IT2020 – Software Engineering
Year 2, Semester II, 2023
Group Assignment

<<Online Stock Management System>>

Group Details

Batch: 2023/S2/MLB/WD

SE/OOP Group Number: G208

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Introduction

Stock management is the backbone of organizational success, ensuring the seamless flow of products and resources within the workplace. The “Online Stock Management System” introduced in this assignment is a dedicated platform crafted to the needs of stock management. The system offers an array of features and functionalities uniquely tailored to enhance the stock management experience for our internal workforce.

Our "Online Stock Management System" is designed to provide real-time visibility into our inventory, ensuring that business always has the right materials and supplies available. They can easily request stock replenishments, streamlining the procurement process and minimizing delays. The system is accessible to employees across all departments, promoting ease of use and adoption. Robust reporting capabilities enable detailed analysis of stock movements and data-driven decision-making. Additionally, the system encourages collaboration among employees, facilitating seamless communication and coordination related to stock management tasks.

In the upcoming sections of this assignment, we will explore the various functionalities and use cases of the "Online Stock Management System." Our goal is to provide a comprehensive understanding of how this system empowers an organization. It allows us to maintain precise control over stock and inventory, optimize operations, and elevate overall productivity. Through detailed use case scenarios, diagrams, and explanations, we will shed light on how this system is a pivotal asset in enhancing the stock management capabilities of a business.

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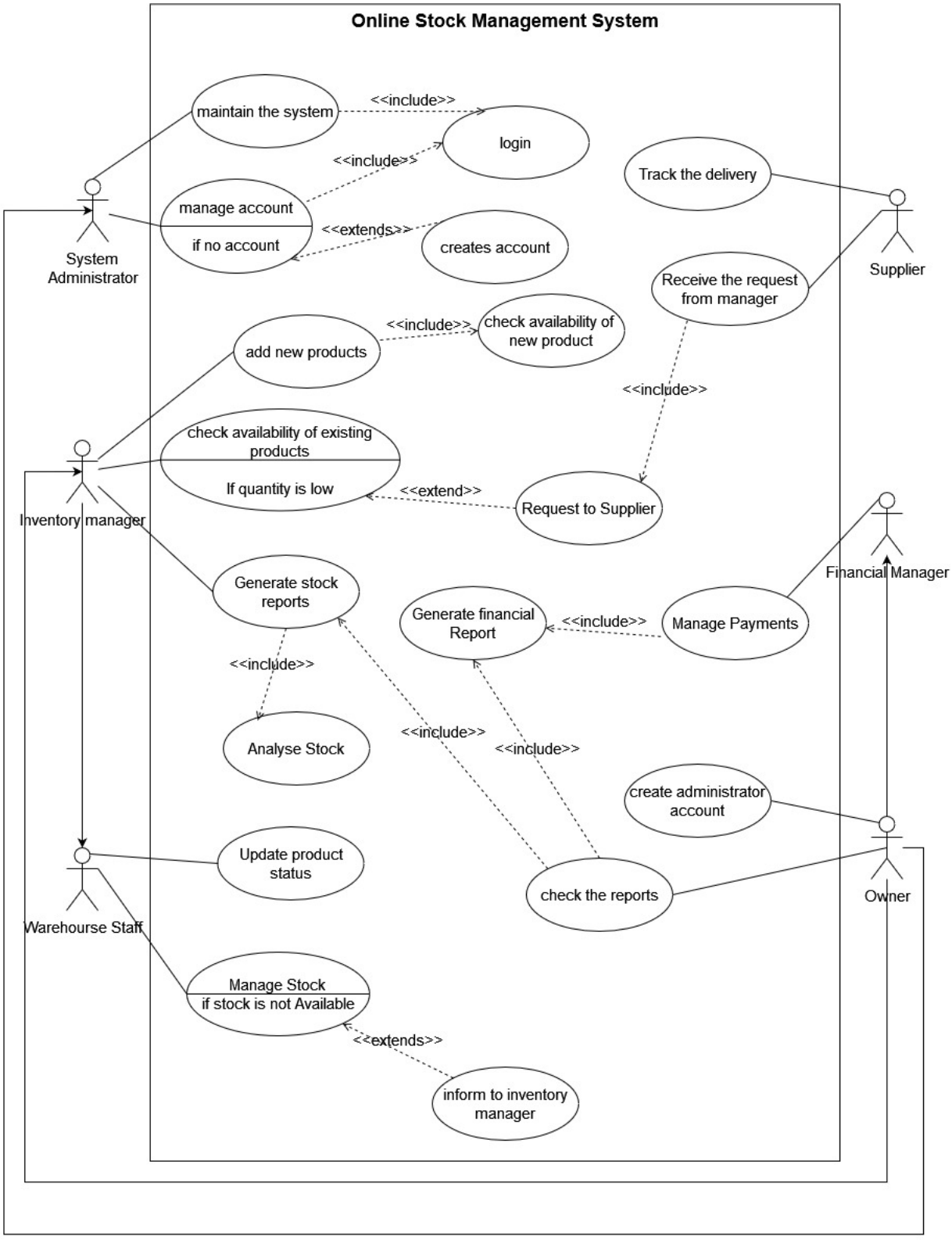
Use case diagram



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Use case scenario

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Use case: Check availability of existing products.

Name	Check availability of existing products	
Summary	Inventory manager checks the availability of existing products	
Priority	2	
Preconditions	Inventory manager has logged into the system	
Postconditions	Inventory manager has checked the availability of products	
Primary Actors	Inventory Manager	
Secondary Actors	Owner	
Trigger	Inventory manager has chosen the availability of existing products	
Main Scenario	Step	Action
	1	The Inventory Manager login using his credentials
	2	The Inventory Manager accesses the "Check Availability" feature
	3	The system presents a search interface
	4	The Inventory Manager enters the relevant search criteria
	5	The system queries the database to retrieve product availability data based on the provided criteria.
	6	The system displays a list of products matching the search criteria along with their current stock levels.
	7	The Inventory Manager reviews the stock availability
Extensions	Step	Branching Action
	1.a	If the credential wrong display a message saying “Your Username or password is wrong, Try again…”
	5.a	If there is not any product that is relevant to the search criteria. Display a message saying “No result”
	6.a	If the quantity is low. The Inventory manager can send a request to the supplier using the system

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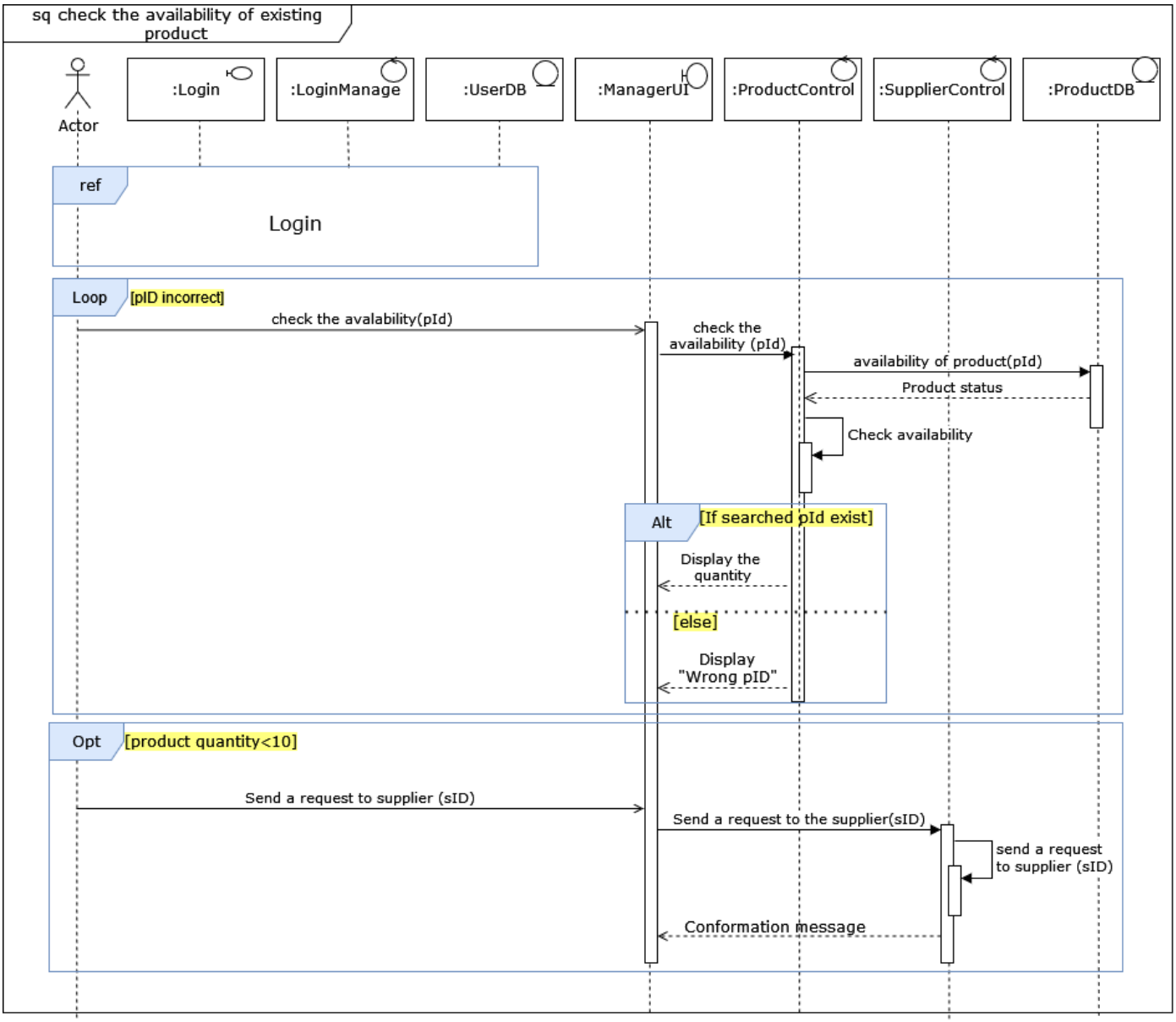
Sequence Diagram



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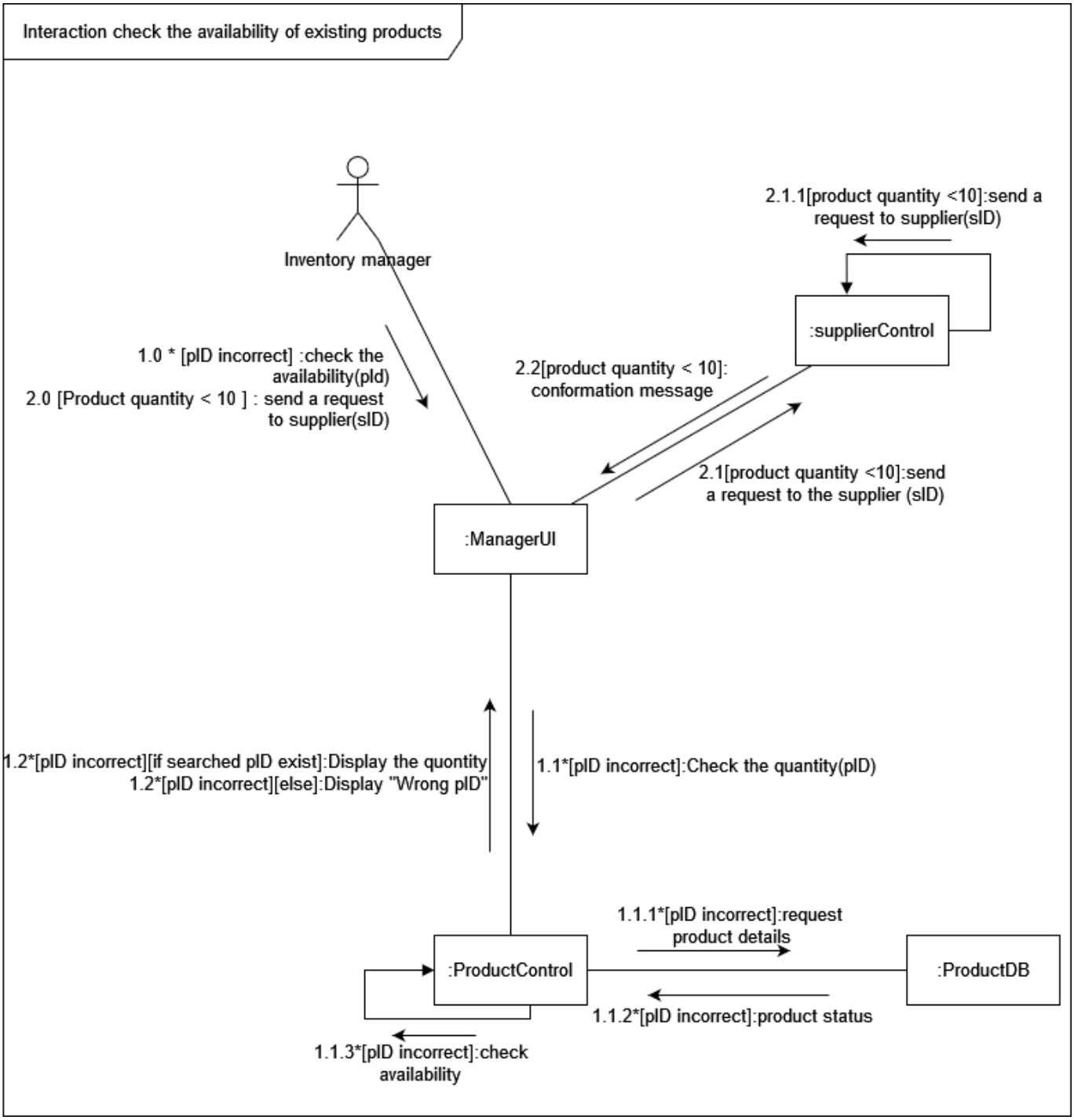
Communication Diagram



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Use Case Scenario

Add new products

Name	Add new product	
Summary	Add new product to inventory stock	
Priority	2	
Pre-conditions	• The Inventory manager actor must be authenticated and have the necessary permissions to add products. • The system should be operational and accessible	
Post-conditions	• The new product is added to the system's inventory. • The stocks levels are updated with the initial quantity. • The Inventory manager receives confirmation of the successful addition.	
Primary Actors(s)	Inventory Manager	
Secondary Actor(s)	Owner	
Main Scenario	**Step**	**Action**
	1	The Inventory manager logs into the online stock management system using their credentials.
	2	Once logged in, the Inventory manager navigates to the "Add New Product" option in the system's user interface, typically located in the inventory management section.
	3	The System presents a form for entering product details, including: o Product name o Product description o SKU (Stock Keeping Unit) or product code o Category or product type o Manufacturer or supplier information o Initial stock quantity o Price per unit o Any additional product attributes (e.g., size, colour)
	4	The Inventory manager fills out the required fields and may optionally provide additional product information.

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	5	The system validates the input data, checking for any errors or missing information. If there are validation errors, the system provides error messages and highlights the problematic fields.
	6	Once all data is validated successfully, the system adds the new product to the inventory database and updates the stock levels with the initial quantity provided.
	7	The system confirms the successful addition of the product, displaying a confirmation message to the Inventory manager.

	Step	**Branching action**
Extensions	2. a	If the Inventory manager does not have the necessary permissions to add products, the system displays an error message, and the use case terminates.
	6. a	If there are validation errors, the system displays error messages, and the Inventory manager corrects the information.
	6.b	If the system encounters technical issues during the addition process (e.g., database connection problems), it displays an error message and prompts the Inventory manager to try again later or contact technical support

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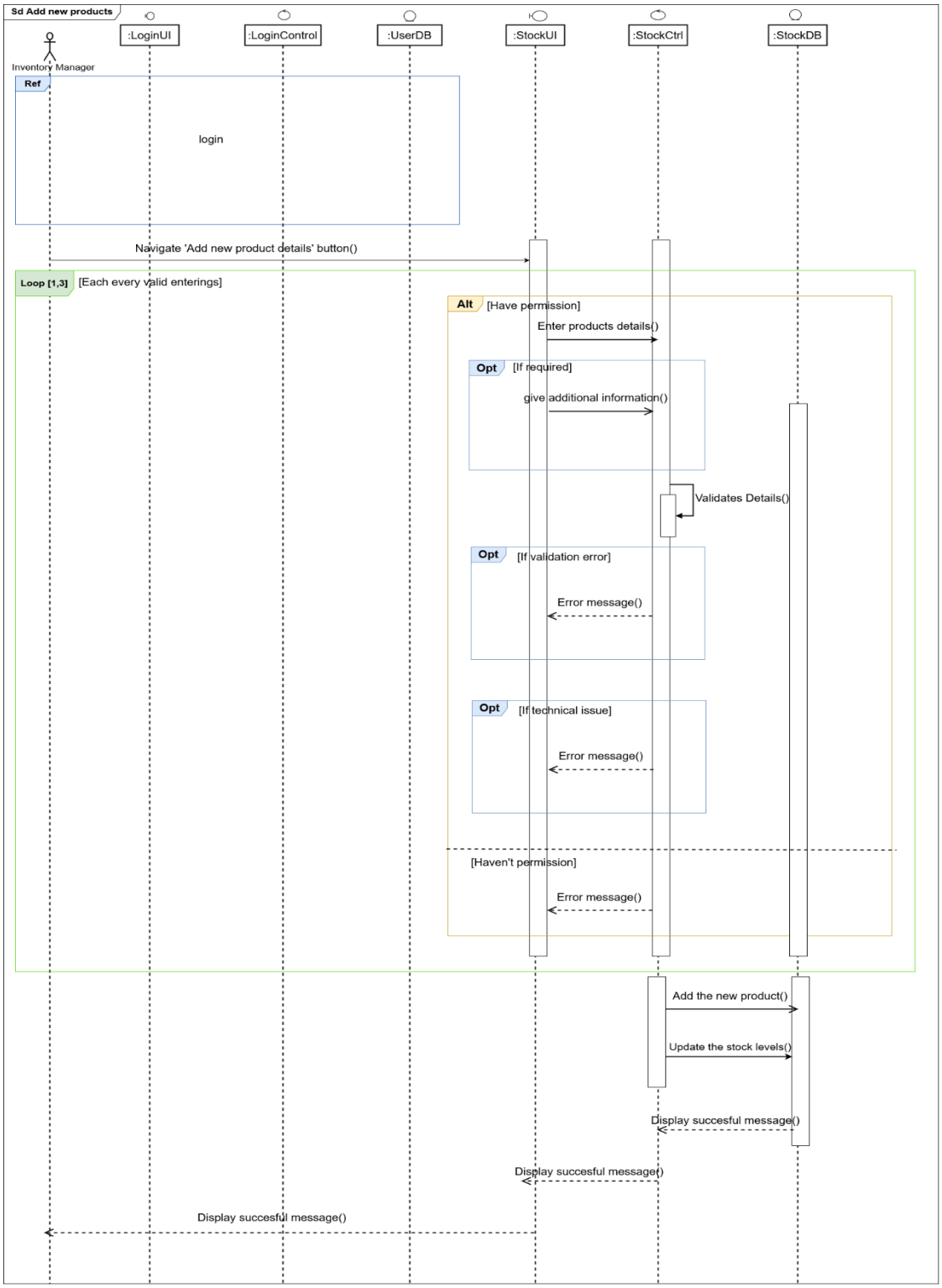
Sequence Diagram



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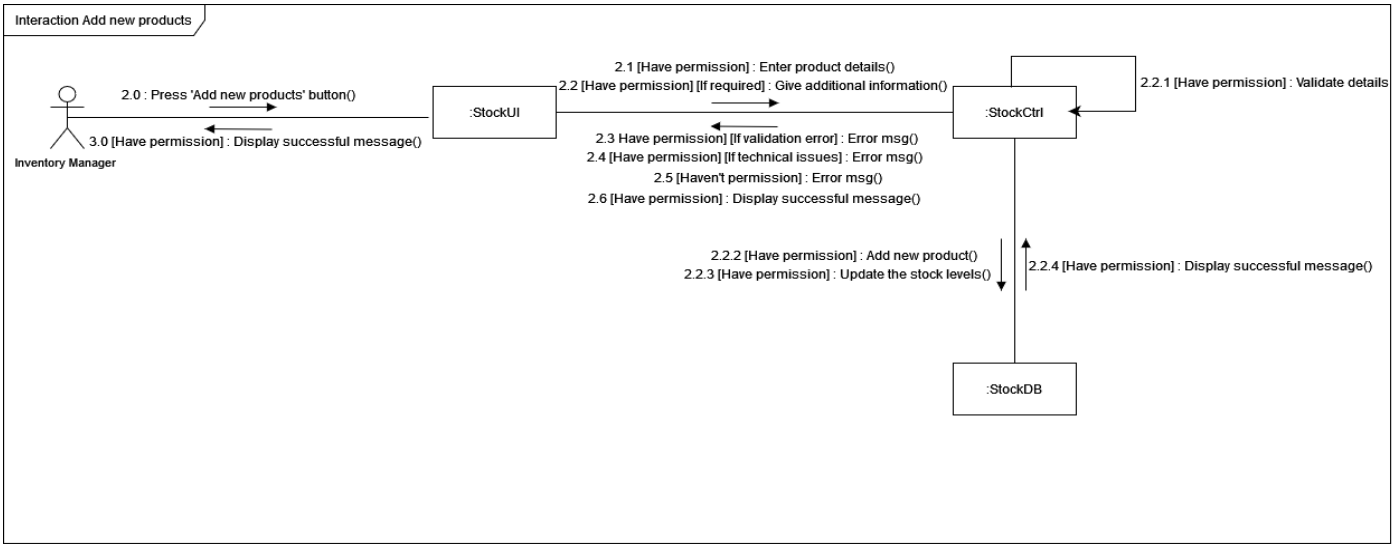
Communication Diagram



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Use Case Scenario

Manage Stock.

Name	Manage Stock	
Summary	Warehouse staff manage the stock in our system.	
Priority	3	
Pre-Condition	Warehouse Staff access into the system	
Post-Condition	Managing stock availability in our system	
Primary Actor(s)	Warehouse Staff	
Secondary Actor(s)	Inventory Manager	
Trigger	Warehouse staff has chosen to manage Stock	
Main Scenario	Step	Action
	1	Warehouse staff login to the system
	2	Once logged into the system the Warehouse staff navigate to the manage stock option
	3	Then check our product quantity in our system
	4	After checkout inform to Inventory Manager to add new product
	5	Then update product availability in our system
	6	Finally managing stock availability in our system.
Extension	Step	Branching Action
	1.a	If invalid user, please re-enter user credentials 3 times only
	3.a	If quantity available print “Stock availability”
	3.b	If quantity not available print “Stock is not available”
	4.a	If stock is not available warehouse staff need to inform to the inventory manager
	5.a	If there are any issues when updating the product, please try again later or contact the Inventory manager.

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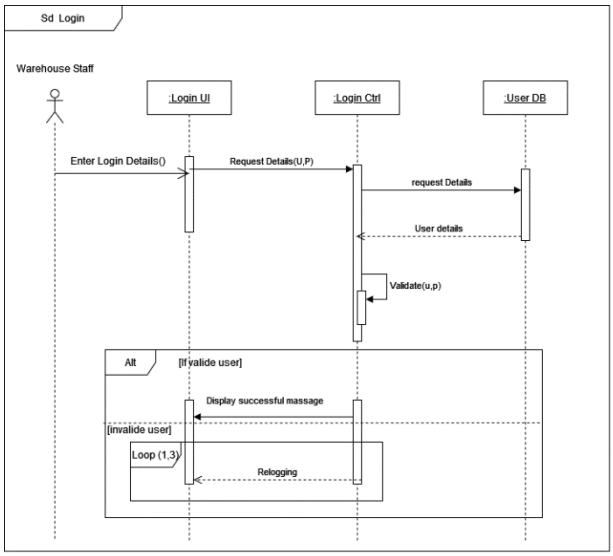
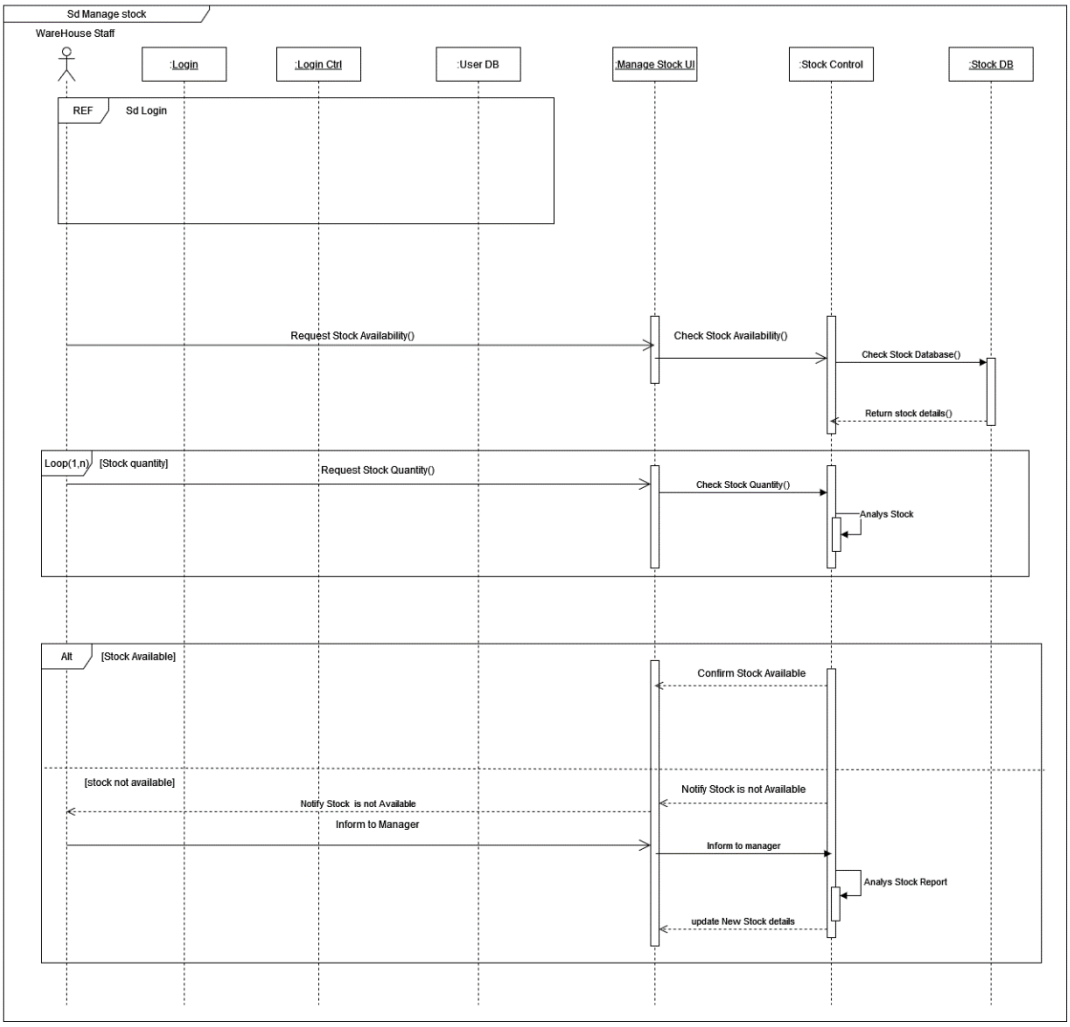
Sequence Diagram





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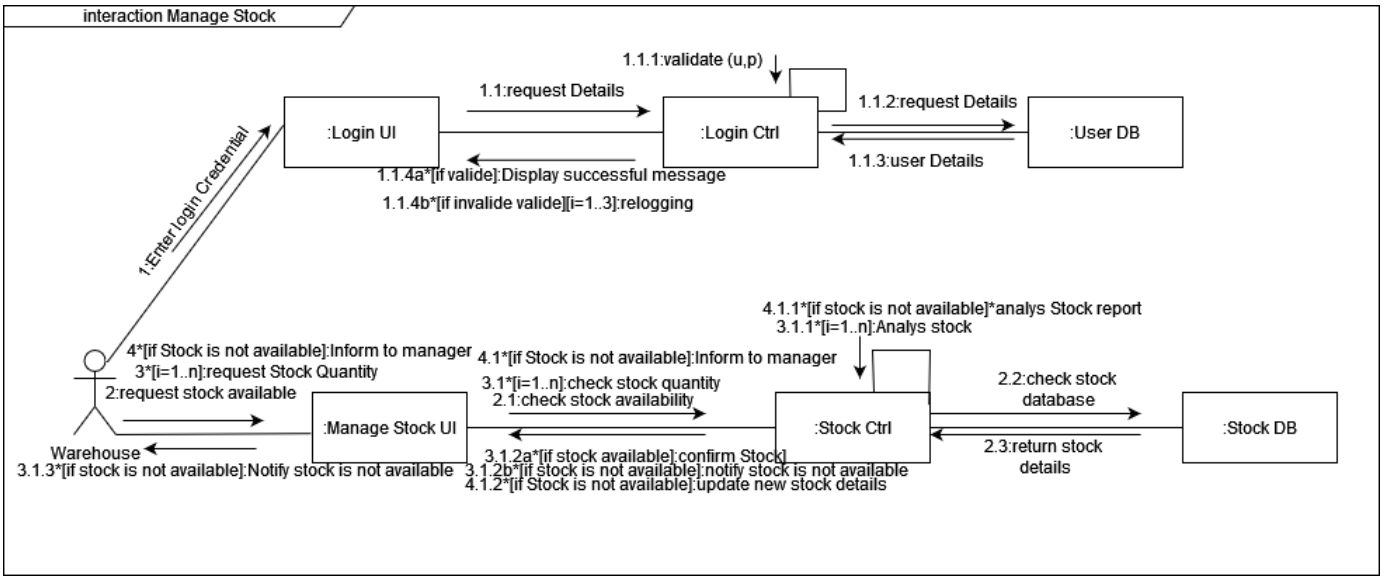
Communication Diagram



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Use Case Scenario

Manage account

Name	Manage Account	
Summary	Registered users perform various account-related actions within the online stock management system, such as updating personal information, changing passwords, or managing account preferences and new users create a new account	
Priority	2	
Pre-conditions	• The user must be logged into their account. • The system should be operational and accessible	
Post-conditions	• The user's account information is updated as per their actions	
Primary Actors(s)	Administrator	
Secondary Actor(s)	Owner	
Main Scenario	**Step**	**Action**
	1	The Administrator logs into the online stock management system using their credentials. o Enter the username and password.
	2	After successful login, the user navigates to the "Account" or "Profile" section and maintains the system.
	3	The system displays the user's current account information including: o Name o Email o Contact information o Account preferences
	4	The user selects one of the following options: o Edit Profile o Change Password o Manage Preferences
	5	Once the user enters the correct details then they maintain the system.
Extension	**Step**	**Branching action**
	1.a	If the Administrator enters incorrect login credentials, the system should display an error message, and the user will need to re-enter their username and password.
	1.b	If the Administrator's account is locked due to multiple failed login attempts, the system should provide an option to unlock the account, possibly by verifying the user's identity through a security question or email verification.

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	1.c	If the Administrator forgets their password, they can request a password reset link to be sent to their registered email address. The system should guide the user through the password reset process.
	1.d	If the user hasn’t an account create an account.
	4.a	When the user selects "Change Password," the system should enforce password strength requirements, such as minimum length, special characters, and numeric characters. If the new password does not meet these requirements, the system should provide guidance on creating a stronger password.

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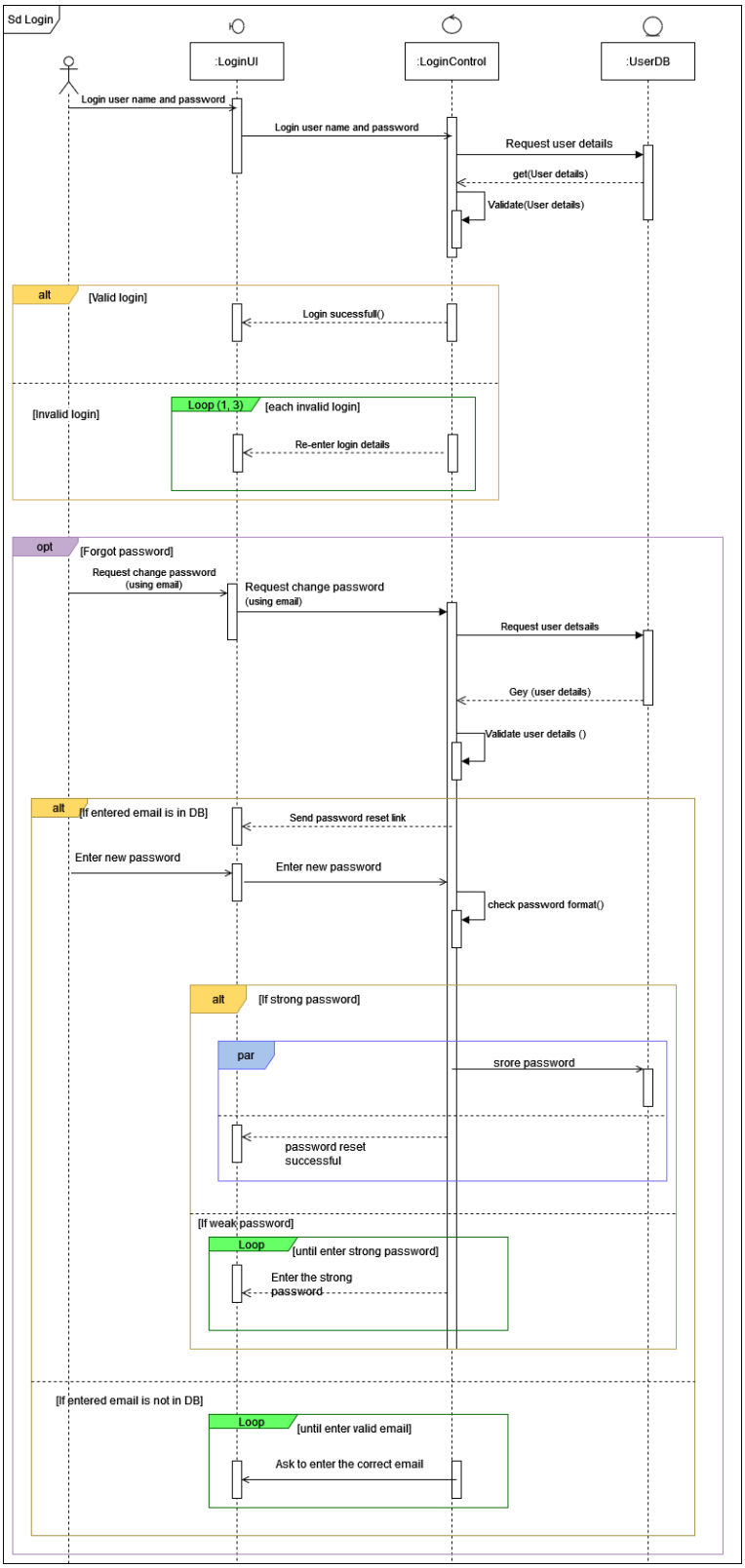
Sequence Diagram



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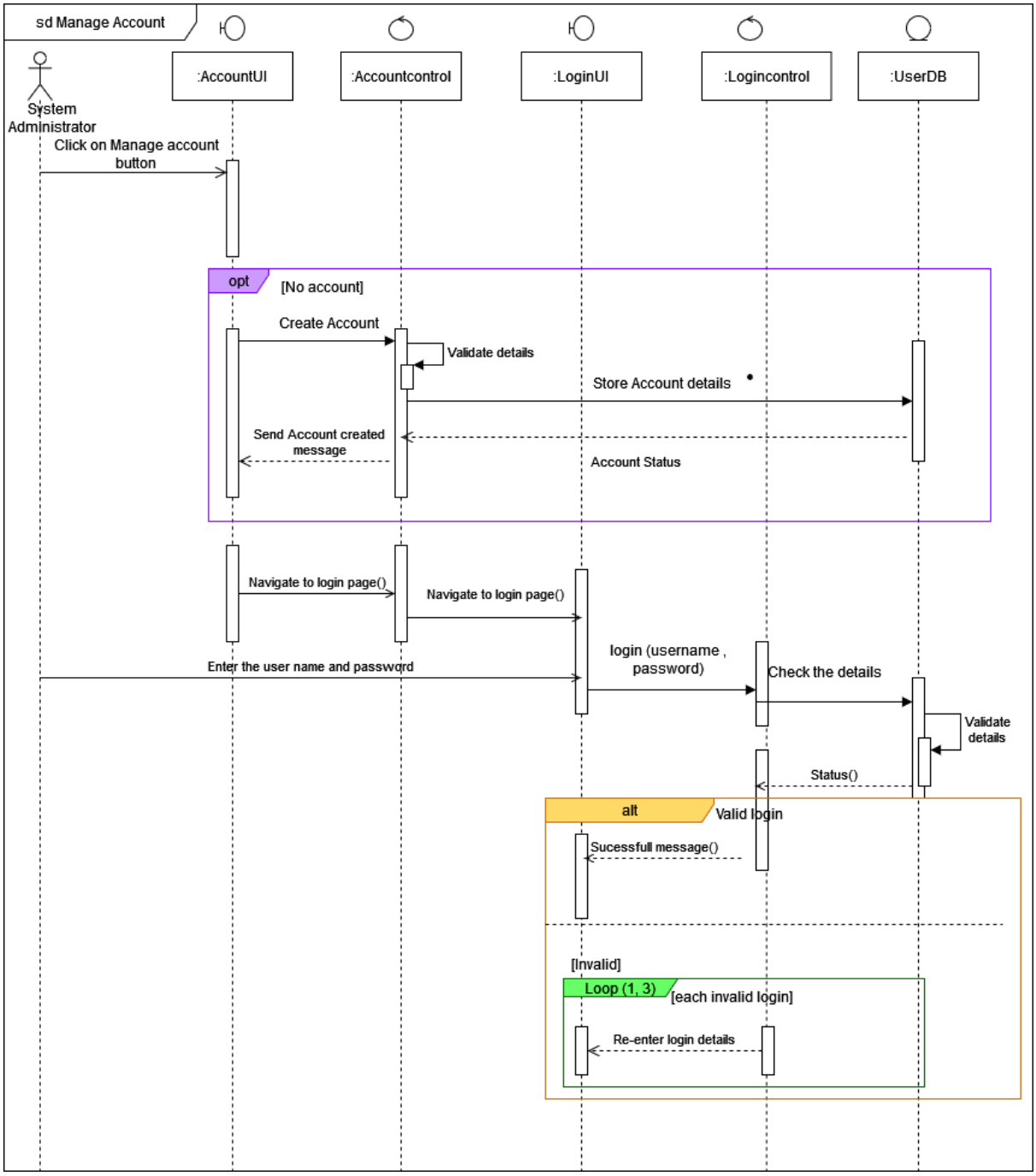

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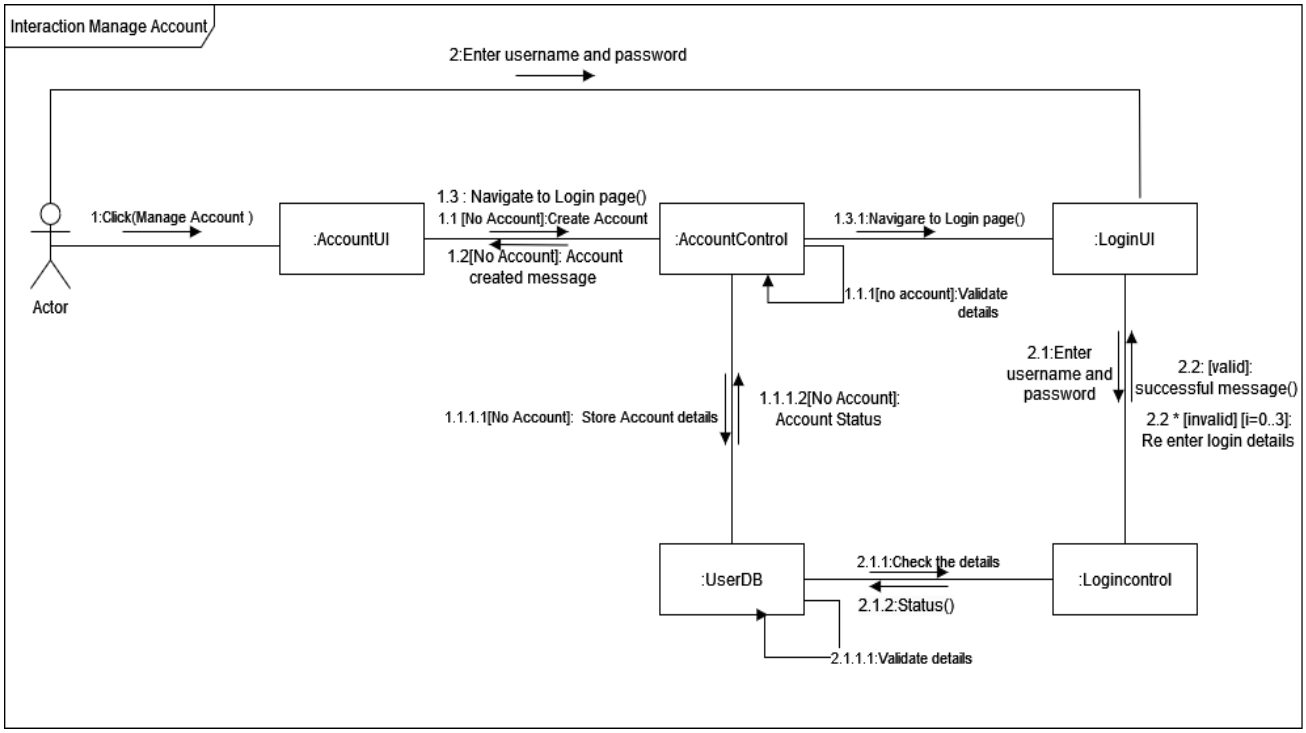
Communication Diagram



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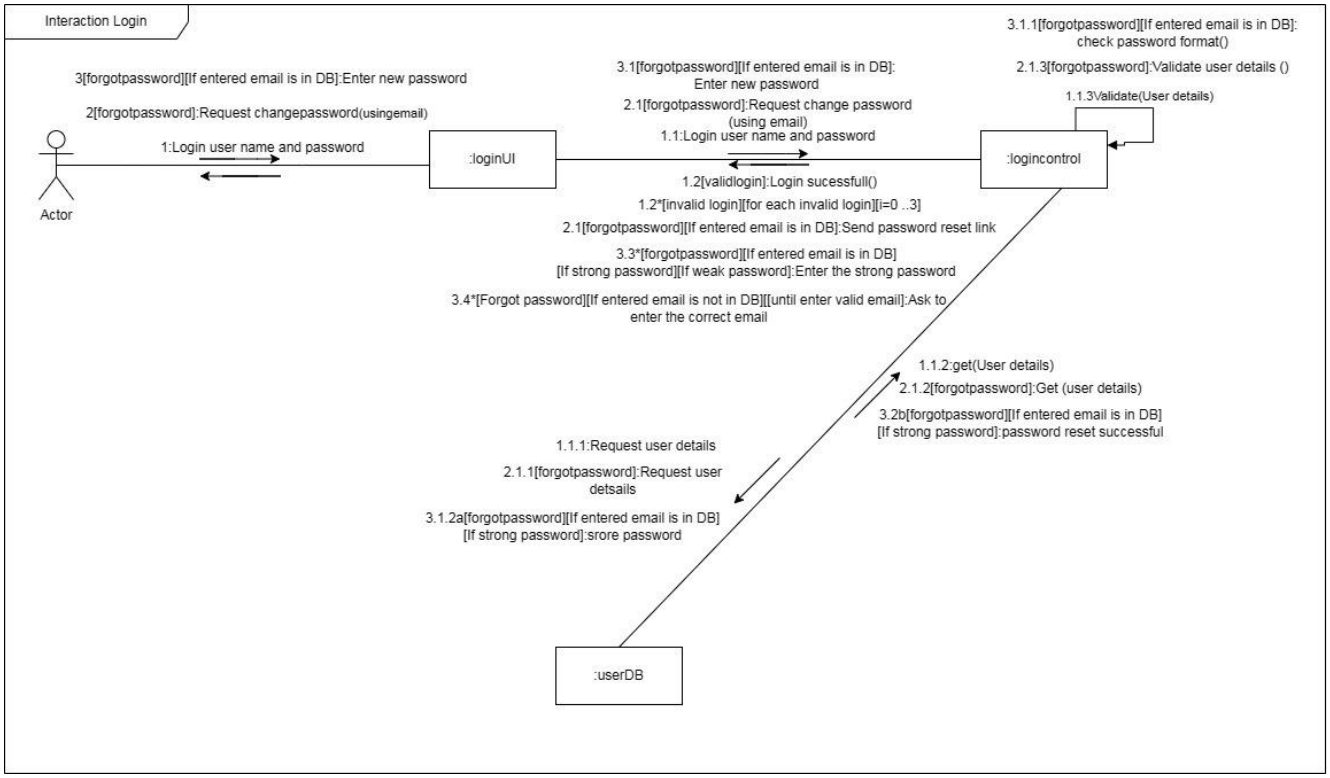

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