

- 1) You are asked to perform a feasibility study for the creation of the Pharm@Home system. What are the 5 types of feasibility you will investigate? Give an example of a *possible* challenge that may arise for **each** type.

We can investigate an Economic feasibility of Pharm@Home system through cost-benefit analysis. Pharm@Home system is an automated system so it can reduce employees and maintain constant staff but it may reduce employee moral by sacrificing employees' welfare. Also, senior customers with computer illiteracy or patients with disabilities may find it difficult to access to the online system. Losing customers can be another possible challenge.

In organizational and cultural feasibility study, we can find company experiencing fear of loss in control on the part of management since they outsource the shipping to external courier and new Pharm@Home system will allow customers to order drugs or medical supplies by themselves. Due to automated software, employee can experience fear of employment loss as well.

In technological feasibility point of view, company should take an assessment to identify proposed technological requirements and expertise required to deploy Pharm@Home system. Additional training or hiring expertise in Pharmacy Management System (PMRs) and using RFID technology may be required to successfully implement the new automated software system.

The company may have issues with finding team members as their resources. Technically qualified staff may not be readily available for the project. Pharm@Home project needs team members who have understanding and knowledge in both system analysis and pharmaceutical industry. Skillful resource shortage can cost a company to hire external expertise if not available or to change the scope of the project.

If the parent company, ITEC Conglomerate Holdings Inc., has set the key date and would like to complete and release the Pharm@Home system on that certain date, then challenges may arise to meet the due date. If the project does not seem to be feasible on time, the scope or complexity of project may be changed as a corrective measure in schedule feasibility study.

- 2) Who are the stakeholders for Pharm@Home? List all stakeholders and the type (Internal/External/Executive/Operational) of stakeholder that they are.

- TPS (Toronto Postal Service) – External operational stakeholders
- Customers – External operational stakeholders
- Pharmacists employed by Pharm@Home – Internal operational stakeholders
- ITEC Conglomerate Holdings Inc. – External executive stakeholders
- Pharmacy technicians of Pharm@Home – Internal operational stakeholders
- Marketing department of Pharm@Home – Internal operational stakeholders
- Senior managers of Pharm@Home – Internal executive stakeholders

- Operational managers of Pharm@Home – Internal operational/executive stakeholders
- Warehouse employee – Internal operational stakeholders
- Pharm@Home accountants – Internal operational stakeholders

3) What are 3 non-functional requirements for the Pharm@Home system and *why* are they important? (200 words at max)

- Usability constraint is crucial to Pharm@Home system because how easy and quickly users can learn and use a system will be a key reason for users to stay with Pharm@Home system. We can evaluate usability with one of the usability criteria as below.

Learnability: The rate of user completing the action at the order page within the average time must be greater than 80%.

- The primary data that Pharm@Home system collect, and use are the patients' personal information and their health records. Therefore, the software must have security requirements to protect the system and its data.
The system must comply with PIPEDA (The Personal Information Protection and Electronic Documents Act) since Pharm@Home is a private organization collecting, using, or disclosing personal information as a commercial activity in Canada.

The collection of personal information by Pharm@Home must be PIPEDA compliant.

- Performance requirements indicate how fast a system responds to users' actions under a certain workload. This online pharmacy service that Pharm@Home provide should be readily available for users with quick response time in page rendering.
The order and billing page supporting 200,000 users per day must provide 5 seconds or less response time in a Chrome desktop browser including LTE connection.

4) Create an **event table** for the Pharm@Home system.

Event	Type of event	Actors	Resulting use case
Customer wants to create an account	External	Customer	Create new account
Customer wants to login	External	Customer	User sign in
Customer wants to log out	External	Customer	User sign out
Customer needs to update account information (personal/billing/delivery)	External	Customer	Update customer account
Account information (personal/billing/delivery) is updated	State	Server	Process account adjustment

Customer wants to add/update items in shopping cart	External	Customer	Add/Update shopping cart
Customer wants to browse products	External	Customer	Browse products
Customer browses related items	External	Customer	View related items
Customer browses items on sale	External	Customer	View items on sale
Customer wants to search products	External	Customer	Products look up
Customer wants to read product review	External	Customer	View product review
Customer wants to empty shopping cart	External	Customer	Empty shopping cart
Customer wants to check out shopping cart	External	Customer	Checkout
Customer wants to place/refill an order for prescribed medication	External	Customer	Place order / refill
Bill hasn't been paid within 30 days. Time to send a late notice for penalty	Temporal	System timer	Send late notice
Customer wants to submit a prescription	External	Customer	Submit prescription
Customer wants to leave a product review	External	Customer	Write a review
Customer wants to cancel/change/return an order	External	Customer	Cancel/Change/Return order
A return is created	State	Server	Display return label
Customer wants to print a return label	External	Customer	Print return label
Customer pays bill	External	Customer	Pay bill
Customer wants to apply discounts	External	Customer	Apply discounts
Payment has been made	State	Server	Send confirmation email & Add sales
Customer wants to check the order status	External	Customer	View order status
Order status is updated	State	Server	Update order status
Customer wants to track the shipment	External	Customer	Track shipment
Customer views prescription instruction / reads message from pharmacists	External	Customer	View prescription instruction
Customer wants to view order history	External	Customer	View order history
Customer wants to view billing history	External	Customer	View billing history

Customer requests to print order receipts	External	Customer	Print receipt
Customer wants to contact Pharm@Home pharmacists	External	Customer	Contact pharmacist
Customer wants to change preference setting (get notification, receive e-copy of receipts)	External	Customer	Update user setting

Event	Type of event	Actors	Resulting use case
Pharm@Home employee sign in to employee account	External	Pharm@Home employee	Staff sign in
Pharm@Home employee sign out from employee account	External	Pharm@Home employee	Staff sign out
Pharm@Home employee view employee information and status	External	Pharm@Home employee	View employee information and status
Pharm@Home employee view internal contact list	External	Pharm@Home employee	Display contact list
Pharmacists open/process a prescribed medication order	External	Pharmacist	Open/Process prescribed medication order
Pharmacists contact physician/insurance company	External	Pharmacist	Contact physician/insurance
Pharmacists checks vaccine schedules	External	Pharmacist	View vaccine/flu shot booking information
Update complete bookings	External	Pharmacist	Update booking
Vaccines reorder point reached	State	Server	Send reorder notification to pharmacy technicians
Pharmacists provide instructions for the prescription medication	External	Pharmacist	Enter instructions
Pharmacy technician view order information	External	Pharmacy technician	View order information
Pharmacy technician orders products from suppliers	External	Pharmacy technician	order products from suppliers
Product reorder point reached	State	Server	Reorder products from suppliers
New inventory order from supplier is sent to warehouse	External	Pharmacy technician	New inventory order
	State	Server	Update inventory level
Pharmacy technician manages stock level	External	Pharmacy technician	Manage stock level
Pharmacy technician views stock level	External	Pharmacy technician	View stock level
Warehouse staff manage order fulfillment	External	Warehouse staff	View order information

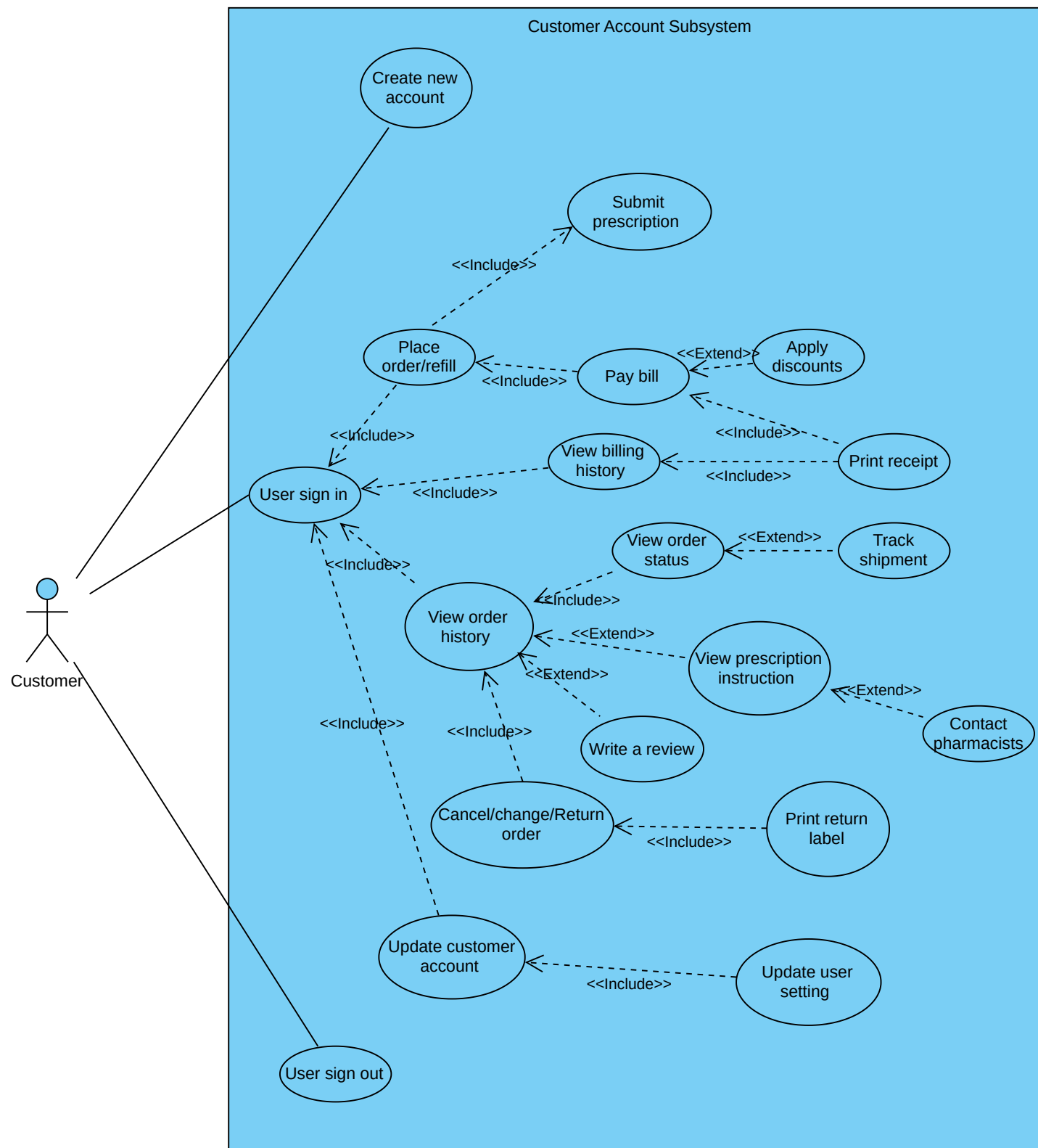
Warehouse tracks shipment	External	Warehouse	Track shipment
Warehouse manager manages product inventory level	External	Warehouse manager	View inventory level
Time to generate monthly inventory report	Temporal	System timer	Generate monthly inventory report
Time to generate monthly sales report	Temporal	System timer	Generate monthly sales report
Warehouse contact TPS	External	Warehouse	Contact TPS
Delivery request is created	State	Server	Order delivery request
Delivery information sent to TPS	State	Server	Send delivery information
Status of delivery is updated once dispatched	State	Server	Update delivery status and tracking number
Warehouse staff manage return shipments	External	Warehouse	Manage return shipment
	External	Warehouse	Send return information to TPS

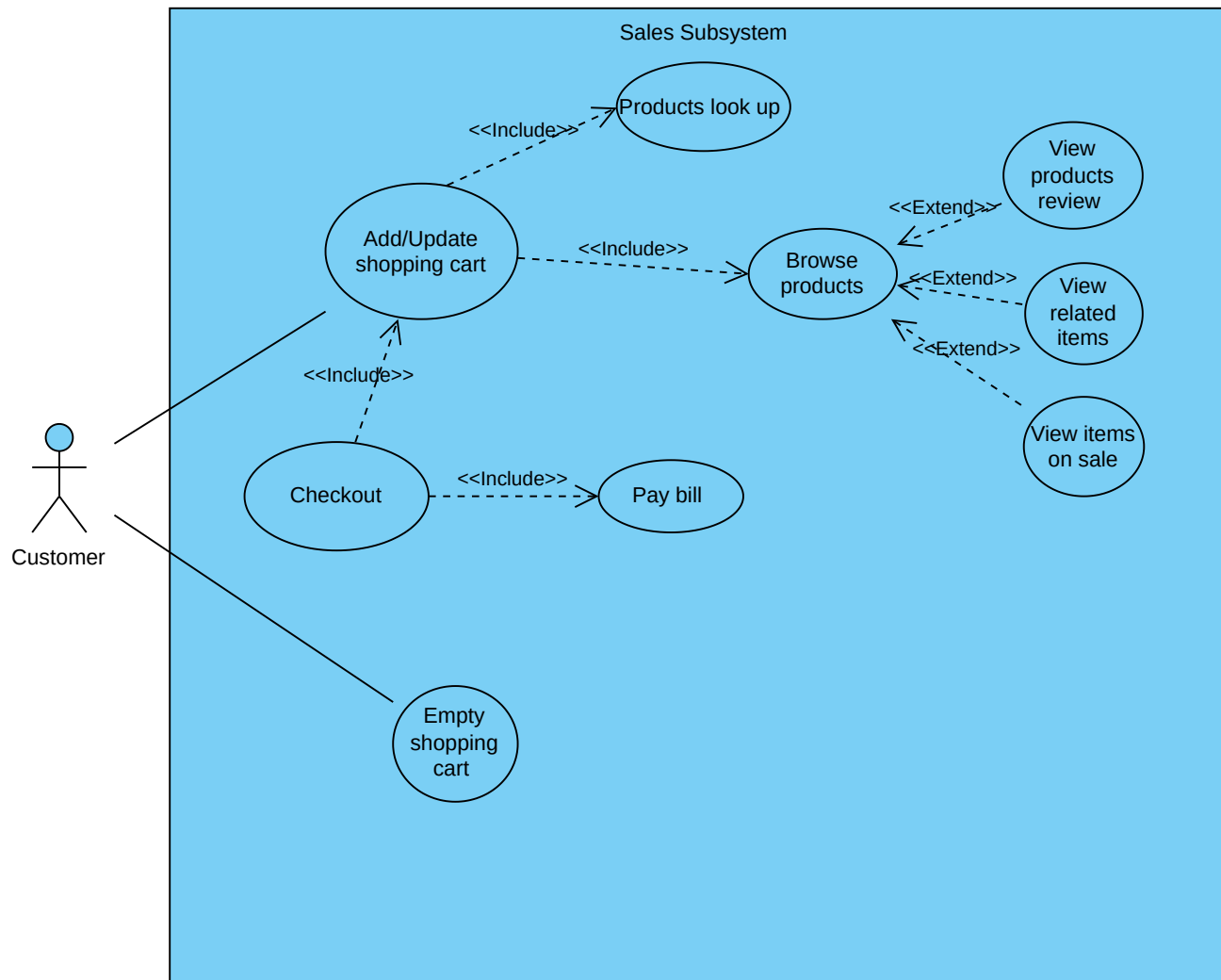
Event	Type of event	Actors	Resulting use case
Time to produce bi-weekly paychecks	Temporal	System timer	Generate bi-weekly paycheck
Accountant reviews financial transactions	External	Accountant	View sales reports, inventory reports, payroll
Accountant produces monthly financial statement	External	Accountant	Generate financial statement
Accountant sends cost-profit analysis to senior managers	External	Accountant	Send cost-profit analysis
Marketing department add/update products	External	Marketing	Add/update products
Marketing department upload product images	External	Marketing	Upload product images
Marketing department views product reviews	External	Marketing	View product review
Marketing department publishes online weekly flyers/promotions	External	Marketing	Produce weekly flyers and promotions
Marketing department posts vaccine/flu shot booking schedule	External	Marketing	Post booking schedule

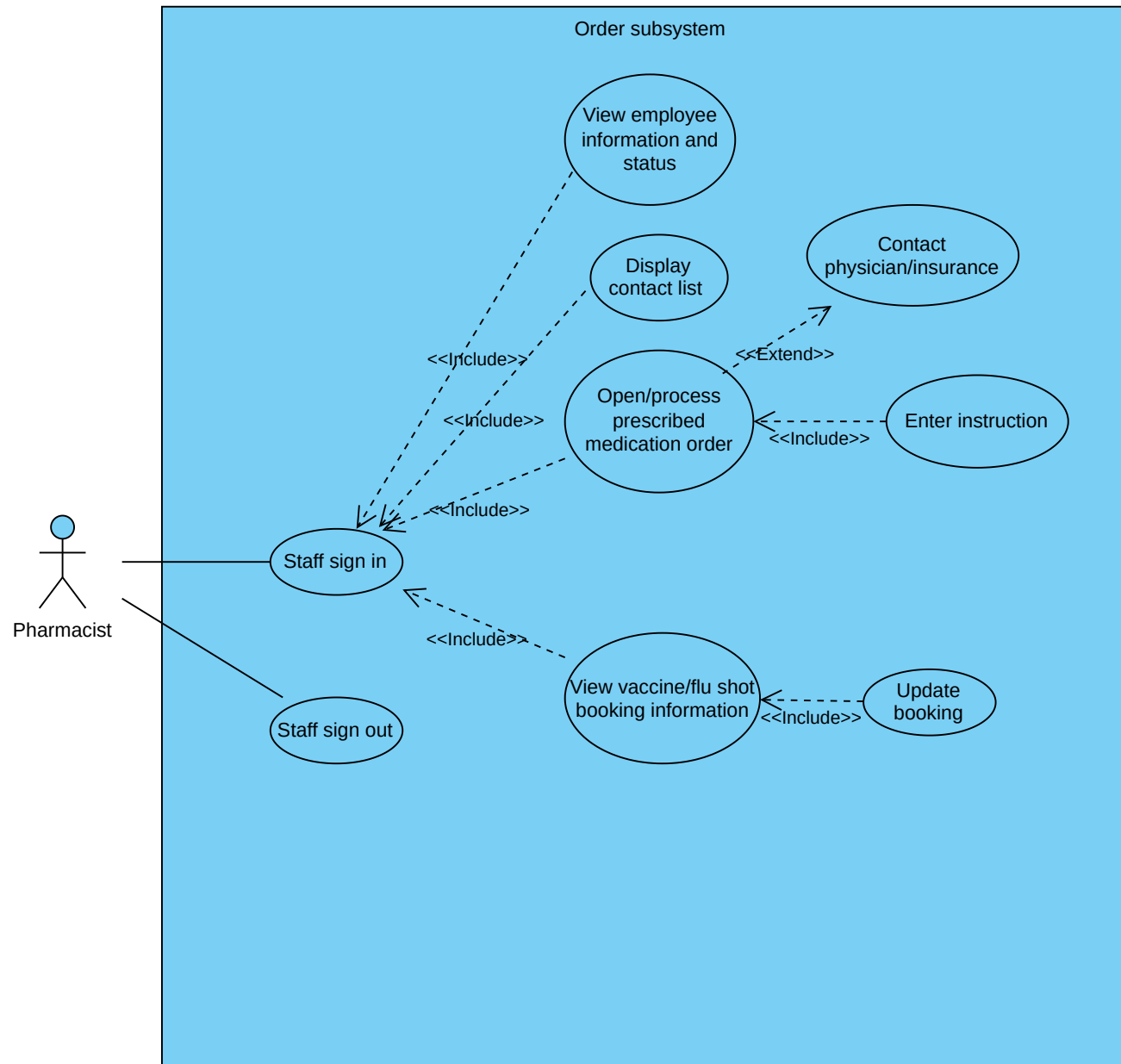
Time to produce customer usage report	Temporal	System timer	Generate monthly customer usage report
Marketing department publishes monthly online health magazines	External	Marketing	Produce magazines

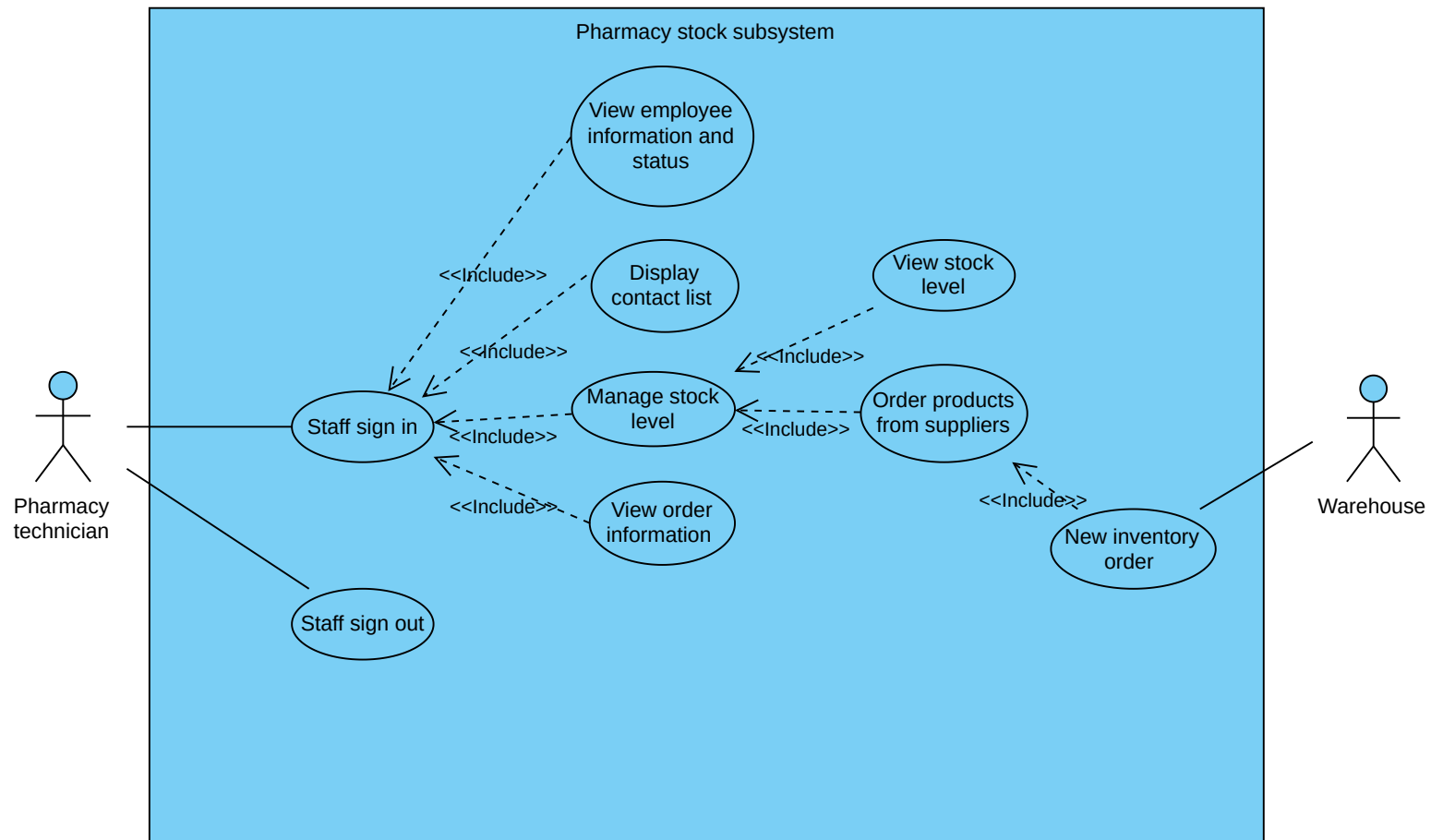
Event	Type of event	Actors	Resulting use case
Operation manager checks delivery status from TPS	External	Operation manager	View delivery status
Operation manager contacts TPS	External	Operation manager	Contact TPS
Operation manager reviews monthly summary reports	External	Operation manager	View monthly reports of inventory/sales and financial statement
Authorized managerial reports is displayed	State	Server	Display/view authorized managerial reports
Senior manager evaluates performance and productivity	External	Senior manager	Produce performance review
Operation manager produces summary reports	External	Senior manager	Produce summary reports
Senior manager sends summary reports to ITEC Conglomerate Holdings Inc.	External	Senior manager	Send summary report
ITEC Conglomerate Holdings Inc. announces new corporate policy on the board	External	ITEC Conglomerate Holdings Inc.	Post corporate news
ITEC Conglomerate Holdings Inc. send company updates to entire Pharm@Home team	External	ITEC Conglomerate Holdings Inc.	Send internal email

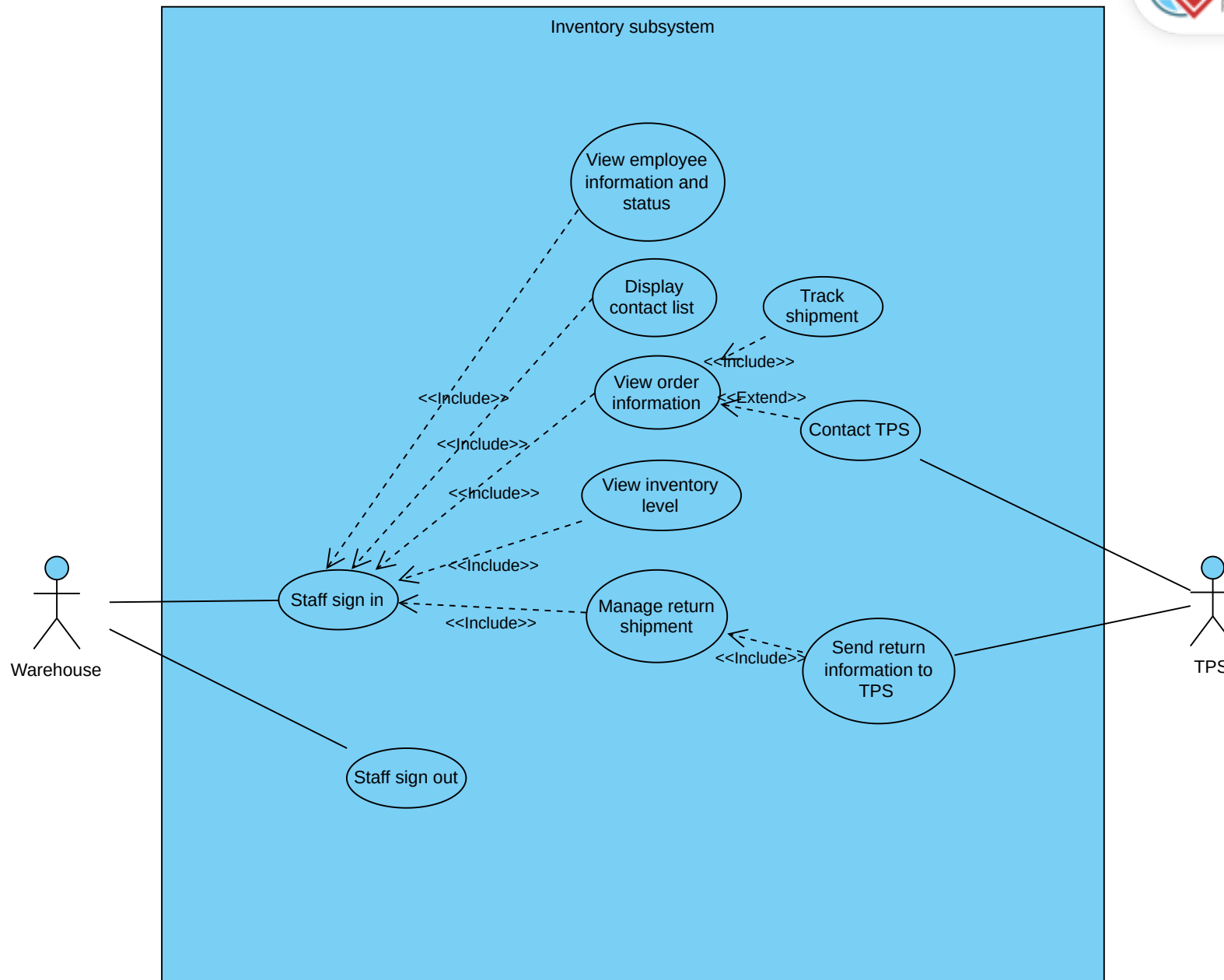
5) Create a full set of Use Case Diagrams for the Pharm@Home system. (30 marks)

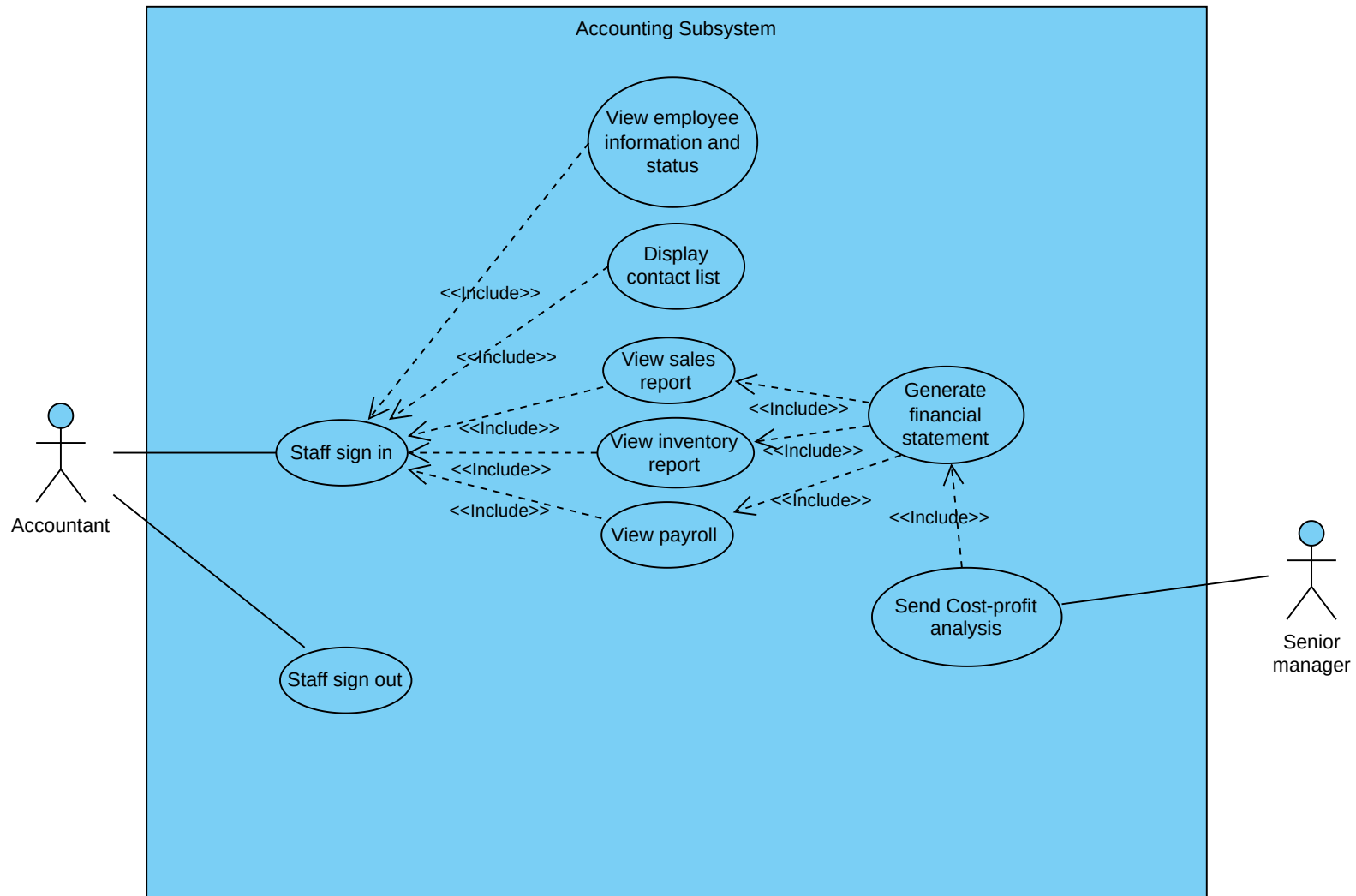


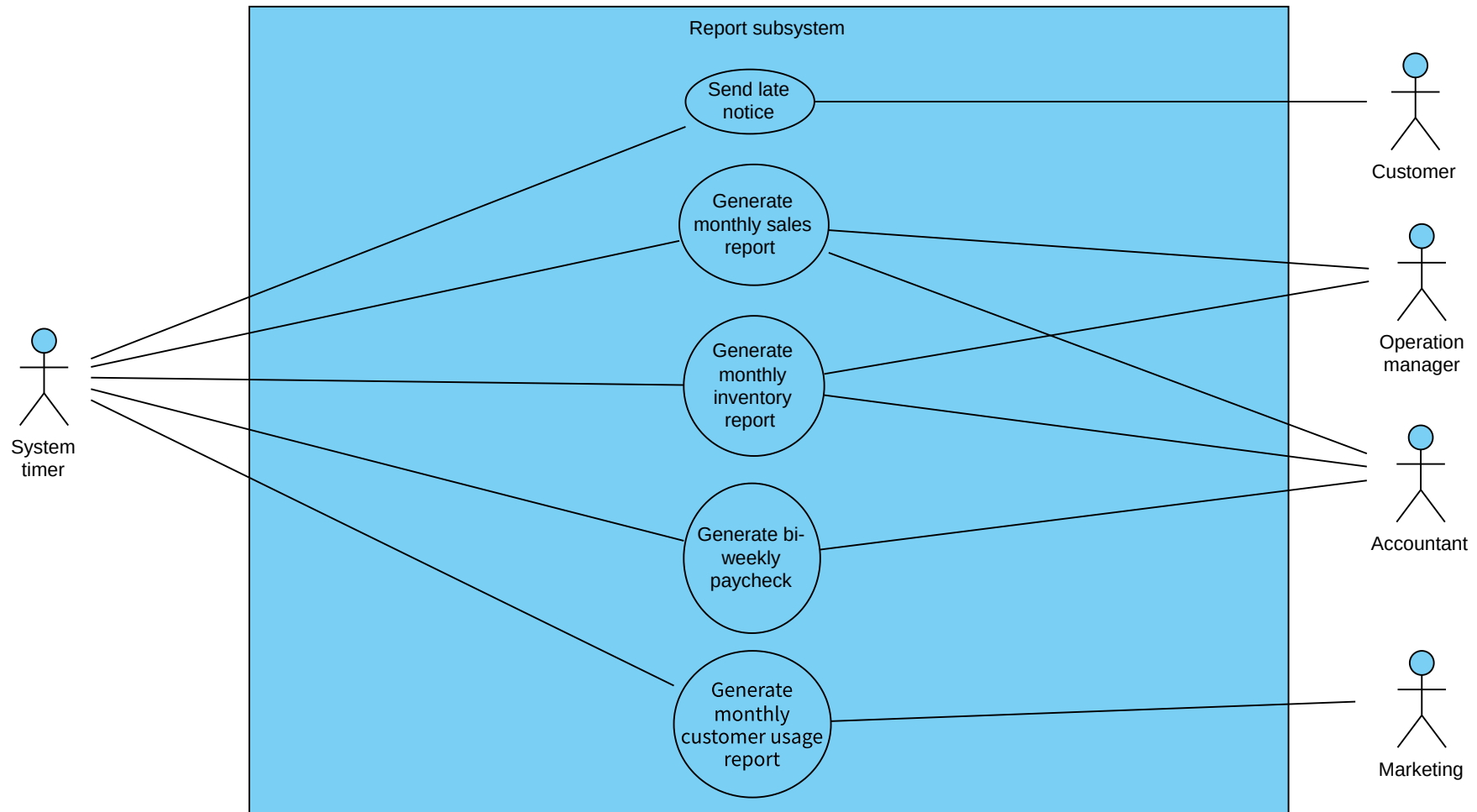


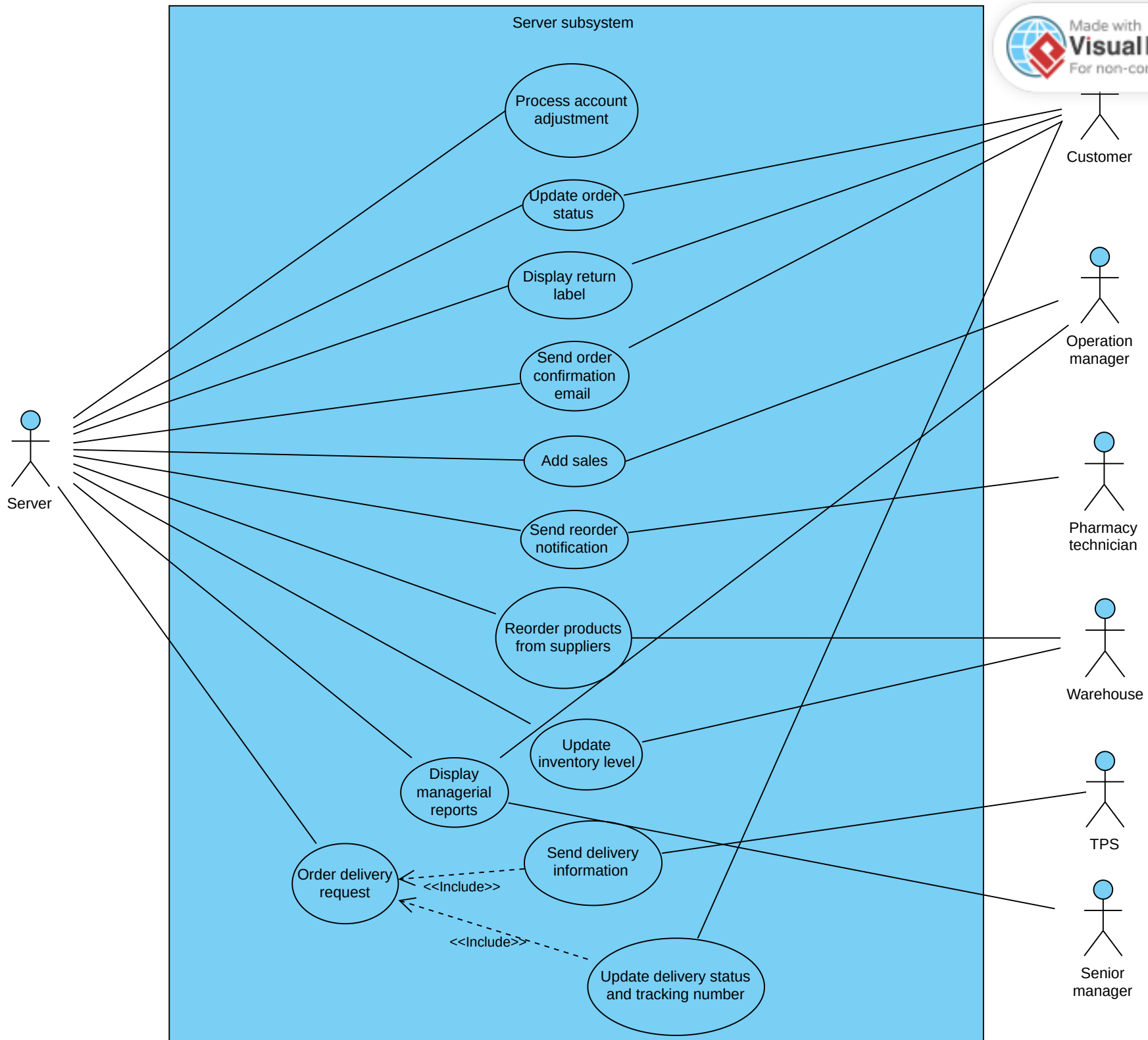


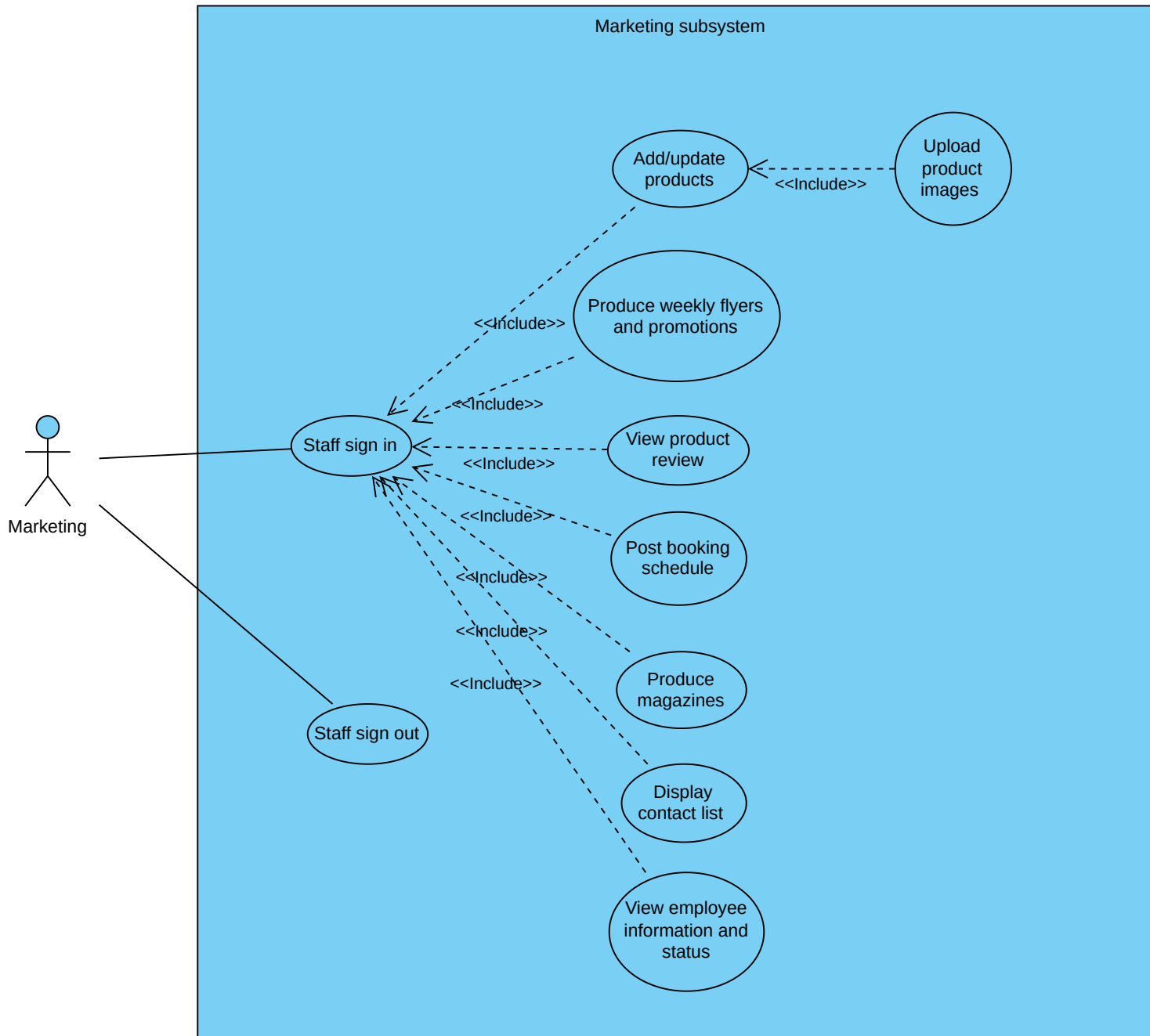


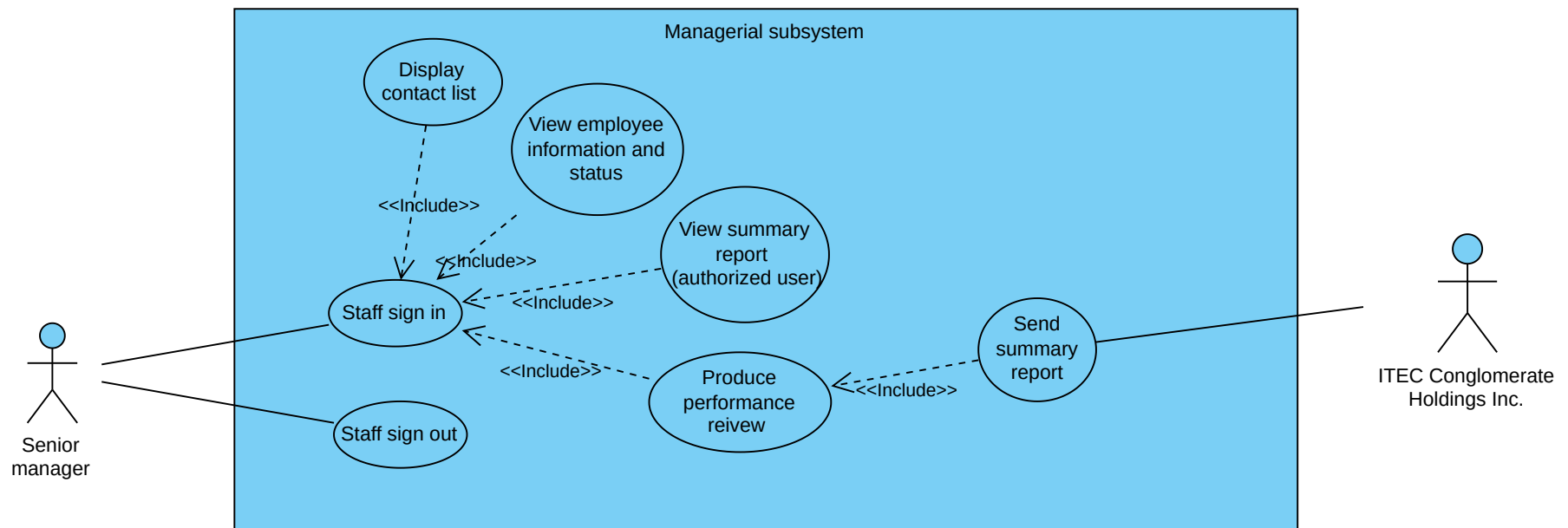
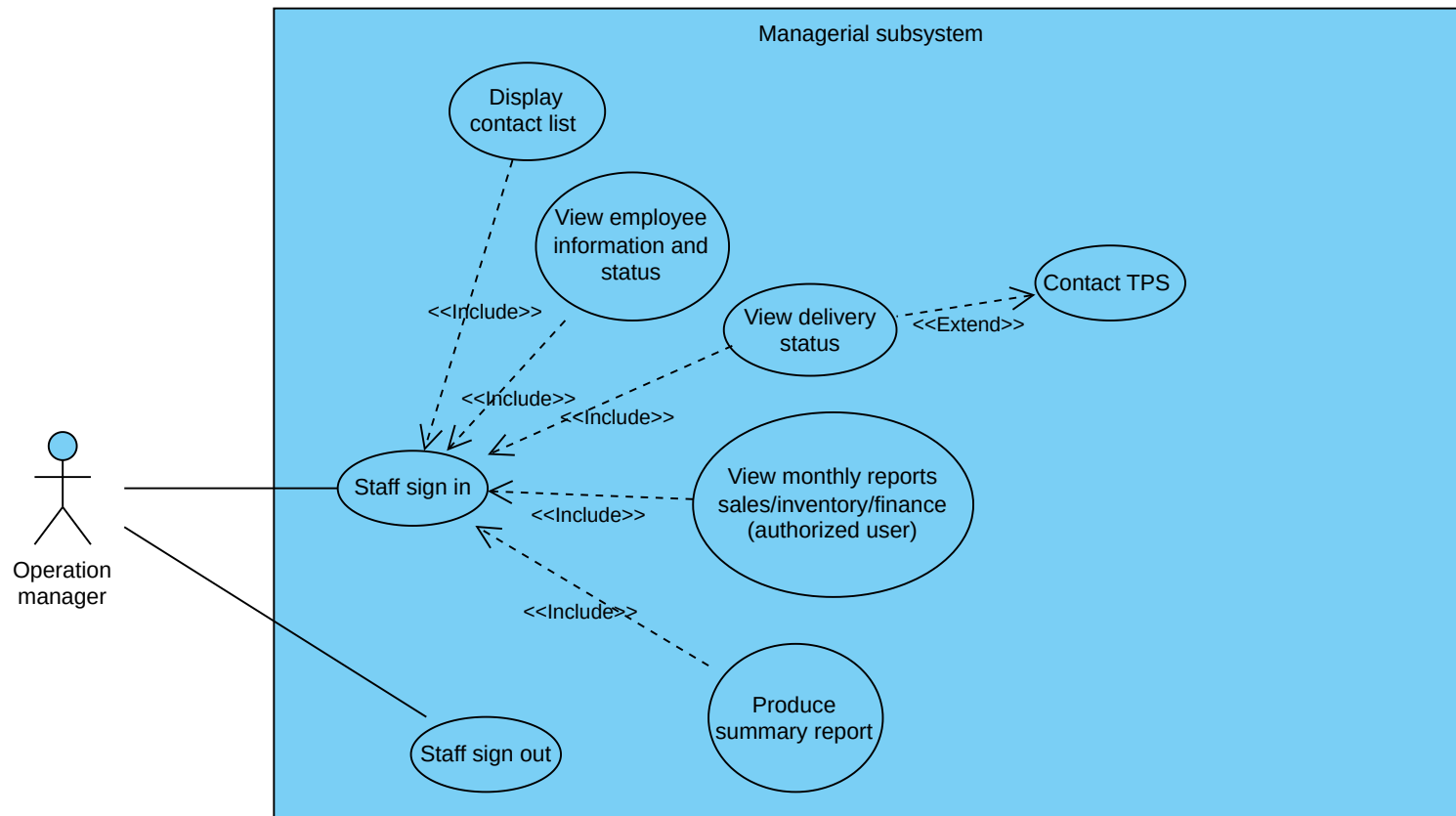












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