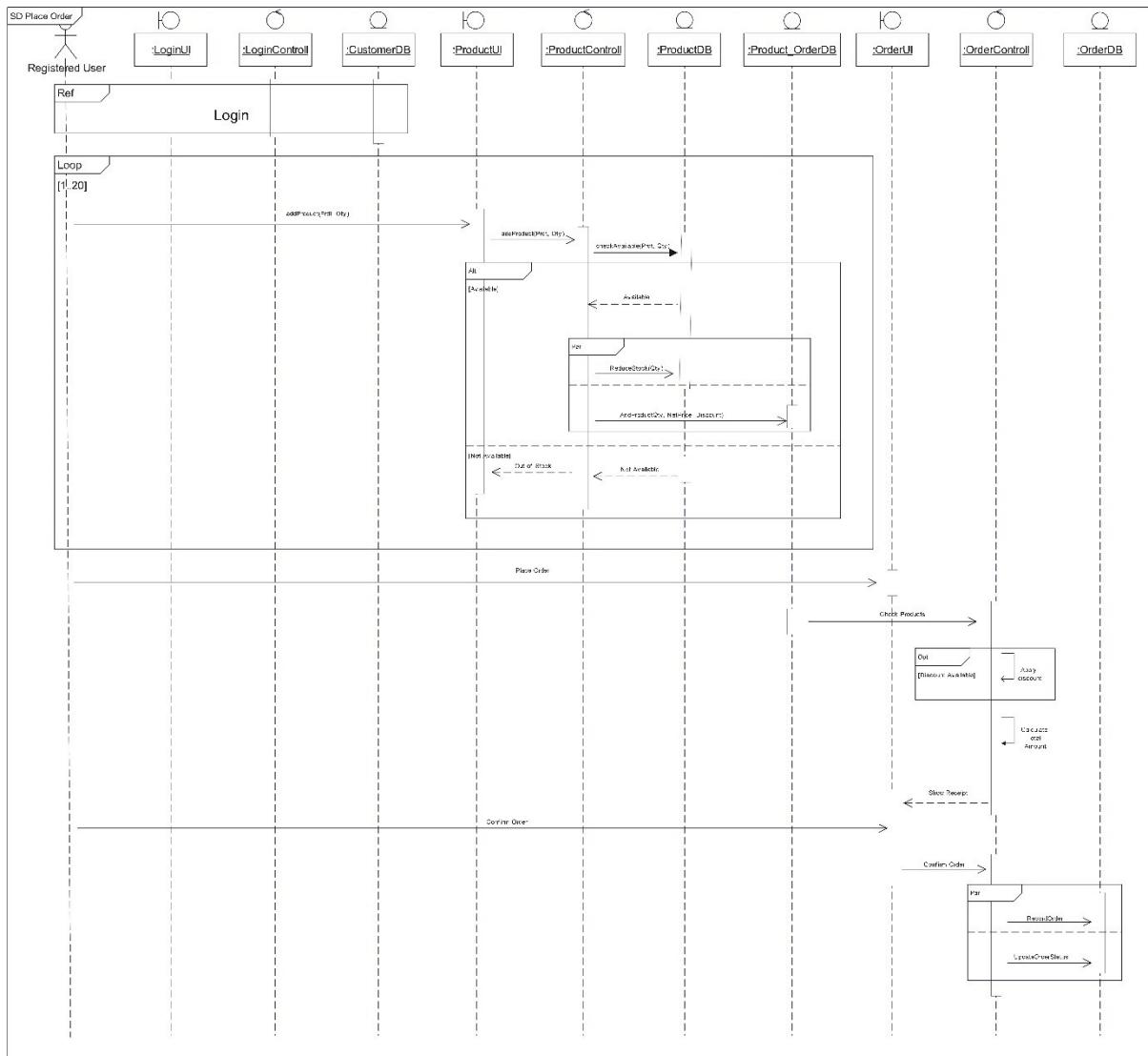
	11.	System displays a receipt with all the product (name quantity), total discount and total amount
	12.	Customer confirms the Order by clicking "Confirm Order"
	13.	System Records Order in the database, sets status pending and redirects user to the payment window (page).
Extension	Step	Branching Actions
	5a.	If unavailable, system displays an error message and suggests an alternative product.
	7a.	If the total products exceed the limit, System sends a message and selects first 20 products in the cart to process the order.
	11a.	If the Customer decline the order, remove all the listed products and order from the database.

Manage User Profile

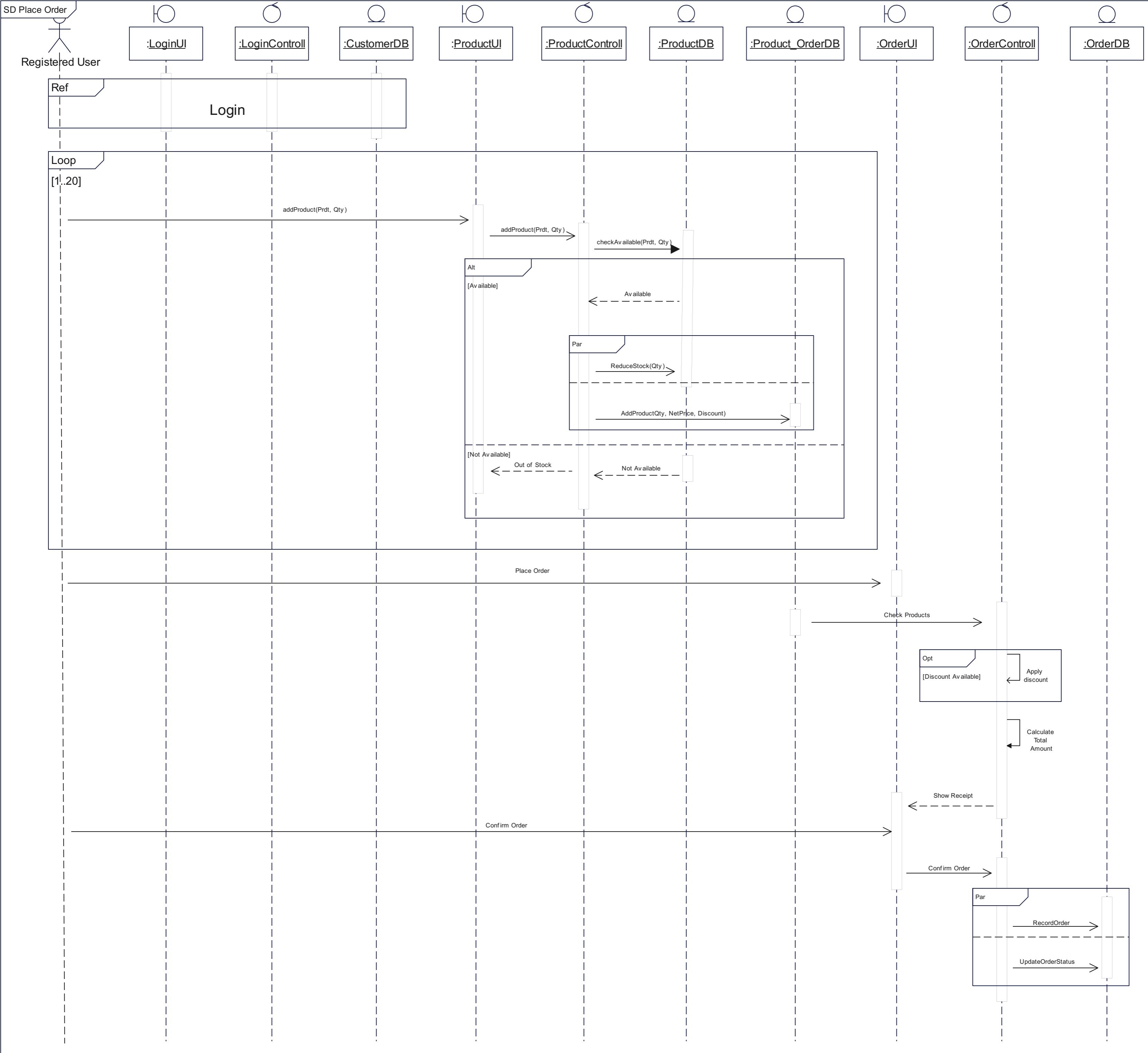
Name	Manage User Profile	
Summary	View Customer, Customer Activation and Deletion if needed done by the admin	
Priority	Medium	
Pre-Condition	The admin must be logged into the system with the required permissions to manage Customers.	
Post-condition	The System reflects any changes made to user accounts (edited, deactivated, deleted, or reactivated)	
Primary Actor	Admin	
Main Scenario	Step	Action
	1.	Go to the Customer Section of the Admin Page
	2.	System will list down all active and inactive customer details.
	3.	Select the Customer to change active status
	4.	System will display a customer popup Card and a button for Activation
	5.	If the Customer is Active the button will show "Deactivate"
	6.	By Clicking "Deactivate", System updates the status, and the Customer can no longer login
	7.	If Admin wants to delete a customer, he clicks the "Delete" button in the customer column
	8.	System deletes the customer, and updates all the customer instances to NULL
	9.	System will display a success message after complete deletion
	10.	
Extension	Step	Branching Actions
	5a.	If the Customer is inactive the button will show "Activate"
	6a.	By Clicking "Activate", System updates the status, and the Customer can login again

Sequence Diagrams

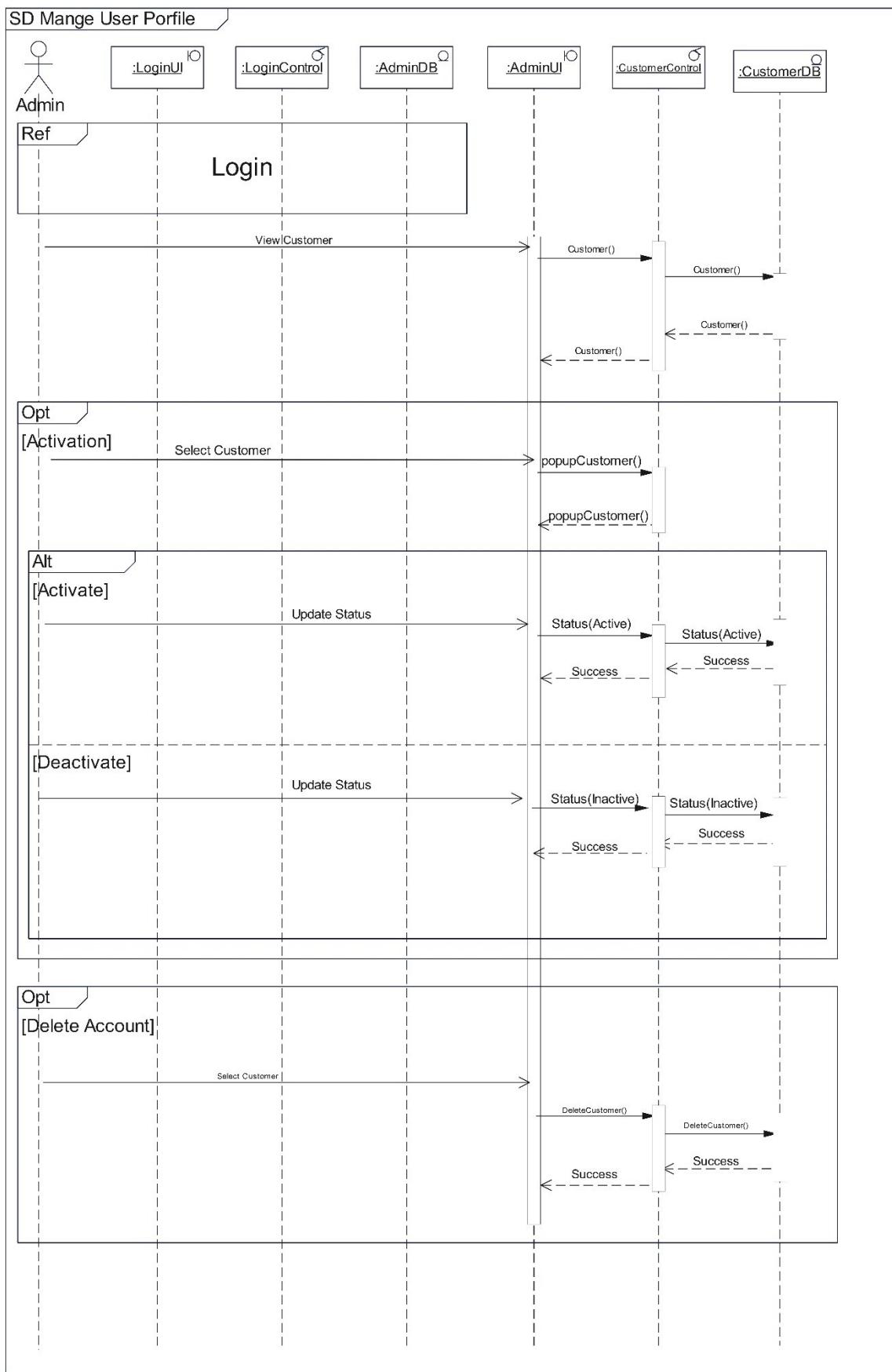
Place Order



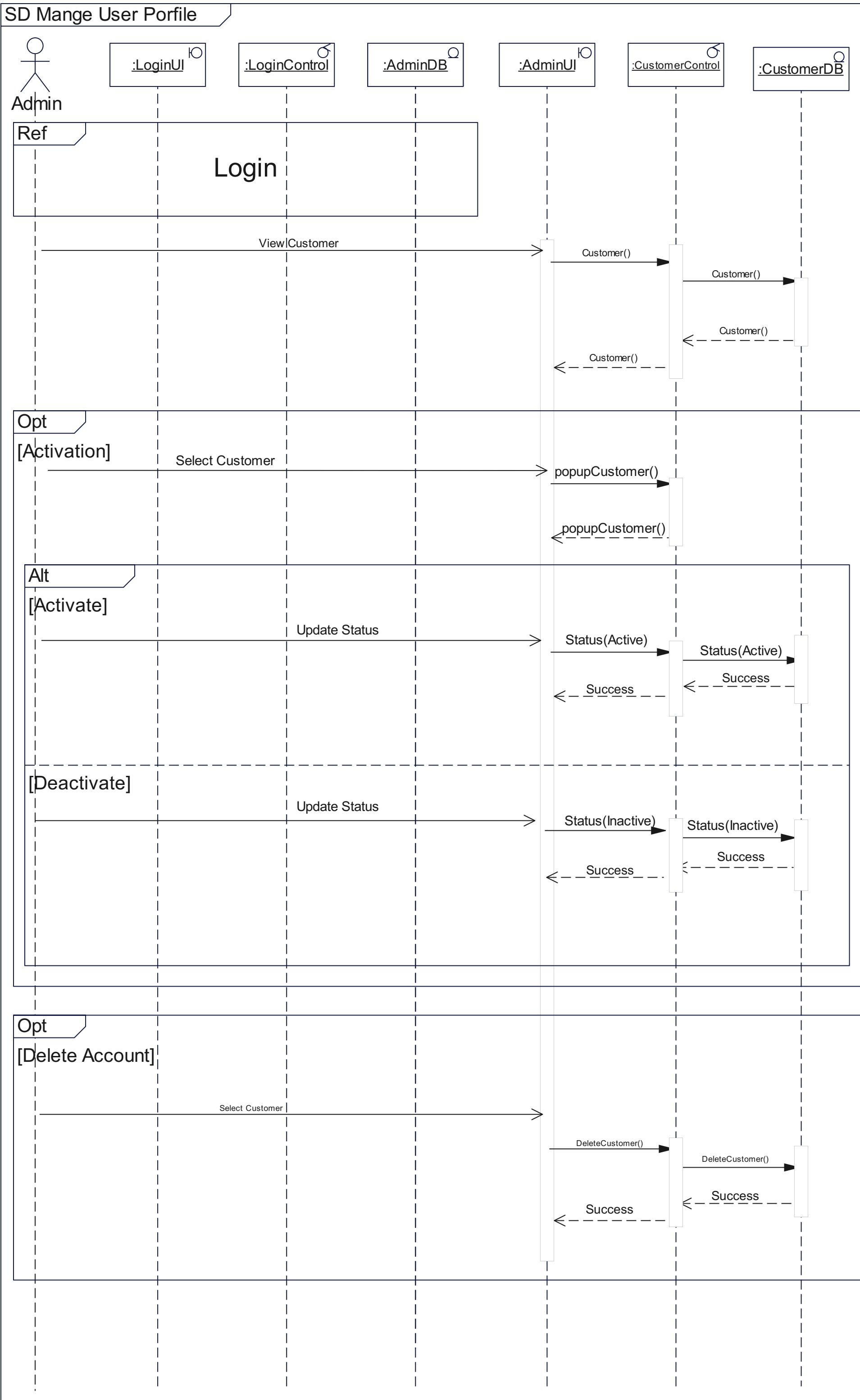
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Manage User Account

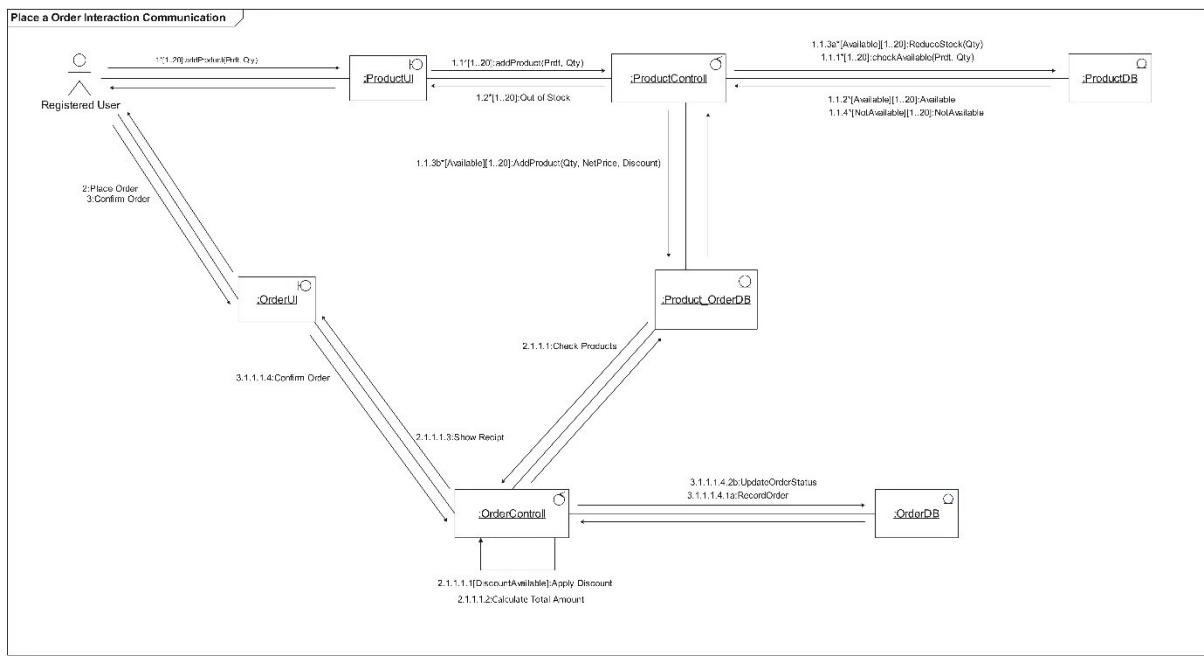


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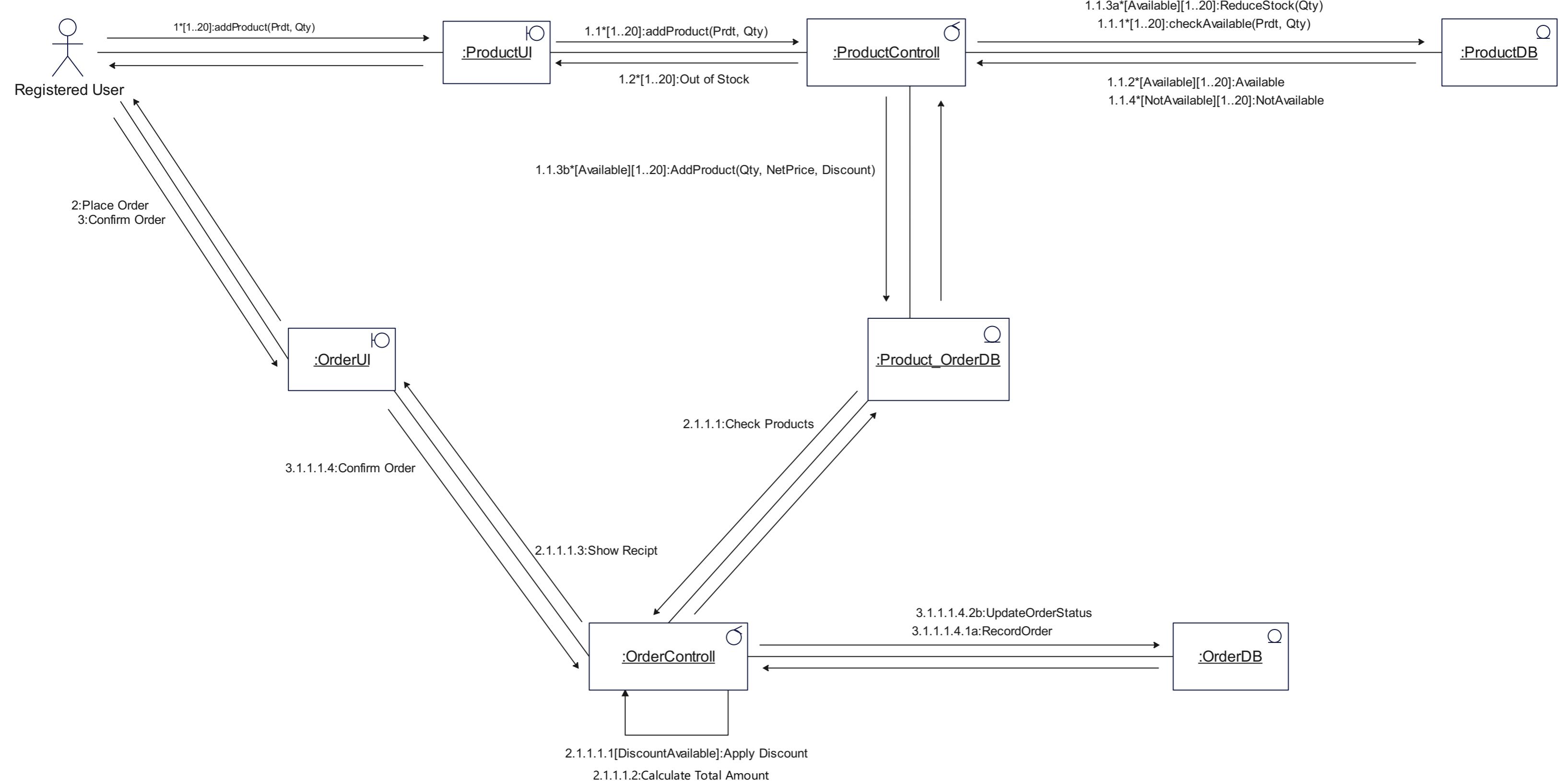
Communication Diagrams

Place Order

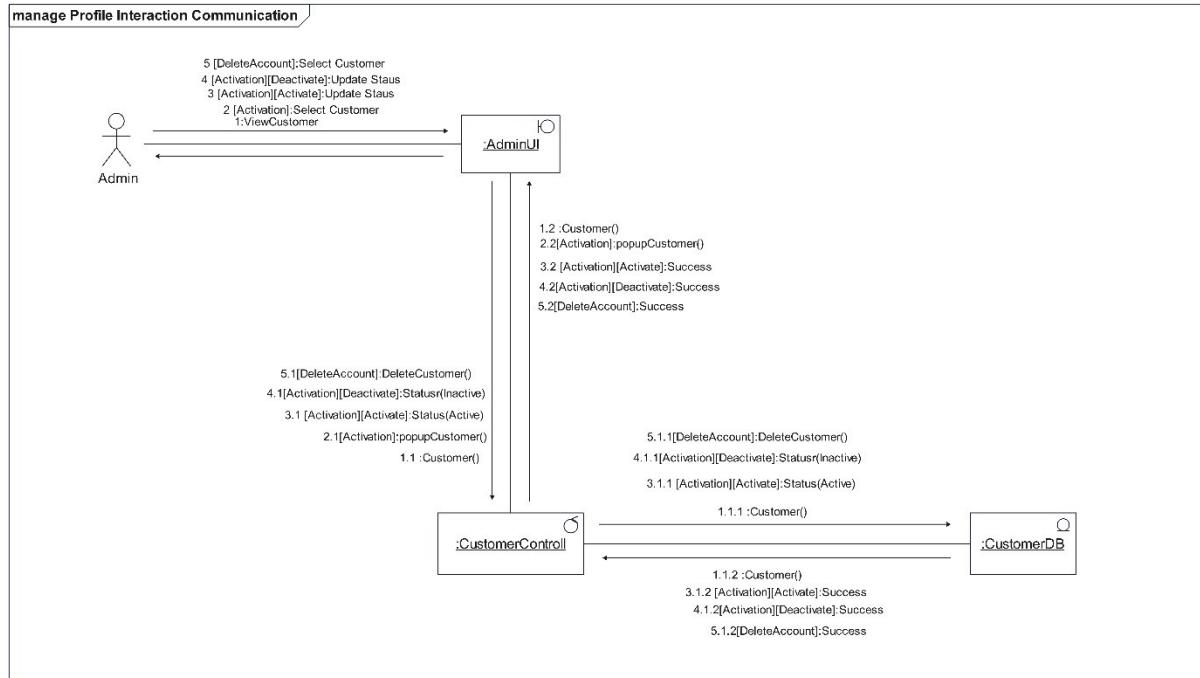


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Place a Order Interaction Communication

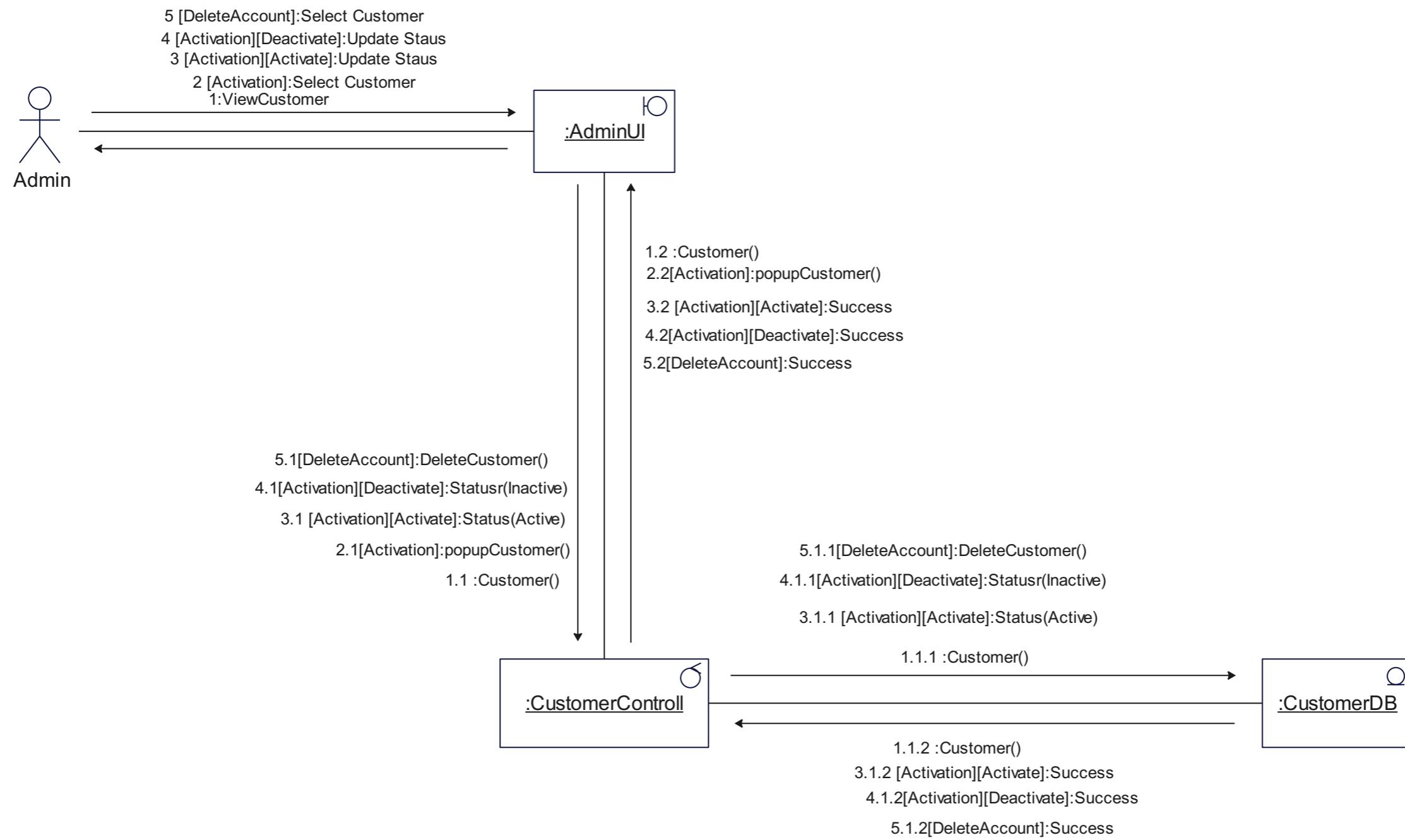


Manage User Profile



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manage Profile Interaction Communication



IT23221482 | Ihsas M I M

Use Case Scenarios

Make Payment

Name	Make Payment	
Summary	Customer Makes Payment for Grocery Order.	
Priority	4	
Pre-Condition	Proceed to check out	
Post-condition	Successfully complete payment process	
Primary Actor	Register User	
Main Scenario	Step	Action
	1.	Customer visit the website and log in.
	2.	Add items into cart
	3.	Reviews the items in cart and click "proceed to checkout"
	4.	Check for any discount or promotions and apply them to the total.
	5.	Display total amount to pay.
	6.	Display available payment options. (Credit card / debit card / online transfer / cash on delivery)
	7.	Choose the payment method.
	8.	Enter payment details and submit click "Submit payment"
	9.	System validates the enter payment details.
	10.	System display the final payment summary with the total amount and select payment method for conformation.
	11.	Conform the payment by clicking "Confirm payment"
	12.	System sends payment authorization request to the bank.
	13.	Bank sends a request to customer to authorization the payment and sent "OTP" code via email / SMS.
	14.	Bank authorization the payment send conformation to the system.

	15.	System update order status to “paid” and send conformation order message to customer.
	16.	Display successful message payment receipt.
	17.	If the user choose payment as cash on delivery , Delivery person hand over the Order to customer
	18.	Customer pay total amount to delivery person.
	19.	Delivery person update to the system (Received payment)
	20.	System send payment conformation and order details via email / SMS.
Extension	Step	Branching Actions
	9.a	Invalid payment Details: If the customer enters incorrect payment details, the system will display an error.
	9.b	Card is expired
	11.a	Order cancelled by customer.
	11.b	Change payment method.
	13.a	Authentication Faild. If the customer fails to complete the required authentication, such as OTP (One-Time Password).
	13.b	Payment time out.
	14.a	Insufficient funds.
	14.b	Payment error.

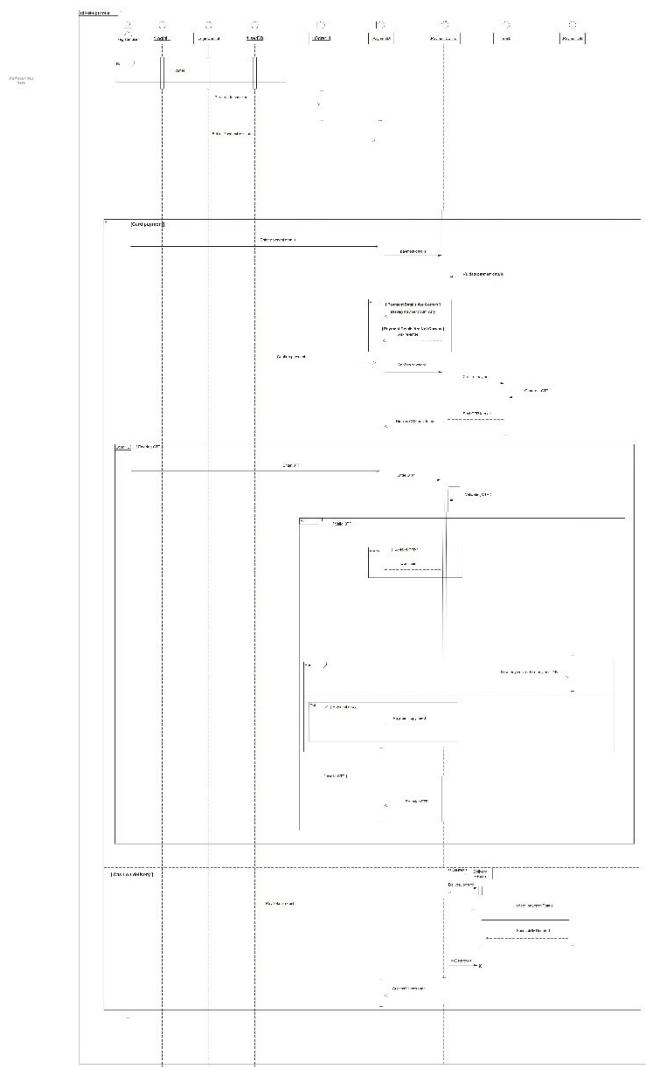
Edit Profile

Name	Edit Profile	
Summary	User edits and updates their Profile information	
Priority	3	
Pre-Condition	User is logged into the system and go to profile to edit.	
Post-condition	User's profile information is successfully updated in the system.	
Primary Actor	Register User	
Main Scenario	Step	Action
	1.	User logs into the website and navigates to the profile settings page.
	2.	System displays the current profile information
	3.	User clicks the "Edit Profile" button.
	4.	User updates their personal details (e.g., name, email, phone number, address, date of birth, gender).
	6.	If User want to update their profile picture. uploads a new profile picture by selecting a file from their device.
	7.	If user wants to change their password, the system requires the current password to verify identity
	8.	System prompts for re-authentication if a sensitive change is made (e.g., changing the email or password).
	9.	User clicks the "Save Changes" button.
	10.	System validates the updated profile information. (e.g.→checking if the email is valid, ensuring new password meets security criteria).
	11.	IF user want to delete Account Click "DELETE" Button.
	12.	System saves the updated information in the database.
	13.	System confirms that all changes are valid and sends a notification to the user's email or phone, confirming the profile update.
	14.	System displays a success message, confirming that the profile has been successfully updated.


	15.	User may log out and log back in to see the updated information reflected throughout the system (optional).
Extension	Step	Branching Actions
	1.a	Invalid login credentials.
	6.a	Invalid Image Format: If the uploaded profile picture is in an unsupported format (e.g., not JPEG/PNG), the system displays an error message and asks the user to upload a valid format
	6.b	Image Size Too Large: If the uploaded profile picture exceeds the file size limit (e.g., 5MB), the system displays an error message and suggests uploading a smaller image.
	7.a	Incorrect Current Password: If the user enters the wrong current password while changing their password, the system displays an error and prompts the user to try again.
	8.a	Authentication Failure: If the user fails to complete two-factor authentication
	9.a	If any mandatory fields are left blank (e.g., name, email), the system highlights the empty fields and prompts the user to fill them in before proceeding.
	9.b	If the email format is invalid, the system displays an error message asking the user to enter a valid email address.
	10.a	Validation Error: If the system detects any invalid data
	12.a	Notification Not Received: If the user does not receive the confirmation email or SMS, the system provides an option to resend the notification.
	13.a	If the profile update was unsuccessful due to server or database issues, the system displays an error message and provides a support link for assistance.
	13.b	If the update was successful but the user cannot see the updated information immediately, the system may require the user to refresh the page.
	14.a	Session Timeout: If the user takes too long to make changes (e.g., session timeout), the system logs the user out and redirects them to the login page without saving the changes.

Sequence Diagrams

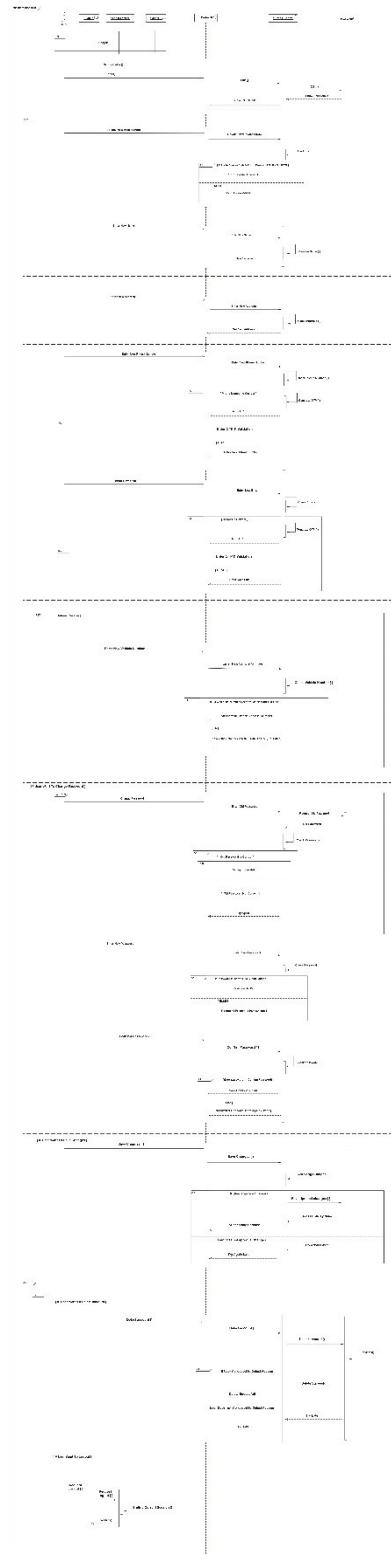
Make Payment



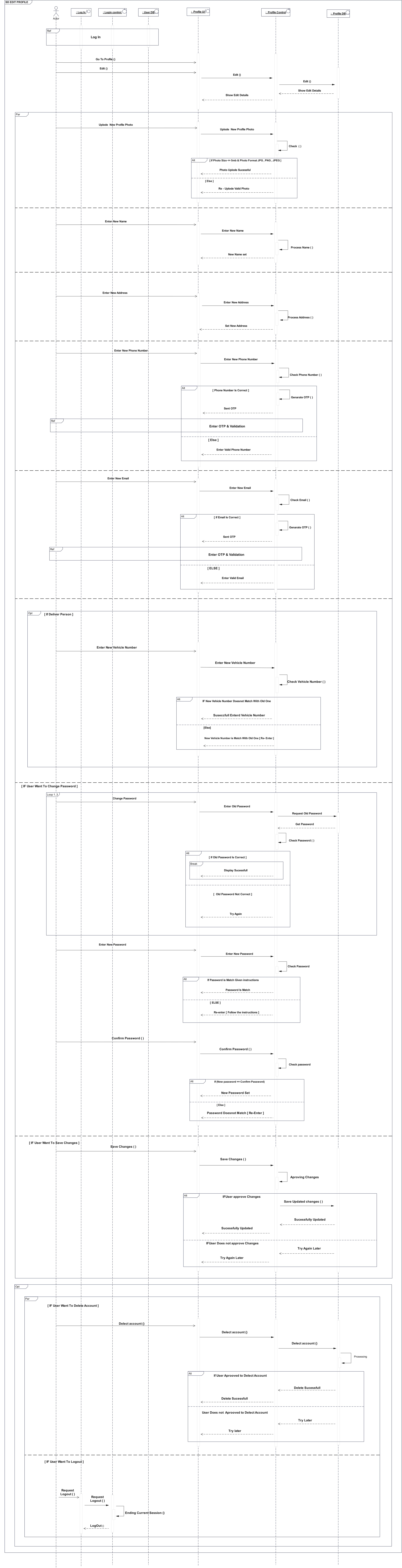
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Edit Profile

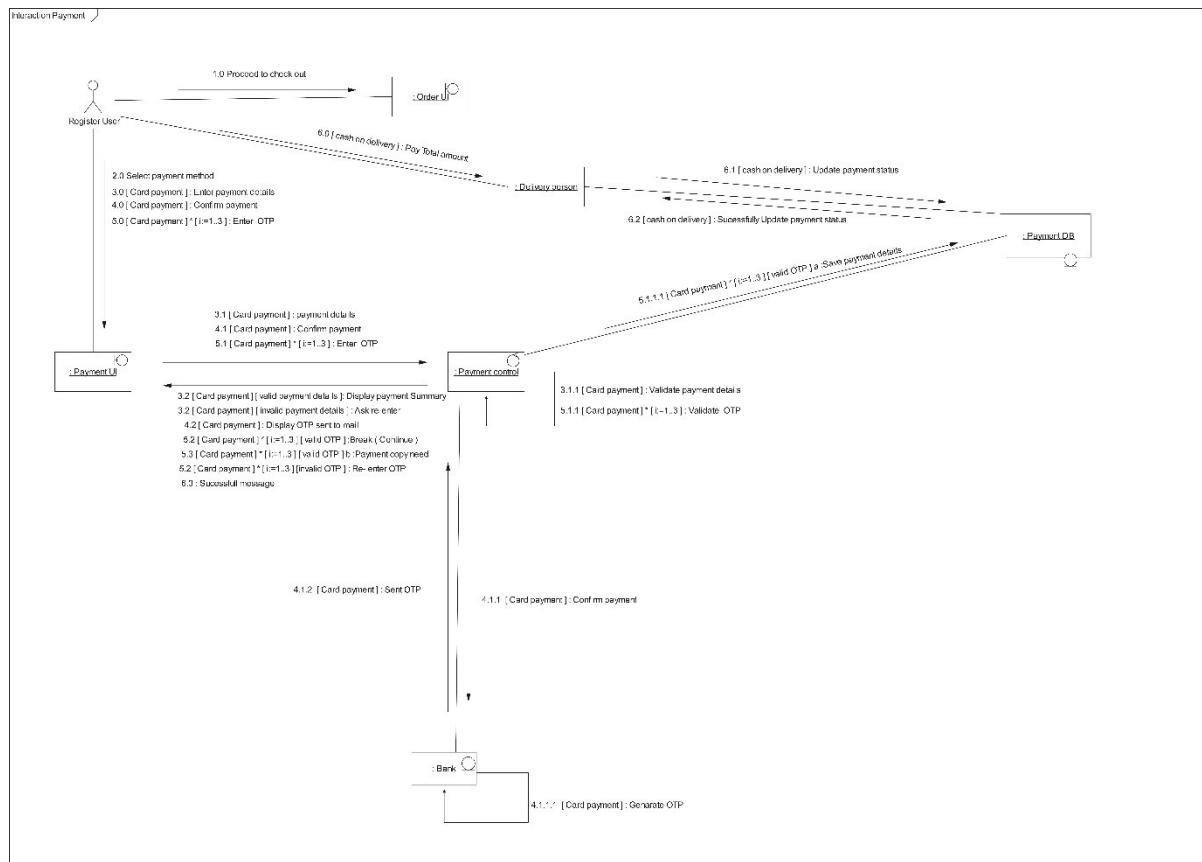


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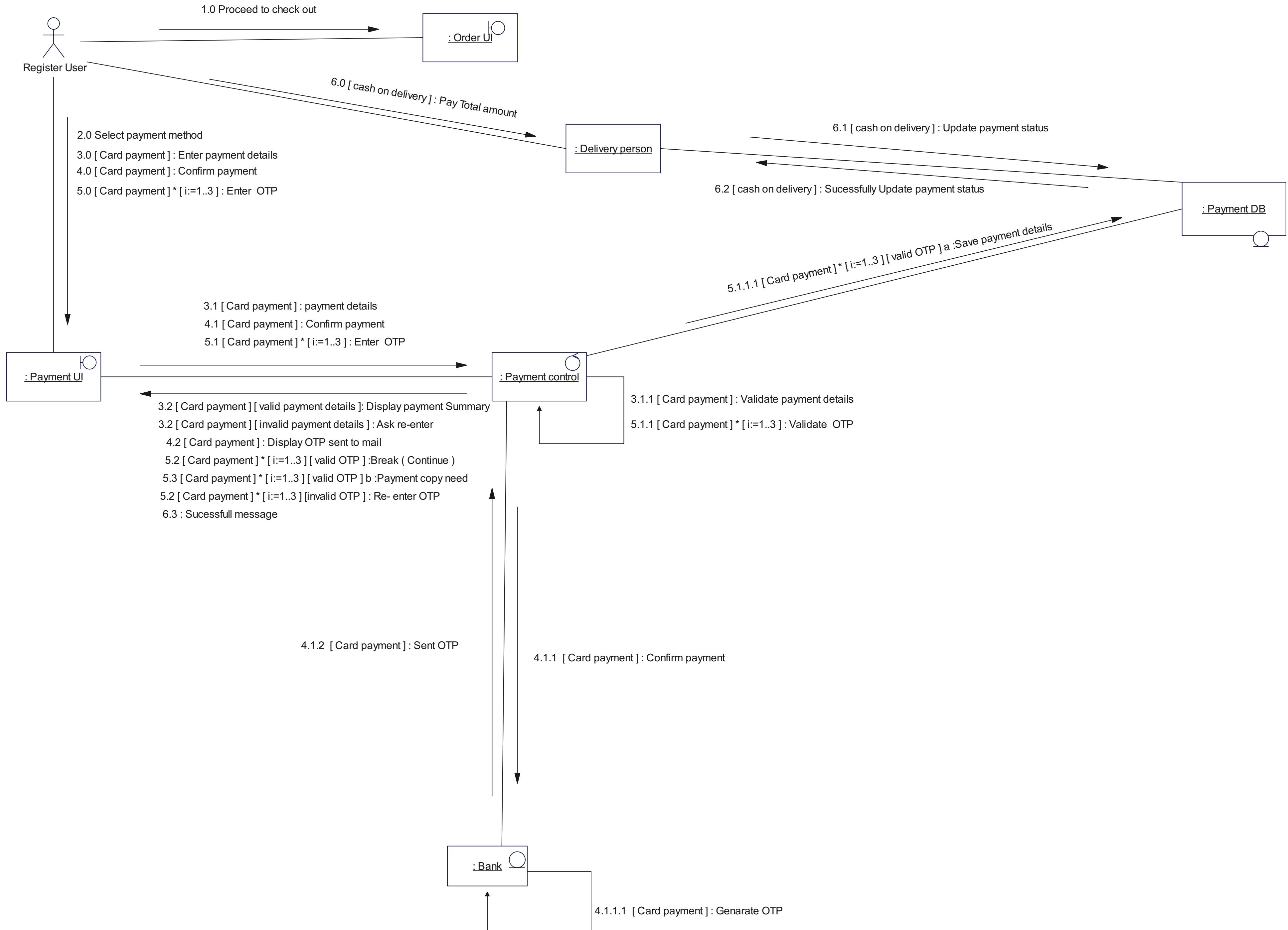


Communication Diagrams

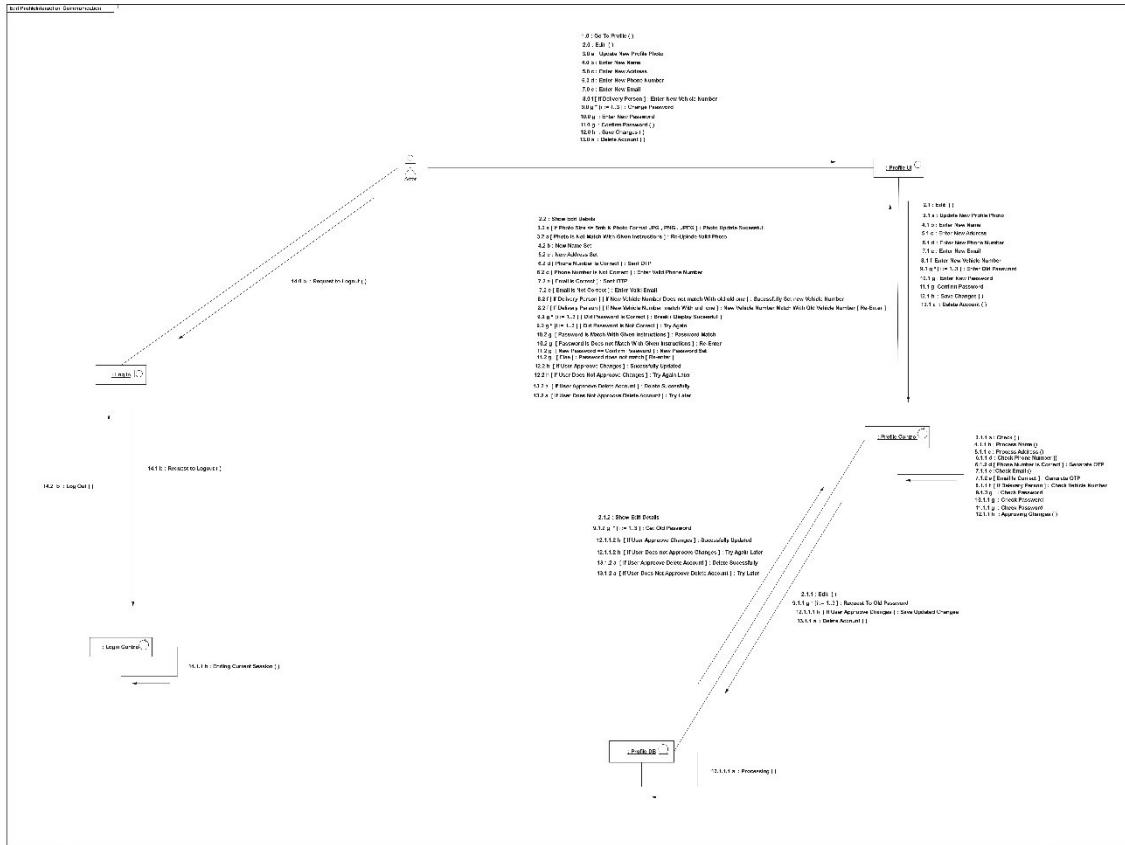
Make Payment



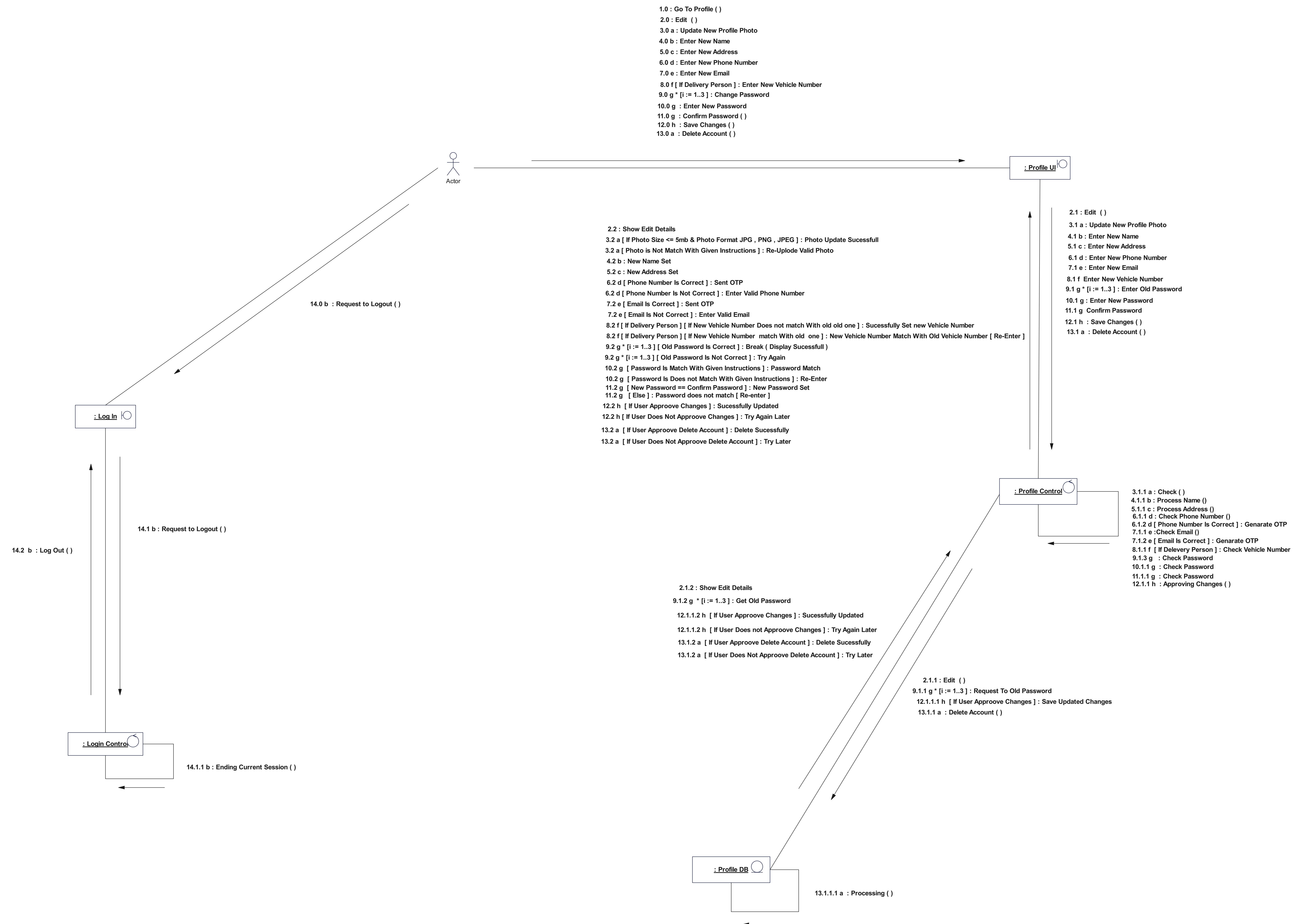
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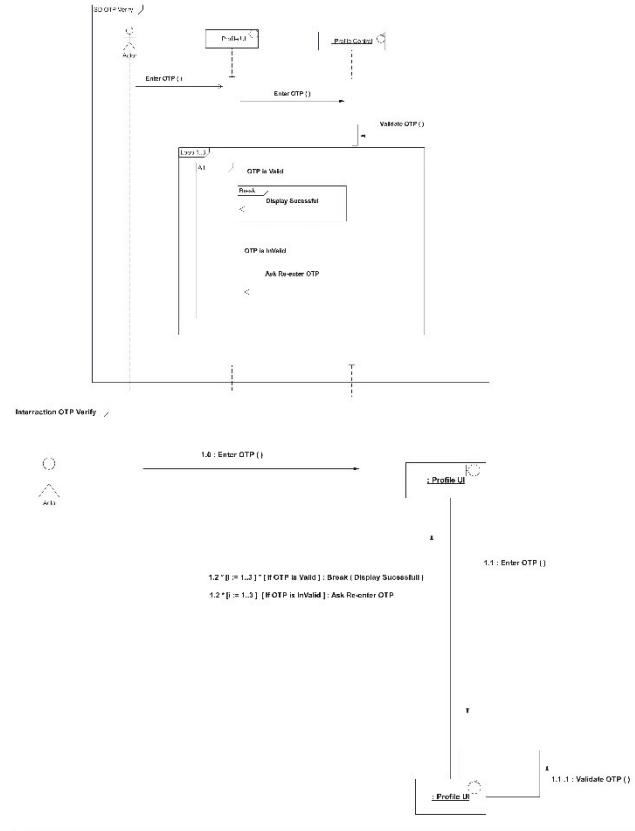
Edit Profile



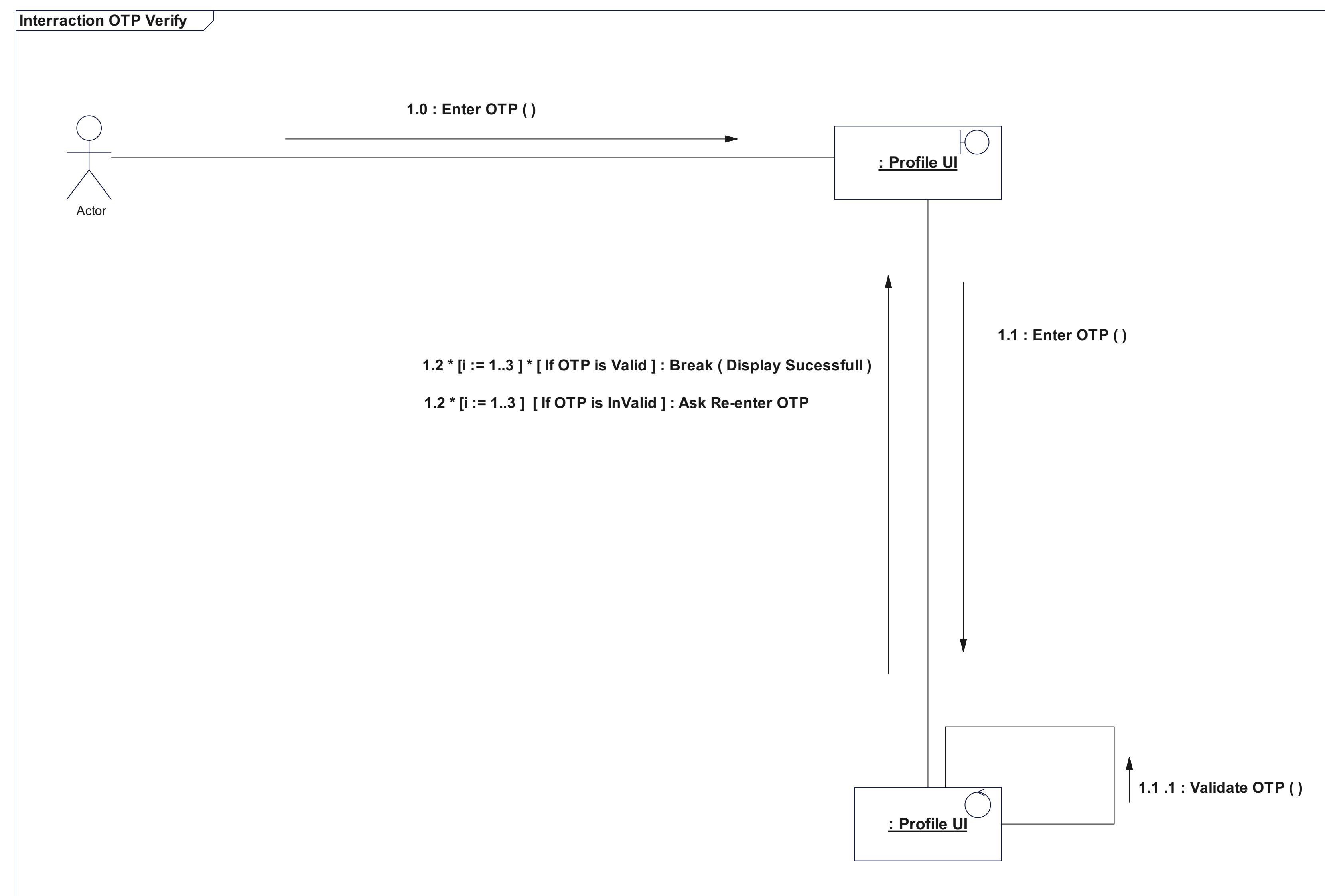
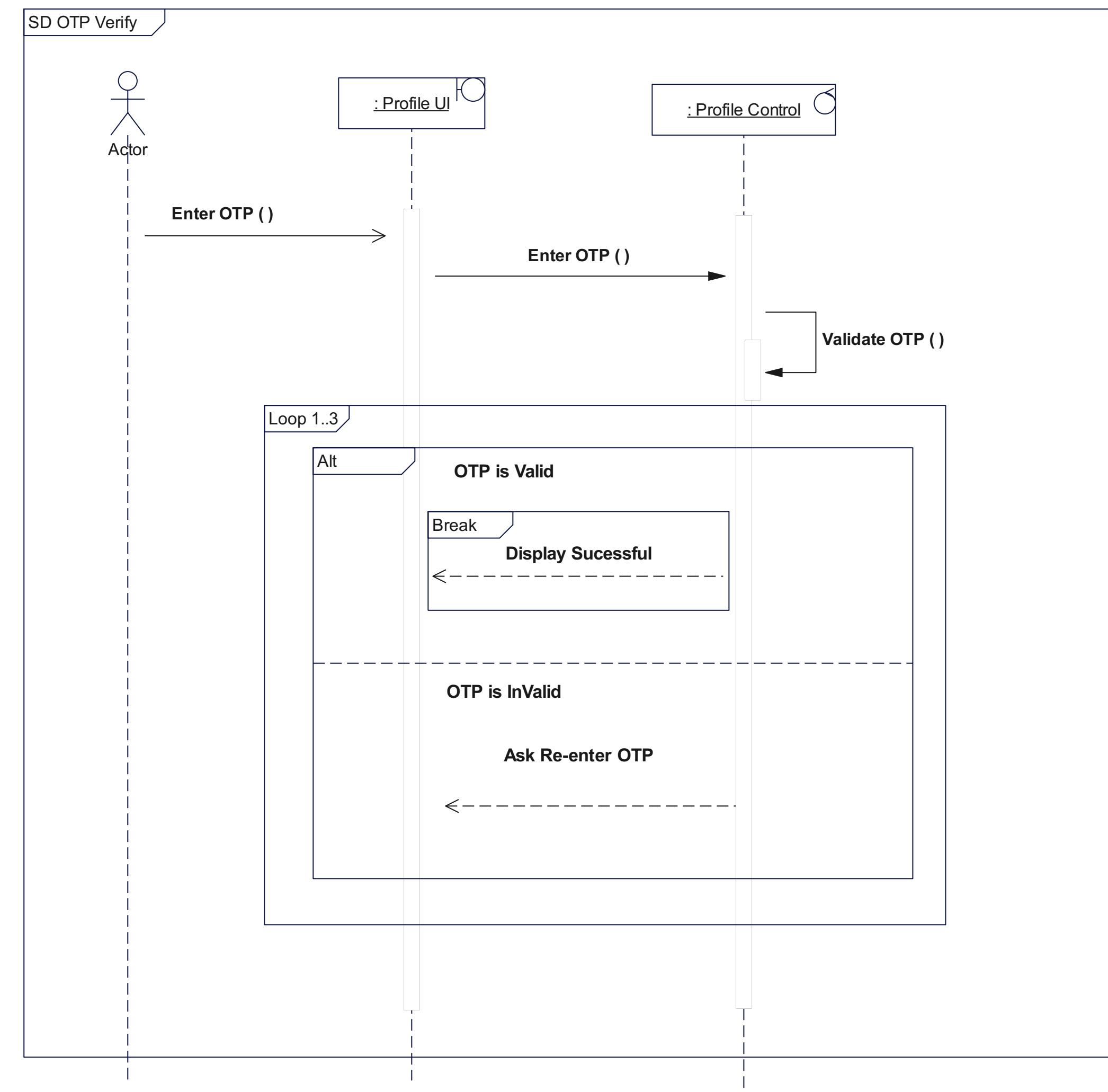
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Ref: OTP & Validation



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Use Case Scenarios

Make an Enquiry

Name	Make an enquiry	
Summary	Make an enquiry about an issue relevant to the online grocery	
Priority	Medium	
Pre-Condition	The system has enquiry from available for customer to submit their questions or concerns	
Post-condition	Successfully make an enquiry and receive a reply	
Primary Actor	Register user	
Main Scenario	Step	Action
	1.	Customer visit to the website and login
	2.	Customer navigates to the "Contact Us" or "Help" section of the website/app
	3.	Customer selects the enquiry category (e.g., Product availability, Delivery issue, Payment problem, General question).
	4.	System may provide FAQ suggestions based on the category selected (to assist the customer before submitting)
	5.	Customer fills in the enquiry form with the necessary details (e.g., question about product availability or a delivery issue).
	6.	Customer uploads any relevant documents (e.g., a screenshot of a payment error or an image of a damaged product).
	7.	Customer selects a preferred contact method (email or phone call).
	8.	Customer clicks the "Submit" button to send the enquiry.
	9.	System validates the enquiry form (checks for empty fields, correct email format, order number format, etc.).
	10.	If validation passes, the system logs the enquiry in the database with a unique enquiry reference number.
	11.	System forwards the enquiry to the appropriate department (e.g., Product Team, Delivery Team, or Customer Service) based on the enquiry category

	12.	System displays a confirmation message: "Your enquiry has been submitted. You will receive a response shortly."
	13.	System sends a confirmation email or SMS to the customer with the enquiry reference number and details of the submission.
	14.	The customer can view their submitted enquiries in the "My Account" section under "Enquiry History" with a status (e.g., Pending, In Progress, Responded).
	15.	Customer service team or relevant department receives the enquiry and reviews the details.
	16.	Customer service team responds to the enquiry via the preferred contact method (email or phone call).
	17.	Customer receives the response and can view it either through email, phone, or within their account's "Enquiry History" section.
	18.	Customer has the option to rate the response or provide feedback on the resolution.
Extension	Step	Branching Actions
	5.a	Incomplete Form Submission: If the customer tries to submit the form without filling in all required fields.
	6.a	File Upload Issue: If the customer tries to upload a file (e.g., an image or screenshot) that exceeds the allowed size or file type.
	7.a	Preferred Contact Method Not Available: If the customer's selected preferred contact method is unavailable.
	8.a	System Error on Submission: If there is a technical issue when submitting the enquiry.
	8.b	Customer Cancels Enquiry: If the customer decides to cancel the enquiry before submission.
	9.a	Invalid Order Number: If the customer enters an incorrect or non-existent order number.
	13.a	Invalid Order Number: If the customer enters an incorrect or non-existent order number.
	16.a	No Response from Customer Service: If the customer does not receive a response from the customer service team within the expected timeframe (e.g., 48 hours).

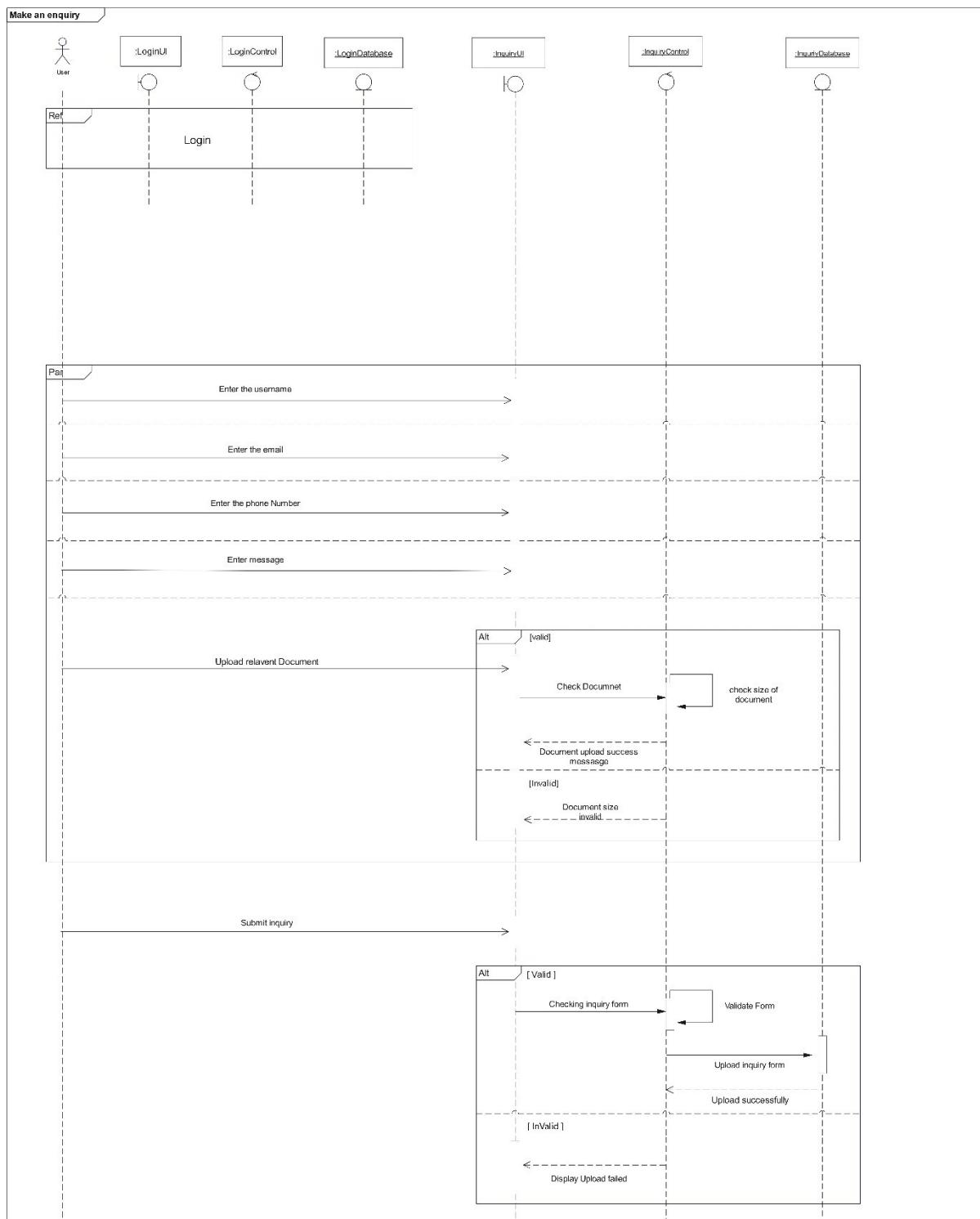
	16.b	Multiple Enquiries for the Same Issue: If the customer submits multiple enquiries for the same issue.
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Manage Feedback

Name	Manage Feedback	
Summary	User provides feedback on services/products, and the system stores and categorizes the feedback for analysis and action.	
Priority	High	
Pre-Condition	The administrator has access to feedback management tools.	
Post-condition	The feedback is reviewed, categorized, and responded to, or assigned for further action.	
Primary Actor	Administrator/Manager	
Main Scenario	Step	Action
	1.	The administrator logs into the feedback management tool.
	2.	The system stores the feedback and notifies the administrator.
	3.	The administrator navigates to the feedback section.
	4.	The administrator categorizes the feedback (e.g., complaint, suggestion, question) and assigns a priority level (e.g., low, medium, high).
	5.	The system updates the feedback status (e.g., "assigned," "under review").
	6.	The system sends an automatic notification or email to the submitter.
	7.	The system updates the feedback status to "closed" and archives it.
Extension	Step	Branching Actions
	4.a	The system keeps the feedback open, awaiting a response.
	5.a	The system updates the status to "escalated" and notifies the assigned team.
	5.b	The feedback is marked as "pending review" while awaiting further input.
	6.a	The feedback status changes back to "open."

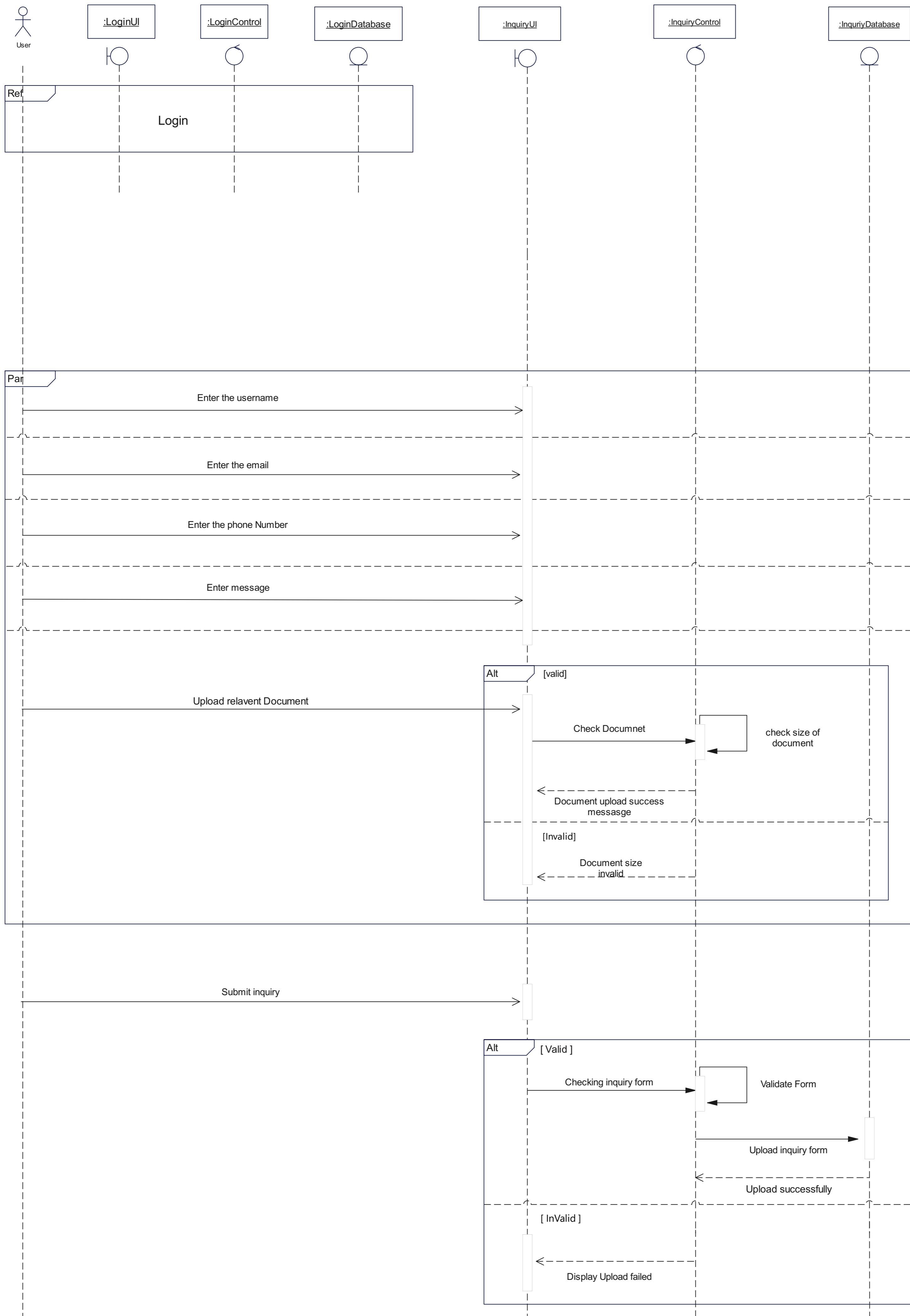
Sequence Diagrams

Make an Enquiry

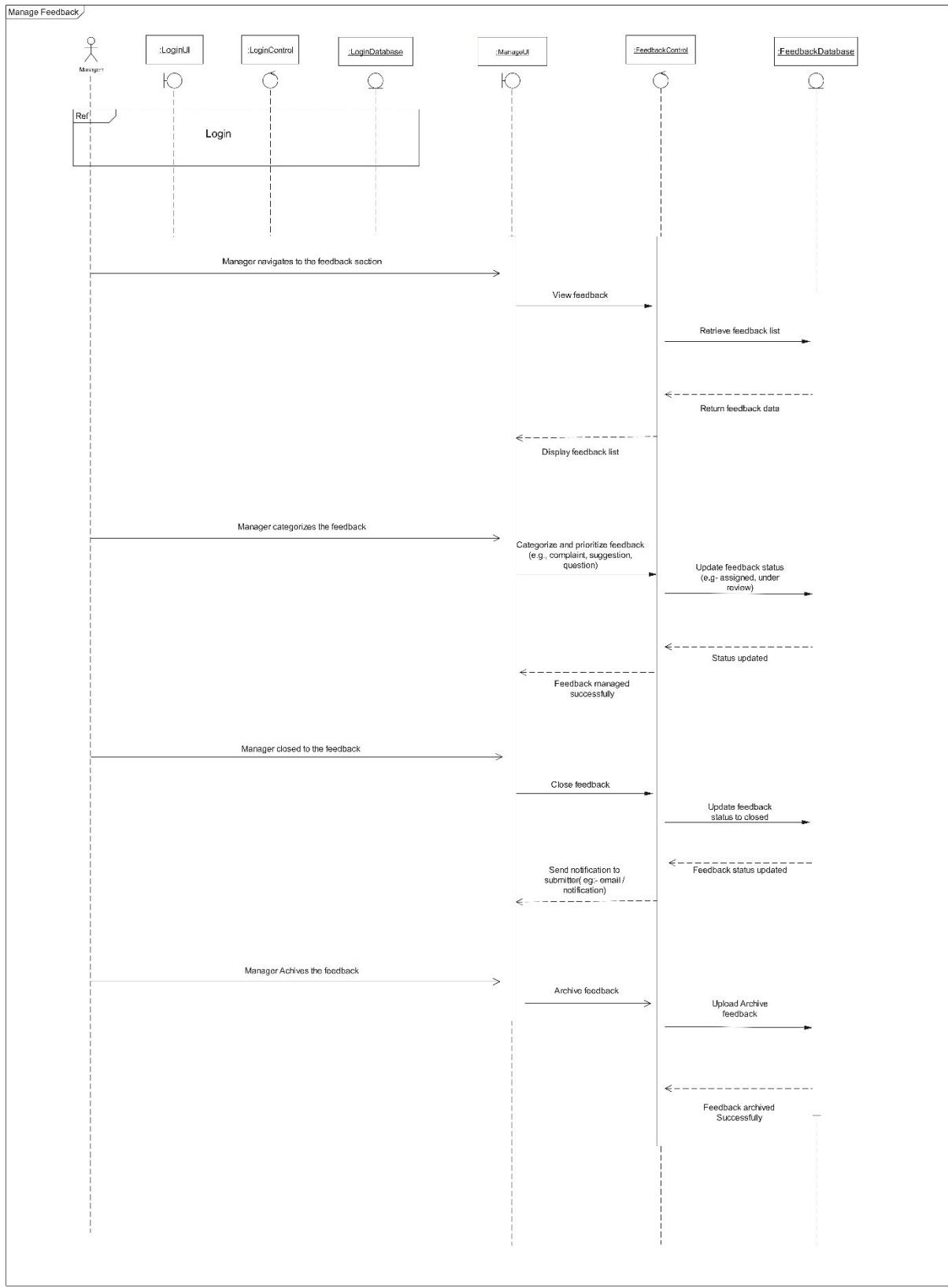


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Make an enquiry

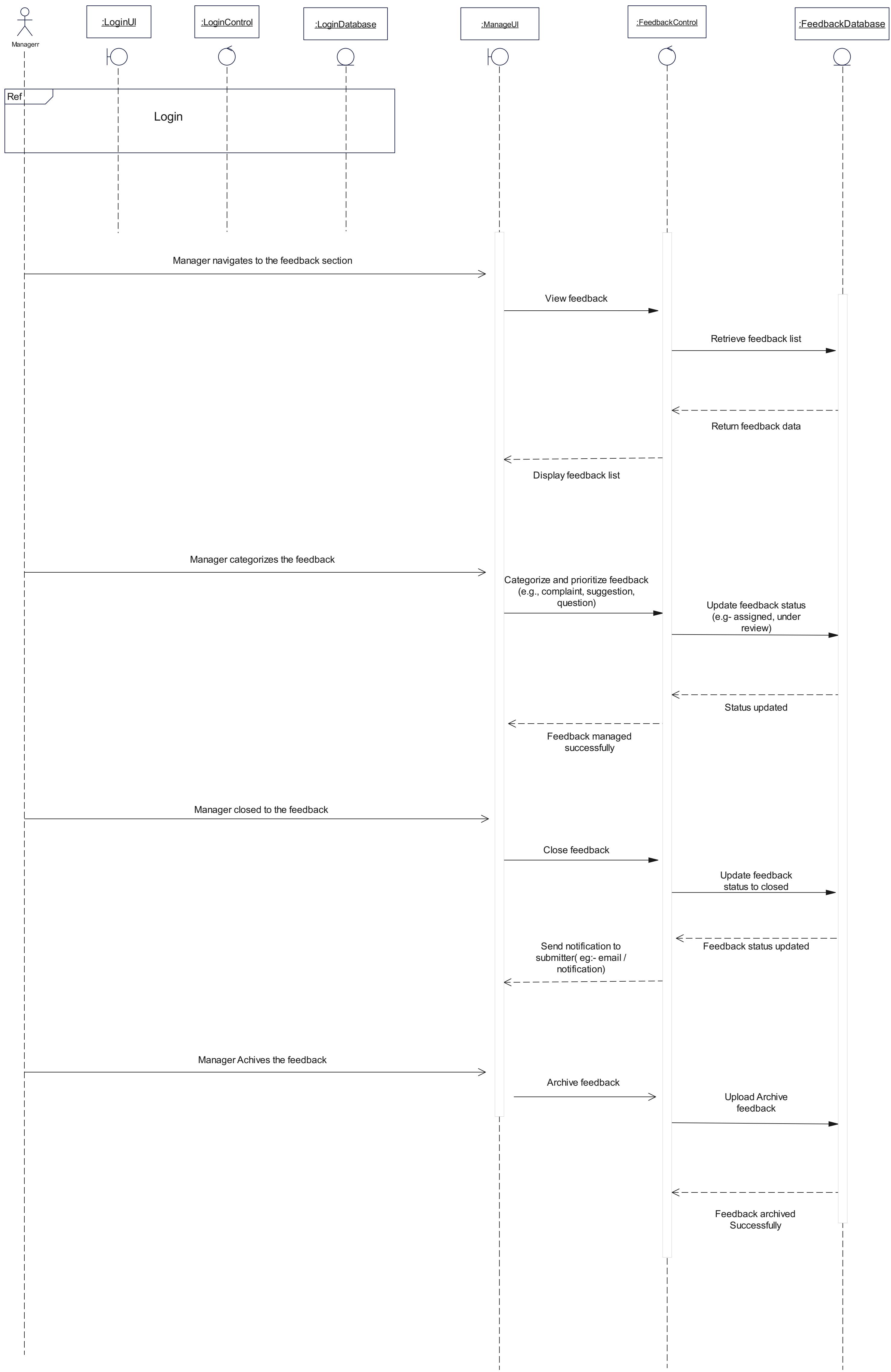


Manage Feedback



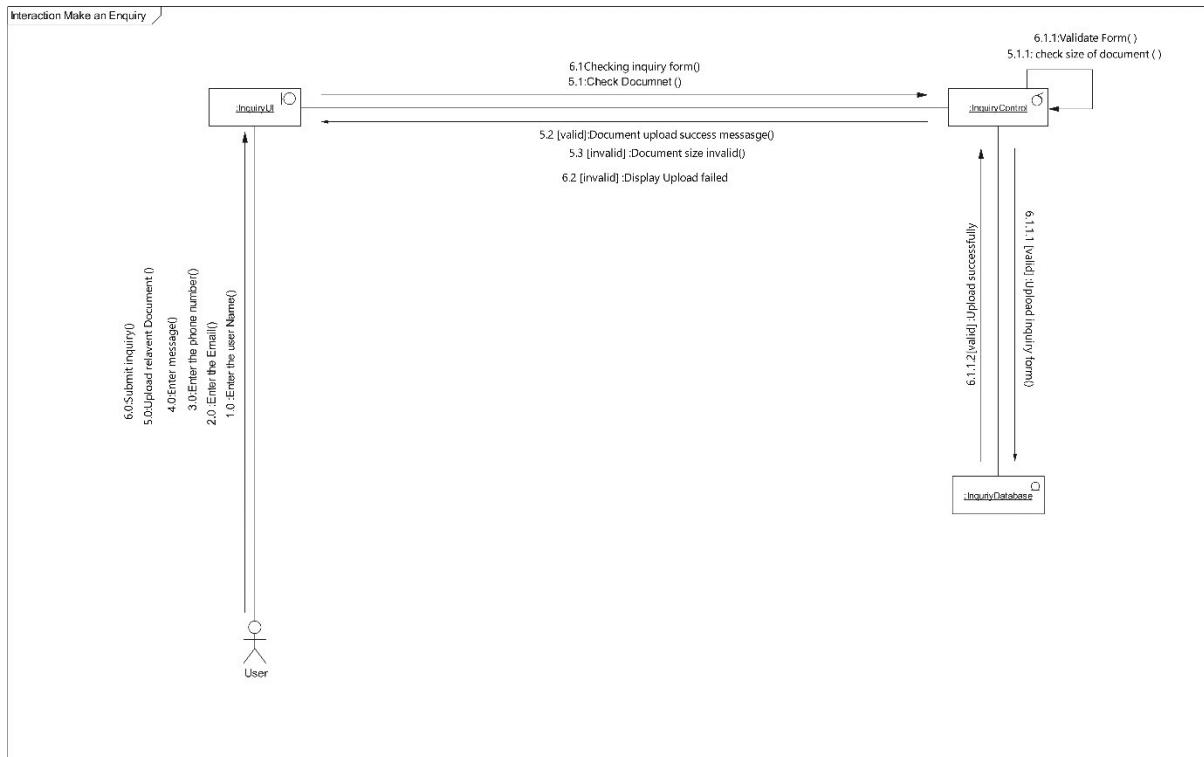
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Manage Feedback



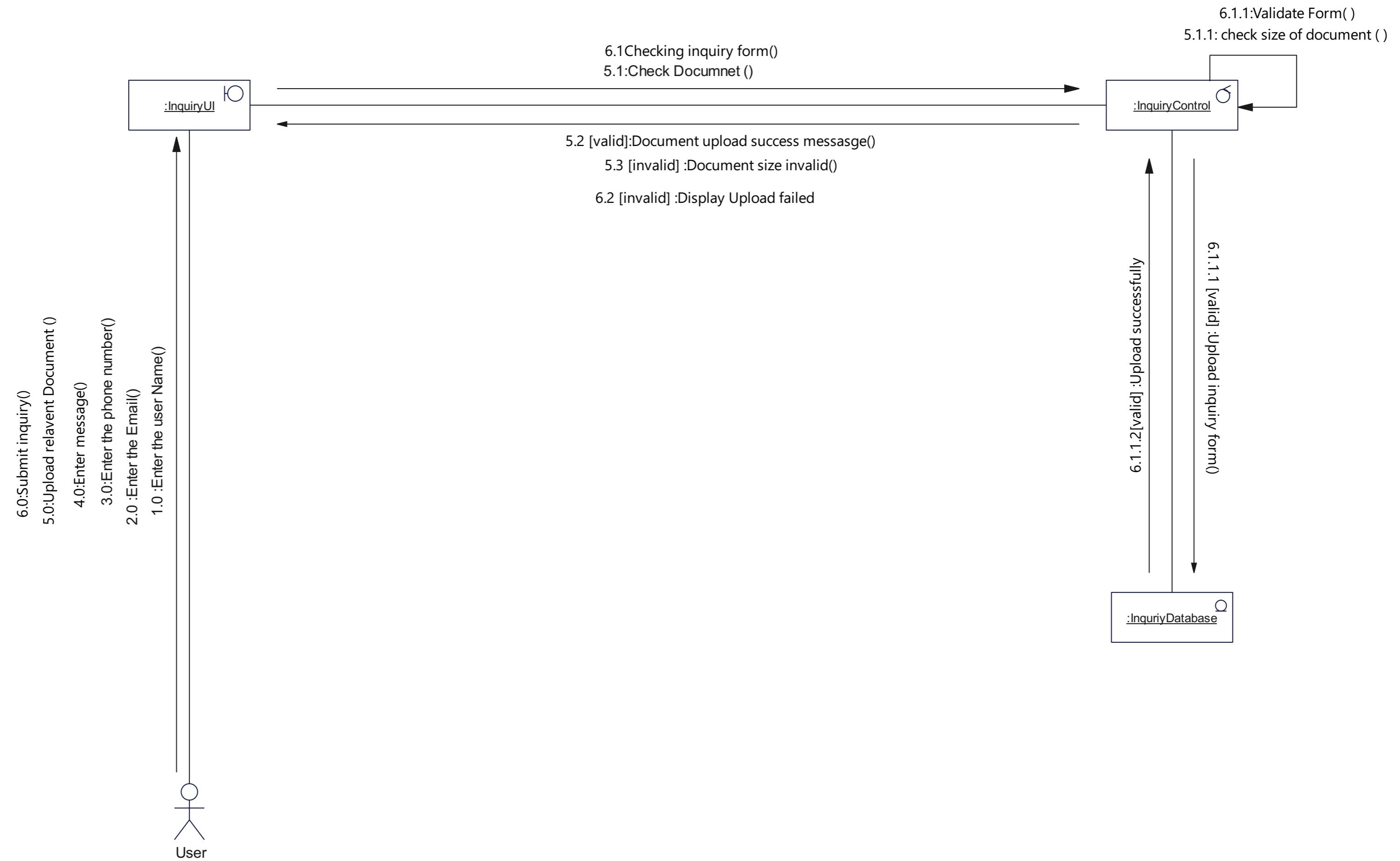
Communication Diagrams

Make an Enquiry

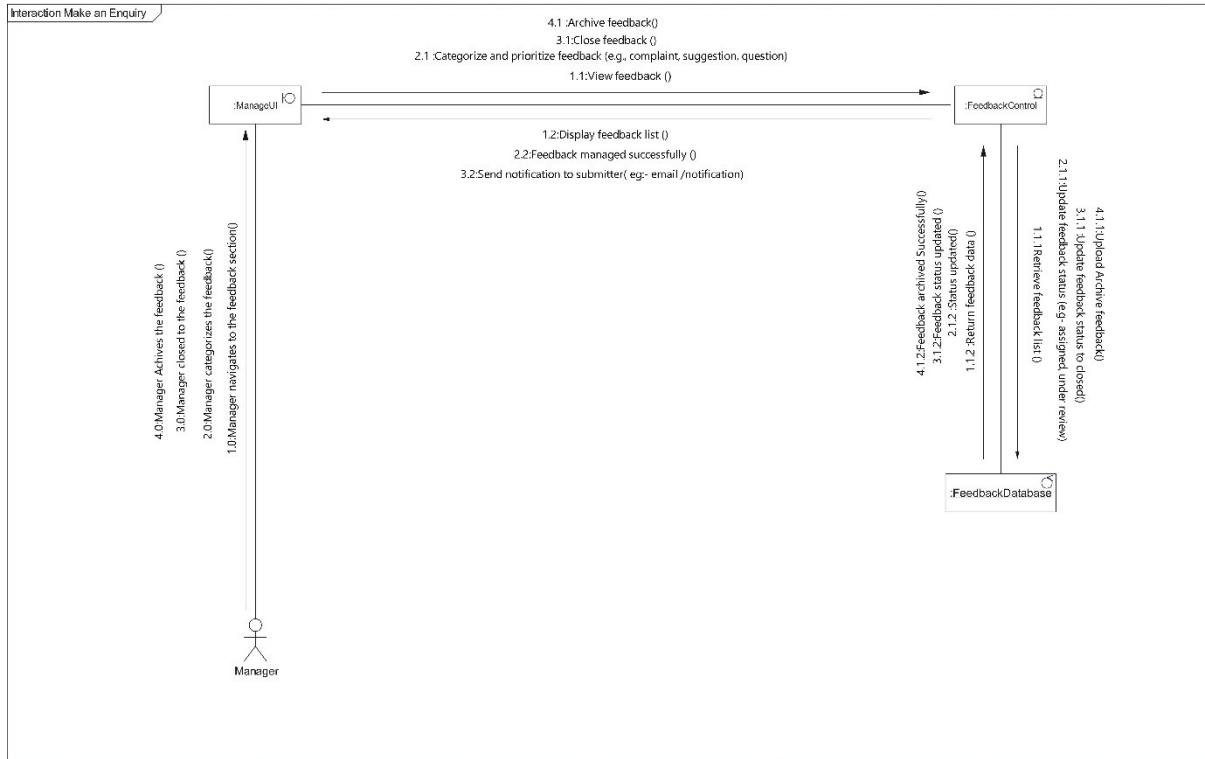


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Interaction Make an Enquiry

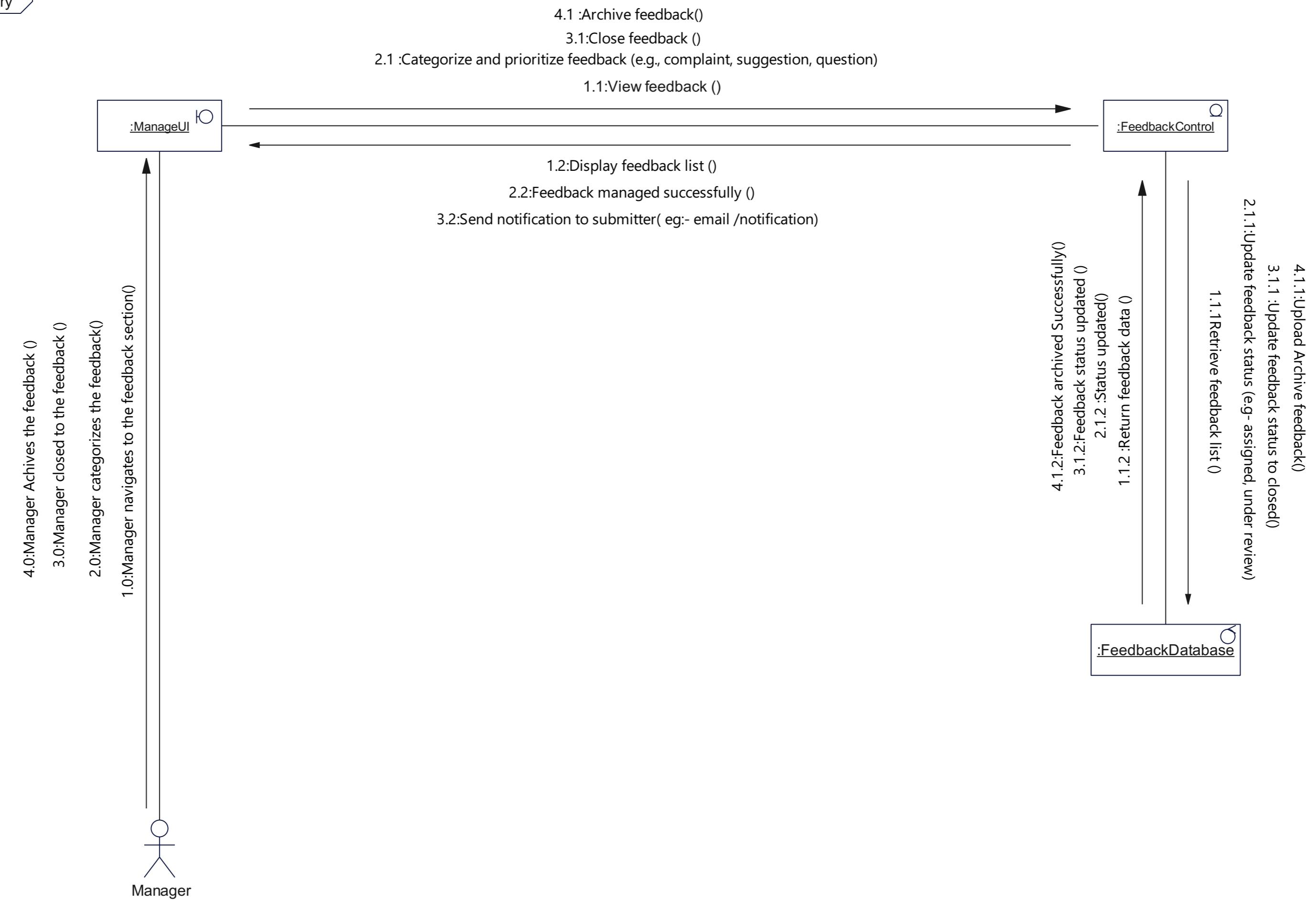


Manage Feedback



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Interaction Make an Enquiry



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Use Case Scenarios

Manage Products

Name	Manage Products	
Summary	Manager manage products in the system, including adding new products, updating product information, or removing existing products.	
Priority	high	
Pre-Condition	logged into the system with Manager credential	
Post-condition	The product information is successfully added, updated, or removed from the system and manage.	
Primary Actor	Manager	
Main Scenario	Step	Action
	1.	Manager Login to the System with User credentials
	2.	System displays the list of all products along with options (add, edit, or delete products)
	3.	manager clicks on the "Add Product" button to add a new product
	4.	System displays a form for the Manager to input product details (e.g., name, price, description, category, image)
	5.	manager clicks on the "Edit Product" button to Edit a product
	6.	System displays a form for the Manager to update product details (e.g., name, price, description, category, image)
	7.	manager clicks on the "Delete Product" button to Delete the product.

	8.	Manager fills in or updates or delete the product information and clicks on the "Save" button
	9.	System saves the product information to the database and displays a confirmation message
	10.	Manager Double check All product informations are correct
Extension	Step	Branching Actions
	4.a	If the image uploaded for the product is in an invalid format or exceeds size limits, the system displays an error message asking the administrator to upload a valid image
	4.b	If any of the fields contain invalid or missing data (e.g., missing price, negative stock quantity), the system highlights the errors and prompts the administrator to correct them
	6.a	If the image uploaded for the product is in an invalid format or exceeds size limits, the system displays an error message asking the administrator to upload a valid image
	6.b	If any of the fields contain invalid or missing data (e.g., missing price, negative stock quantity), the system highlights the errors and prompts the administrator to correct them"
	9.a	If the system encounters a problem saving the product (e.g., due to server issues) displays an error message.

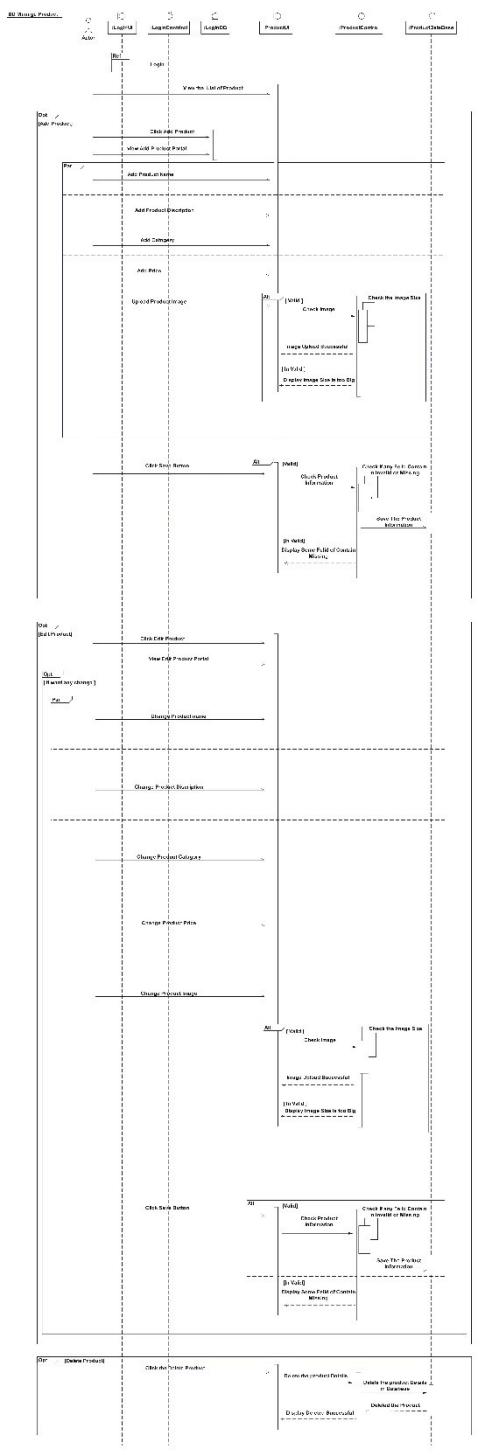
Manage Orders

Name	Manage Orders	
Summary	The delivery person handles the delivery process for customer orders including viewing assigned Orders, update delivery status and confirm successful deliveries	
Priority	high	
Pre-Condition	logged into the system with delivery person credential get the delivery order access to the necessary customer delivery details	
Post-condition	Customers are notifying of the delivery status The delivery orders are handover to the customers Successfully delivered Orders	
Primary Actor	Delivery person	
Main Scenario	Step	Action
	1.	Open to the web page
	2.	login to the system and navigates to the delivery orders section
	3.	Receive some new orders and Bending Orders
	4.	The system displays list of orders including details like customer address, items and delivery time
	5.	The delivery person marks the order as Out for Delivery (maximum 10 Order per day).
	6.	updates the order status and sends a notification to the customer with an estimated delivery time
	7.	Arrived at the customer address and attempts to deliver the orders
	8.	Confirm order details and customer details
	9.	Update the status to delivered if the delivery is successful

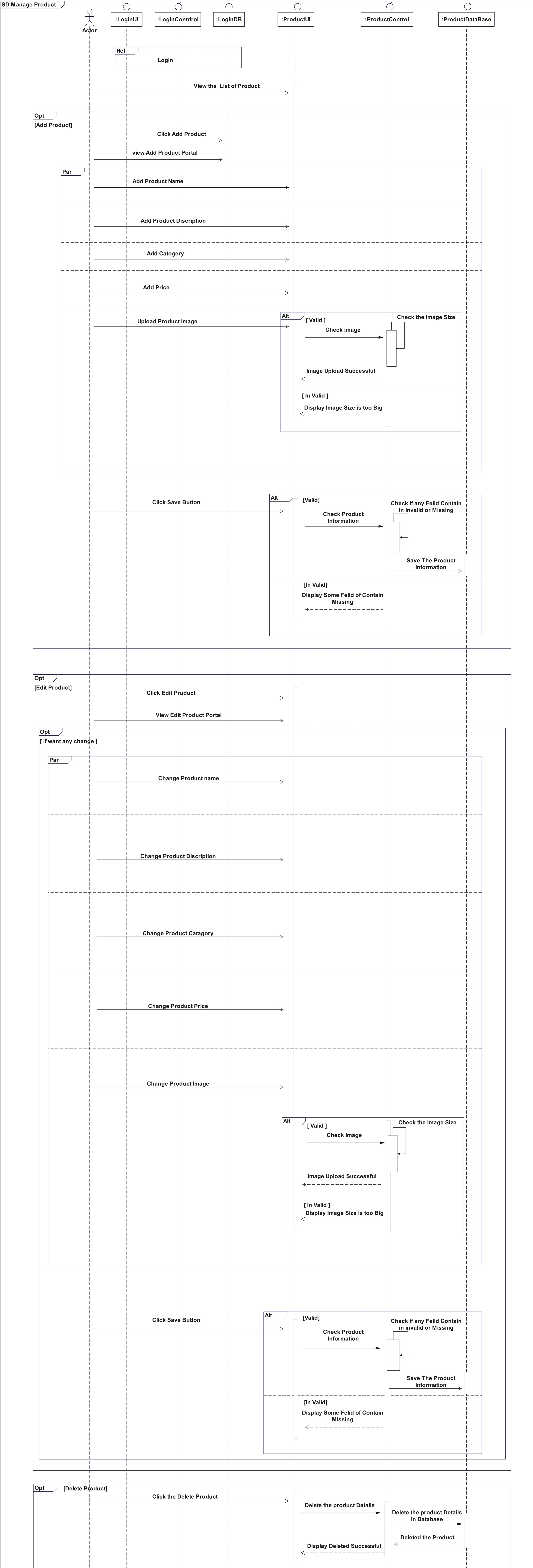
	10.	Finished previous Order and move on next delivery orders
Extension	Step	Branching Actions
	2.a	If user name password is invalid system display Re-enter the username and password
	2.b	Forget the password click the “forgot password” And set new password
	3.a	If not get new Orders the system displays a message stating, “No new delivery orders”
	4.a	If some information is incorrect then move to the bending orders
	10.a	If order is unsuccessful mark the order and update the order

Sequence Diagrams

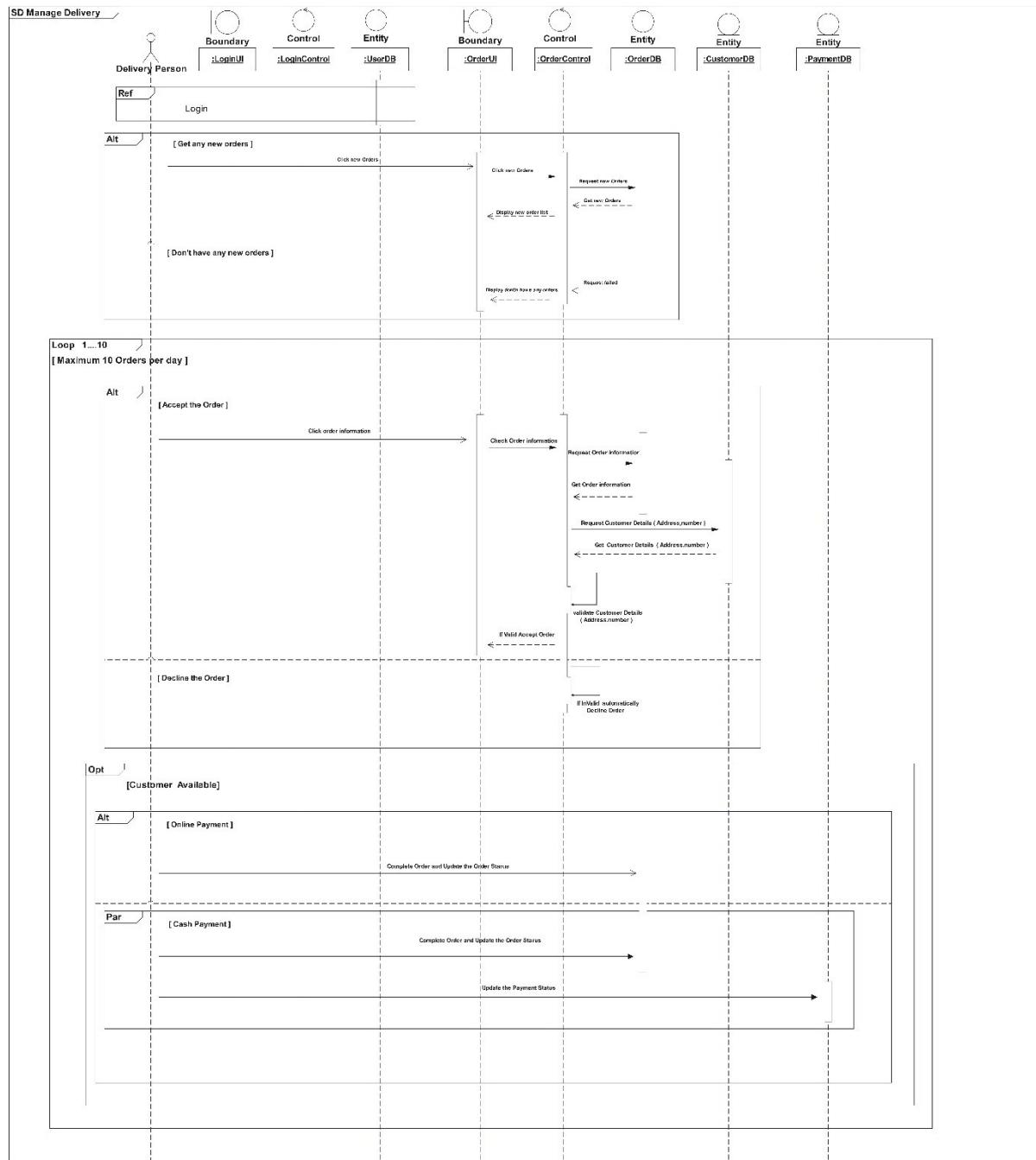
Manage Product



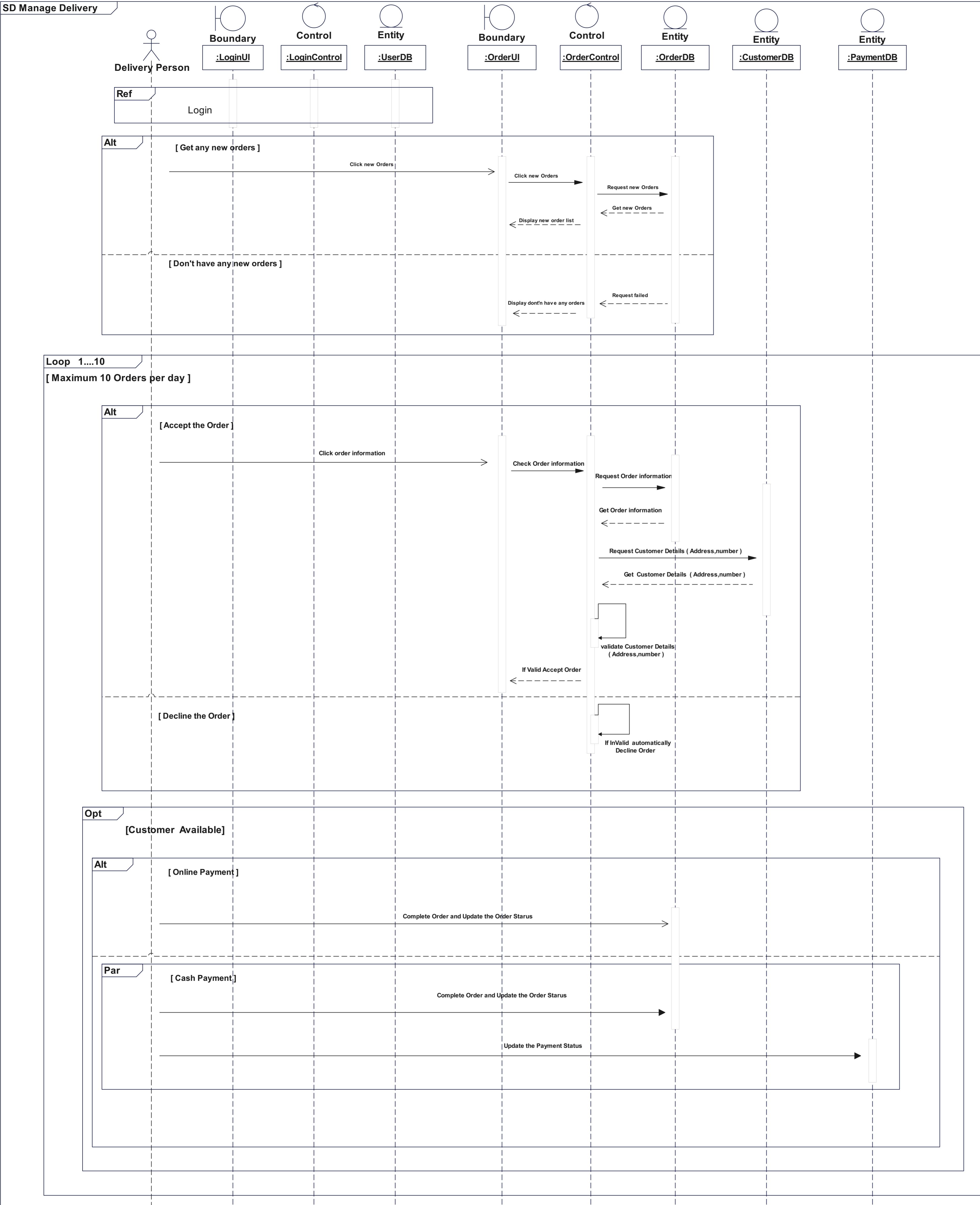
- Enhanced Image Attached Below -



Manage Order

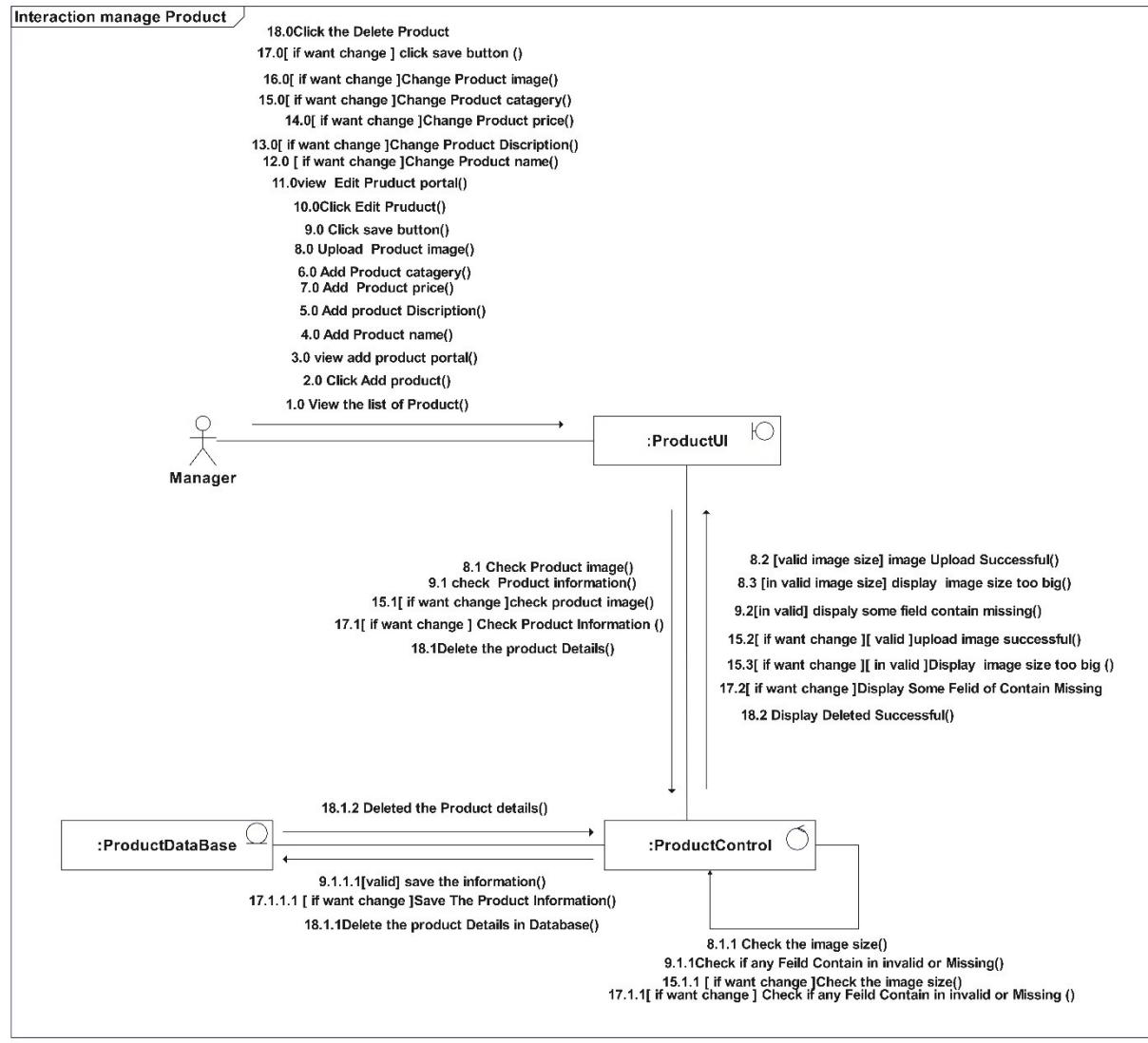


- Enhanced Image Attached Below -



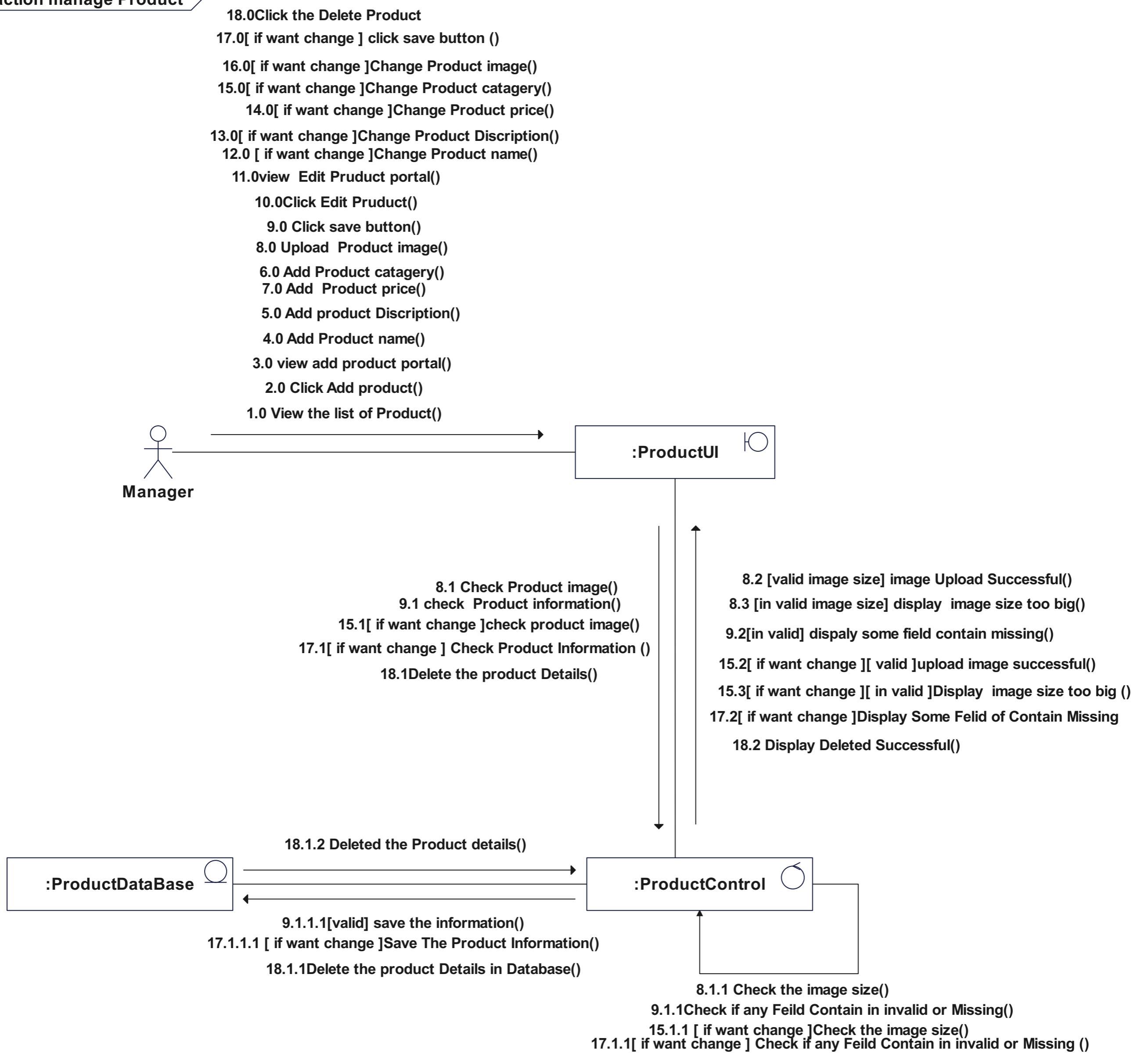
Communication Diagrams

Manage Product

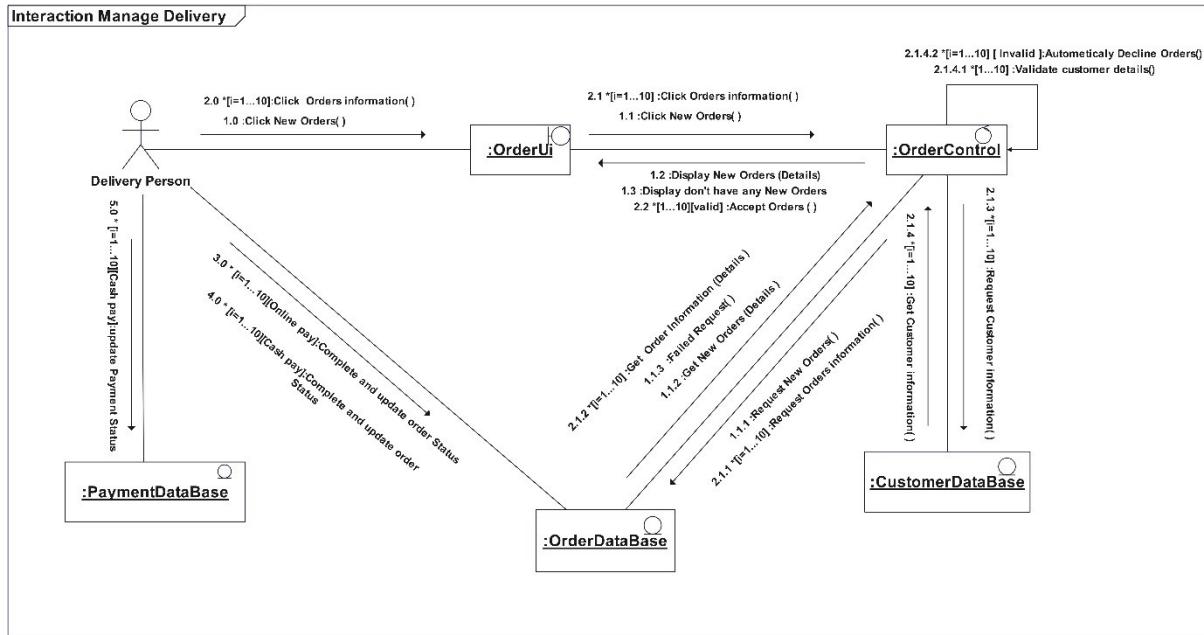


- Enhanced Image Attached Below -

Interaction manage Product

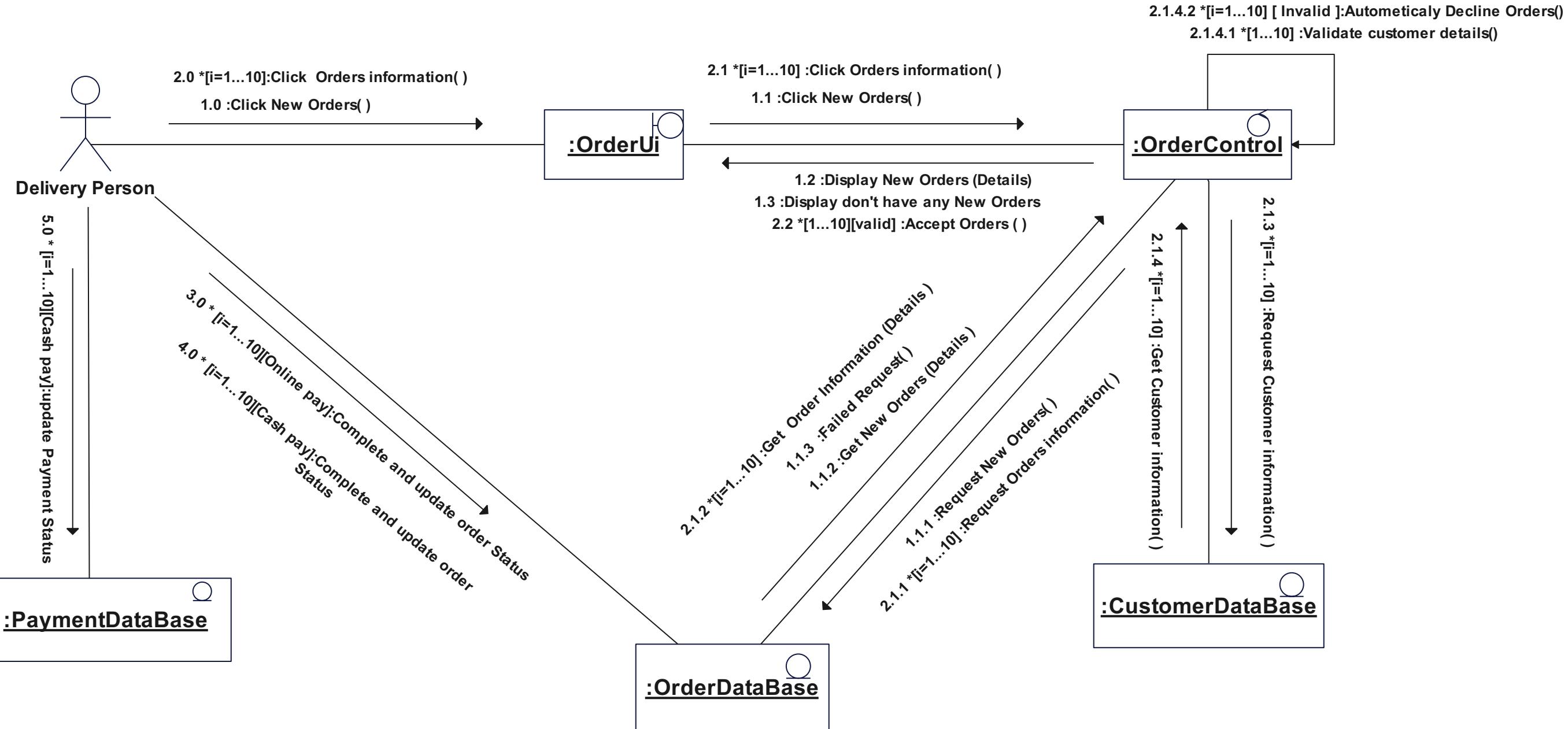


Manage Order



- Enhanced Image Attached Below -

Interaction Manage Delivery



Contributions

Reg. No	Name	Function Name	Remarks
As Group		Use Case Diagram, Login Sequence and Communication Diagram	Gathered Information and Drew Use Case Diagram, Gathered Information and Drew Login Sequence and Communication Diagram
IT23432598	Saabir S	Place Order, Manage User Profile	Wrote Use Case Scenario, Drew Sequence and Communication Diagram, For Place Order and User Profile Functions
IT23221482	Ihsas M I M	Make Payment, Edit Profile	Wrote Use Case Scenario, Drew Sequence and Communication Diagram, For Make Payment and Edit Profile Functions
IT23294752	Ahdheer M M M	Make an Enquiry, Manage Feedback	Wrote Use Case Scenario, Drew Sequence and Communication Diagram, For Make an Enquiry and Manage Feedback Functions
IT23330214	Thanushan L	Manage Product, Manage Order	Wrote Use Case Scenario, Drew Sequence and Communication Diagram, For Manage Product and Manage Order Functions