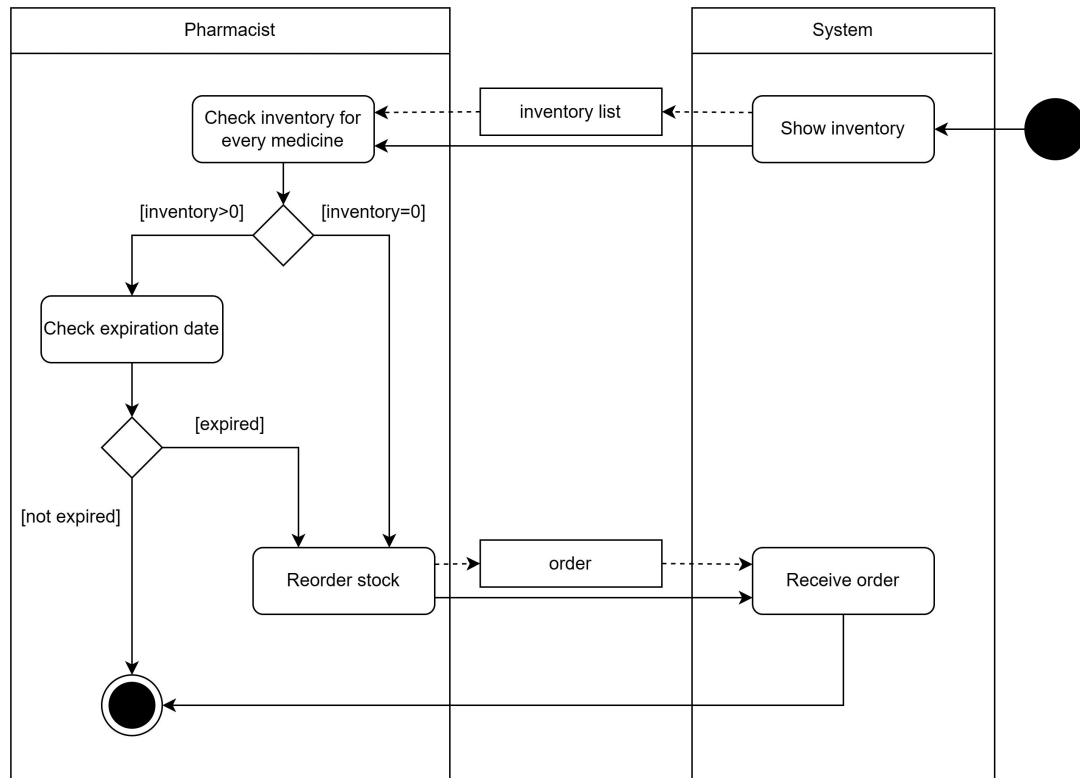


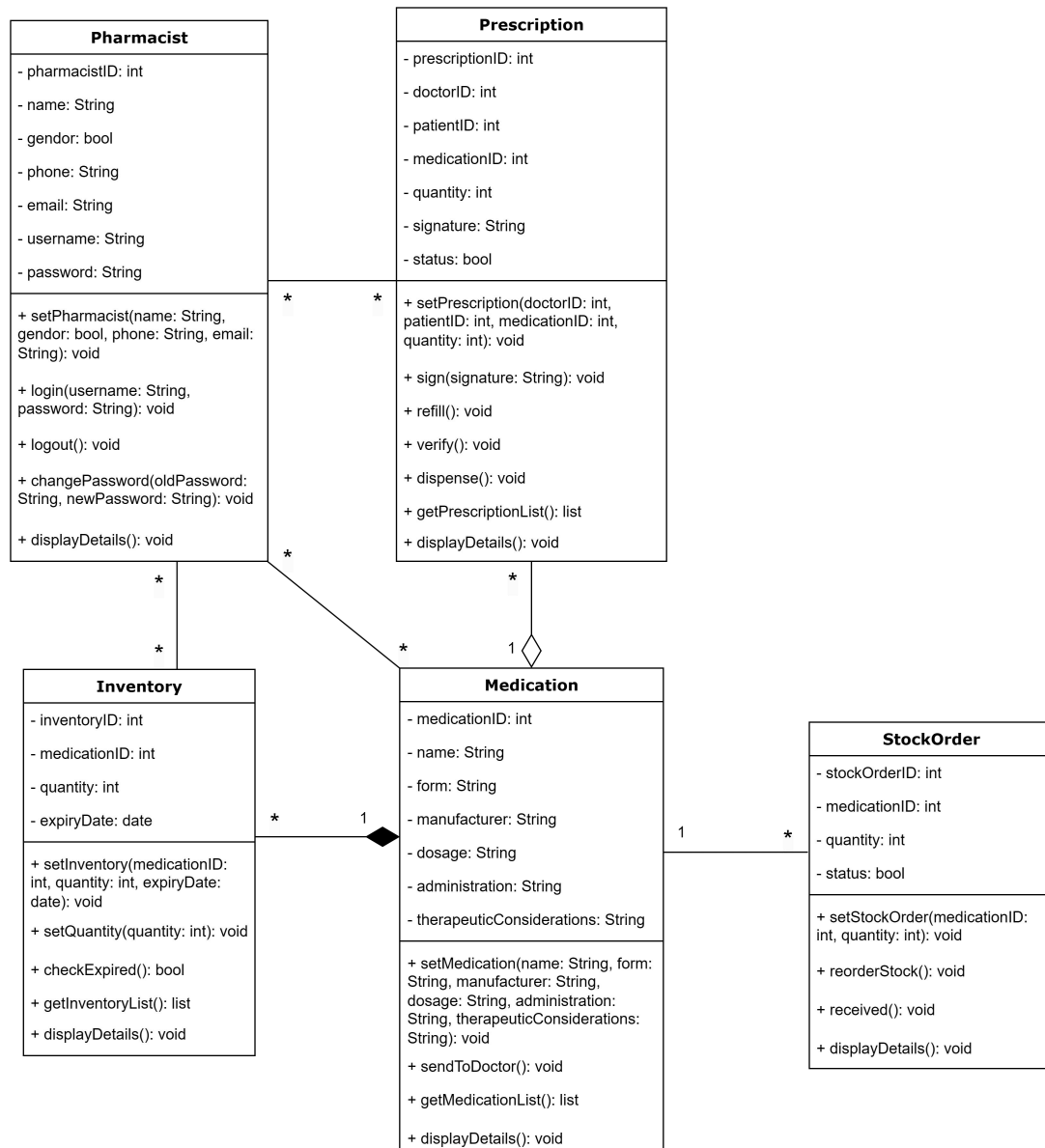
## Task 1: Software Modelling and Specification

### b) Activity Model

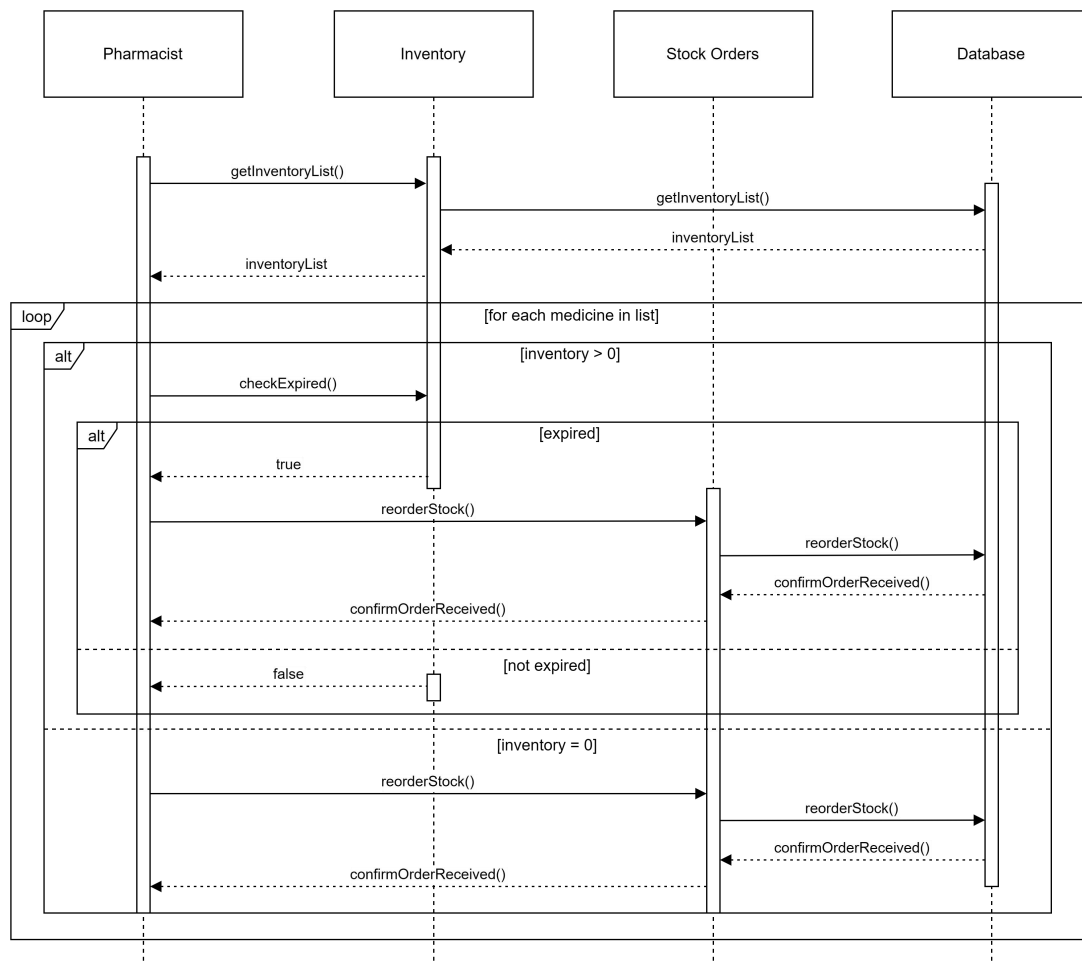
#### Usecase: Inventory Management



### c) Structural Model

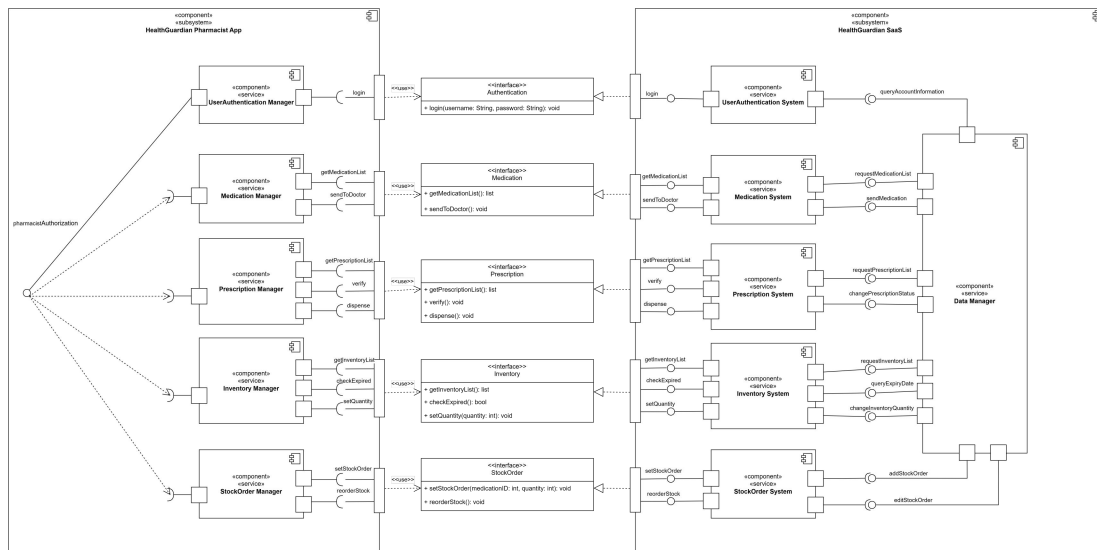


## d) Behaviour Model



## Task 2: Software Architectural Design

### b) Architecture of the Subsystem



### Task 3: Software Testing

#### a) Unit test plan

Class: Inventory

##### 1. getInventoryList

Test Case	Method and Parameters	Expected Output
Retrieve the inventory list when inventory is not empty.	getInventoryList()	A list of inventory items.
Retrieve the inventory list when inventory is empty.	getInventoryList()	An empty list.

##### 2. checkExpired

Test Case	Method and Parameters	Expected Output
Check for expired items when there are expired items in inventory.	checkExpired()	true
Check for expired items when all items in inventory are not expired.	checkExpired()	false

##### 3. setQuantity

Test Case	Method and Parameters	Expected Output
Set the quantity of a specific inventory item successfully.	setQuantity(50)	void operation, the system reflects the new quantity.
Attempt to set the quantity to a negative number.	setQuantity(-10)	An error or false response.

#### b) System test plan

## Usecase: Inventory Management

### 1. Scenario: Monitoring Expiration Dates

#### Test Progress

Actor	System
-	1) Automatically runs checkExpired to flag expired items.
2) Receives a list of expired items if any.	-

#### Test Data:

Input: No direct input, automatic system check.

Expected Output: A list of expired items or a notification that no items are expired.

### 2. Scenario: Updating Inventory Quantities

#### Test Progress

Actor	System
1) Requests to update the quantity of a specific medication or supply.	2) Validates the request and updates the quantity.
-	3) Confirms the update to the technician and reflects changes in the inventory list.

#### Test Data:

Input: Medication or supply identifier, quantity = 100

Expected Output: Confirmation of updated quantity.