Video Shoppe Risk Analysis 2.0			
Risk and Categories	**Affects**	**Analysis**	**Strategy**
PERSONNEL RISK			
Conflicts in team members' schedules do not allow for enough time in meetings.	People, Project	High, Tolerable	Plan what group meetings should accomplish in advance. Use cloud-based collaborative software.
A team member drops the class.	People, Project	Low, Serious	Ensure every member has access to and knowledge of all work.
Member illness prevents members from completing assignments or attending meetings.	People, Project	Low, Tolerable	Plan ahead to keep work updated and all members actively engaged on what is going on at all times and schedule deadlines ahead of deliverable due dates.
Members have difficulty assigning tasks efficiently based on member's skill sets.	People, Project	Low, Tolerable	Plan ahead to be comfortable with tools and resources, ensure quality communication between team members.
TECHNOLOGICAL RISKS			
The system is unable to manage a sudden increase in customers.	Product	Moderate, Serious	Allow for regular updates, track recent trends in rentals and do a proper analysis of customer traffic and ensure the system is capable of expanding.
Customers' personal or payment information is compromised.	Product, Business	Moderate, Catastrophic	Constantly update security software and features.
The equipment used to run the software may slow it down or hinder performance.	Product	Low, Tolerable	Sustain contact with the client to ensure that equipment is up to date and following the requirements set
Errors in code generation/compiling prevent the system from functioning properly.	Product, Project	Moderate, Serious	Allow adequate time for testing and performance reviews.
PROJECT RISKS			
Underestimating the time to complete a task or the project in general	Project	High, Serious	Make specific guidelines regarding task completion and frequent updates to the schedule.
BUSINESS RISKS			

Video Shoppe Risk Analysis 2.0			
Risk and Categories	**Affects**	**Analysis**	**Strategy**
Competition from streaming or similar rental businesses hurts sales.	Business	High, Serious	Implement customer appreciation events. Implement a customizable loyalty program that rewards customers for their business
PRODUCT RISKS			
The client may have issues understanding the software.	Product	Moderate, Tolerable	Build a help system inside the software to help the user navigation.
The system becomes too complex for the required tasks.	Product	Moderate, Tolerable	Keep regular contact with stakeholders and give drops to customers regularly in order to test complexity.

Video Shoppe Requirements 2.0			
ID	**Requirement**	**Dependencies**	**Sources**
001	The system must store customer information, including personal, payment, and contact information.		Original Requirements Document
002	The system must store employee information, including personal, contact, and schedule information		Original Requirements Document
003	The system must track inventory.		Original Requirements Document
004	The system must keep record of how often an item is rented or requested.	003	Original Requirements Document
005	The system must alert employees when requested items become available.	003	Original Requirements Document
006	The system must alert customers when credit card information has expired.	001	Original Requirements Document
007	The system must alert customer when they have reached the maximum number of checked out items.	001	Original Requirements Document
008	The system must allow employees to search for items based on title, actor, and director.	003	Original Requirements Document
009	The system must allow employees to search for customers by name or phone number.	001	Original Requirements Document
010	The system must track overdue items and late fees.	003	Original Requirements Document

Video Shoppe Requirements 2.0			
ID	**Requirement**	**Dependencies**	**Sources**
011	The system should allow family accounts to be created.		Interview
012	The system should store a master phone number for family accounts.	011	Interview
013	The system should track profits and display monthly reports in the form of graphs.		Interview
014	Only the manager should be allowed to edit customer and inventory information.	001, 002, 003	Interview
015	Other employees should only have access to the customer information required for check-out.	001,002, 014	Interview
016	The system should block customers under the age of 18 from registering.	001	Interview
017	The system should block customers from renting more than three items at a time.	007	Interview
018	The system should allow DVD's to be arranged by genre, release date, and language.	003	Interview
019	The system must store information on age-restricted ratings.		Interview
020	The system should incorporate a waiting list for popular items.	003	Interview
021	Customers must have the option to receive alerts via e-mail or text message.	020	Interview

Video Shoppe Requirements 2.0			
ID	**Requirement**	**Dependencies**	**Sources**
022	The system should include a mailing list using e-mail.	001	Interview
023	The system should e-mail receipts to customers.	001	Interview
024	The system must allow two levels of log-in credentials, one master account for the manager and a second level for all other employees.		Interview
025	All employees besides the manager will have the same log-in credentials.	024	Interview
026	Customers should have a unique identification number, but will not be the primary method used to search for customers.	009	Interview
027	The system must not allow a customer to register without a credit card.	001	Interview
028	The system should track lost items and returned items.	003	Interview
029	The system should allow for items to be scanned into the system using UPC.	003	Interview
030	The system should allow for items to be entered into the system manually.	003	Interview

VideoShoppe Dependency Matrix															
	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
001															
002															
003															
004			■												
005			■												
006	■														
007	■														
008			■												
009	■														
010			■												
011															
012											■				
013															
014	■	■	■												
015	■	■												■	
016	■														
017							■								
018			■												
019															
020			■												
021															
022	■														
023	■														
024															
025															
026									■						
027	■														
028			■												
029			■												
030			■												
	016	**017**	**018**	**019**	**020**	**021**	**022**	**023**	**024**	**025**	**026**	**027**	**028**	**029**	**030**
001															
002															
003															
004															
005															
006															
007															
008															
009															

VideoShoppe Dependency Matrix															
	016	**017**	**018**	**018**	**020**	**021**	**022**	**023**	**024**	**025**	**026**	**027**	**028**	**029**	**030**
010															
011															
012															
013															
014															
015															
016															
017															
018															
019															
020															
021															
022															
023															
024															
025															
026															
027															
028															
029															
030															

Video Shoppe	
Domain Scope	
Domain	**Scope Outline**
Customer Management	All activities that directly involve customers, including • Credit Card Information • Birthdates • Phone Numbers • Customer Identification Numbers • Address • Waiting Lists
Inventory Management	All activities related to managing items, including • In Stock Items • Checked Out Items, Due Dates • Popular Rentals • Age-Restricted Ratings • Genre • Language • Release Date • UPC
Customer Messaging	All activities related to contacting customers, including • Over-Due Alerts • Waiting List Alerts • Birthday Messages • Credit Card Expiration Notice
Financial Reports	All activities related to business, including • Popular Titles • Popular Genres • Popular Languages • Monthly Profits
Employee Management	All activities related to managing part-time employees, including • Hours Worked • Wages • Schedule

Video Shoppe	
Domain Scope	
Domain	**Scope Outline**
Sales Transaction	All activities related to transactions between employees and customers, including • Renting DVDs • Paying Late Fees • Renewing Items

Video Shoppe		
Domain Dictionary		
Name	**Type**	**Description**
Manager	Role	Owner and primary user of the system.
Employee	Role	Aids the manager in operating the system and aids members in making DVD rentals.
Member	Role	Rents DVDs using a membership
Membership	Process	The act of registering for and maintaining membership
Membership	Object	Membership information, including phone number, customer identification number, birthdate, address. Necessary for members to rent DVDs.
Membership Applicant	Role	A customer who applies for membership
Rental	Function	The act of a member checking out a DVD for a given period of time.
Return	Function	The act of a member returning a DVD rental
Renewal	Function	The act of a member prolonging a DVD's due date
Credit Card	Object	The member's credit card information
Birth Day	Object	The member's date of birth
Customer Identification Number	Object	A unique number to help identify each member.

Video Shoppe		
Domain Dictionary		
Name	**Type**	**Description**
Customer Phone Number	Object	The number in which a member can be called and contacted.
Due Date	Object	The date when a DVD should be returned.
Due Date	Business Rule	The rules that deal with setting the date a DVD must be returned and how to manage overdue DVDs.
E-mail Address	Object	The member's email address which will be used to send e-mail alerts.
E-mail Alert	Function	Notifies members of available DVDs and upcoming/past due dates.
DVD	Object	The product that members will be renting.
Financial Report	Function	Tracking DVDs checked out, sales, and profits for use by the manager.
Financial Report	Object	The monthly report displaying sales and profits using a graph.
Graph	Object	Visual aid used in financial report to display sales and profits.
Waiting List	Object	The list of members waiting for a particular DVD to become available.
Minimum Age	Business Rule	The minimum age required by all membership applicants as set by the manager

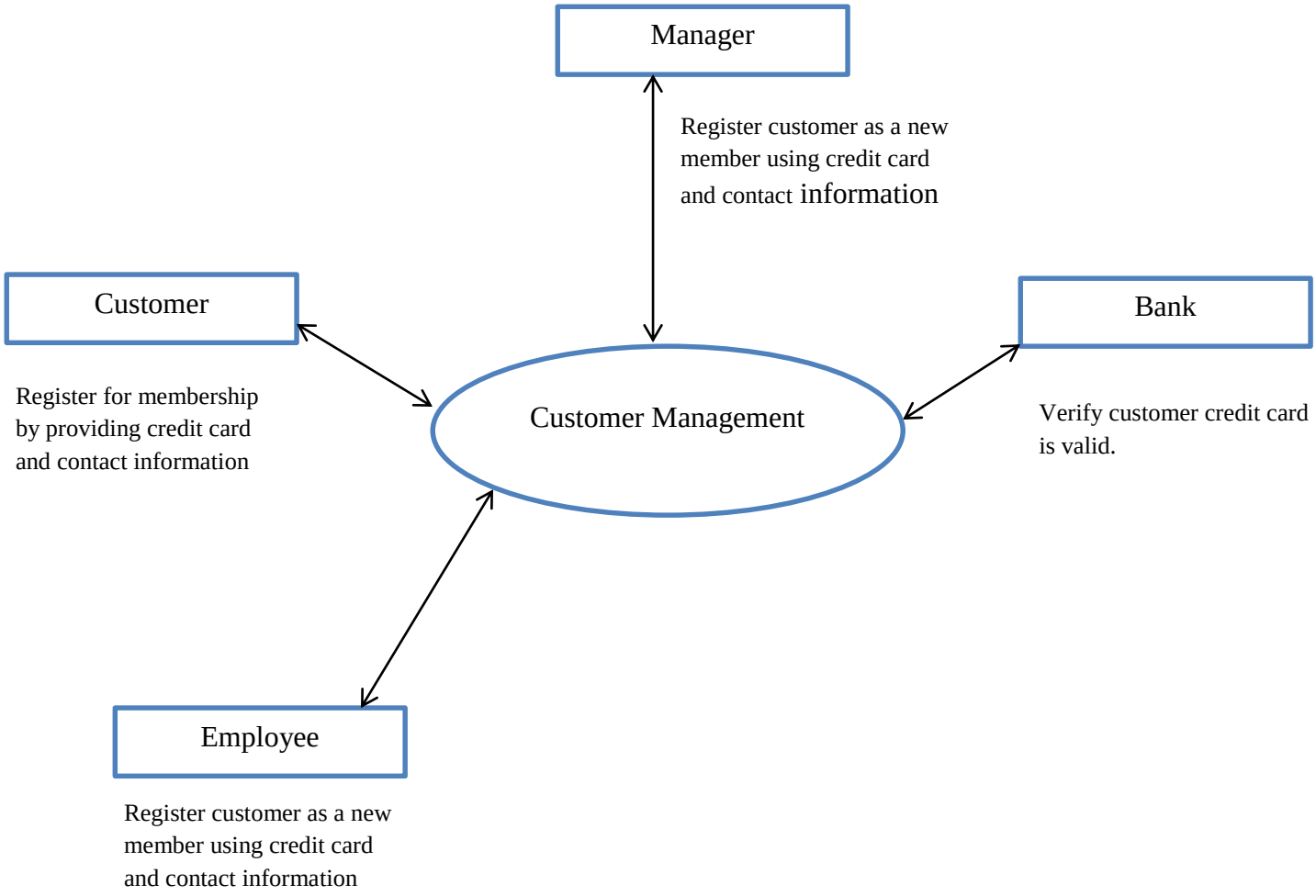
Video Shoppe		
Domain Dictionary		
Name	**Type**	**Description**
Bank	Role	Verifies Credit Card.
Vendor	Role	Fulfills orders for DVDs
Mailing List	Object	List of members who receive updates, offers, and other messages from the manager.

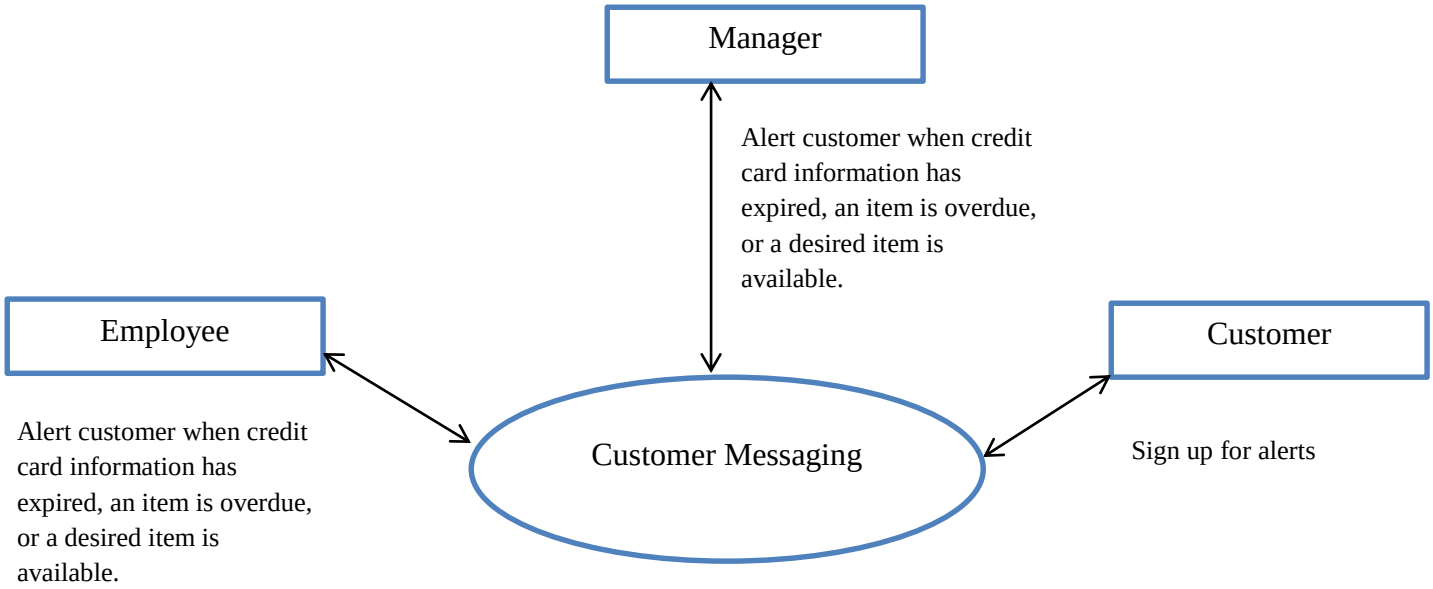
Video Shoppe	
Concepts	
Name	**Type**
Manager	Role
Employee	Role
Member	Role
Membership	Object
Membership	Process
Member Applicant	Role
Rental	Process
Return	Process
Renewal	Process
Credit Card	Object
Birth Day	Object
Customer Identification Number	Object
Customer Phone Number	Object
Due Date	Object
Due Date	Business Rule
E-mail Address	Object
E-mail Alert	Function
DVD	Object
Financial Report	Function
Financial Report	Object
Graph	Object

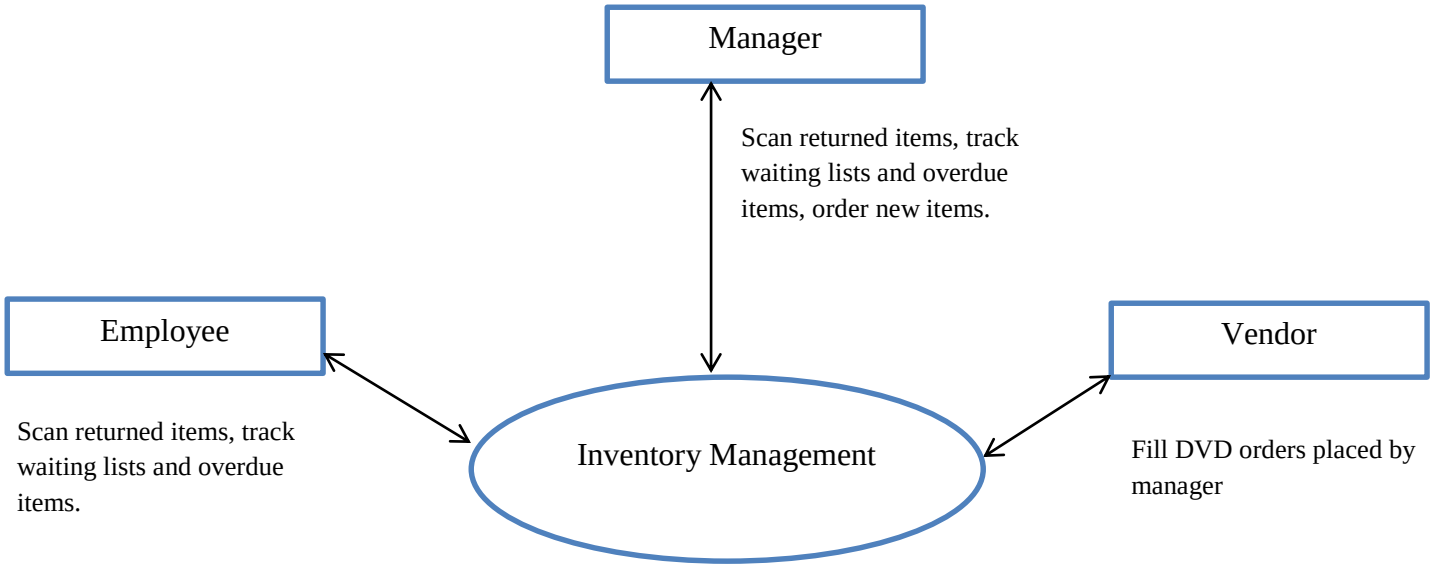
Video Shoppe	
Concepts	
Name	**Type**
Waiting List	Object
Minimum Age	Business Rule
Bank	Role
Vendor	Role
Mailing List	Object

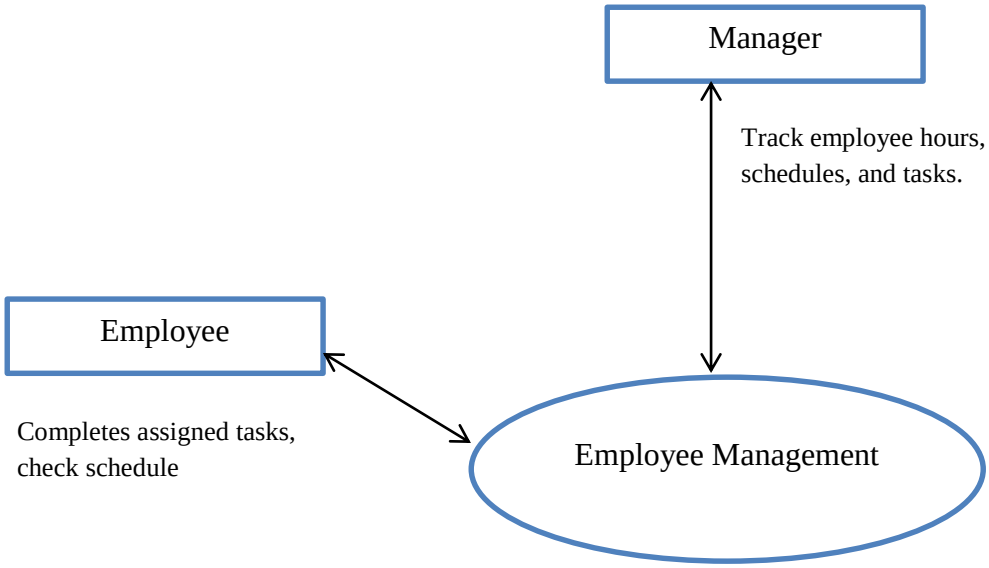
Use Case Summary Version 1.4			
ID	**Use Case Name**	**Actor(s)**	**Description**
100	Register Member	Manager, Customer	Registers a customer for membership using credit card information and contact information, allowing them to rent DVDs
110	Rent DVD	Customer	A customer checks out a DVD for a specified amount of time.
120	Alert Customer	Manager, Employees	Contacts customer when their credit card information expires, an item they want becomes available, or an item is overdue.
130	Add Item To Inventory	Manager	Enters new DVD information into inventory by either scanning the item's UPC code or entering the UPC manually.
140	Update Customer Information	Manager	Changes customer personal or payment information when needed.
150	Order DVDs	Manager, Vendor	Orders new inventory for customers to rent based on popularity or sales.
160	Categorize DVDs	Manager, Employee	Organizes DVDs into categories based on genre, release date, or language.
170	Pay Late Fee	Customer	Pays late fee for overdue item before the customer is allowed to rent more items.
175	Renew DVD	Customer	Extends the due date for rented DVD.

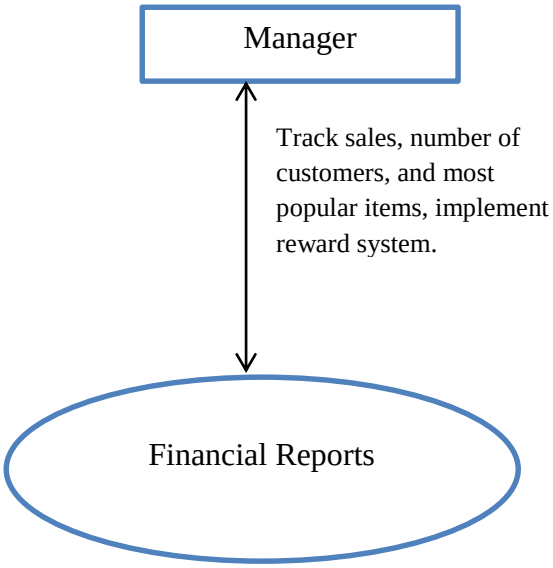
Use Case Summary Version 1.4			
ID	**Use Case Name**	**Actor(s)**	**Description**
180	Verify Credit Card	Bank	Verifies the customer's credit card is valid before registrations.
190	Sign Up For Alerts	Customer, Employee, Manager	Signs customer up for alerts
210	Track Employee Hours	Manager	Keeps track of the number of hours worked by each employee
220	Track Employee Schedule	Manager, Employee	Keeps track of the times when employees are scheduled to work
230	Update Reward System	Manager	Makes changes to current reward system, such as reward amounts and reward occasions.
240	Track Popular Items	Manager	Keeps track of popular rentals.
250	Track Total Sales	Manager	Keeps track of the total number of rentals.
260	Track Profits	Manager	Keeps track of monthly profits.

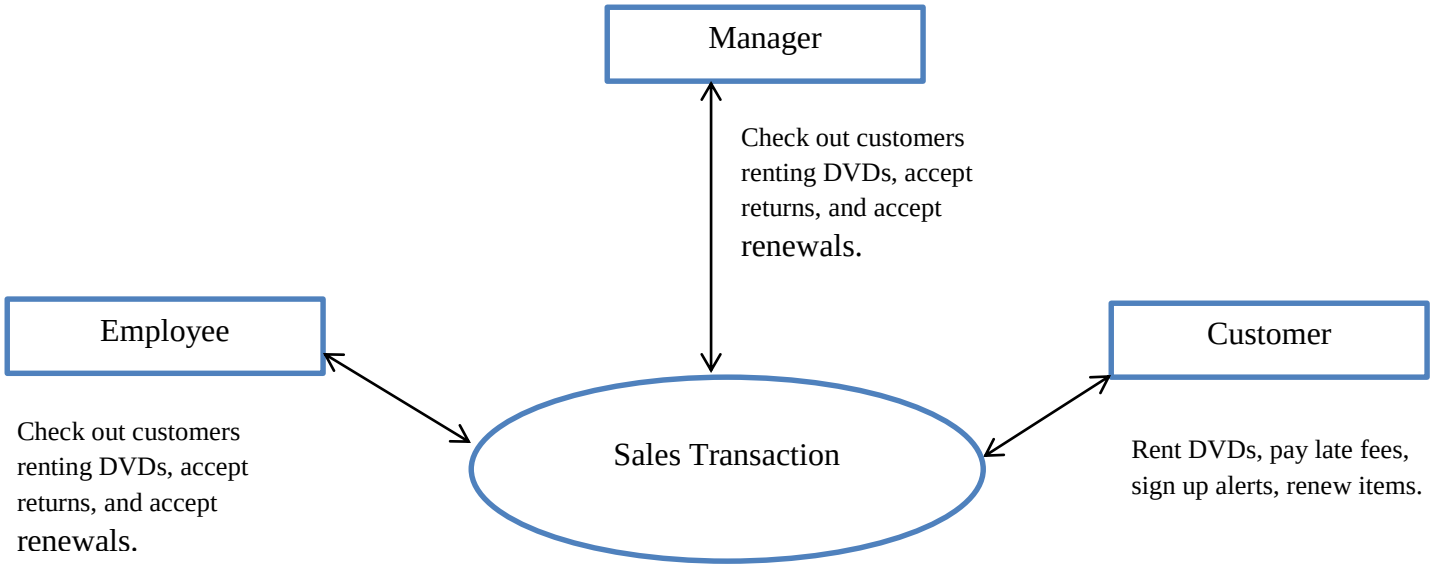

Manager
Register customer as a new member using credit card and contact information
Customer
Bank
Register for membership by providing credit card and contact information
Customer Management
Verify customer credit card is valid.
Employee
Register customer as a new member using credit card and contact information

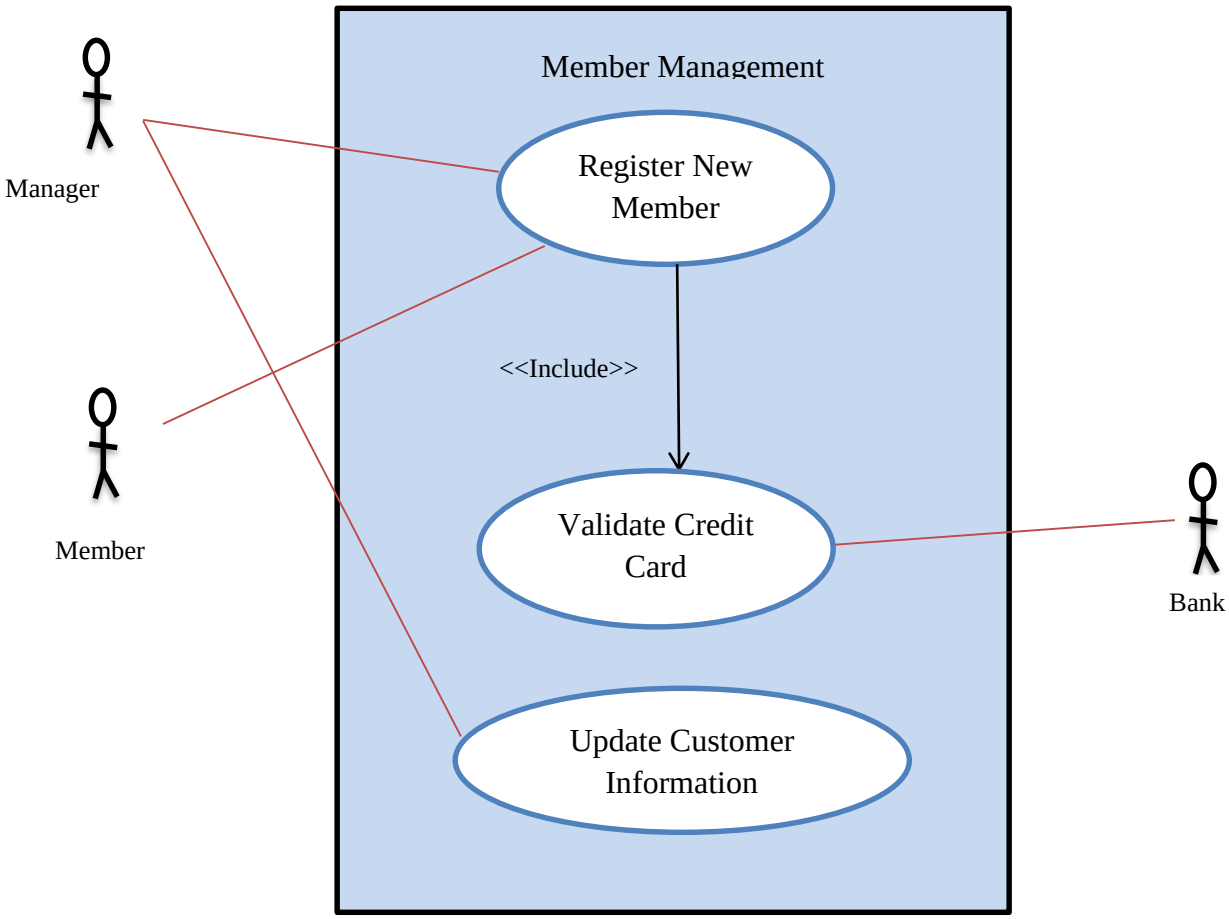

Manager
Alert customer when credit card information has expired, an item is overdue, or a desired item is available.
Employee
Customer
Customer Messaging
Alert customer when credit card information has expired, an item is overdue, or a desired item is available.
Sign up for alerts

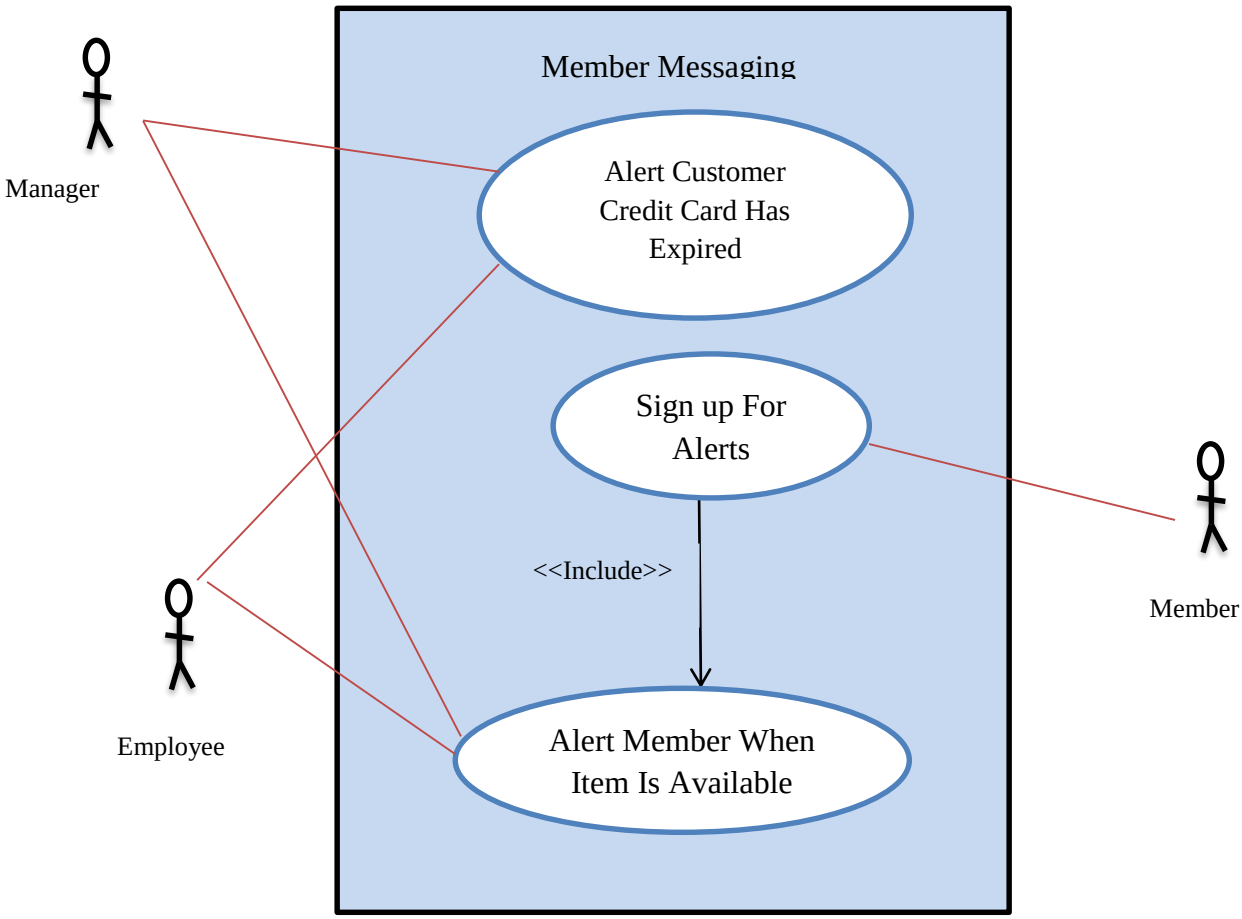

Manager
Scan returned items, track waiting lists and overdue items, order new items.
Employee
Vendor
Scan returned items, track waiting lists and overdue items.
Inventory Management
Fill DVD orders placed by manager

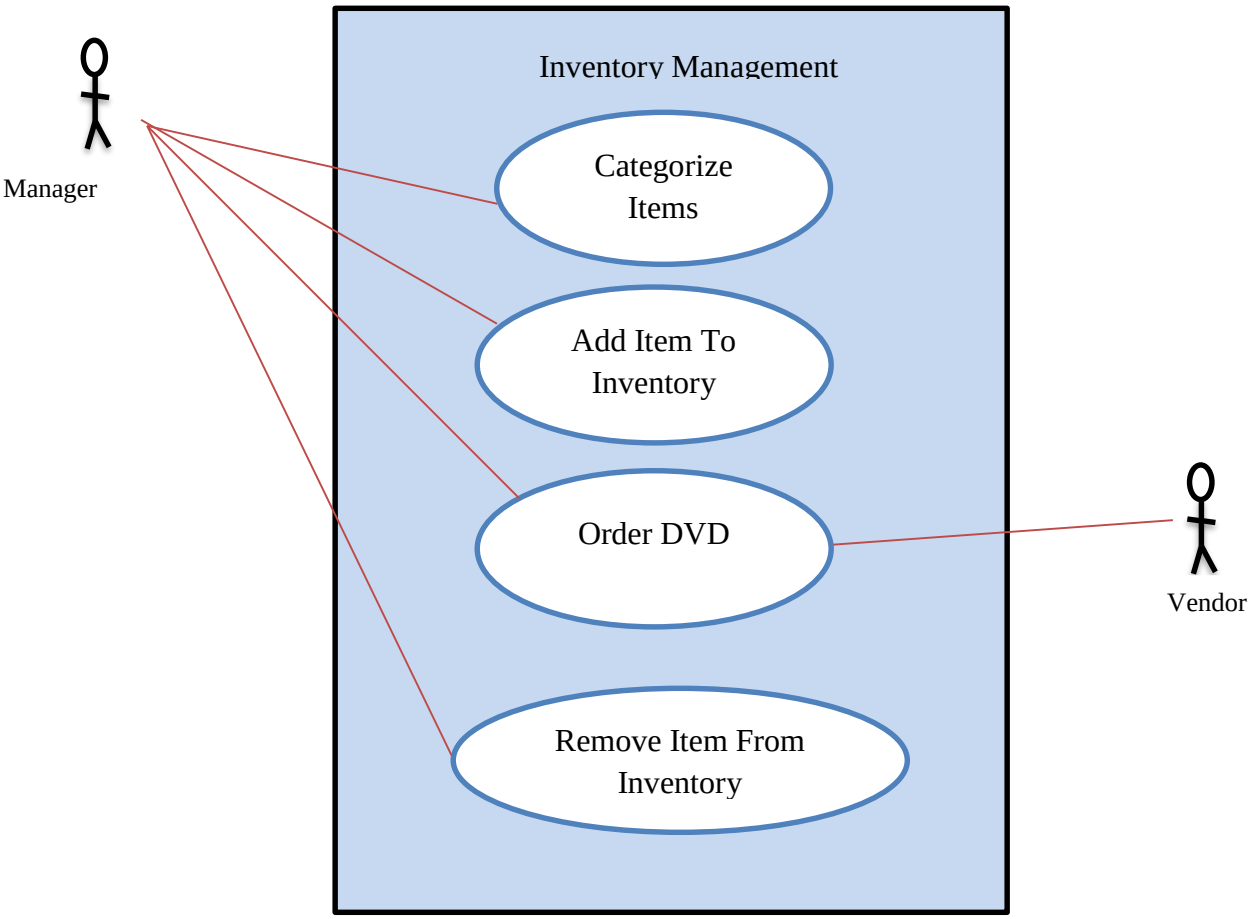

Manager
Track employee hours, schedules, and tasks.
Employee
Completes assigned tasks, check schedule
Employee Management

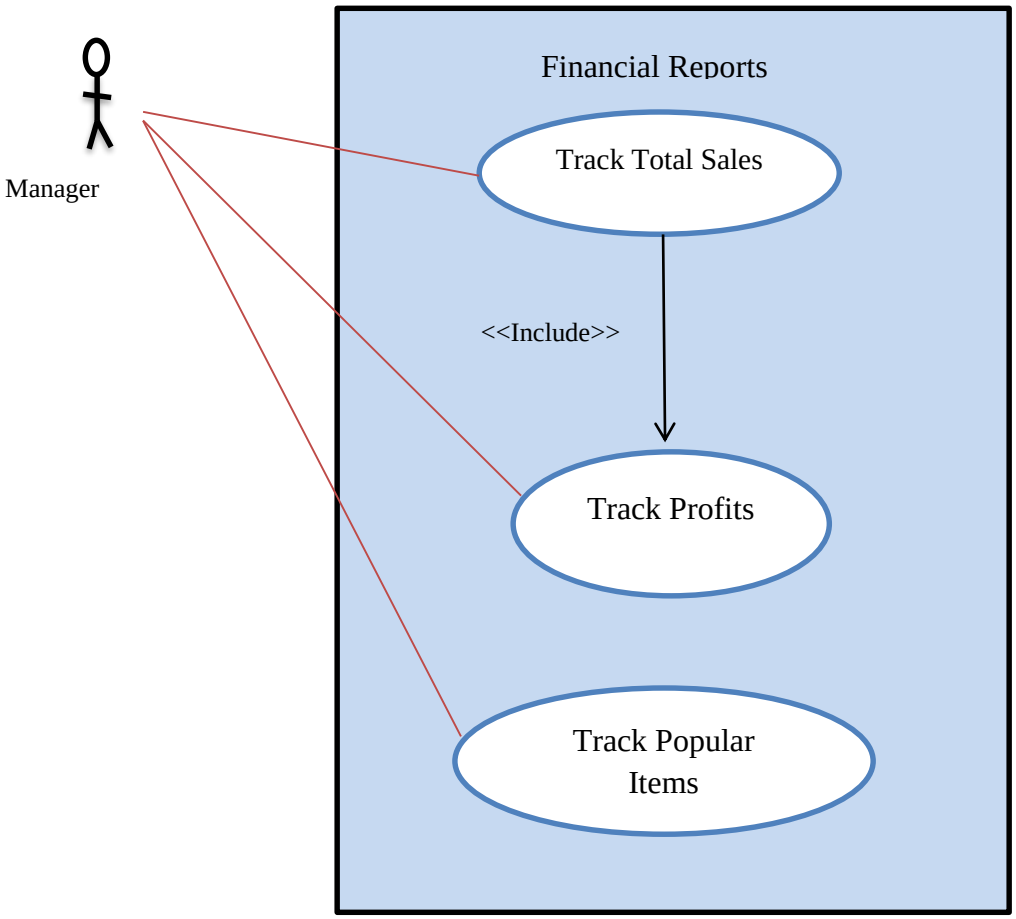

Manager
Track sales, number of customers, and most popular items, implement reward system.
Financial Reports

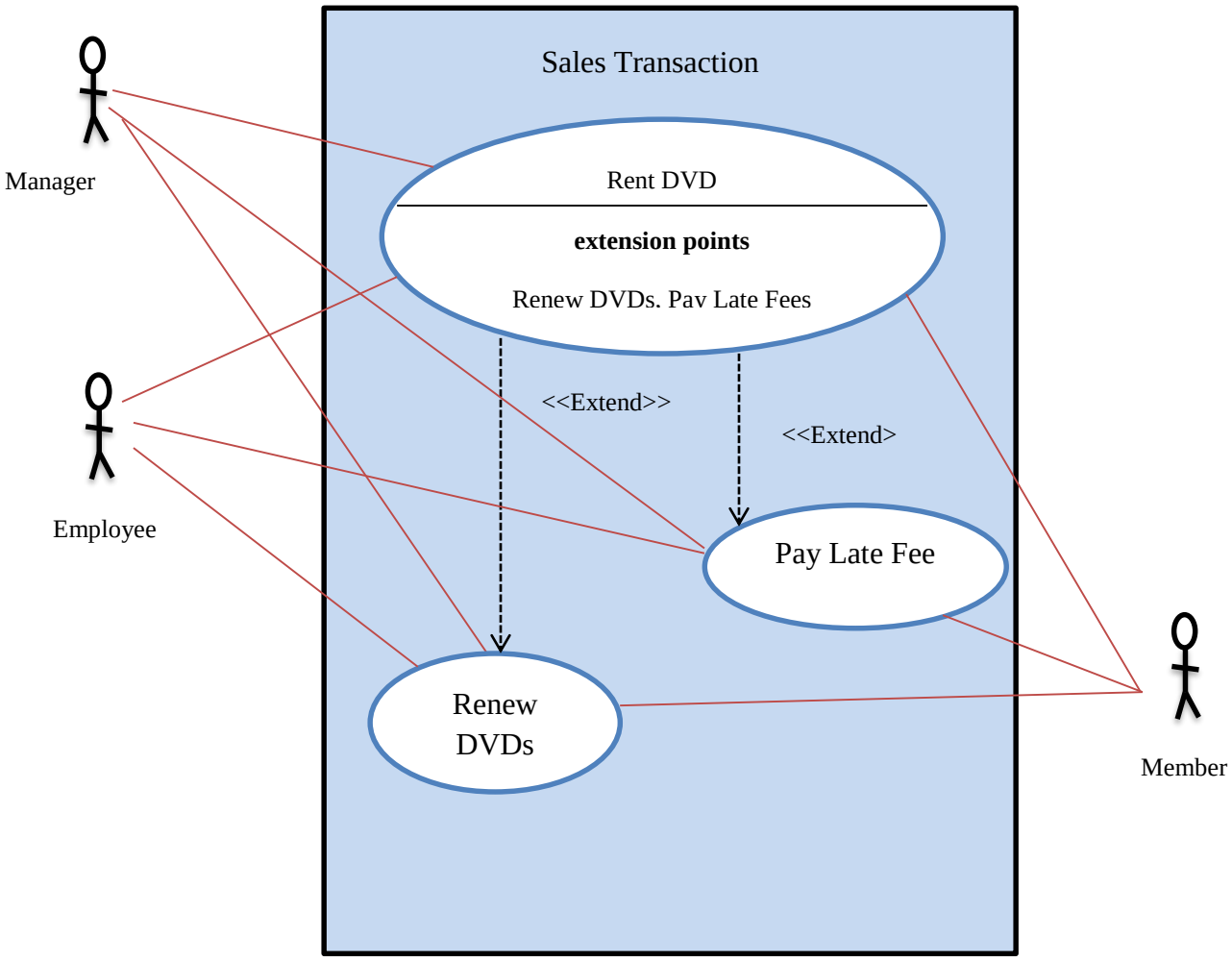

Manager
Check out customers renting DVDs, accept returns, and accept renewals.
Employee
Customer
Check out customers renting DVDs, accept returns, and accept renewals.
Sales Transaction
Rent DVDs, pay late fees, sign up alerts, renew items.

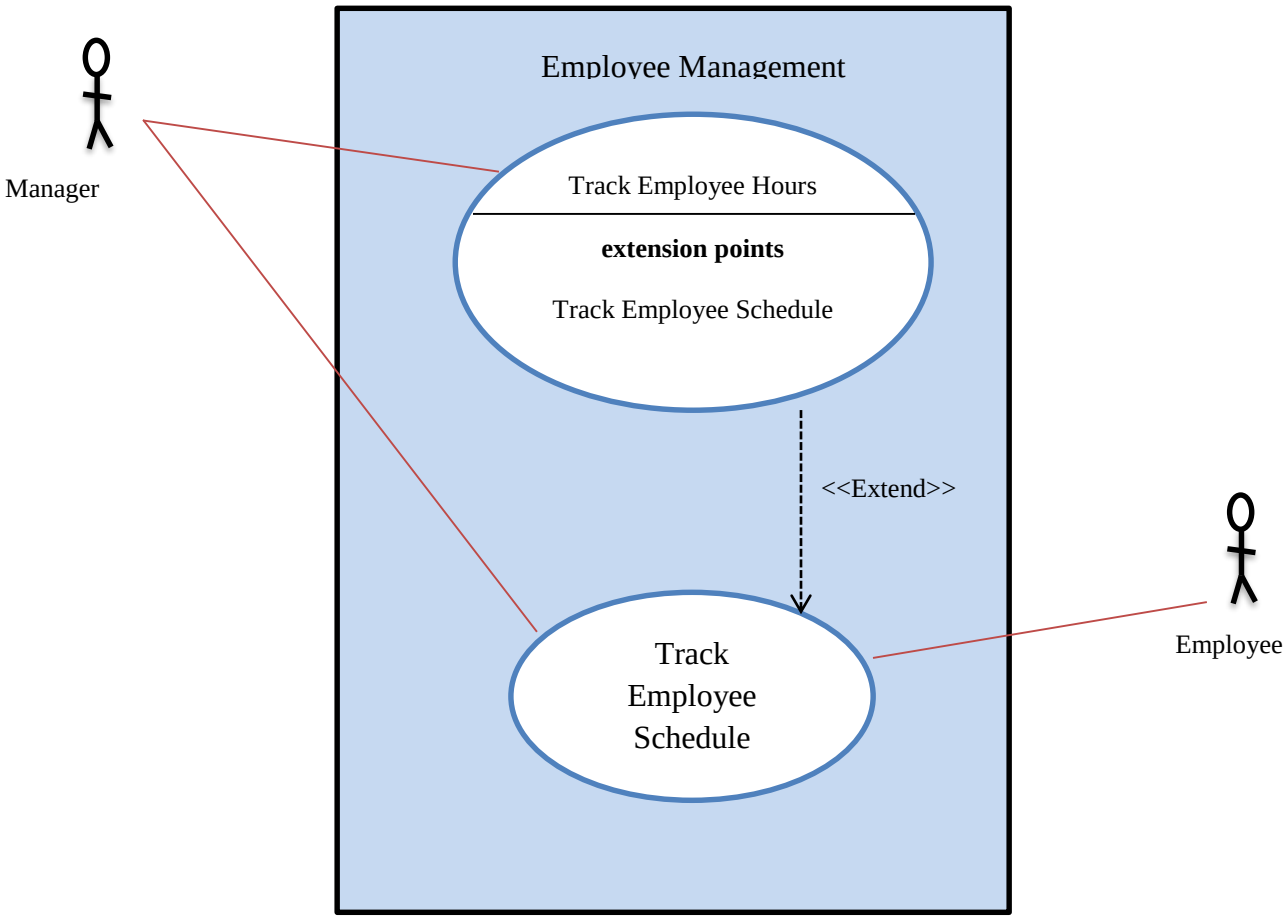

Member Management
Register New Member
<<Include>>
Validate Credit Card
Update Customer Information
Manager
Member
Bank


Member Messaging
Alert Customer Credit Card Has Expired
Sign up For Alerts
<<Include>>
Alert Member When Item Is Available
Manager
Employee
Member


Inventory Management
Categorize Items
Add Item To Inventory
Order DVD
Remove Item From Inventory
Manager
Vendor


Financial Reports
Track Total Sales
<<Include>>
Track Profits
Track Popular Items
Manager


Sales Transaction
Manager
Rent DVD
extension points
Renew DVDs. Pav Late Fees
<<Extend>>
<<Extend>
Employee
Pay Late Fee
Renew
DVDs
Member


Employee Management
Manager
Track Employee Hours
extension points
Track Employee Schedule
<<Extend>>
Track
Employee
Schedule
Employee

Register New Member ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Register New Member
ID:	100
Scope:	Member Management
Priority:	High
Summary:	A potential member applies for rental membership through the manager or an employee.
Primary Actor:	Potential Member
Supporting Actors:	Manager, Employee, Bank
Stakeholders:	Video Shoppe: Wants to register members to grow business.
Generalization:	
Include:	Credit Card Verification(180)
Extend:	
Precondition:	Customer is a member applicant.
Trigger:	
Normal Flow:	1. Customer requests membership application from manager or employee 2. Customer provides valid credit card. 3. Bank verifies credit card. (Include 180: Verify Credit Card) 4. Customer provides personal information. 5. Customer signs up for alerts. 6. Customer receives membership card.
Sub-Flows:	4.1 Customer provides phone number. 4.2 Customer provides address 4.3 Customer provides date of birth 5.1 Customer provides e-mail address

Register New Member ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Alternate Flow/Exceptions:	**3a**. Credit card is not valid, the manager or employee informs the customer and membership is denied. **1a**. The customer is already a member. The manager or employee informs the customer.
Post-condition:	New membership is approved.
Requirements:	
Open Issues:	
Source:	Original Requirements Document
Revision & Date:	

Rent DVD ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Rent DVD
ID:	110
Scope:	Sales Transaction
Priority:	High
Summary:	A member rents a DVD for a specified amount of time.
Primary Actor:	Member
Supporting Actors:	Manager, Employee
Stakeholders:	Video Shoppe: Wants to grow business. Member: Wants customer service, wants DVD.
Generalization:	
Include:	

Rent DVD ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Extend:	Pay Late Fee (170) Renew DVD (175)
Precondition:	A member decides to rent a DVD
Trigger:	
Normal Flow:	1. A member requests a DVD from the manager or employee 2. The manager/employee verifies the customer's membership 3. The manager/employee checks for over-due items 4. The manager/employee checks for the rental limit. 5. The customer pays for the DVD rental.
Sub-Flows:	
Alternate Flow/Exceptions:	**2a**. The customer does not hold a valid membership. The manager/employee offers the customer membership, if eligible. **3a**. The member has over-due rentals or late fees. The cashier denies the rental. **4a**. The member has reached the limit for renting items, the manager/employee inform the member and deny the rental.
Post-condition:	Member receives the DVD for a certain amount of time.
Requirements:	
Open Issues:	
Source:	Original Requirements Document
Revision & Date:	

Alert Customer ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Alert Customer
ID:	120
Scope:	Member Messaging
Priority:	Medium
Summary:	The member receives a notification if their credit card expires, an item is over-due, or a requested item becomes available.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: Wants to collect late fees, recover over-due items. Member: Wants to continue renting DVDs, wants to rent items on waiting list.
Generalization:	
Include:	
Extend:	
Precondition:	The member has signed up for alerts.
Trigger:	Customer credit card information expires, an item becomes overdue, or a requested item has become available for rent.
Normal Flow:	1. The manager is notified of the alert that needs to be sent. 2. The system sends an automated e-mail to the customer. 3. The manager is notified that the alert was sent successfully.

Alert Customer ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Sub-Flows:	**1a**. The manager chooses to take further action and contact the member personally. **2a.** The messaging system informs the member how long the item has been overdue and when they will be charged for overdue items. **2b.** The messaging system informs the member how long a waiting list item will be available. **2c**. The messaging system informs the member their credit card is expired.
Alternate Flow/Exceptions:	**2a**. The member's e-mail address has changed. The manager contacts the member by other means.
Post-condition:	The member receives an e-mail notification.
Requirements:	
Open Issues:	
Source:	Original Requirements Document
Revision & Date:	

Add Item to Inventory ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Add Item to Inventory
ID:	130
Scope:	Inventory Management
Priority:	High
Summary:	The manager enters new DVD information into inventory by either scanning the item's UPC code or entering the UPC manually.
Primary Actor:	Manager

Add Item to Inventory ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Supporting Actors:	
Stakeholders:	Video Shoppe: The business wants to keep the inventory system accurate and up to date in order to maximize rentals.
Generalization:	
Include:	
Extend:	
Precondition:	The inventory system must be up to date.
Trigger:	
Normal Flow:	1. The manager scans the item 2. The manager selects a genre 3. The manager selects a language 4. The manager selects a rating
Sub-Flows:	
Alternate Flow/Exceptions:	**1a.** The item is unable to be scanned into the system. The manager enters the UPC in manually.
Post-condition:	
Requirements:	
Open Issues:	Original Requirements Document
Source:	
Revision & Date:	

Update Customer Information ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Update Customer Information
ID:	140
Scope:	Member Management
Priority:	Medium
Summary:	The manager updates a member's information if the member's payment or contact information changes.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: The business wants to keep contact and payment information up to date in order to keep members alerted and recover overdue or stolen items.
Generalization:	
Include:	
Extend:	
Precondition:	The customer must be a registered member.
Trigger:	A member's personal or payment information changes.
Normal Flow:	1. The manager changes a member's payment information. 2. The manager changes a member's contact information. 3. The manager sends the customer a verification e-mail.
Sub-Flows:	**2a**. The manager updates a member's address. **2b**. The manager updates a member's phone number. **2c**. The manager updates a member's name.

Update Customer Information ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Alternate Flow/Exceptions:	
Post-condition:	The member's information is correctly updated.
Requirements:	
Open Issues:	
Source:	Original Requirements Document.
Revision & Date:	

Order DVD ***Date of Creation: 1/17/2015 Version Number: 1.0***	
Use Case:	Order DVD
ID:	150
Scope:	Inventory Management
Priority:	Medium
Summary:	The manager orders DVDs from a vendor to expand the inventory.
Primary Actor:	Manager
Supporting Actors:	Vendor
Stakeholders:	Video Shoppe: The business wants to add popular items and expand inventory in order to increase sales. Vendor: The vendor wants to grow business by working efficiently with clients.
Generalization:	
Include:	

Order DVD ***Date of Creation: 1/17/2015 Version Number: 1.0***	
Extend:	
Precondition:	The manager wishes to add new items to inventory by ordering DVDs
Trigger:	
Normal Flow:	1. The manager places an order for new items. 2. The vendor receives the order. 3. The vendor prepares the order. 4. The vendor ships the order. 5. The manager receives the order.
Sub-Flows:	
Alternate Flow/Exceptions:	**3a**. The item ordered is not available. The manager places a different order or ends the transaction. **5a**. The manager never receives the order. The manager informs the vendor.
Post-condition:	The manager receives a new item.
Requirements:	
Open Issues:	
Source:	Original Requirements Document
Revision & Date:	

Categorize DVDs ***Date of Creation: 10/17/2015 Version Number: 2.0***	
Use Case:	Categorize DVDs
ID:	160
Scope:	Inventory Management
Priority:	Low

Categorize DVDs ***Date of Creation: 10/17/2015 Version Number: 2.0***	
Summary:	The manager organizes DVDs into categories based on genre, language, and release date.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: Wants to simplify business operations and maximize sales by keeping inventory organized. Customers: Want easier access to DVDs. Want simpler transactions.
Generalization:	
Include:	
Extend:	
Precondition:	The inventory contains items.
Trigger:	
Normal Flow:	1. The manager selects the DVD. 2. The manager selects the category. 3. The manager selects the sub-category.
Sub-Flows:	**2a.** The manager selects genre. **2b.** The manager selects language. **2c.** The manager selects release date. **2d.** The manager adds custom categories if needed. **3a**. The manager chooses from multiple genres. **3b.** The manager chooses from multiple languages. **3c.** The manager adds custom sub-categories if needed.
Alternate Flow/Exceptions:	
Post-condition:	The DVD's information is changed in the inventory and it is grouped with similar DVDs.

Categorize DVDs *Date of Creation: 10/17/2015 Version Number: 2.0*	
Requirements:	
Open Issues:	
Source:	Original Requirements Document
Revision & Date:	Stakeholders: 11/01/2015

Pay Late Fees *Date of Creation: 10/17/2015 Version Number: 2.0*	
Use Case:	Pay Late Fees
ID:	170
Scope:	Sales Transaction
Priority:	High
Summary:	A member pays fees for the late return of a DVD rental based on how long overdue the rental is.
Primary Actor:	Member
Supporting Actors:	Manager, Employee
Stakeholders:	Manager: Wants to collect late fees in order to maximize sales. Member: Wants to pay fees in order to keep membership or avoid further charges.
Generalization:	
Include:	
Extend:	
Precondition:	The member returns a rental late and must pay a late fee.

Pay Late Fees ***Date of Creation: 10/17/2015 Version Number: 2.0***	
Trigger:	A rented item is overdue.
Normal Flow:	1. The member returns an item is returned past the due date. 2. The manager/ employee informs the member of the late fees. 3. The member pays the late fee.
Sub-Flows:	**3a.** The member pays with their credit card on file. **3b.** The member pays with cash.
Alternate Flow/Exceptions:	**1a.** The member never returns the item. The member's credit card is charged the full price for the item.
Post-condition:	Late fees are paid and the member is able to rent more items.
Requirements:	
Open Issues:	
Source:	Requirements Interview 1.0
Revision & Date:	Stakeholders: 11/01/2015

Verify Credit Card ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Verify Credit Card
ID:	180
Scope:	Member Management
Priority:	High
Summary:	The bank verifies that a potential member's credit card information is valid.
Primary Actor:	Bank
Supporting Actors:	

Verify Credit Card ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Stakeholders:	Video Shoppe: Wants to register new members in order to grow business. Wants to minimize fraud that may hurt business. Bank: Wants to avoid costly mistakes by minimizing fraud.
Generalization:	
Include:	
Extend:	
Precondition:	The potential member applies for membership.
Trigger:	The potential member presents a credit card.
Normal Flow:	1. The manager enters the credit card information into a verification system. 2. The bank checks the credit card information. 3. The bank approves the credit card as valid.
Sub-Flows:	**2a.** The bank checks that the number is a valid number. **2b.** The bank checks that the name is correct. **2c.** The bank ensures that the address is correct.
Alternate Flow/Exceptions:	**3a.** The credit card is not valid. The manager asks the potential member for another credit card or denies the application.
Post-condition:	The potential member's credit card is approved and they move to the next step of the application process.
Requirements:	
Open Issues:	
Source:	Original Requirements Document

Verify Credit Card ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Revision & Date:	

Sign Up For Alerts ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Sign Up For Alerts
ID:	190
Scope:	Member Messaging
Priority:	Medium
Summary:	The member decides to receive alerts by email.
Primary Actor:	Member
Supporting Actors:	Manager
Stakeholders:	Video Shoppe: Wants to keep contact with members in order to maximize sales and recover fees and overdue items.
Generalization:	
Include:	Alert Customer (120)
Extend:	
Precondition:	The customer must hold an active membership.
Trigger:	
Normal Flow:	1. The member agrees to register for alerts. 2. The member provides proof of membership. 3. The member provides an e-mail address.4. The member verifies their information is correct.
Sub-Flows:	

Sign Up For Alerts ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Alternate Flow/Exceptions:	**2a**. The customer does not hold an active membership. The manager signs the customer up for membership or terminates the use case.
Post-condition:	The member is now registered for alerts and will now receive notifications.
Requirements:	
Open Issues:	
Source:	Requirements Interview 1.0
Revision & Date:	

Remove Item From Inventory ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Remove Item From Inventory
ID:	200
Scope:	Inventory Management
Priority:	Medium
Summary:	Removes an item from the inventory if it is unpopular, damaged, lost, or stolen.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: Wants to keep the inventory system accurate and update in order to simplify business operations.
Generalization:	
Include:	

Remove Item From Inventory ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Extend:	
Precondition:	The item is currently registered in the inventory system.
Trigger:	The item is unpopular, lost, damaged, or stolen.
Normal Flow:	1. The manager searches for the DVD. 2. The manager selects the DVD. 3. The manager removes the DVD from the inventory. 4. The manager selects the reason for removing the DVD
Sub-Flows:	**4a**. The manager selects "lost" **4b.** The manager selects "stolen" **4c**. The manager selects "damaged" **4d.** The manager selects "unpopular" **4e.** The manager selects "other"
Alternate Flow/Exceptions:	
Post-condition:	Item is removed from the inventory and is no longer available for rent.
Requirements:	
Open Issues:	
Source:	Original Requirements Document.
Revision & Date:	

Track Employee Hours ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Track Employee Hours
ID:	210
Scope:	Employee Management
Priority:	High

Track Employee Hours ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Summary:	The system tracks the number of hours worked by employees.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: Wants to keep track of hours worked in order to maximize productivity and pay.
Generalization:	
Include:	
Extend:	Track Employee Schedule (220)
Precondition:	Manager wishes to view or change employee hours.
Trigger:	
Normal Flow:	1. The manager selects an employee. 2. The manager selects a timeframe. 3. The manager views the number of hours worked during the timeframe.
Sub-Flows:	
Alternate Flow/Exceptions:	**2a.** The timeframe selected by the manager is a date before the employee joined the business or is a date in the future. An error message is displayed and the manager alters the timeframe.
Post-condition:	The manager knows the hours worked for a given timeframe.
Requirements:	
Open Issues:	
Source:	Original Requirements Document

Track Employee Hours ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Revision & Date:	

Track Employee Schedule ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Track Employee Schedule
ID:	220
Scope:	Employee Management
Priority:	Low
Summary:	The manager views the schedule for employees and employees check their schedule.
Primary Actor:	Manager
Supporting Actors:	Employee
Stakeholders:	Video Shoppe: Wants to maximize productivity. Employee: Wants easy access to upcoming schedules.
Generalization:	
Include:	
Extend:	
Precondition:	There must be at least one active employee scheduled to work.
Trigger:	
Normal Flow:	1. The manager selects view schedule. 2. The manager sets the schedule for employees. 3. The employee views their schedule.

Track Employee Schedule ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Sub-Flows:	**1a.** The manager selects "all" or chooses an individual employee.
Alternate Flow/Exceptions:	**3a.** The schedule has not been set by the manager. The employee is notified.
Post-condition:	The schedule is updated and is visible to all employees.
Requirements:	
Open Issues:	
Source:	Original Requirements Document.
Revision & Date:	

Update Reward System ***Date of Creation: 10/17/2015 Version Number: 2.0***	
Use Case:	Update Reward System
ID:	230
Scope:	Member Management
Priority:	Low
Summary:	The manager changes the type of rewards given and for what occasion, as necessary.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Manager: Wants to maximize sales by providing special rewards that are clear to members.
Generalization:	
Include:	

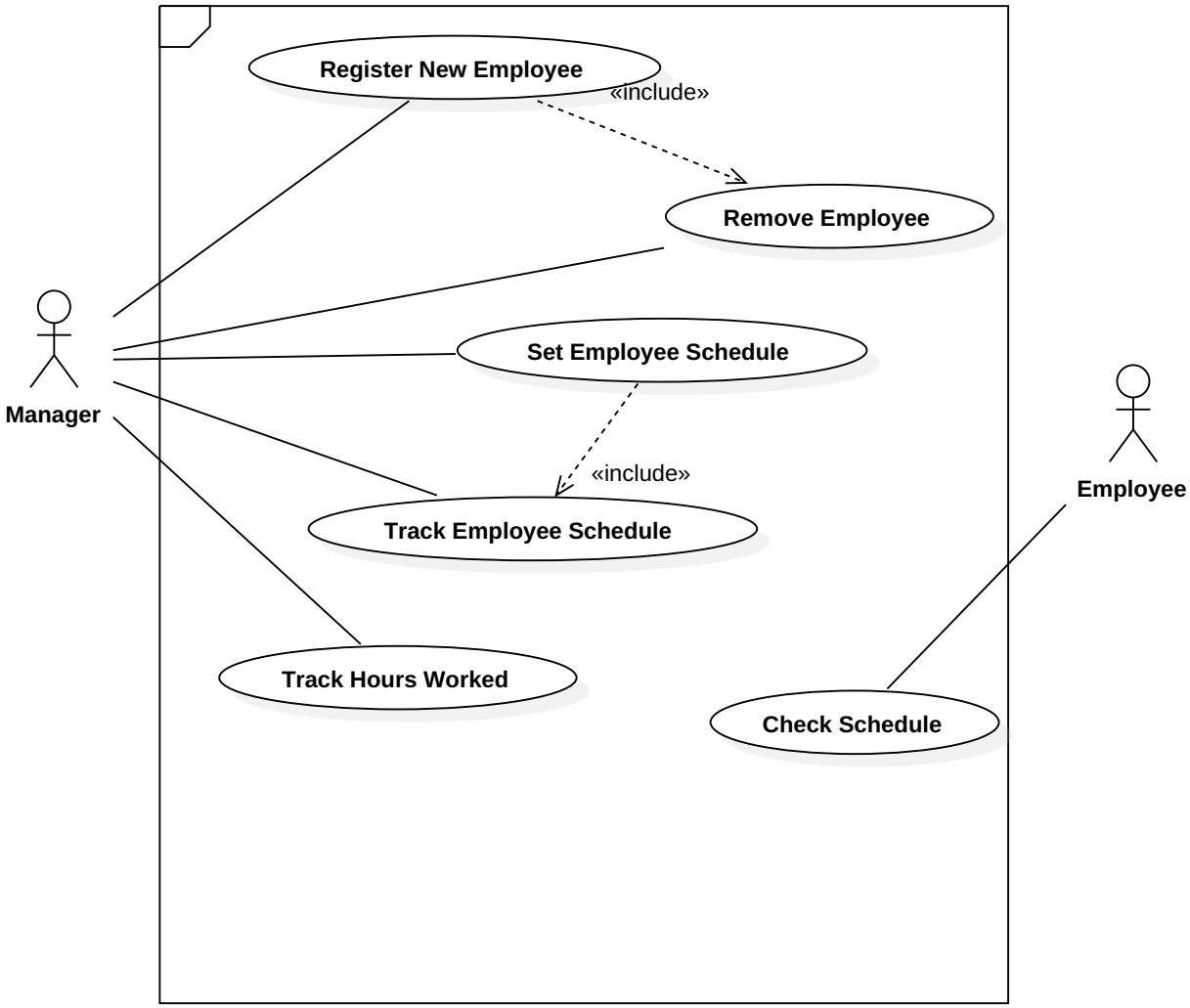
Update Reward System ***Date of Creation: 10/17/2015 Version Number: 2.0***	
Extend:	
Precondition:	The manager decides to implement a new reward.
Trigger:	
Normal Flow:	1. The manager selects a new reward. 2. The manager selects an occasion. 3. The manager selects a timeframe. 4. Members are notified of the reward.
Sub-Flows:	**1a**. The manager selects discount. **1b.** The manager selects free rental. **1c.** The manager adds a custom reward. **2a**. The manager selects holiday. **2b**. The manager selects birthday. **3c.** The manager adds a custom occasion.
Alternate Flow/Exceptions:	
Post-condition:	Reward system is up-to-date with new revisions.
Requirements:	
Open Issues:	
Source:	Risk Analysis
Revision & Date:	Stakeholders: 11/01/2015

Track Popular Items ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Use Case:	Track Popular Items
ID:	240
Scope:	Financial Reports

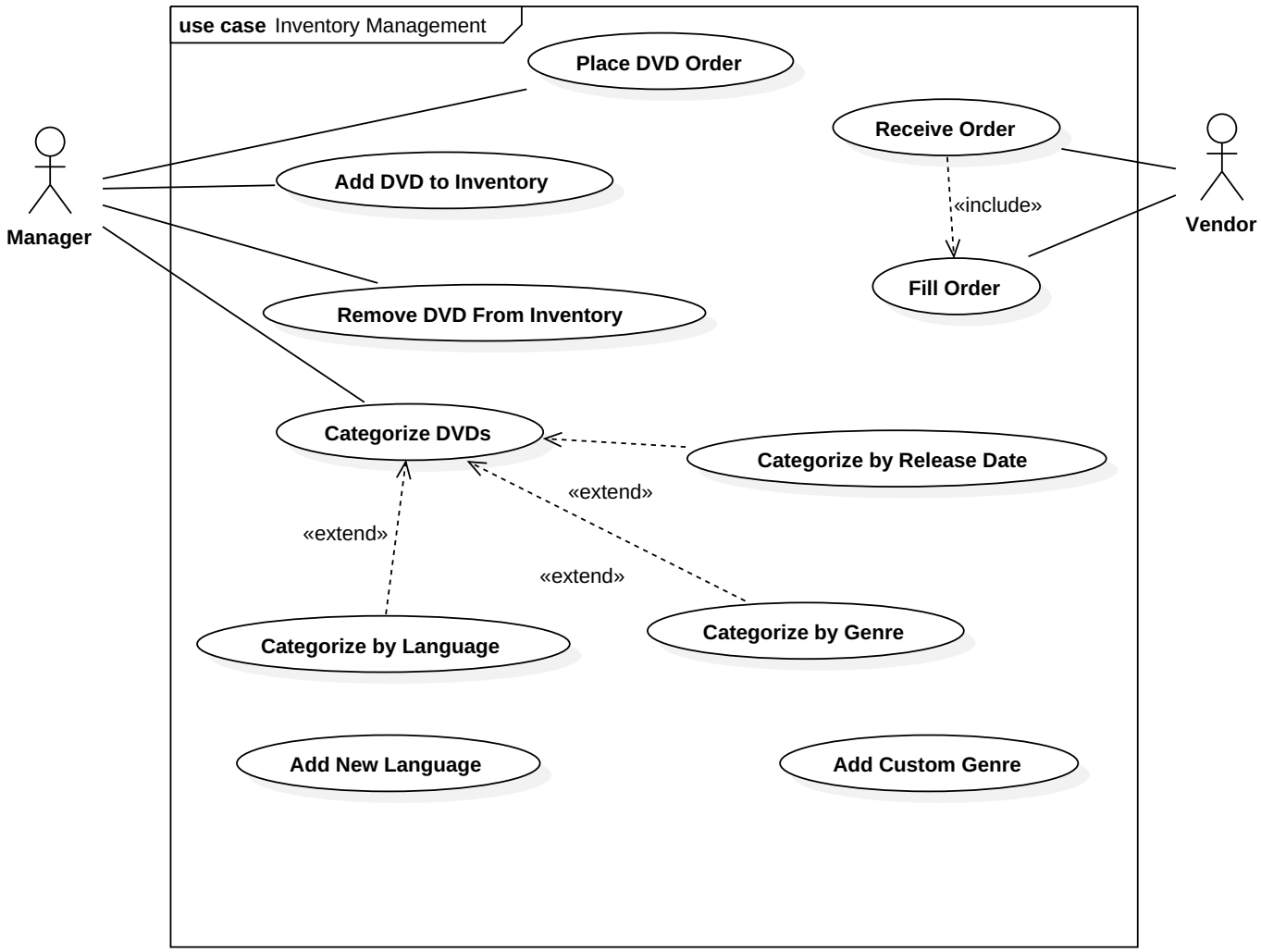
Track Popular Items ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Priority:	Low
Summary:	The number of rentals is tracked for each item and items are ranked based on popularity.
Primary Actor:	Manager
Supporting Actors:	
Stakeholders:	Video Shoppe: Wants to maximize sales by keeping track of items' popularity.
Generalization:	
Include:	Track Profits(260)
Extend:	
Precondition:	The inventory system contains items.
Trigger:	A DVD is rented.
Normal Flow:	1. The count for rentals is increased for that item. 2. The manager selects a category. 3. The manager selects a timeframe. 4. The manager views the number of rentals
Sub-Flows:	**2a**. The manager selects search for item. **2b.** The manager selects view by genre. **2c.** The manager selects view by release date. **2d.** The manager selects view by language. **2e.** The manager selects view by most popular. **2f**. The manager selects view by least popular.
Alternate Flow/Exceptions:	
Post-condition:	A report shows which items are more popular among customers for rental.

Track Popular Items ***Date of Creation: 10/17/2015 Version Number: 1.0***	
Requirements:	
Open Issues:	
Source:	Requirements Interview 1.0
Revision & Date:	

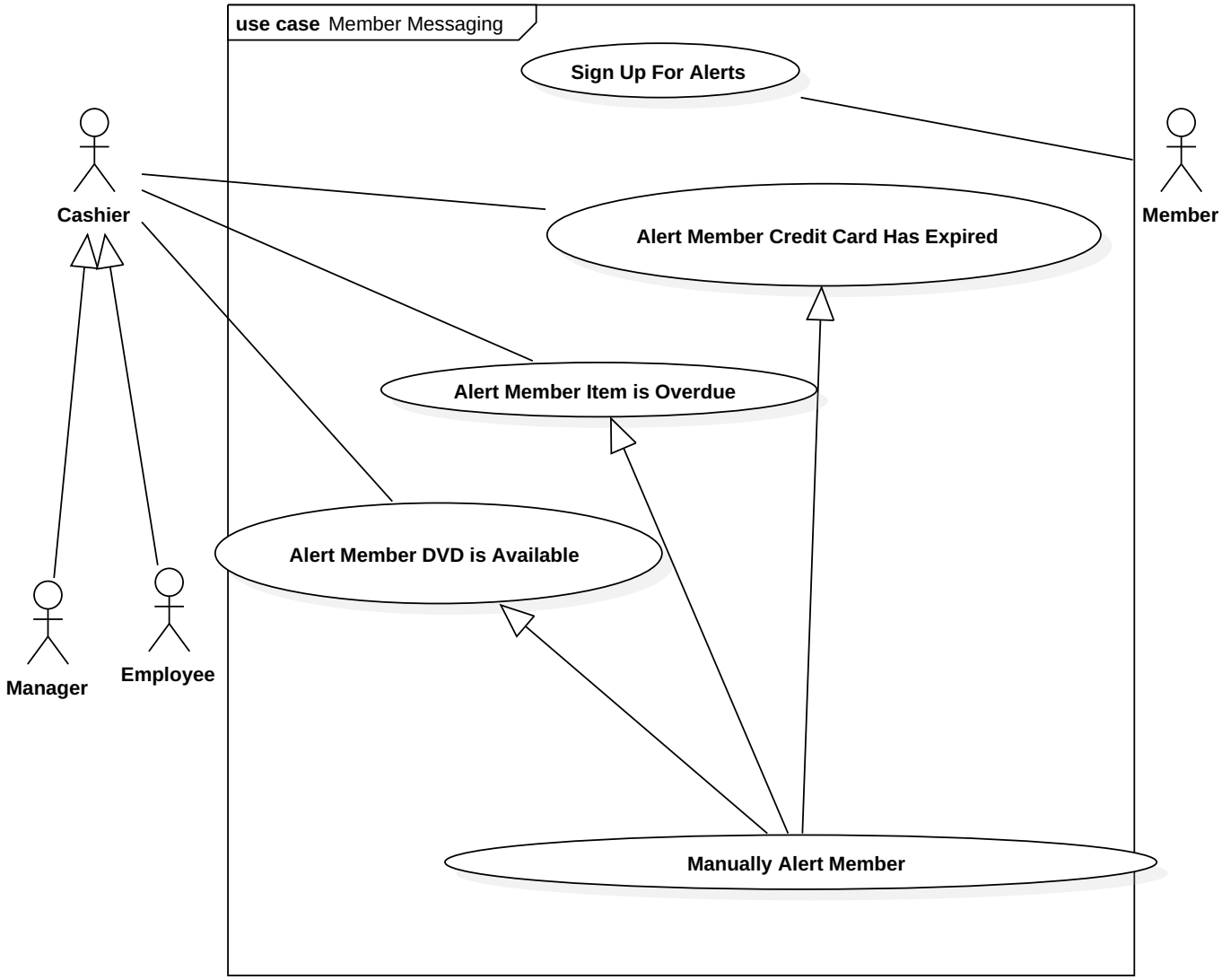
Model1::UseCaseDiagram1



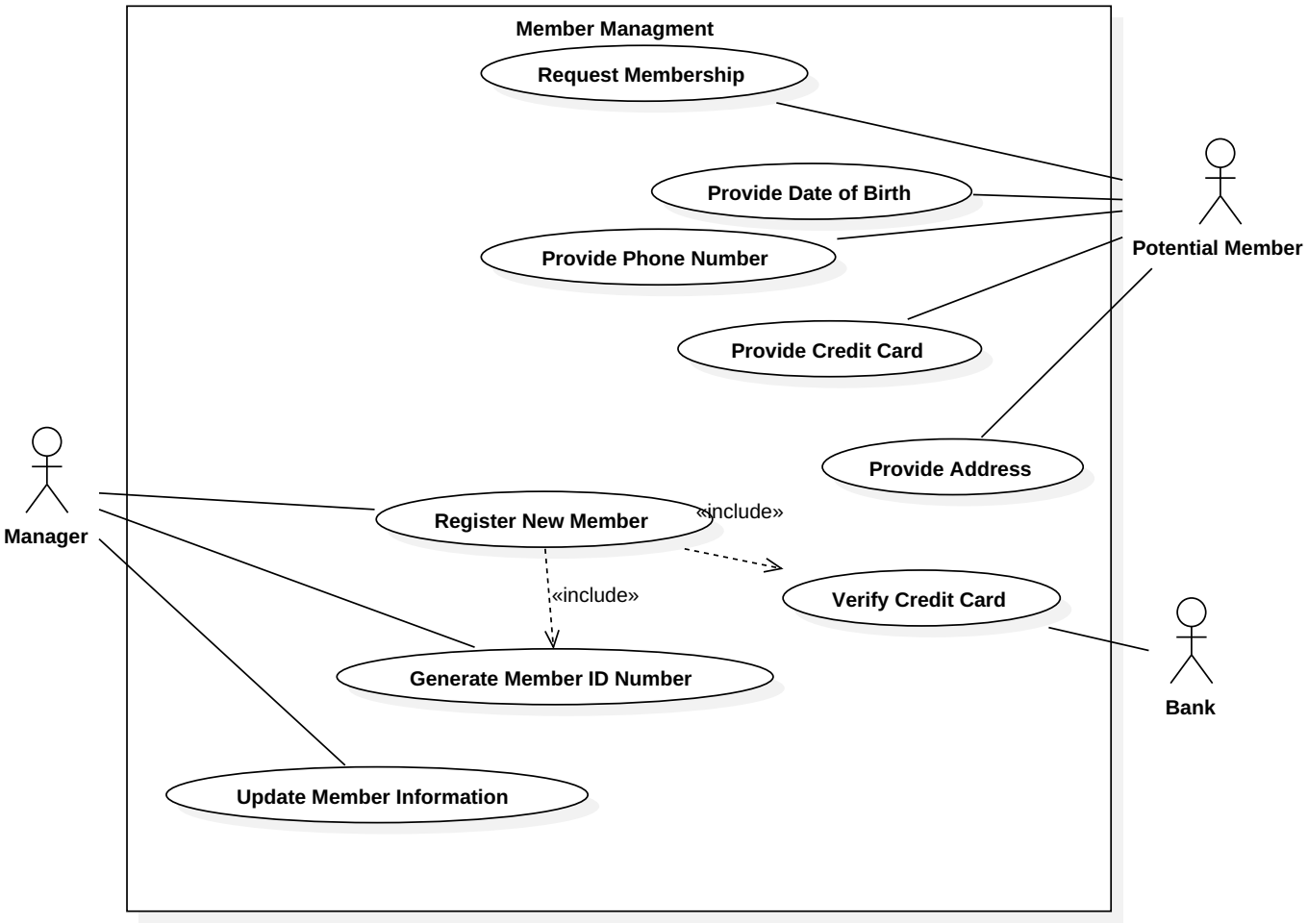
Model1::Inventory Management



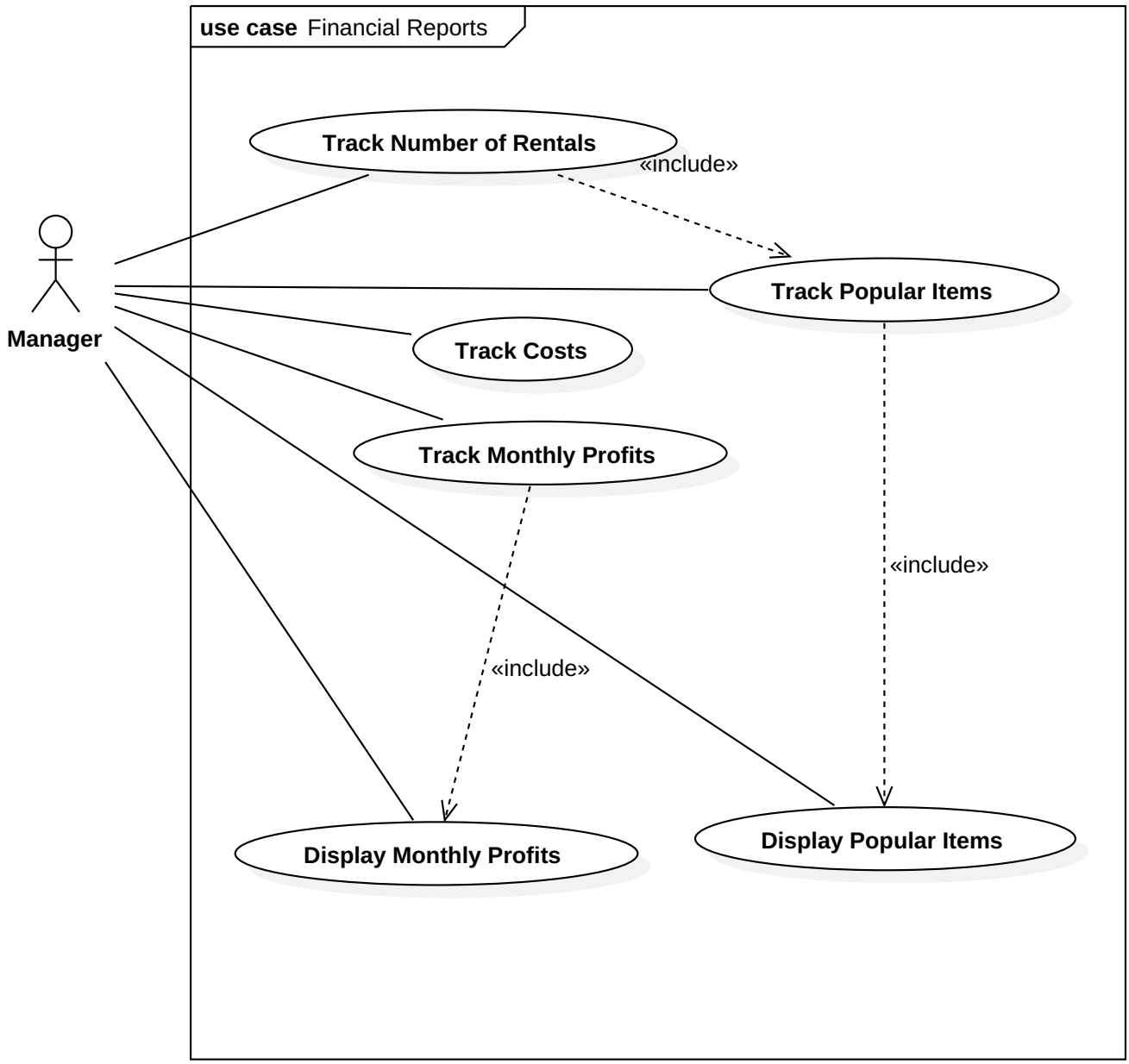
Model1::Member Messaging



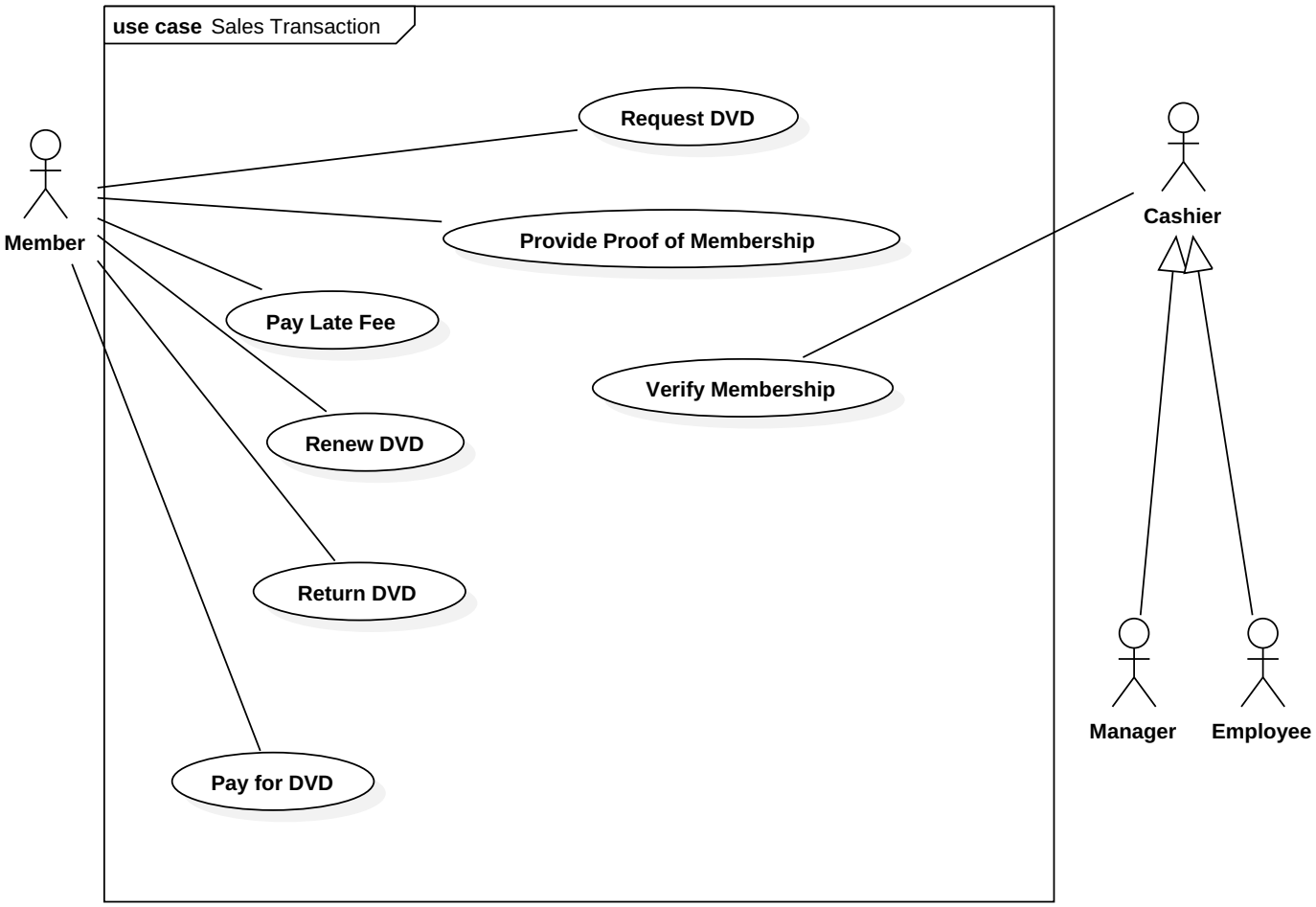
Model1::UseCaseDiagram1



Model1::Financial Reports



Model1::Sales Transaction



Video Shoppe				
Class Descriptions **Member Management**				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
Customer	• lastName • firstName • midInit • memID • phones • addresses • birthDate • creditCard • rentalHistory • currentRentals • familyMember • emailAddress • overdueItems • lateFees • requestedItem	• Knows customer's personal data • Knows customer's contact data • Knows customer's rental data • Know customer's financial data	• CreditCard • Phone • Address • EmailAddress •	
Credit Card	• number • expDate • nameOnCard • address • phone • cardNumber • securityCode • bank	• Knows member's credit card • Verifies member's credit card	• Address • Phone	
Address	• street • city • state • zipCode • aptNumber • country		• Customer • Credit Card	
Phone	• memberID • type		• Customer	

Video Shoppe				
Class Descriptions **Member Management**				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
Email	• memberID		• Customer	
FamilyMember	• lastName • firstName • midInit • memID • phones • addresses • birthDate • creditCard • rentalHistory • currentRentals • familyMember • emailAddress • overdueItems • lateFees • requestedItem	• Knows customer's personal data • Knows customer's contact data • Knows customer's rental data • Know customer's financial data	• CreditCard • Phone • Address • EmailAddress	

Video Shoppe				
Class Descriptions **Inventory Management**				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
DVD	• title • genre • language • ageRating • release date • director • actors	• Tracks DVD rental status • Adds DVD to inventory • Removes DVD from inventory • Orders new DVDs • Categorizes DVDs	•	
WaitingList	• memberID • nextMember • dvdTitle • dvdDuedate	• Knows when a DVD is checked out • Knows when a DVD is returned • Orders list • Knows position in line • Adds a member to waiting list • Removes a member from waiting list • Adds an item to waiting list • Removes an item from waiting list	• DVD	

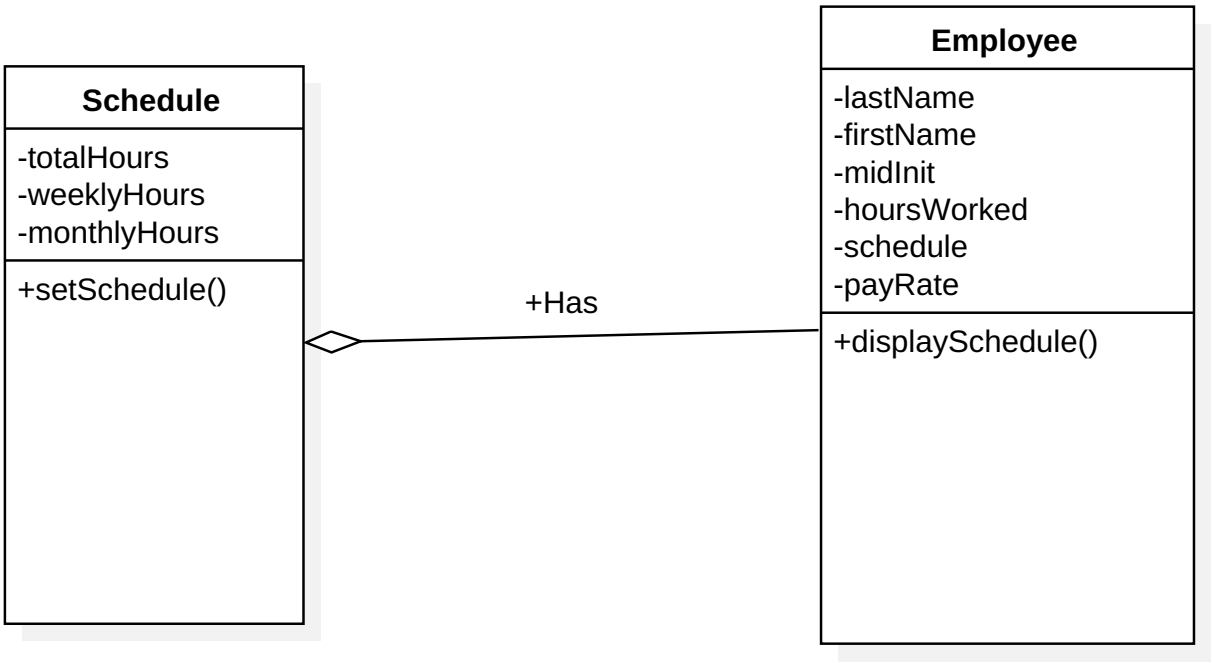
Video Shoppe				
Class Descriptions **Customer Messaging**				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
Alert	• overdueAlert • expiryAlert • waitingListAlert	• Knows member contact data • Emails customer	• OverdueAlert • ExpiryAlert • WaitingListAlert	
OverdueAlert	• memberID • daysPastDue • lateFees	• Knows member current rentals • Notifies member when DVD is overdue	• Alerts	
ExpiryAlert	• daysExpired • memberID	• Notifies member when credit card has expired	• Alerts	
WaitingListAlerts	• memberID • dateAvailable	• Knows the order of waiting list • Knows available date for requested item	• Alerts	

Video Shoppe				
Class Descriptions Employee Management				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
Employee	• lastName • firstName • midInit • hoursWorked • schedule • payRate	• Knows employee's personal data • Knows employee's contact data	• Schedule	
Schedule	• totalHours • weeklyHours • monthlyHours	• Knows employee's hours worked • Sets schedule	• Employee	

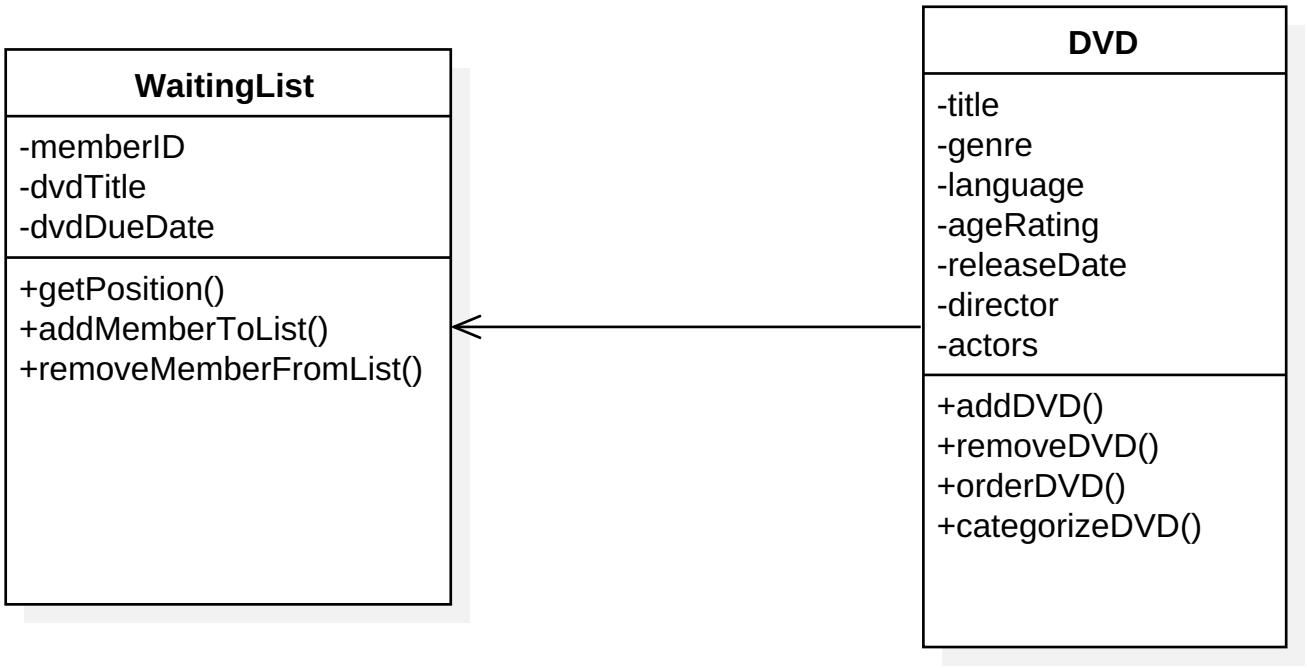
Video Shoppe				
Class Descriptions Financial Reports				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
MonthlyReport	• totalSales • popularTitles • graph	• Tracks number of rentals • Tracks popular rentals • Displays graph	• Graph	
Graph	• type • category	•	• MonthlyReport	

Video Shoppe				
Class Descriptions **Sales Transaction**				
Class	**Attributes**	**Responsibilities**	**Collaborations**	**Use Cases**
Rental	• rentalDate • dueDate • Receipt	• Knows DVD due date • Verifies membership • Verifies rental eligibility • Renew s DVD	• Receipt	
Receipt	• memberID • rentalDate	• emails receipt	• Rental	
Rewards	• type • startDate • endDate •	• Adds custom reward	•	

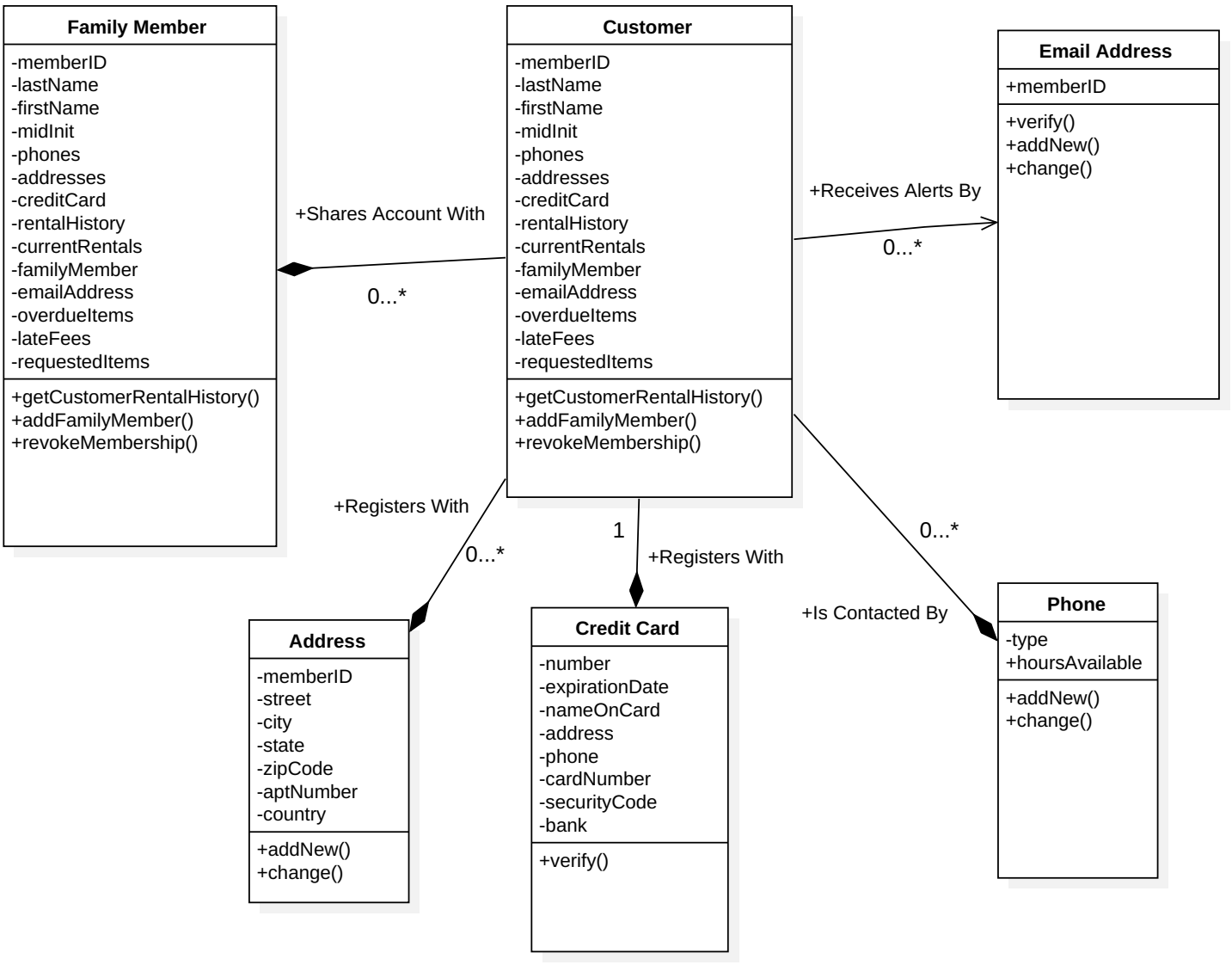
Model::Main


Schedule
-totalHours
-weeklyHours
-monthlyHours
+setSchedule()
+Has
Employee
-lastName
-firstName
-midInit
-hoursWorked
-schedule
-payRate
+displaySchedule()

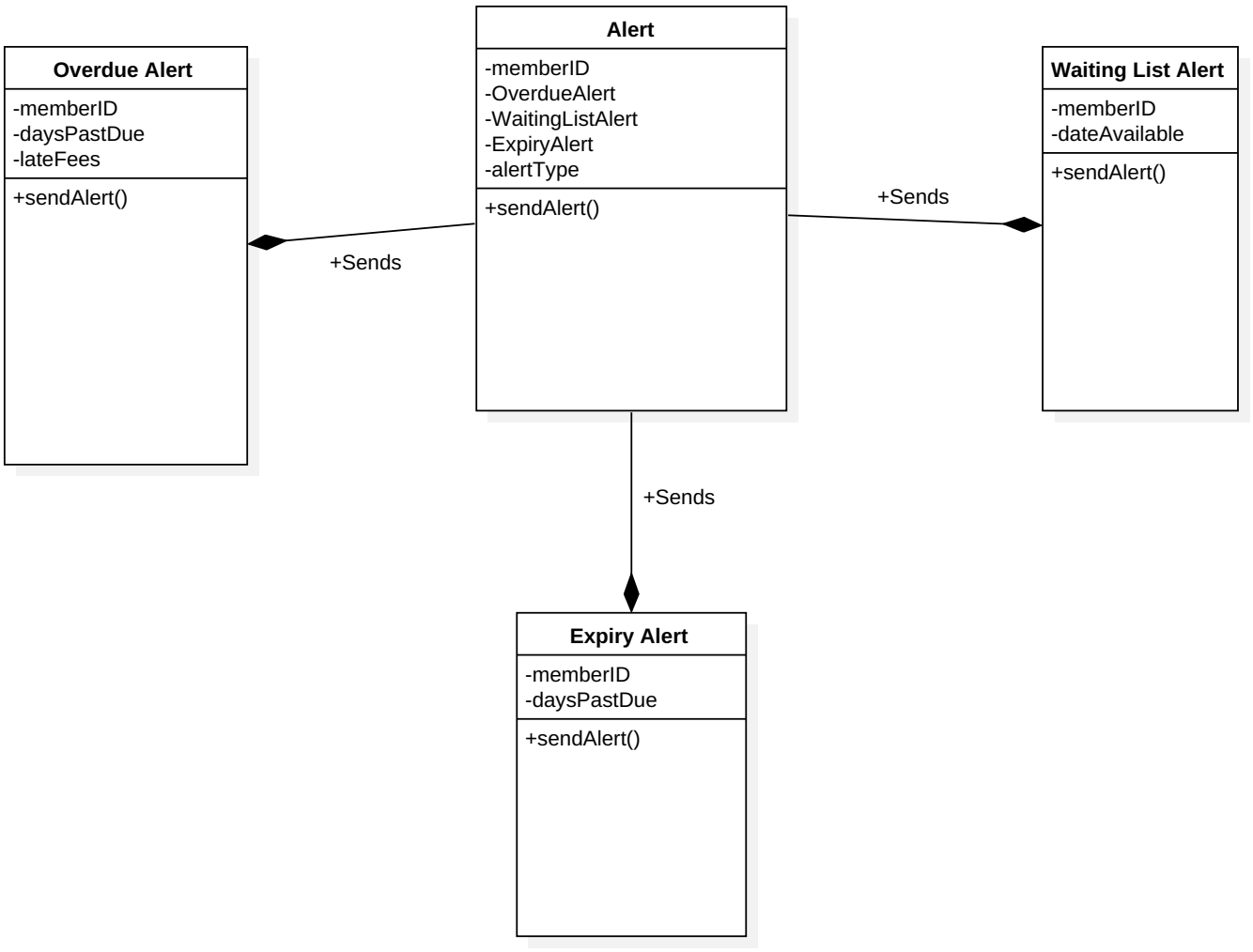
Model::Main


WaitingList
-memberID
-dvdTitle
-dvdDueDate
+getPosition()
+addMemberToList()
+removeMemberFromList()
DVD
-title
-genre
-language
-ageRating
-releaseDate
-director
-actors
+addDVD()
+removeDVD()
+orderDVD()
+categorizeDVD()

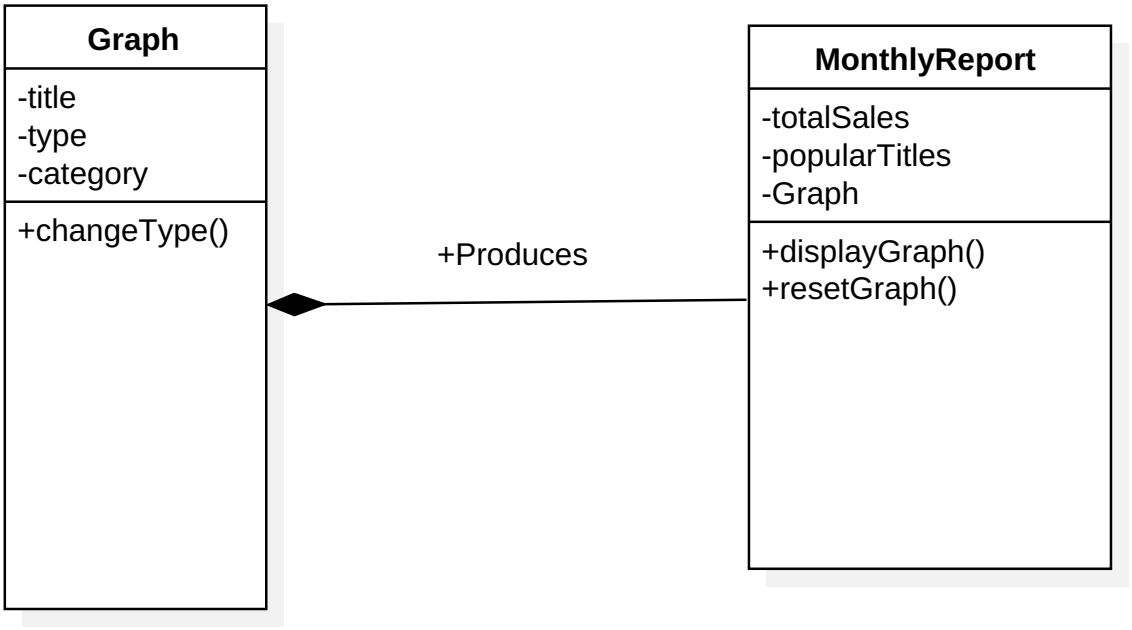
Model1::ClassDiagram1



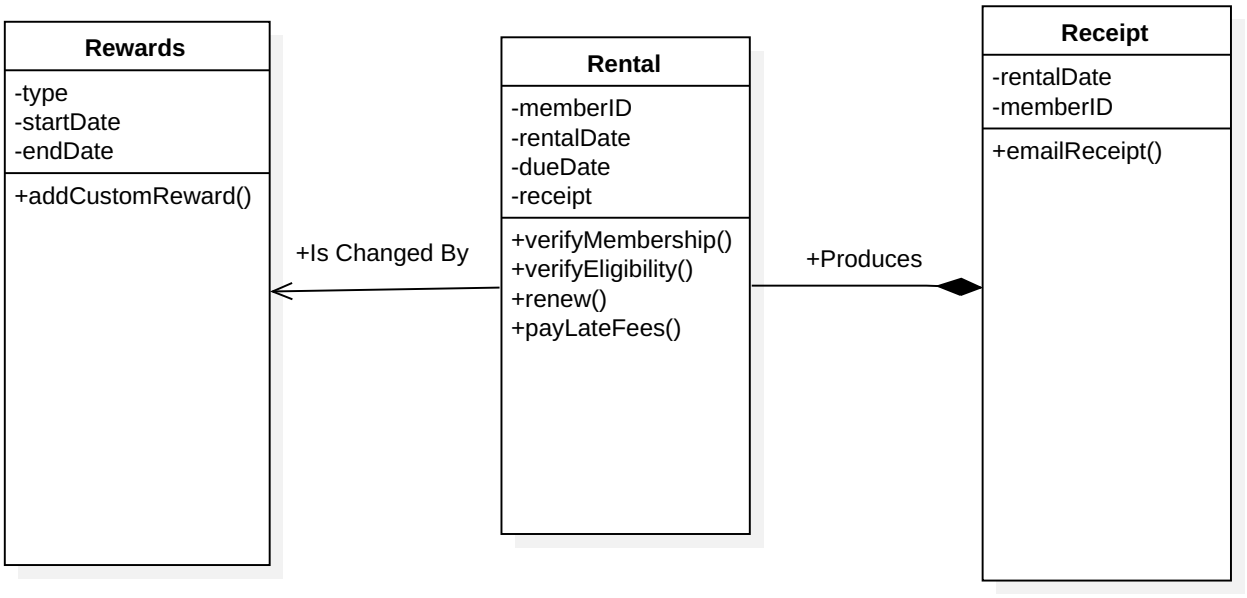
Model::Main


Alert
-memberID
-OverdueAlert
-WaitingListAlert
-ExpiryAlert
-alertType
+sendAlert()
Overdue Alert
-memberID
-daysPastDue
-lateFees
+sendAlert()
Waiting List Alert
-memberID
-dateAvailable
+sendAlert()
Expiry Alert
-memberID
-daysPastDue
+sendAlert()
+Sends
+Sends
+Sends

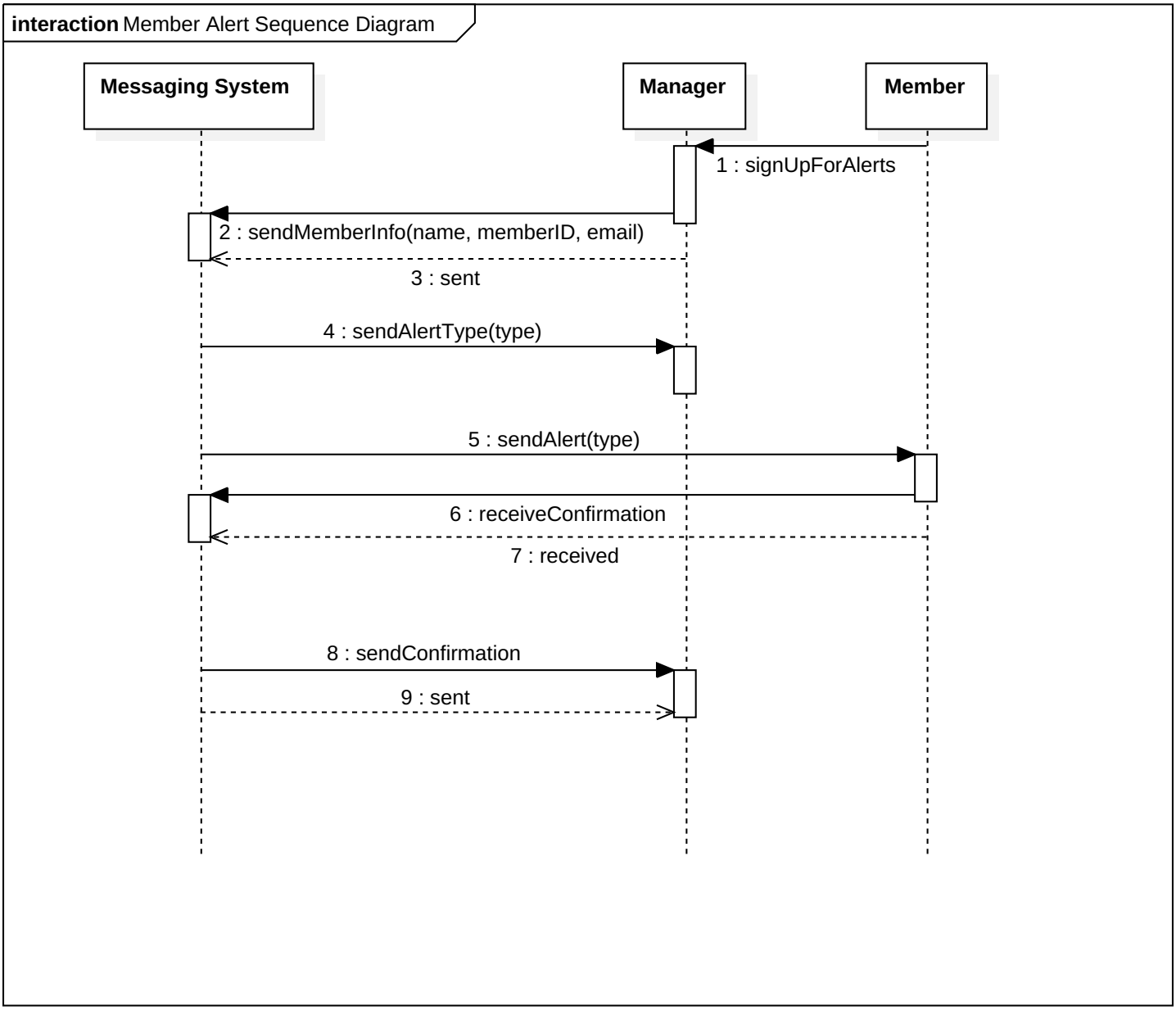
Model::Main


Graph
-title
-type
-category
+changeType()
+Produces
MonthlyReport
-totalSales
-popularTitles
-Graph
+displayGraph()
+resetGraph()

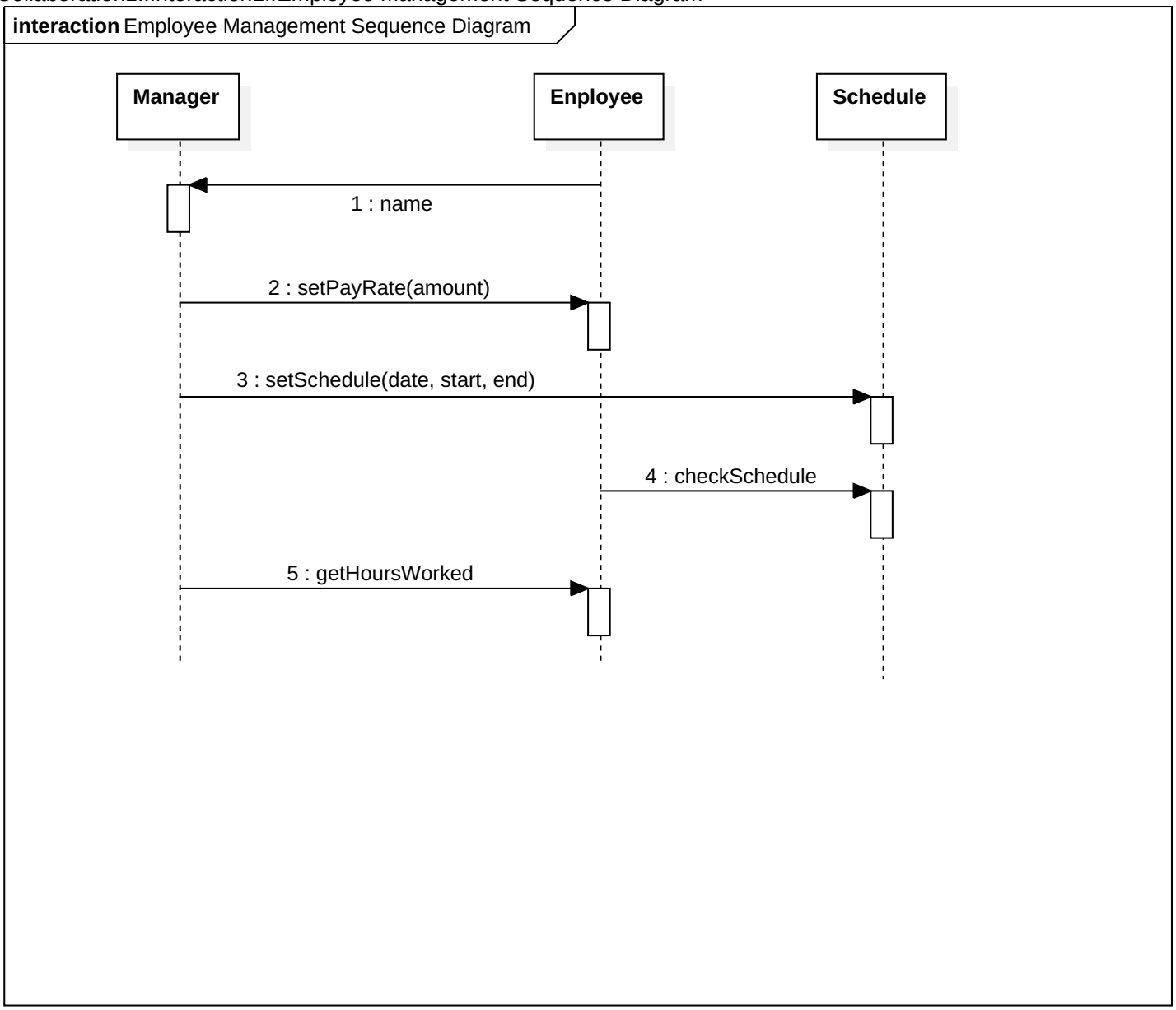
Model::Main


Rewards
-type
-startDate
-endDate
+addCustomReward()
+Is Changed By
Rental
-memberID
-rentalDate
-dueDate
-receipt
+verifyMembership()
+verifyEligibility()
+renew()
+payLateFees()
+Produces
Receipt
-rentalDate
-memberID
+emailReceipt()

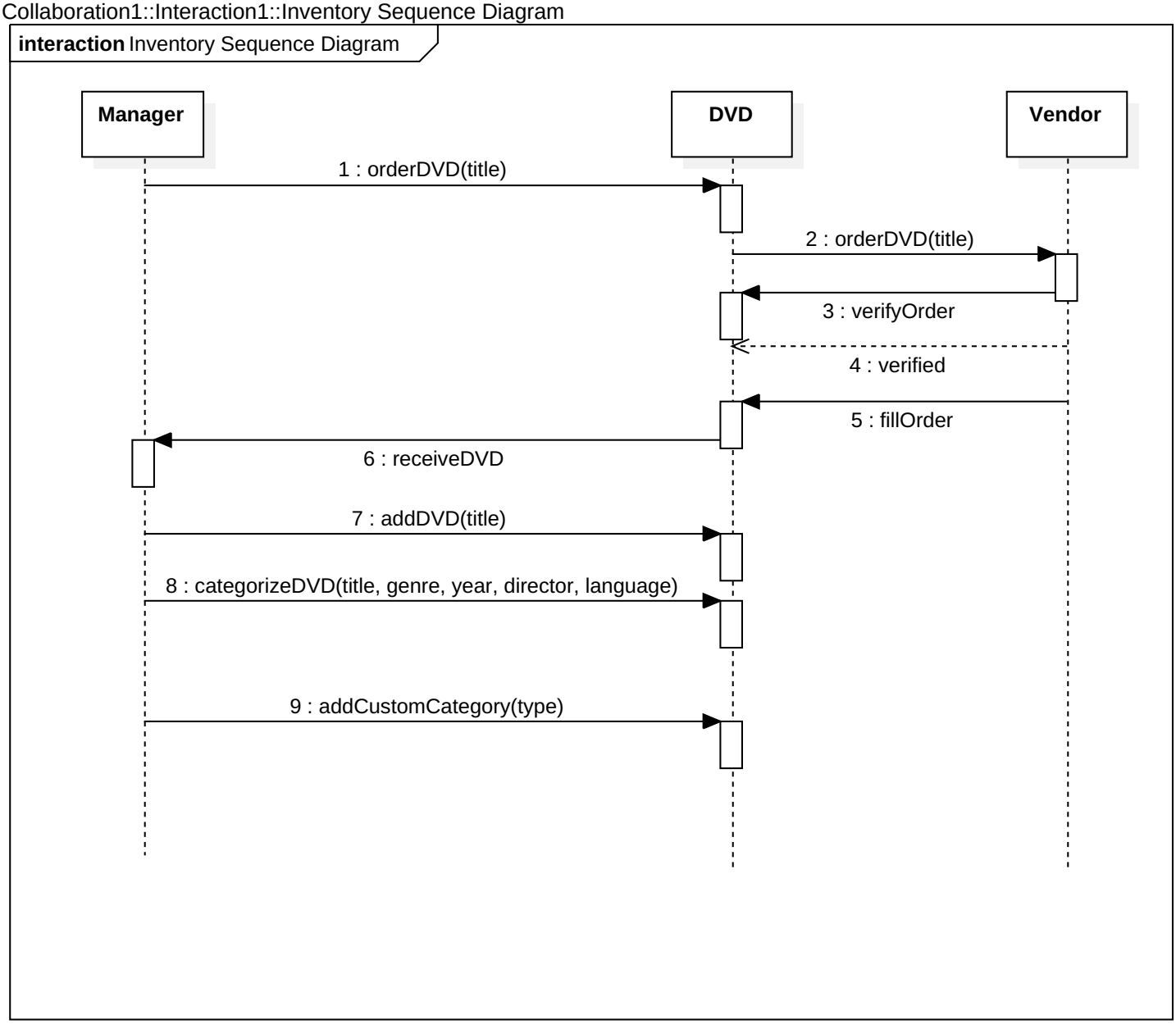
Collaboration1::Interaction1::Member Alert Sequence Diagram



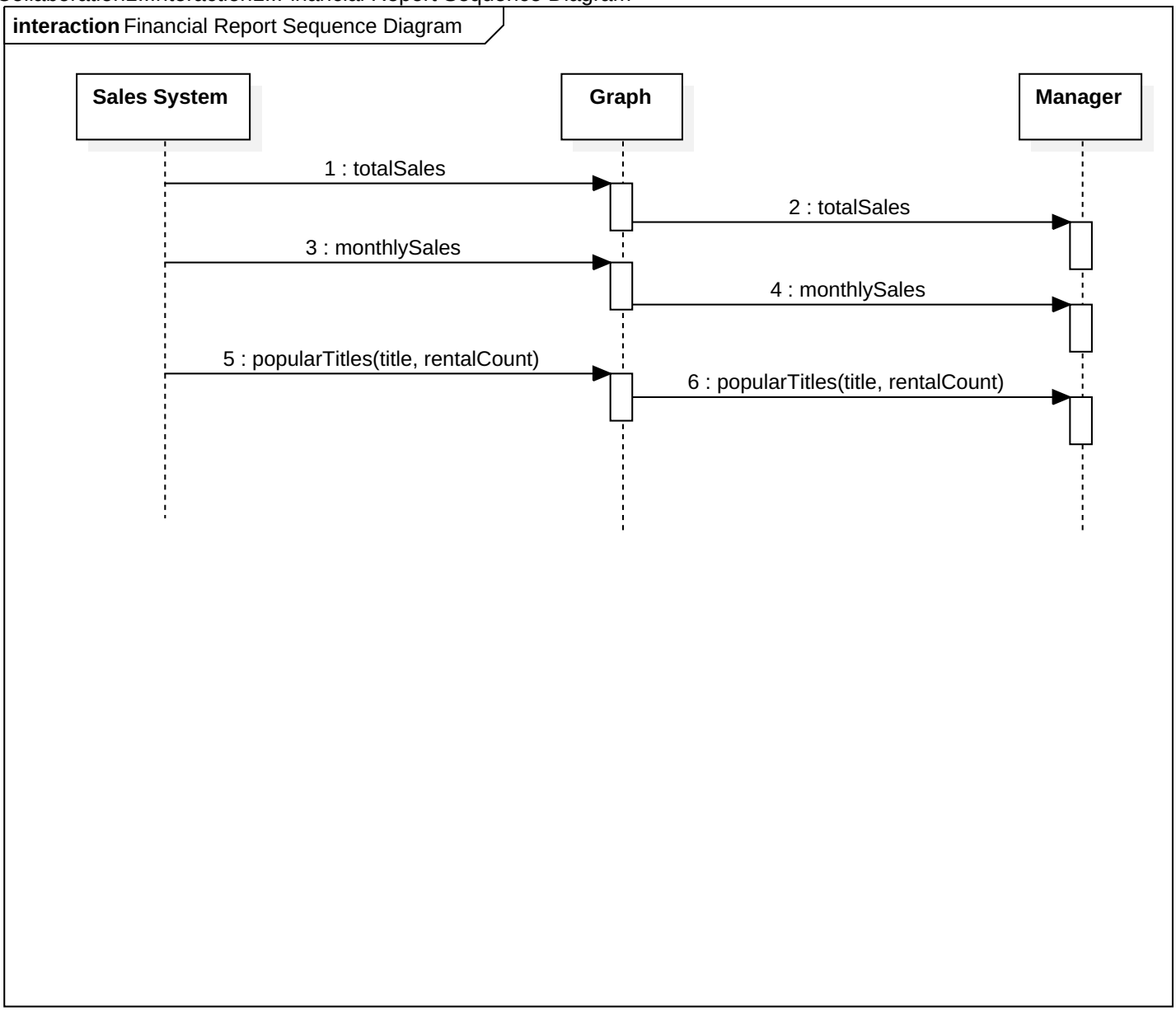
Collaboration1::Interaction1::Employee Management Sequence Diagram



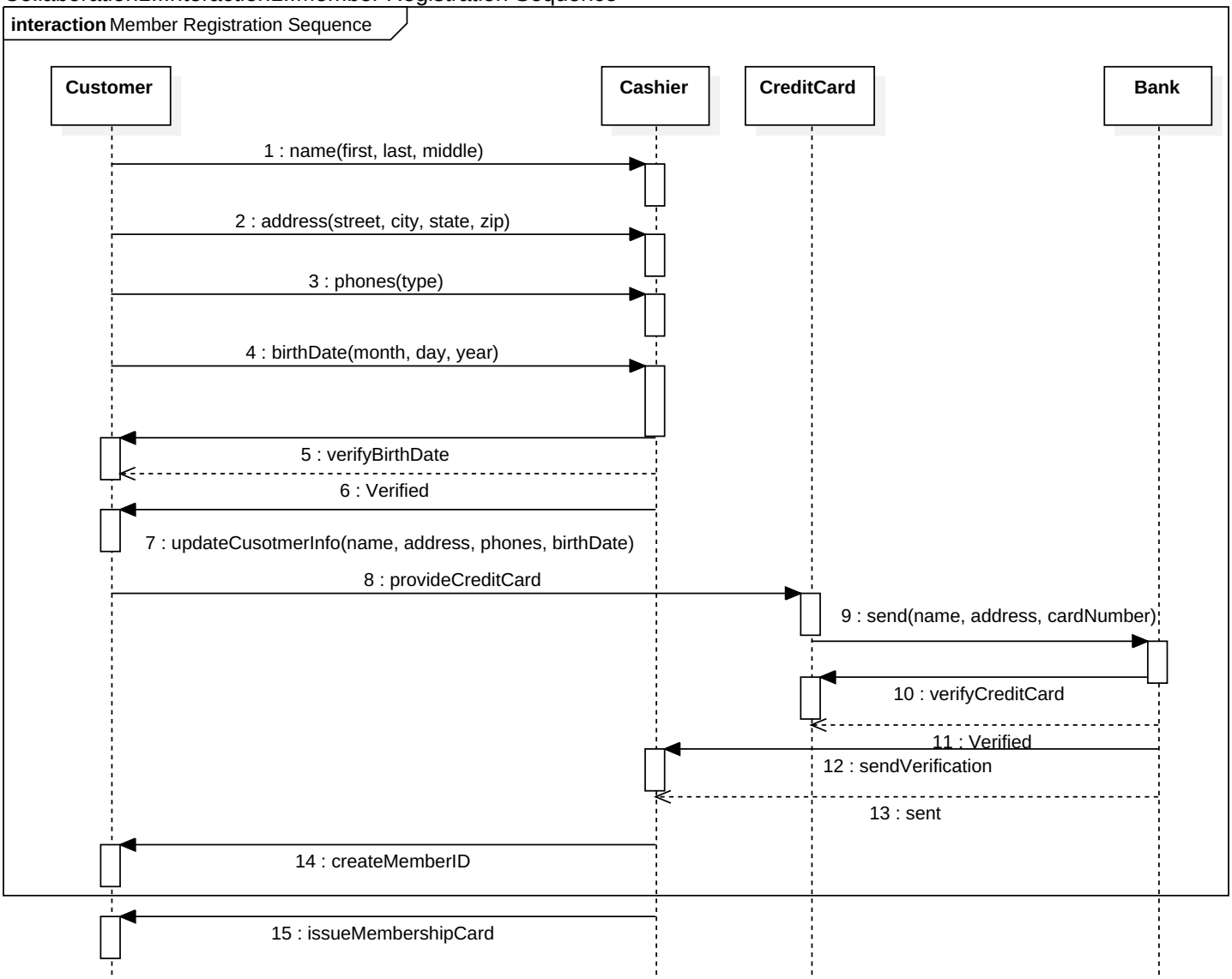
Collaboration1::Interaction1::Inventory Sequence Diagram



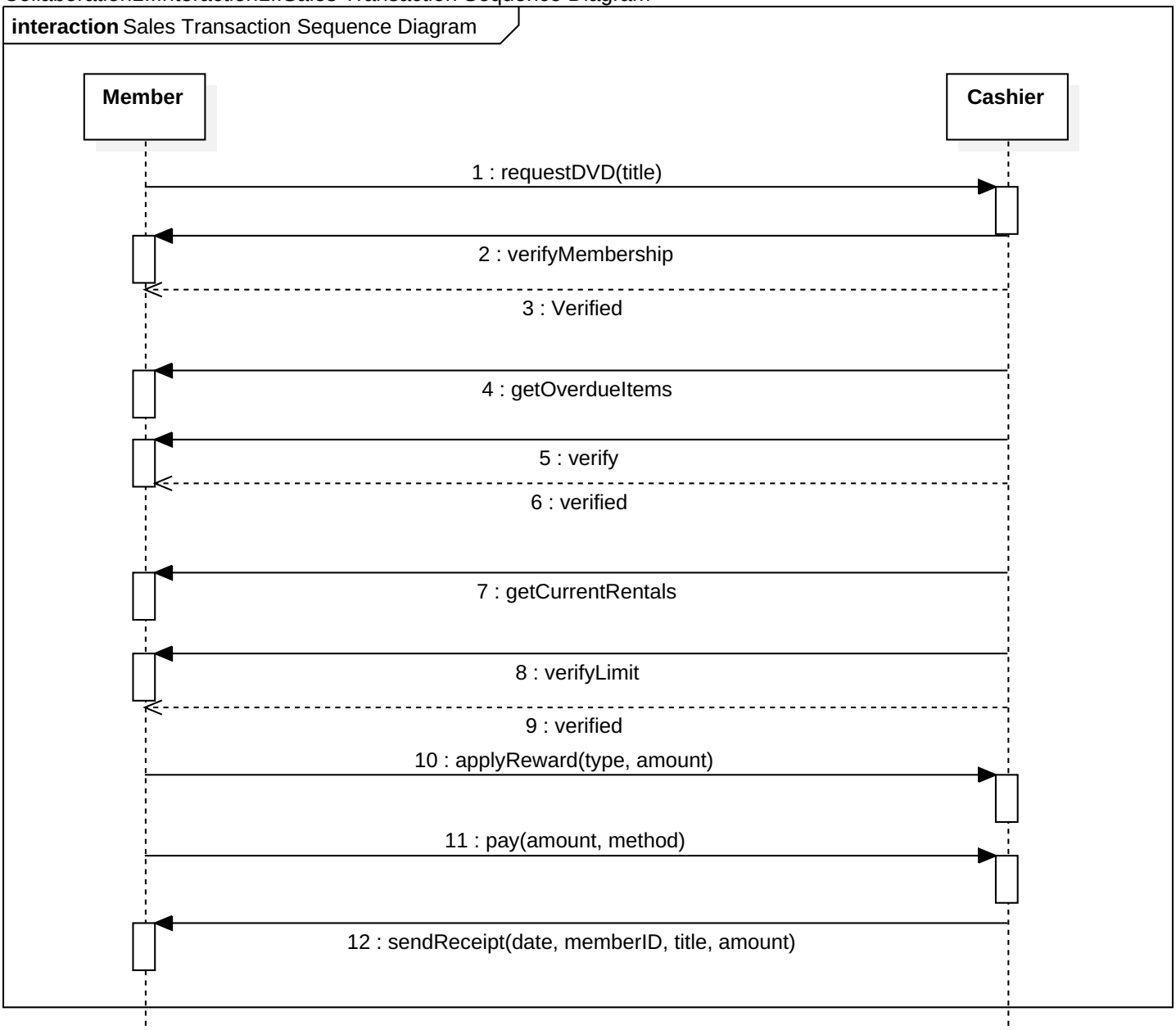
Collaboration1::Interaction1::Financial Report Sequence Diagram



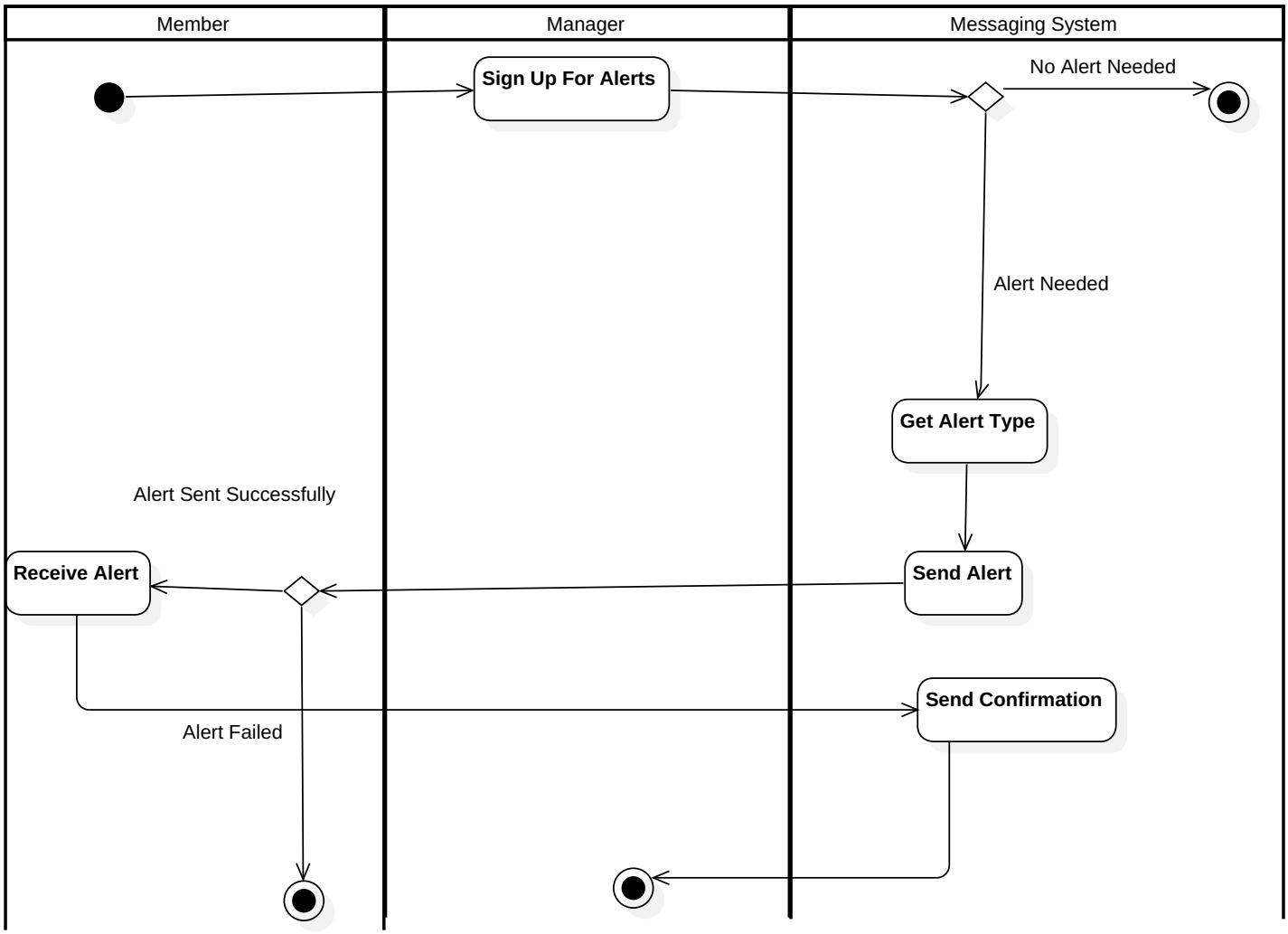
Collaboration1::Interaction1::Member Registration Sequence



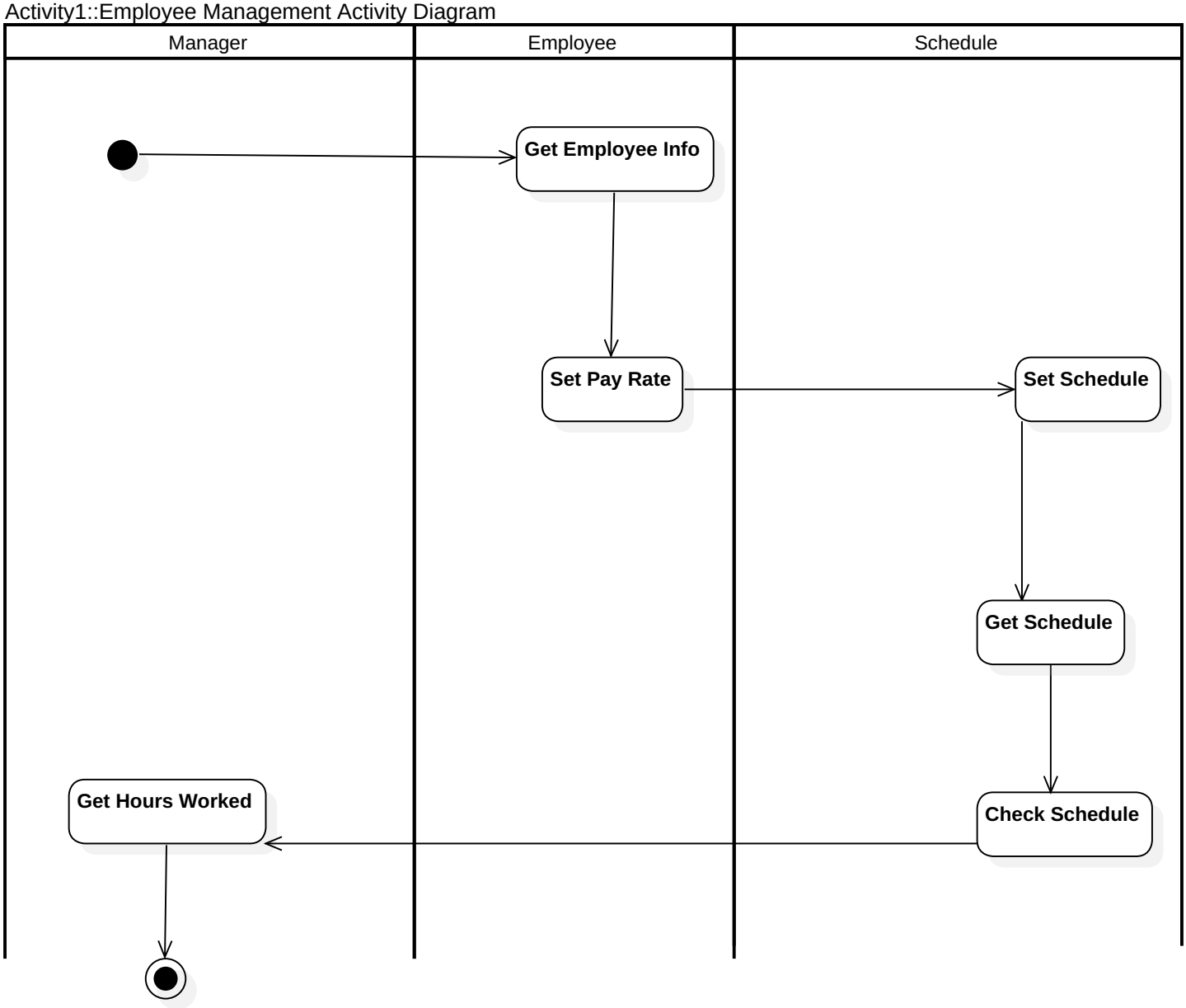
Collaboration1::Interaction1::Sales Transaction Sequence Diagram



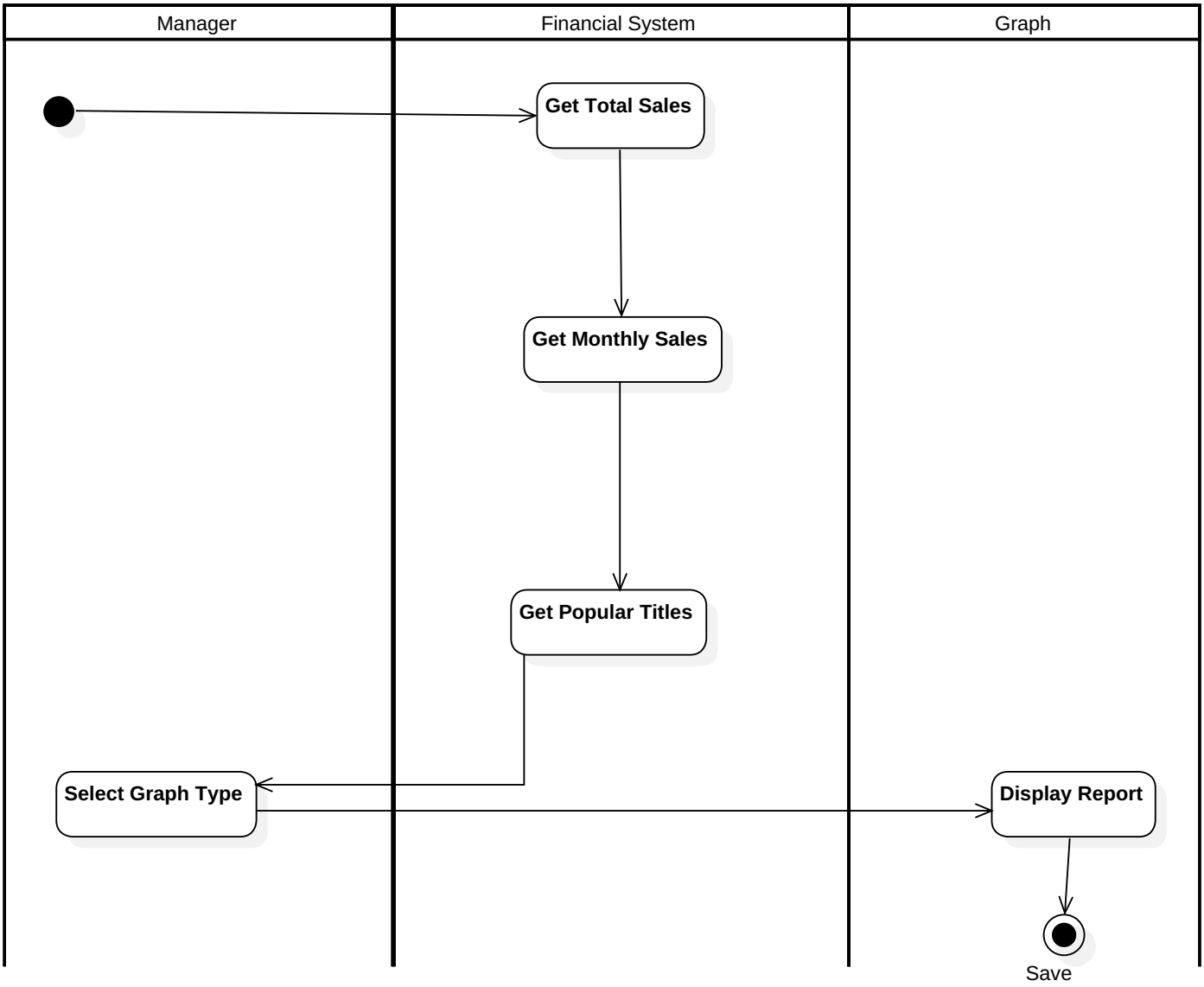
Activity1::Alert Activity Diagram



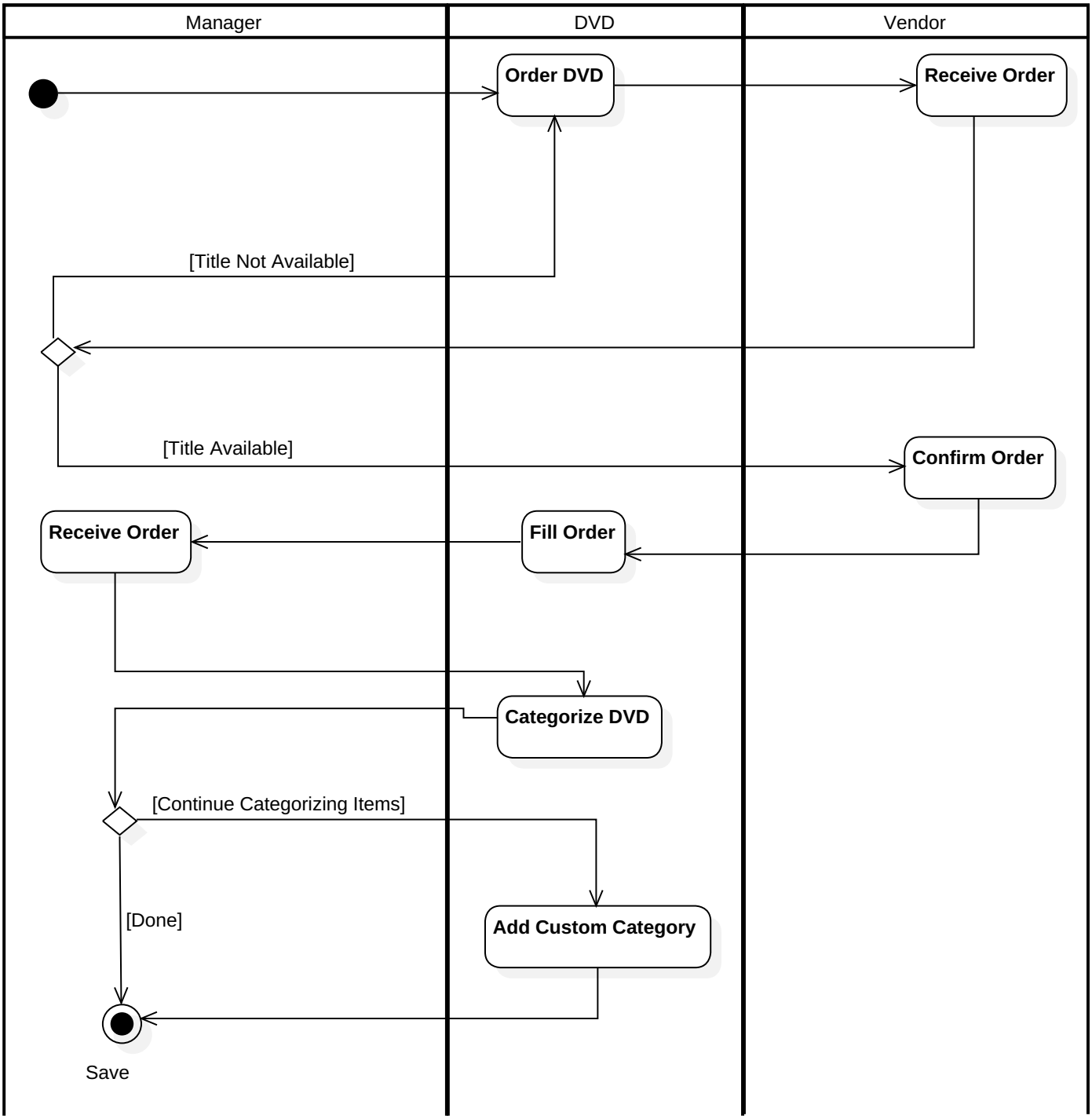
Activity1::Employee Management Activity Diagram



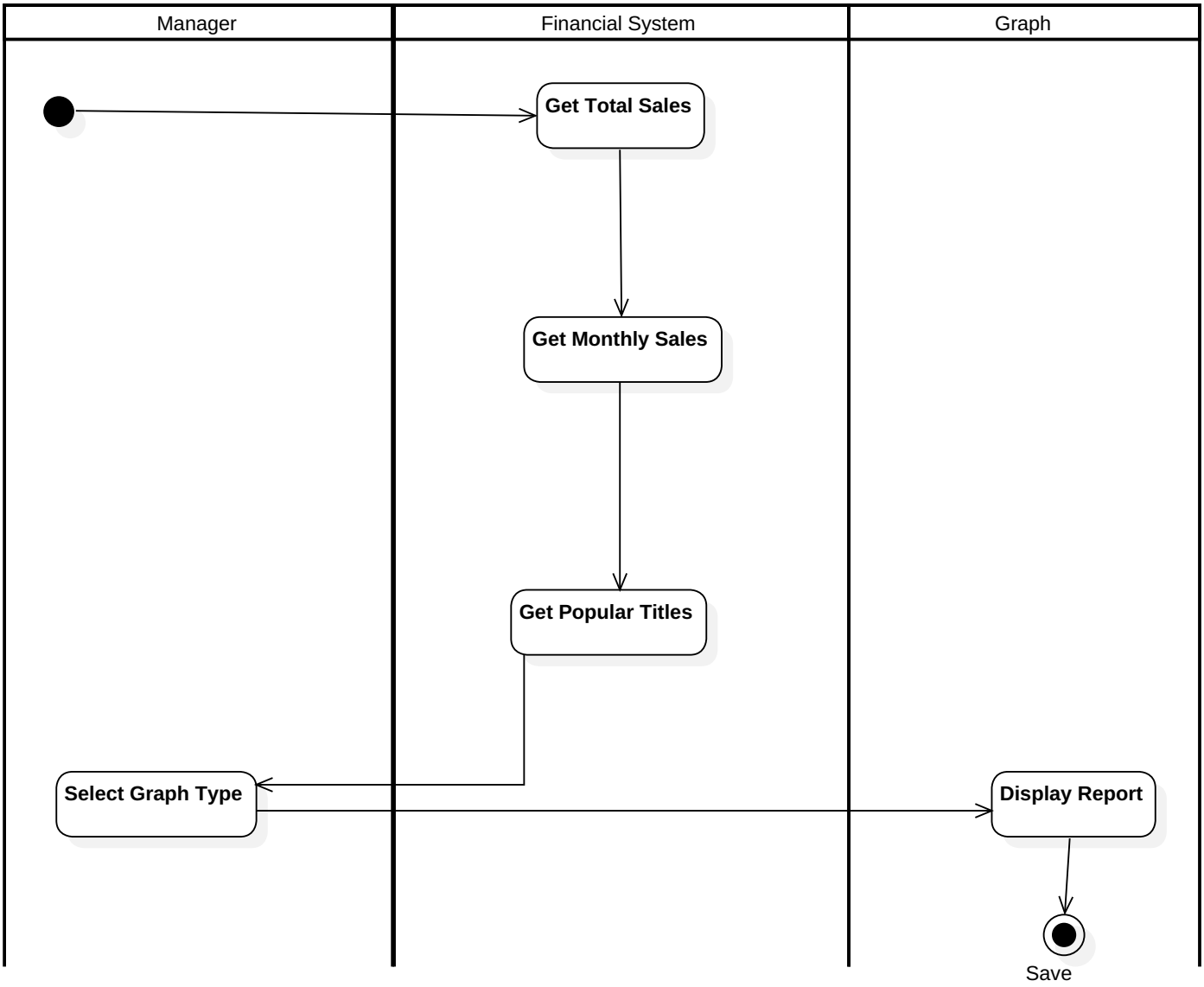
Activity1::Financial Reporting Activity Diagram



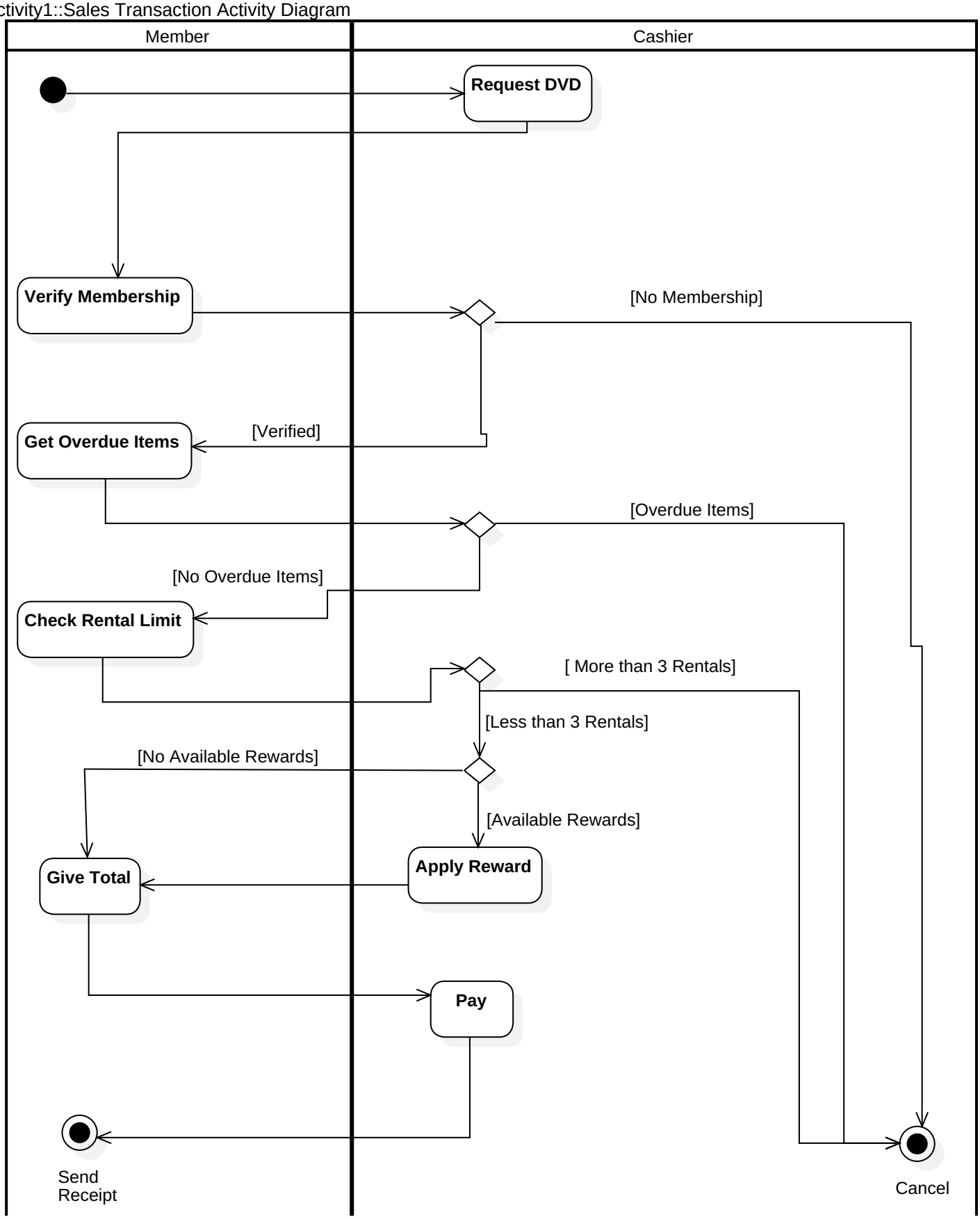
Activity1::Inventory Management Activity Diagram



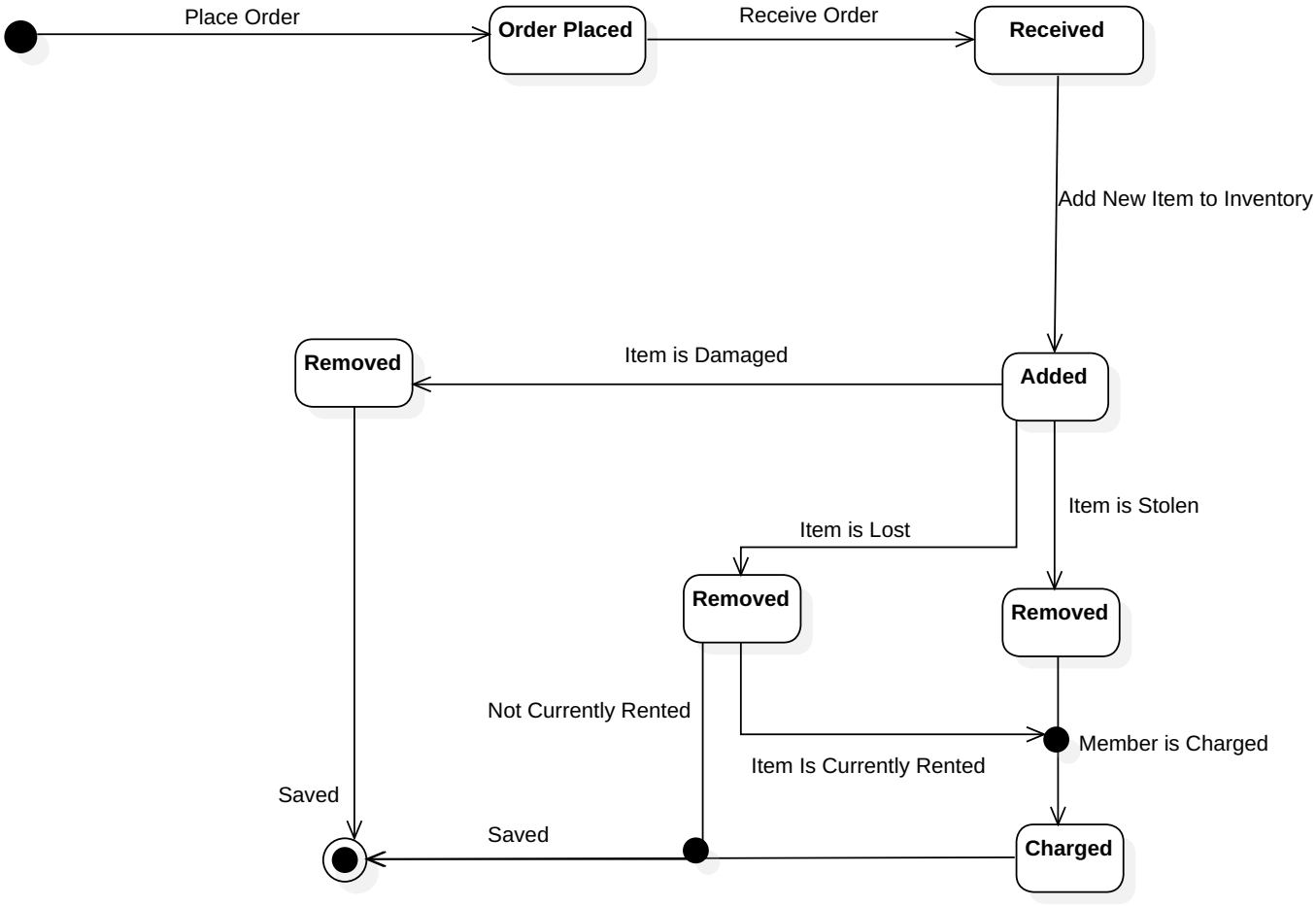
Activity1::Financial Reporting Activity Diagram



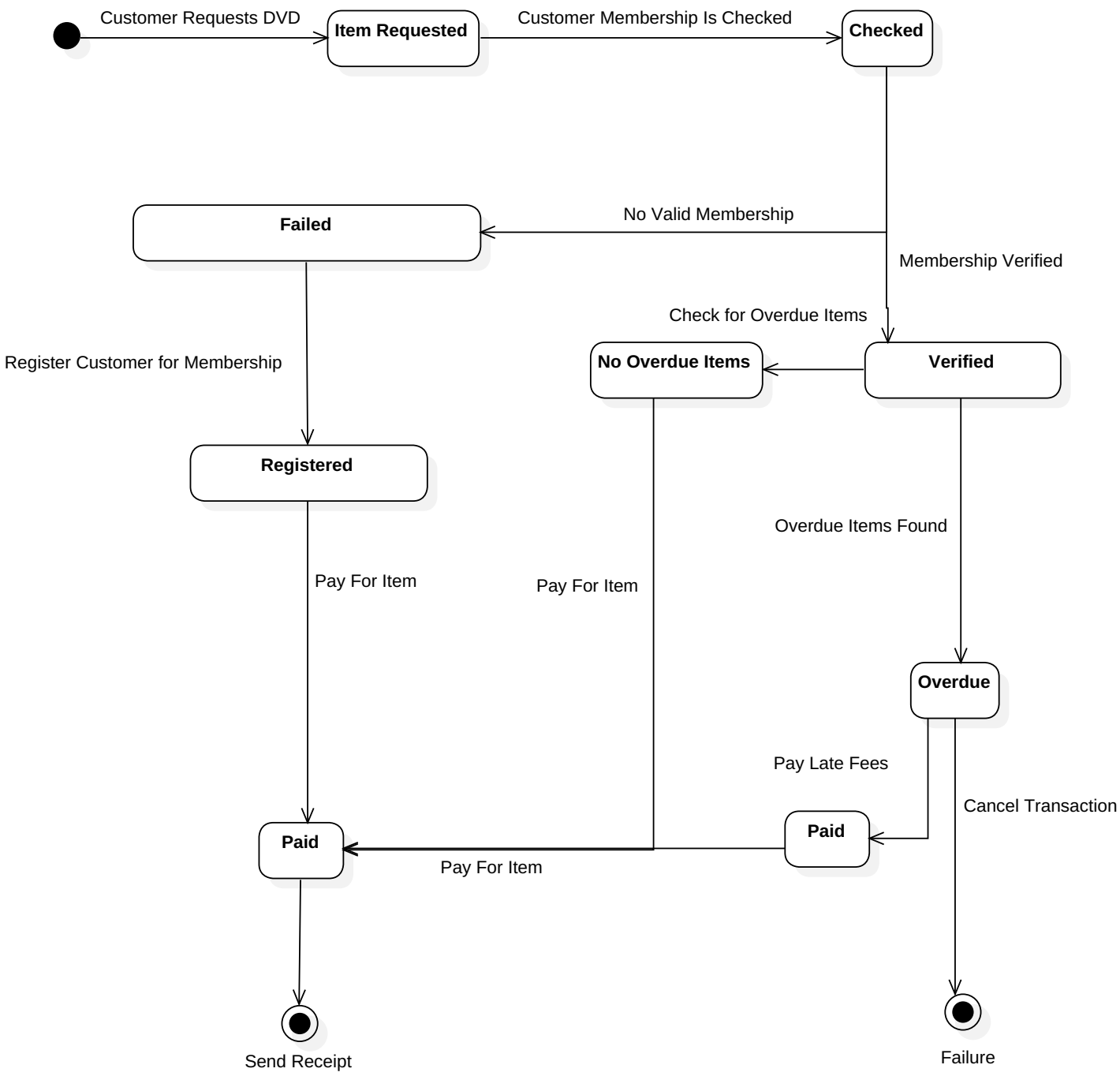
Activity1::Sales Transaction Activity Diagram



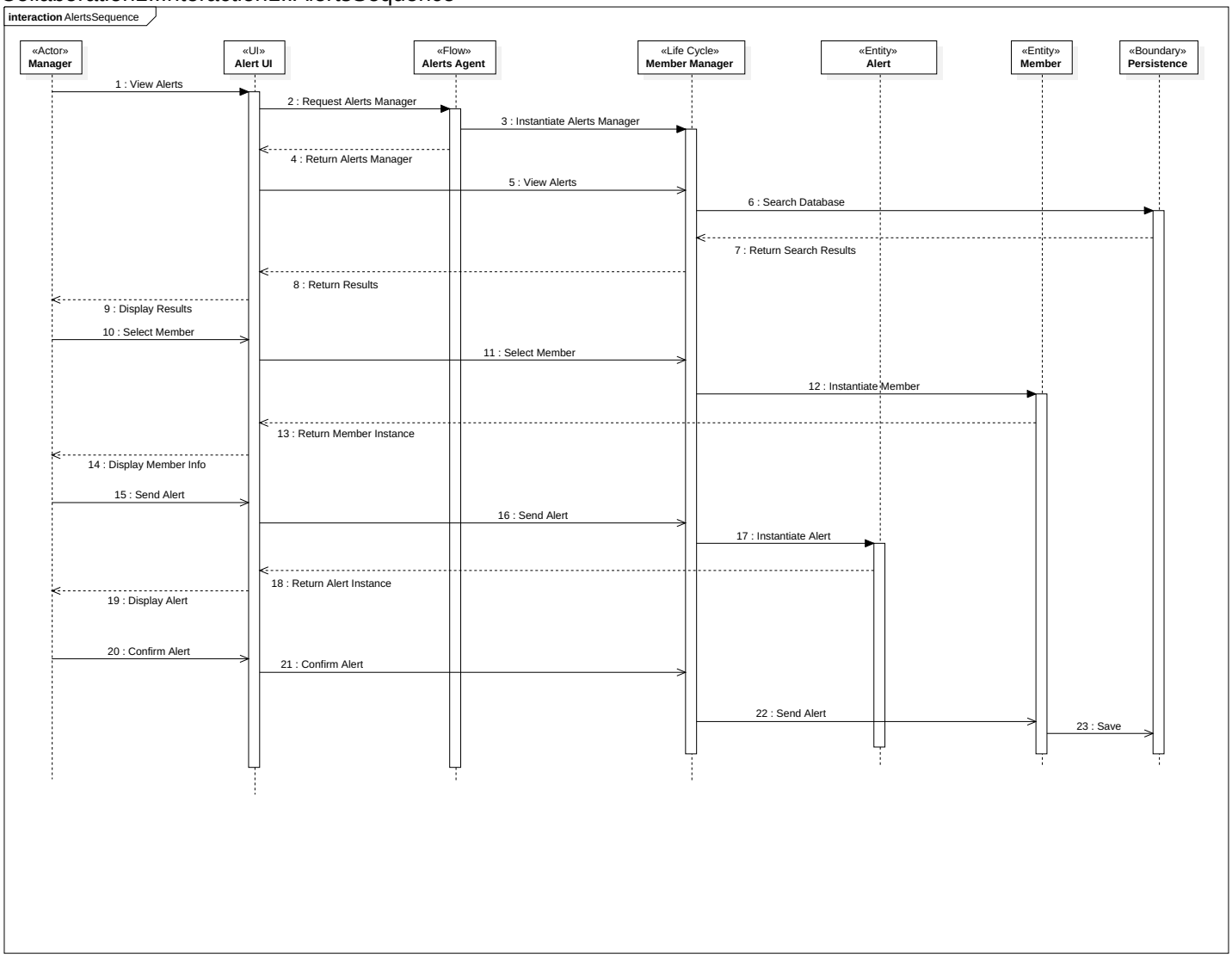
StateMachine1::Inventory Statechart Diagram



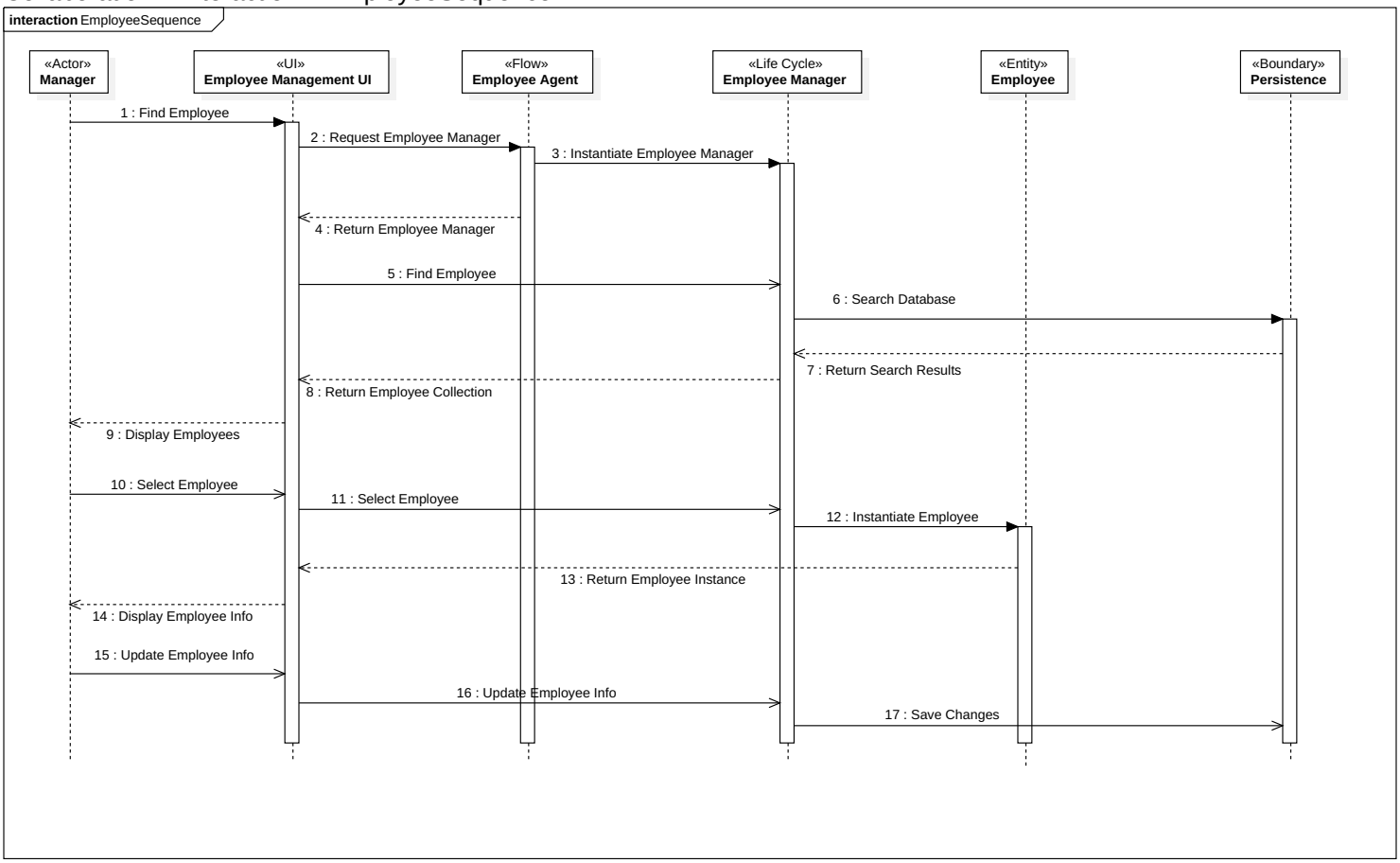
StateMachine1::Rent DVD Statechart Diagram



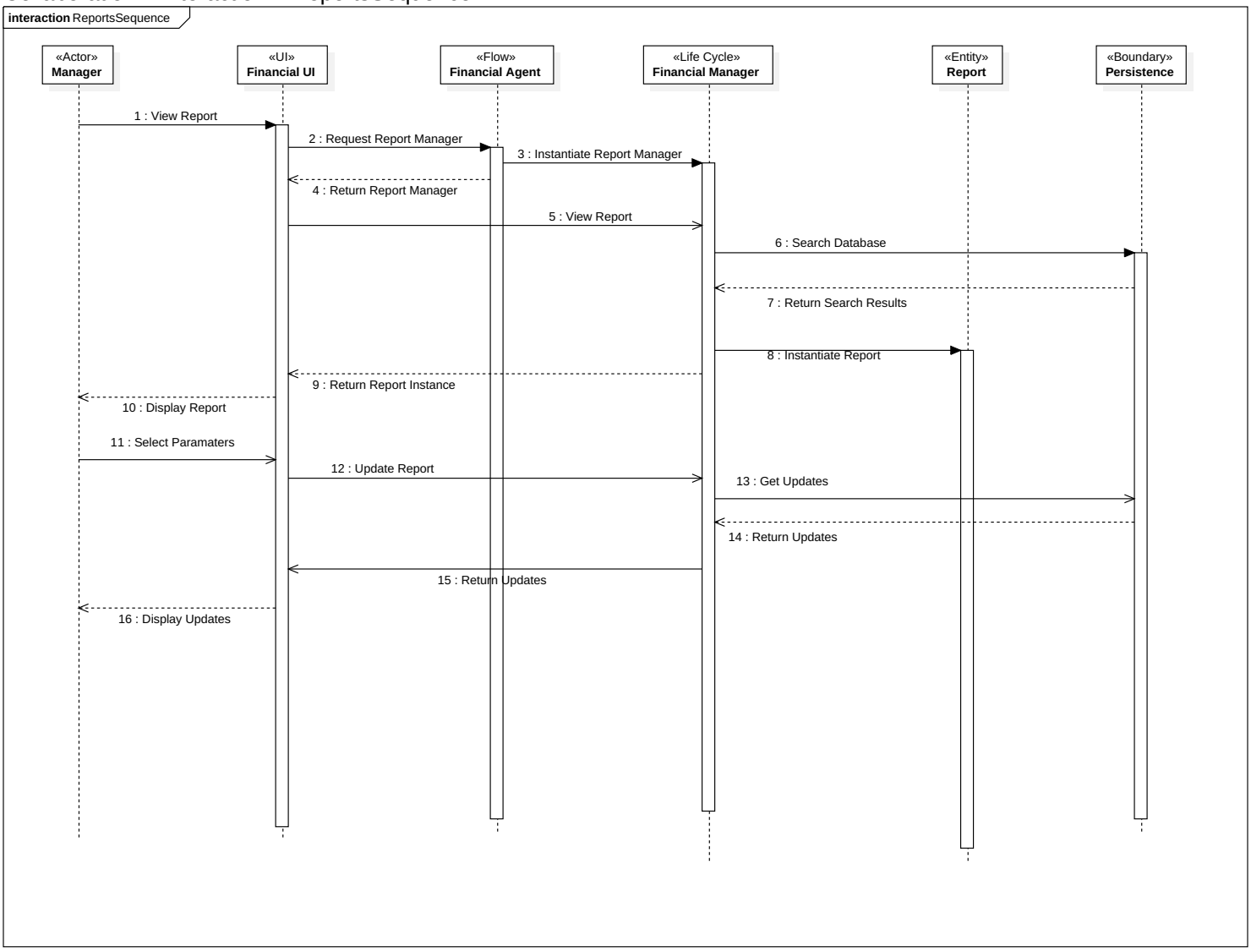
Collaboration1::Interaction1::AlertsSequence



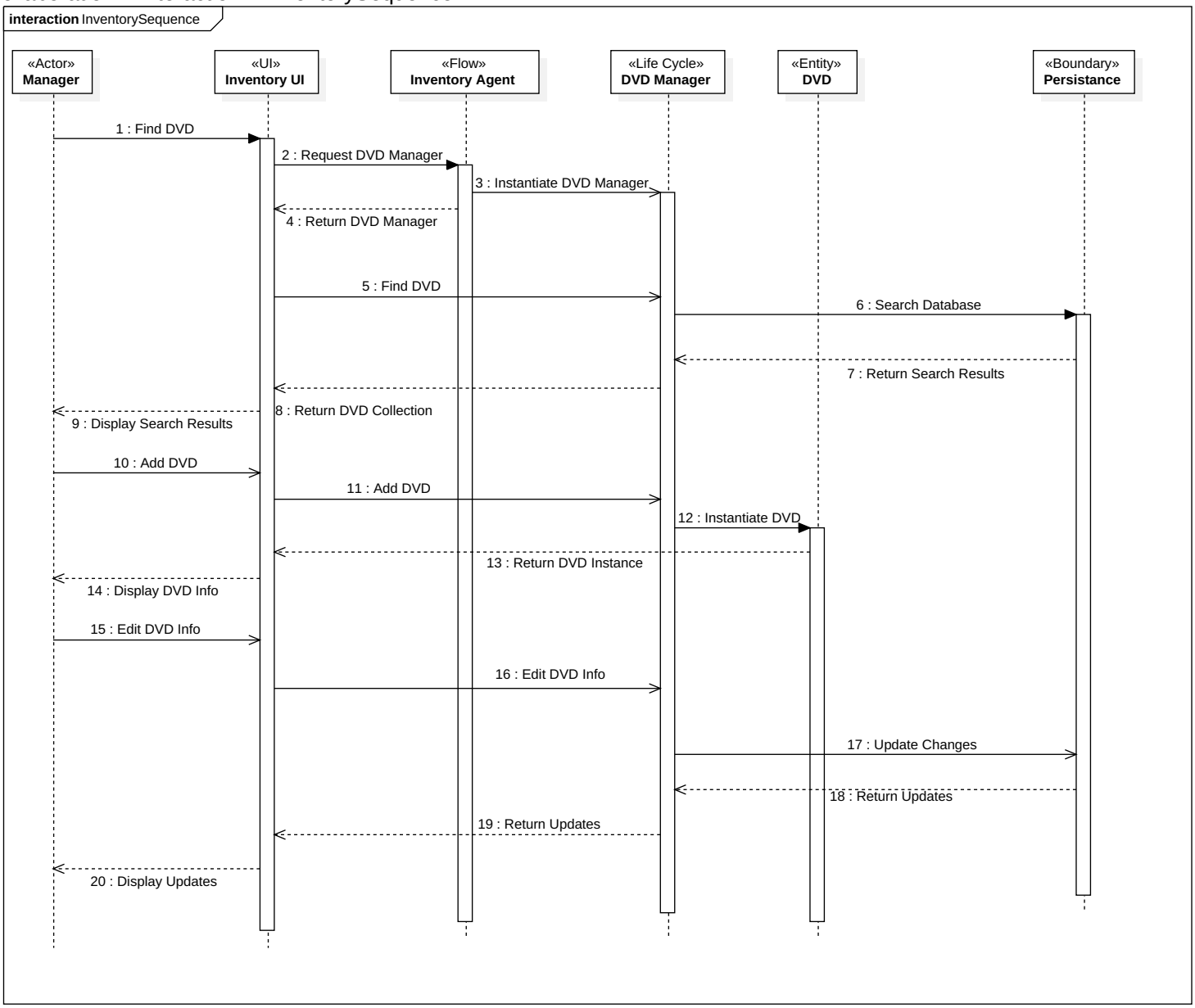
Collaboration1::Interaction1::EmployeeSequence



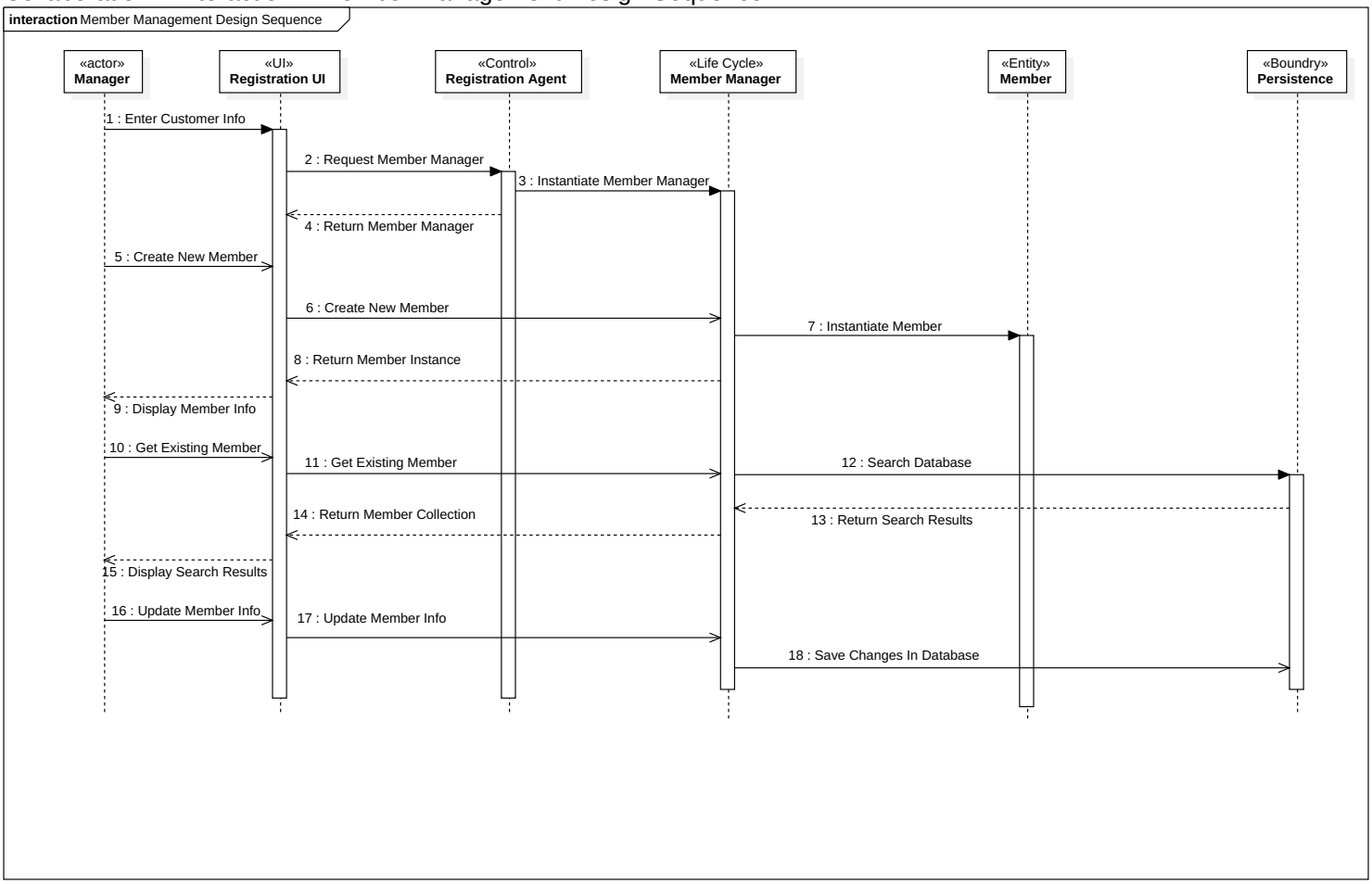
Collaboration1::Interaction1::ReportsSequence



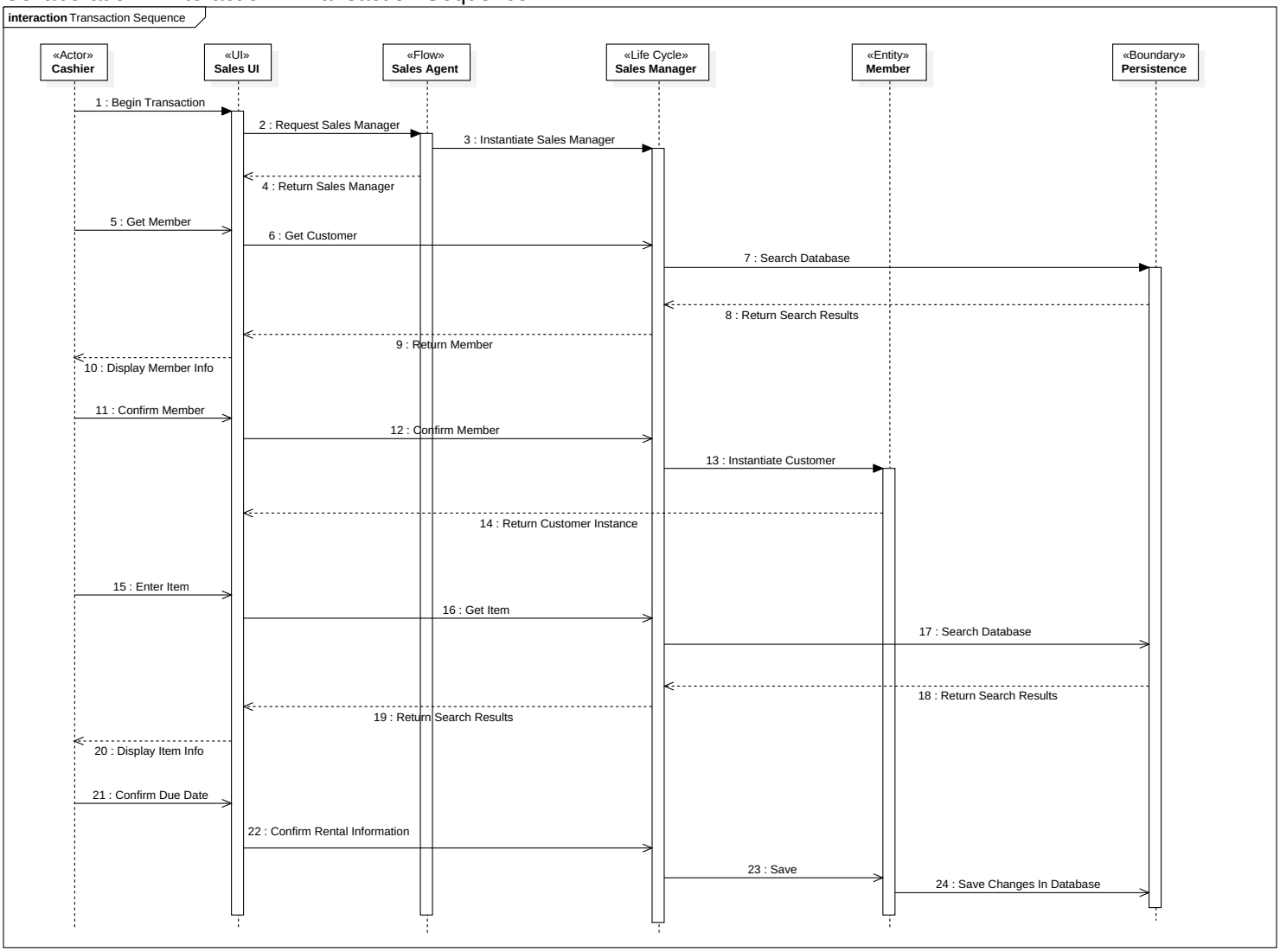
Collaboration1::Interaction1::InventorySequence



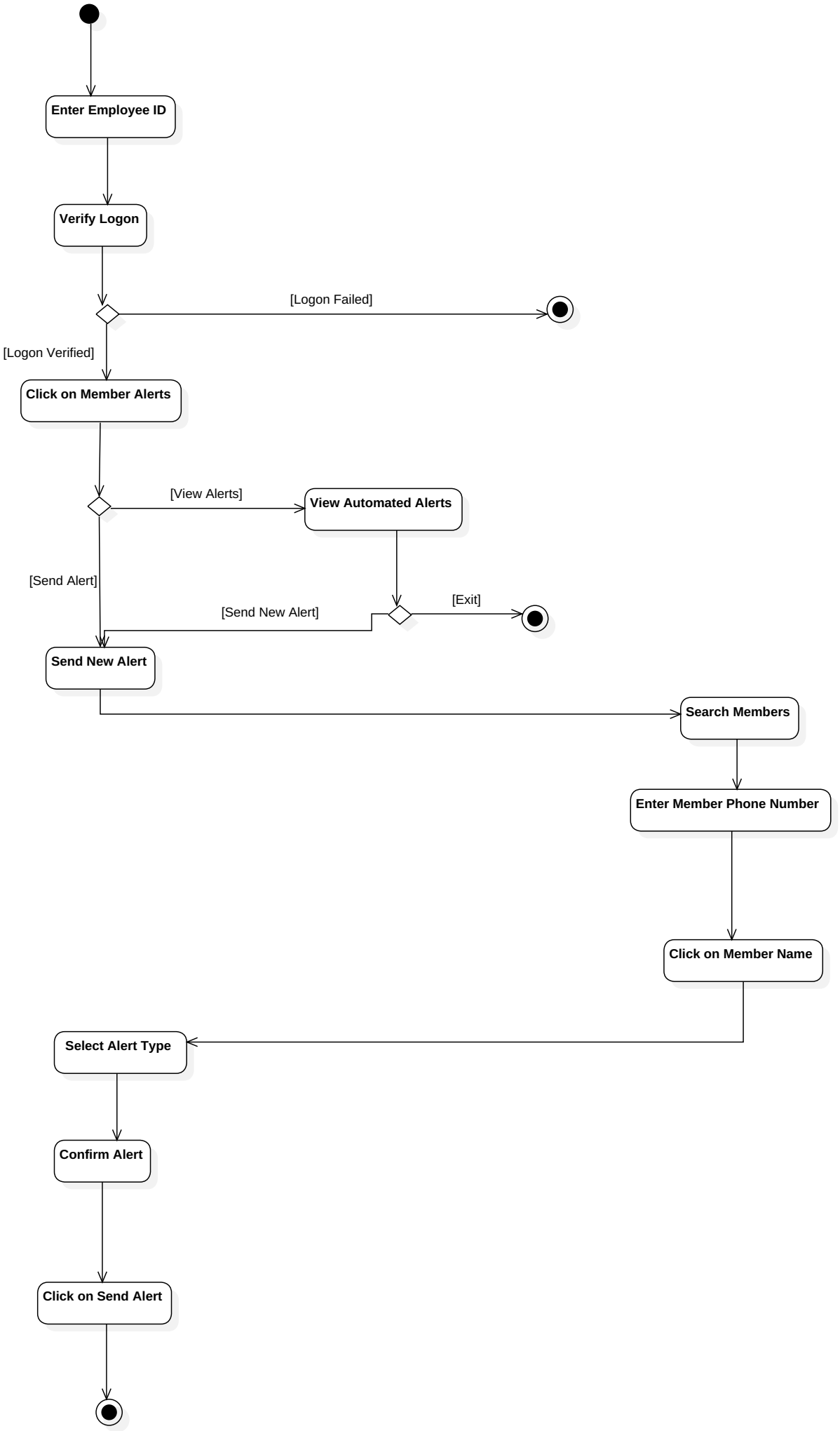
Collaboration1::Interaction1::Member Management Design Sequence



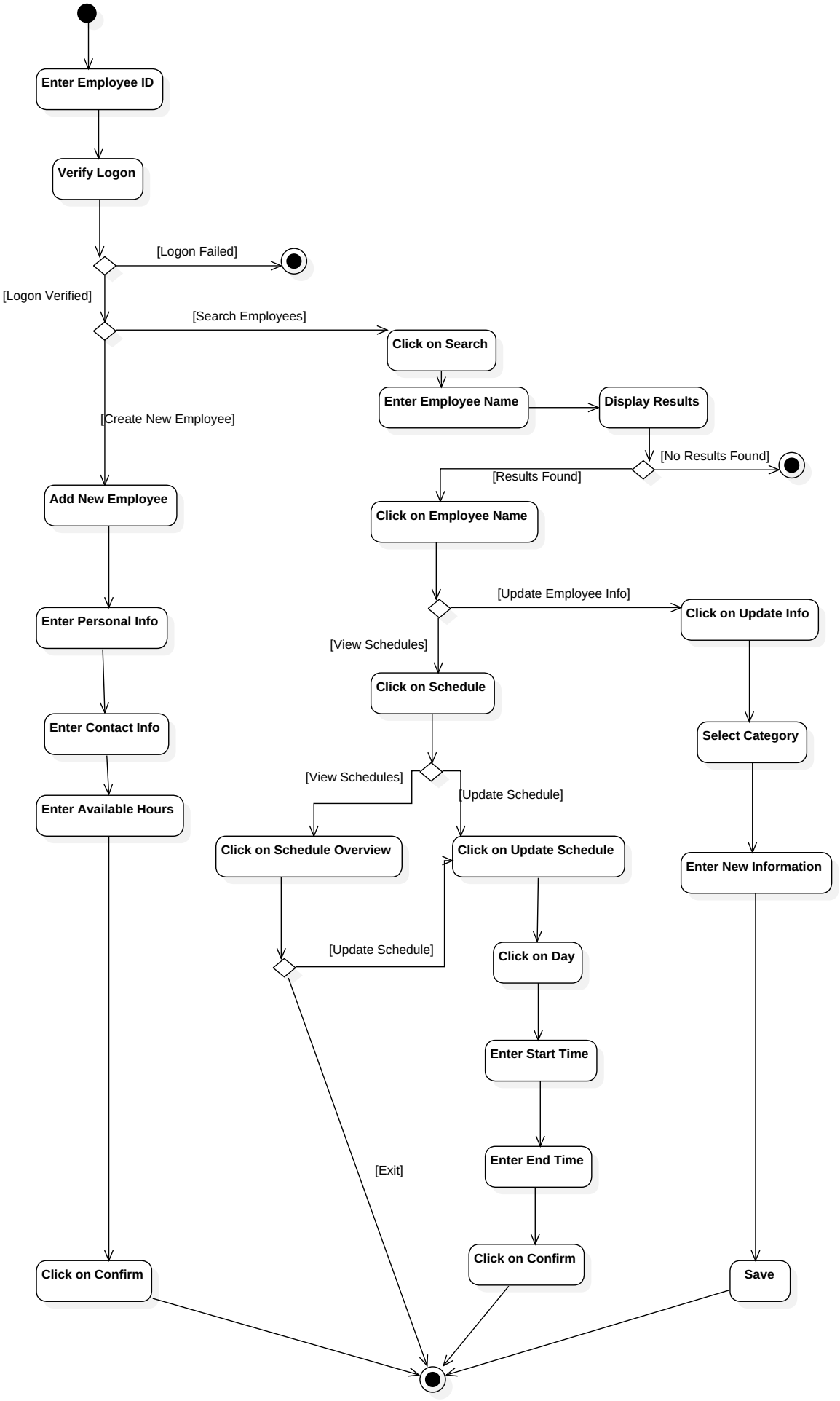
Collaboration1::Interaction1::Transaction Sequence



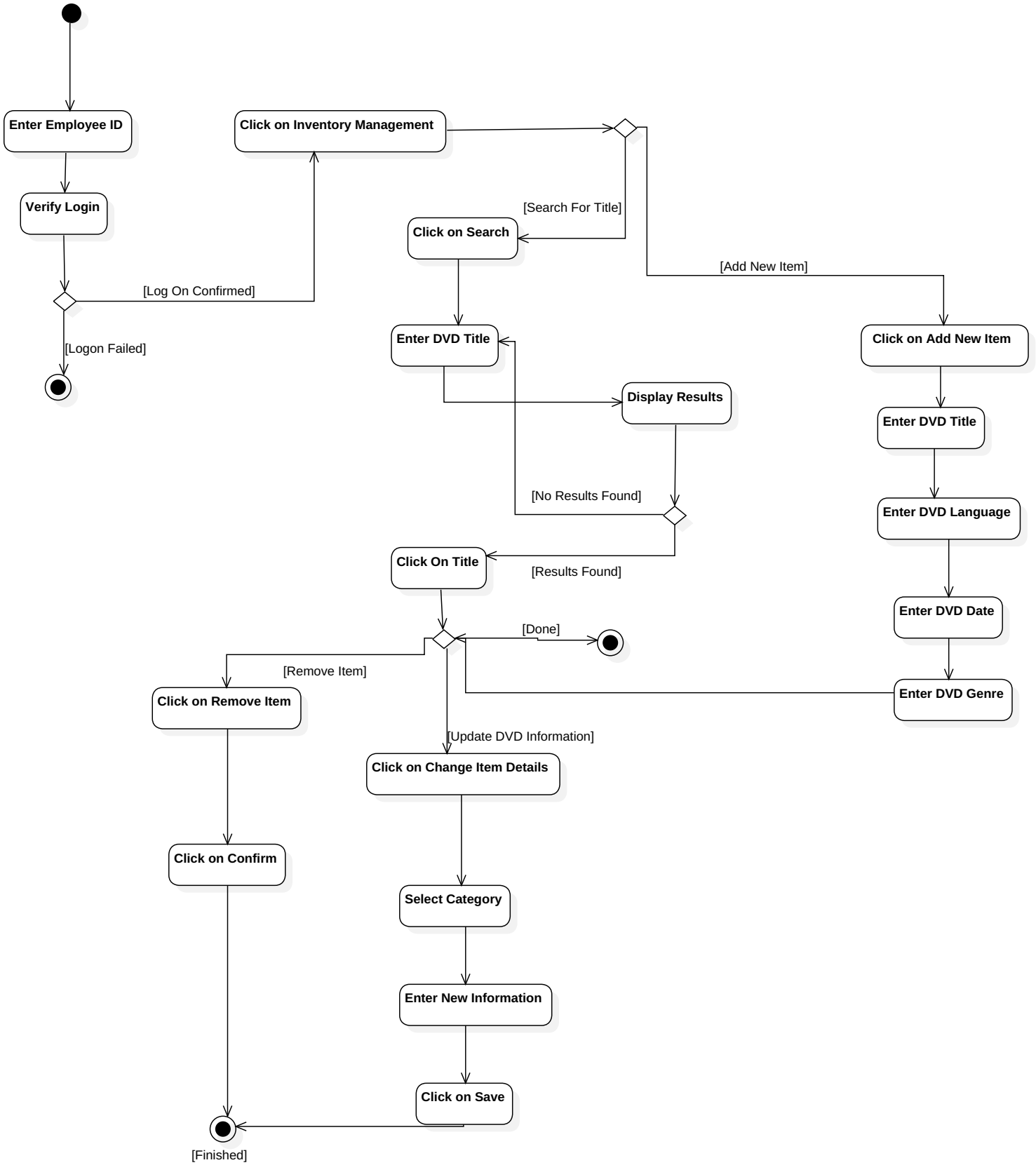
Activity1::AlertsActivity



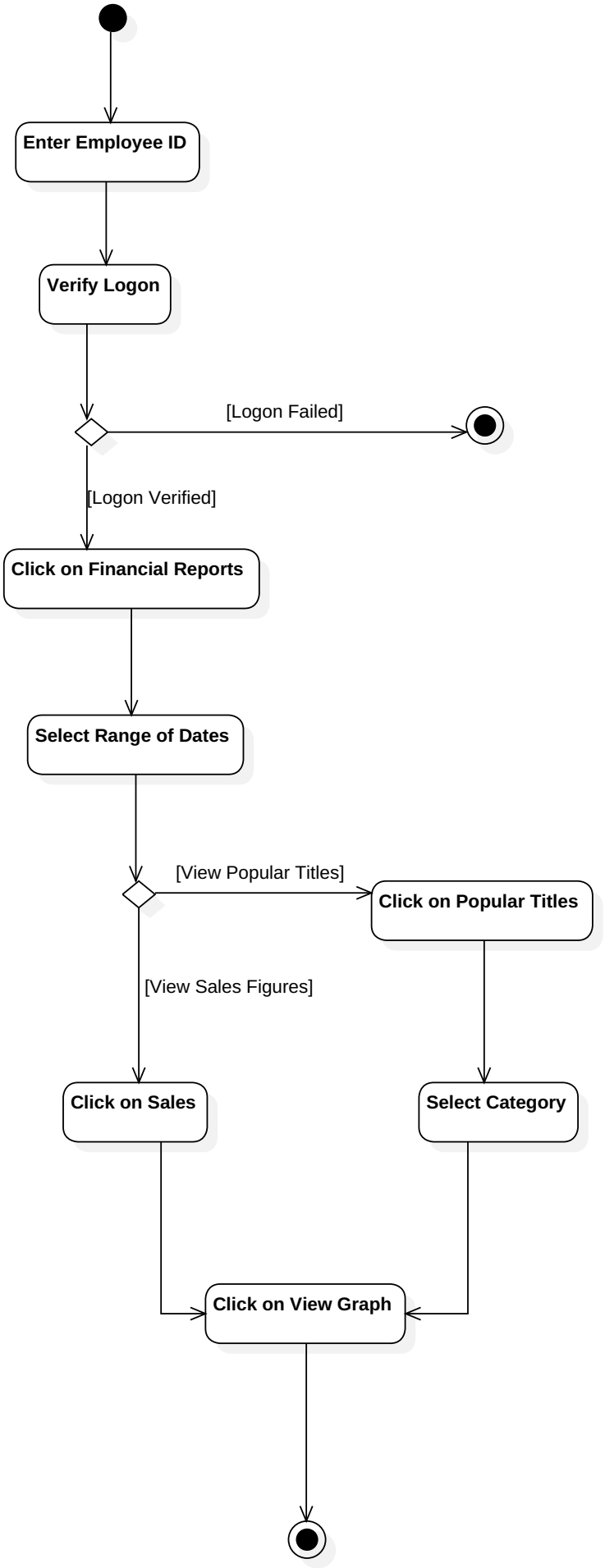
Activity1::EmployeeActivity



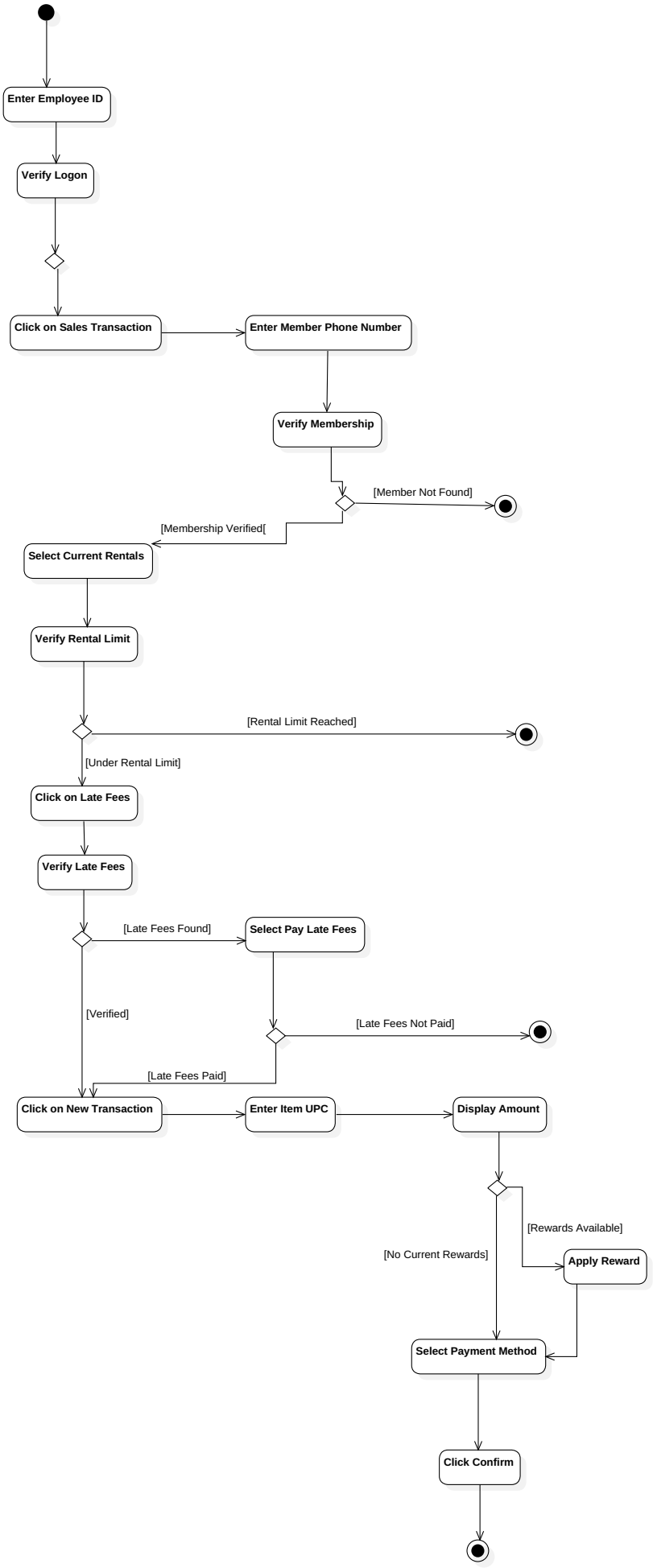
Activity1::InventoryActivity



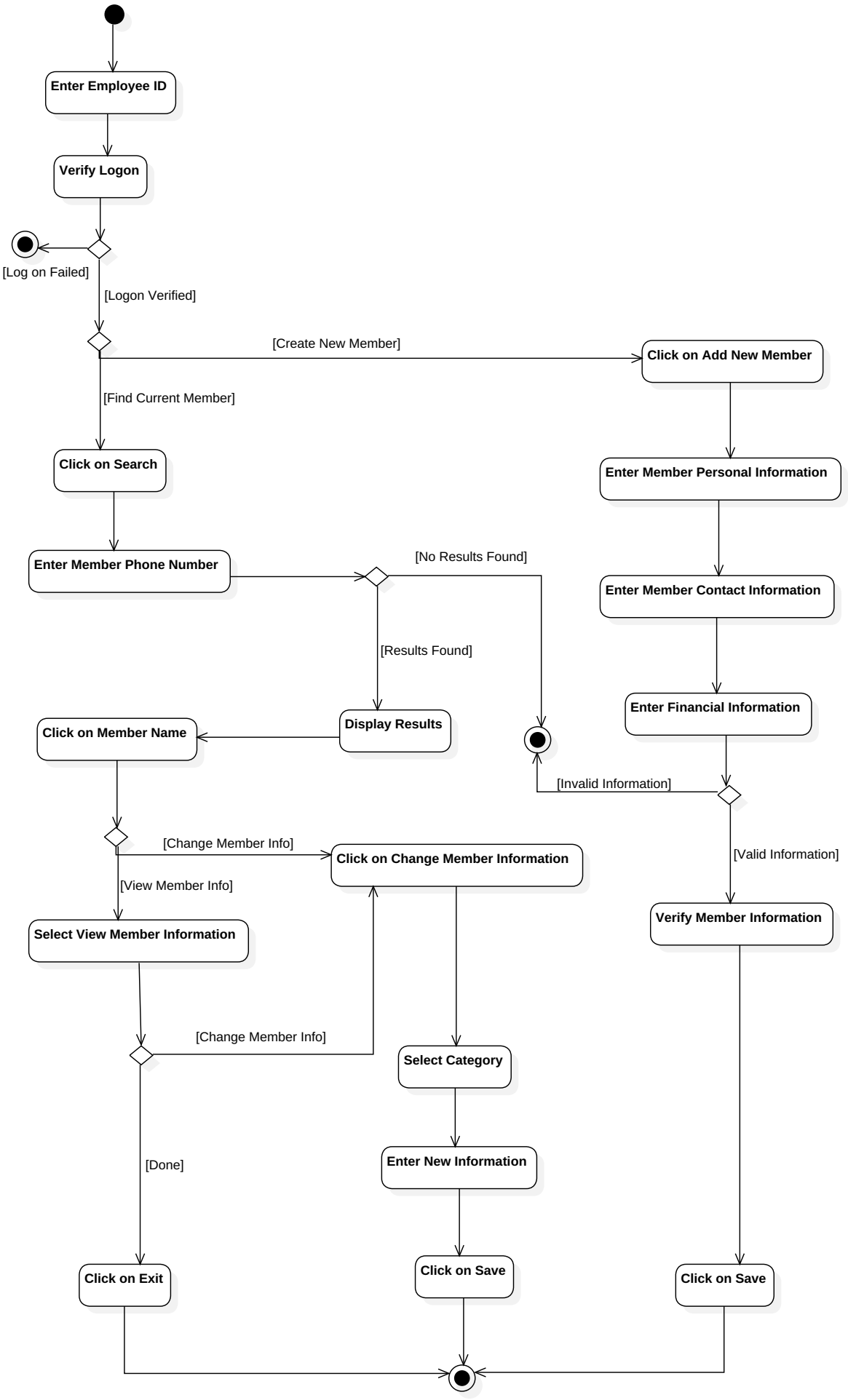
Activity1::ReportsActivity



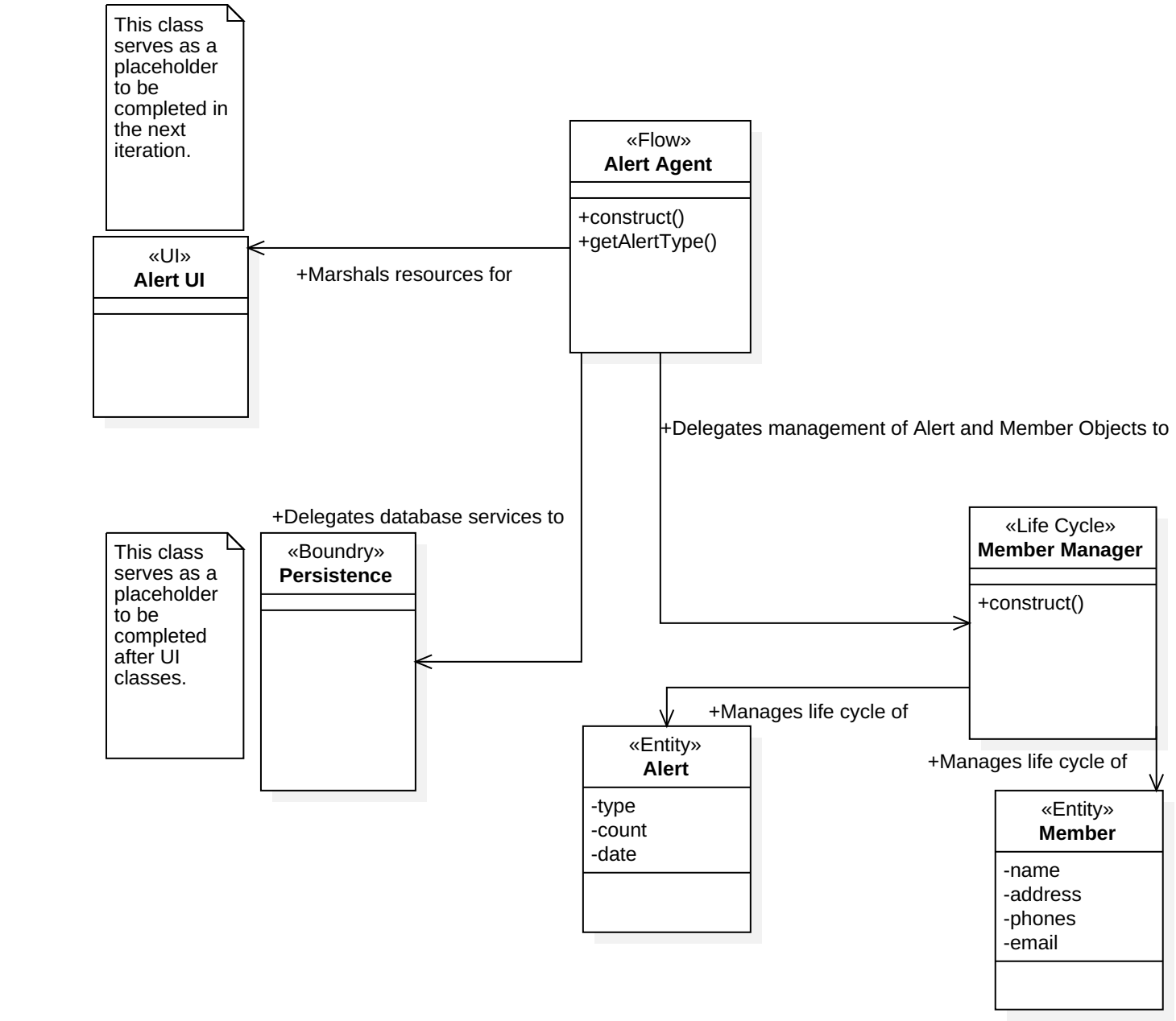
Activity1::Transaction Activity



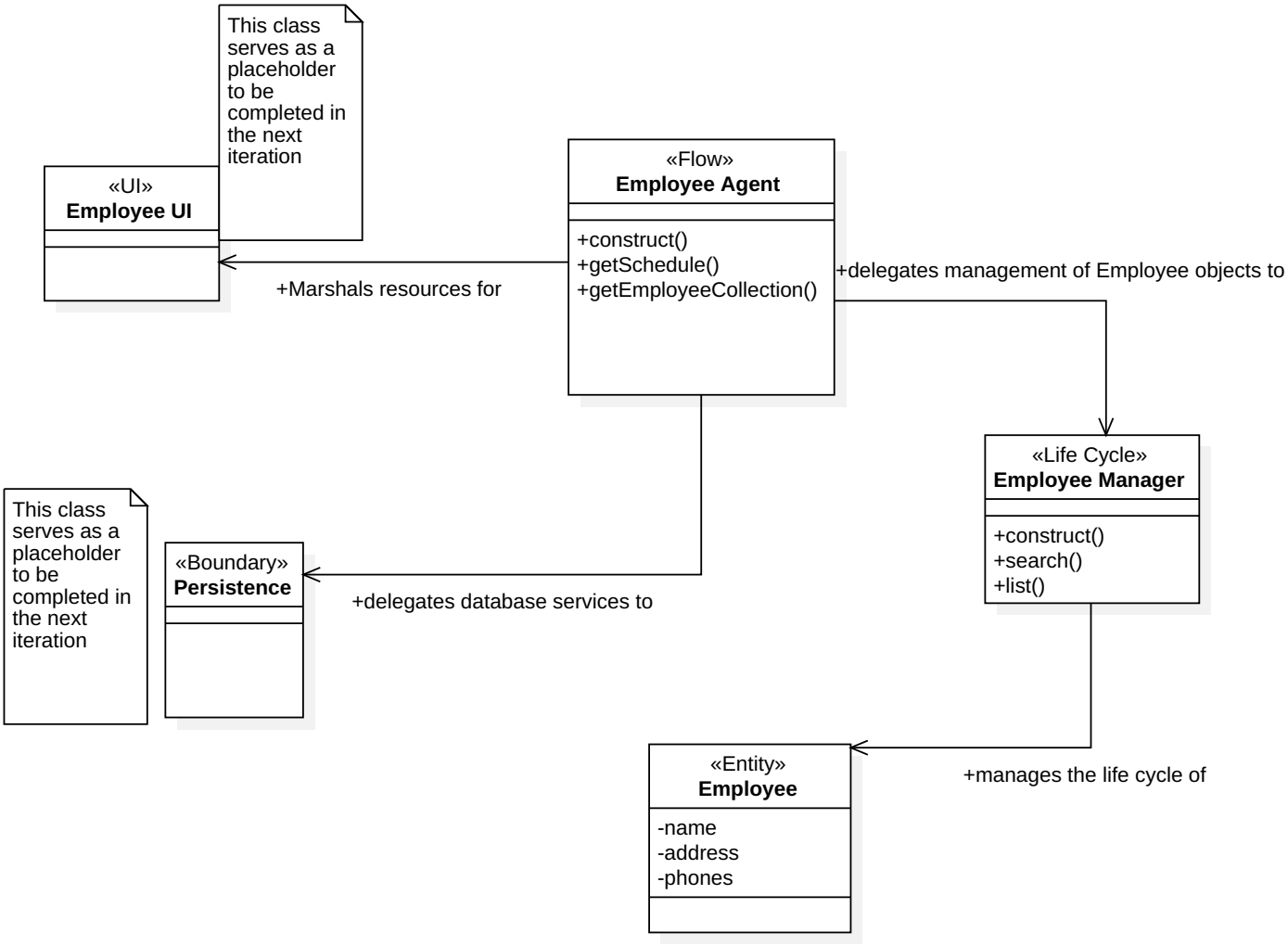
Activity1::MemberActivity



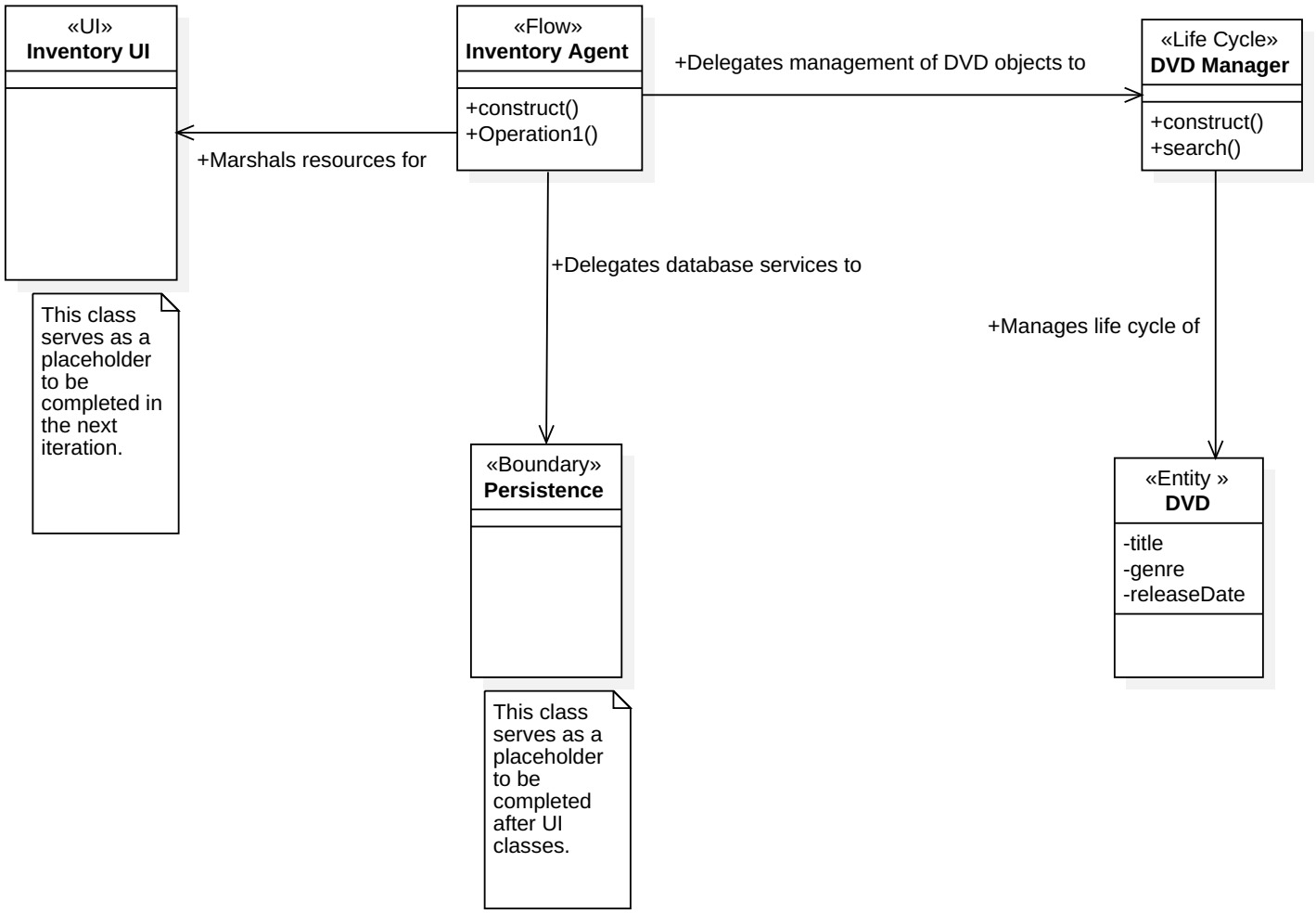
Model1::AlertsClass



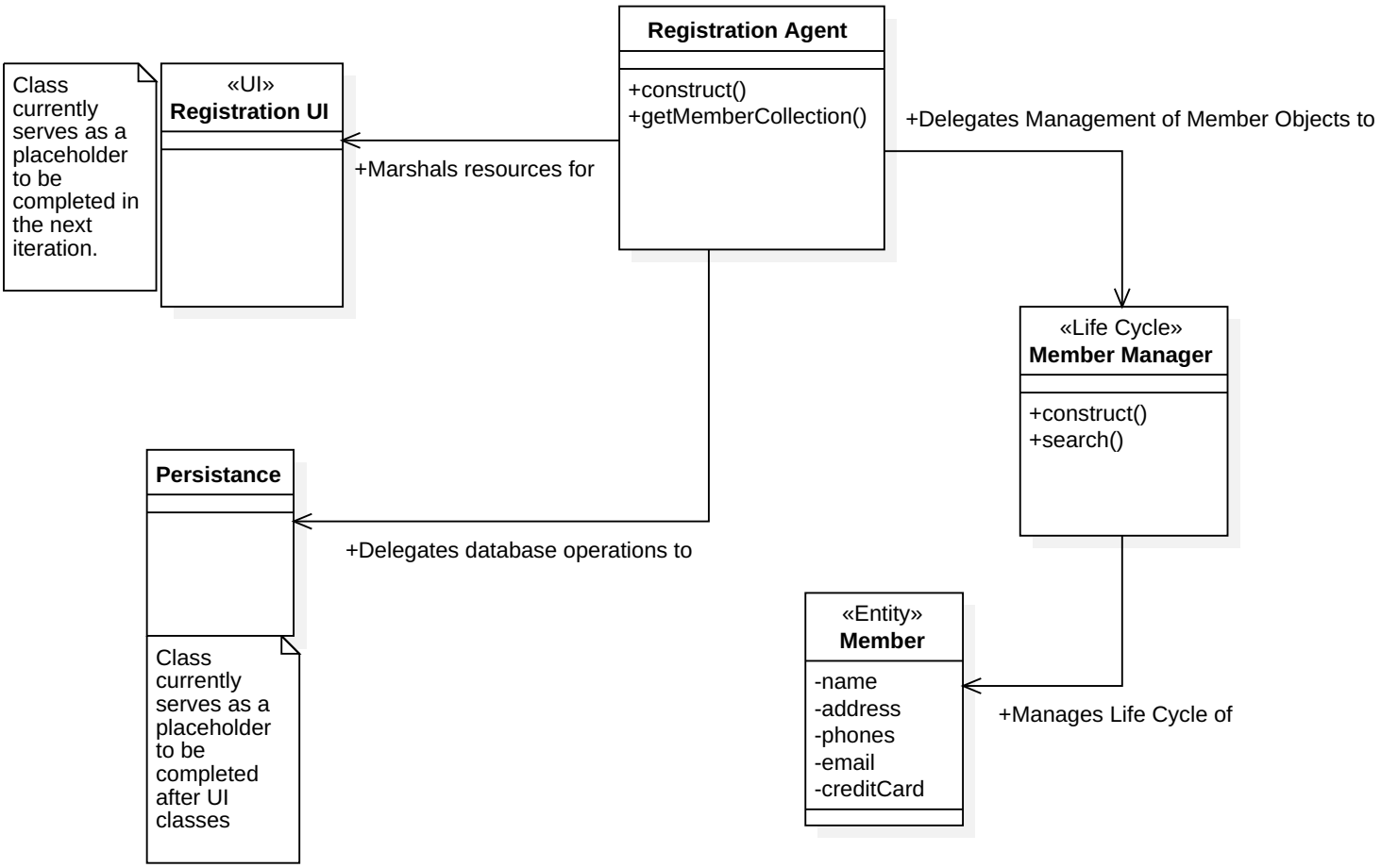
Model1::EmployeeClass



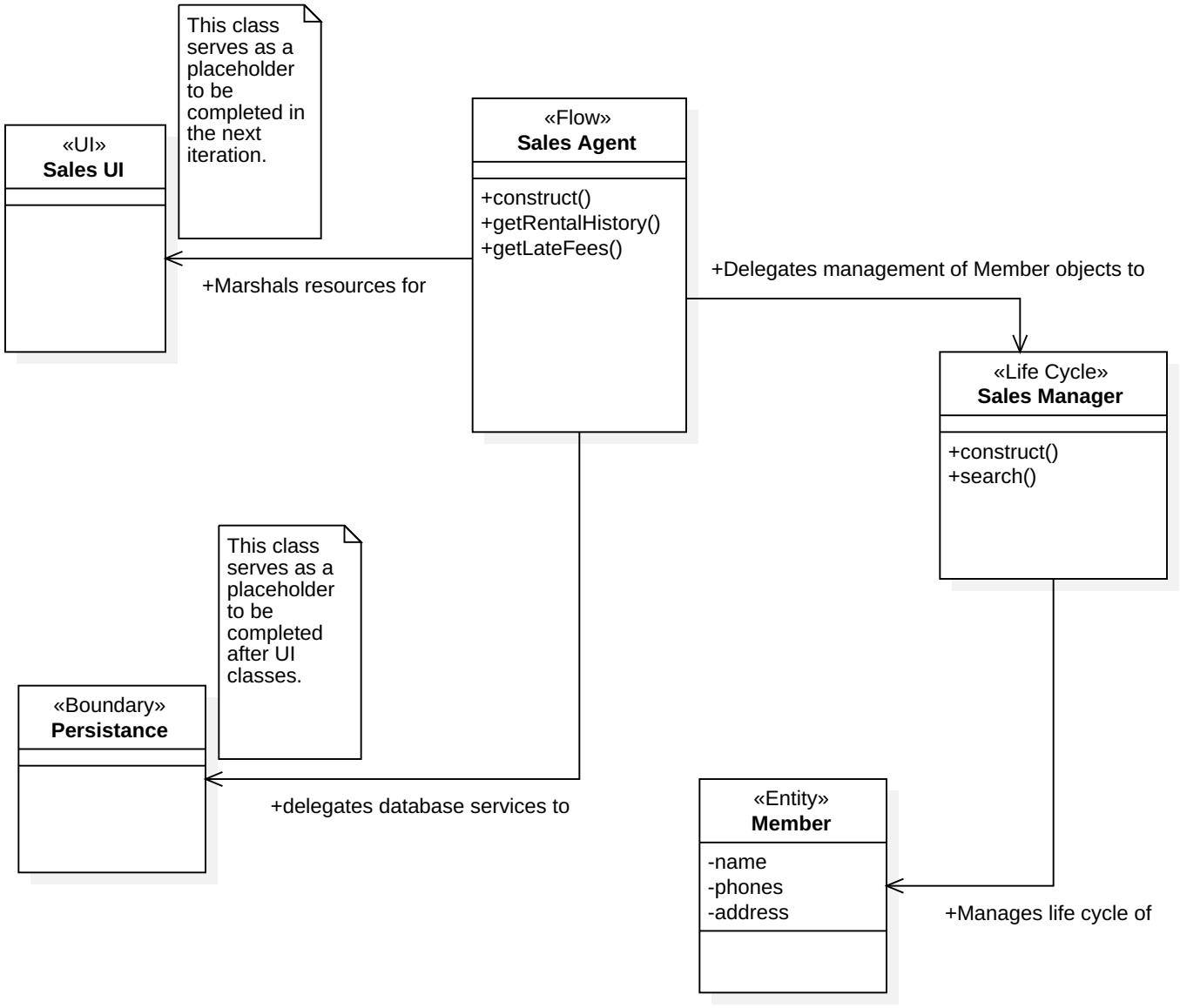
Model1::InventoryClass



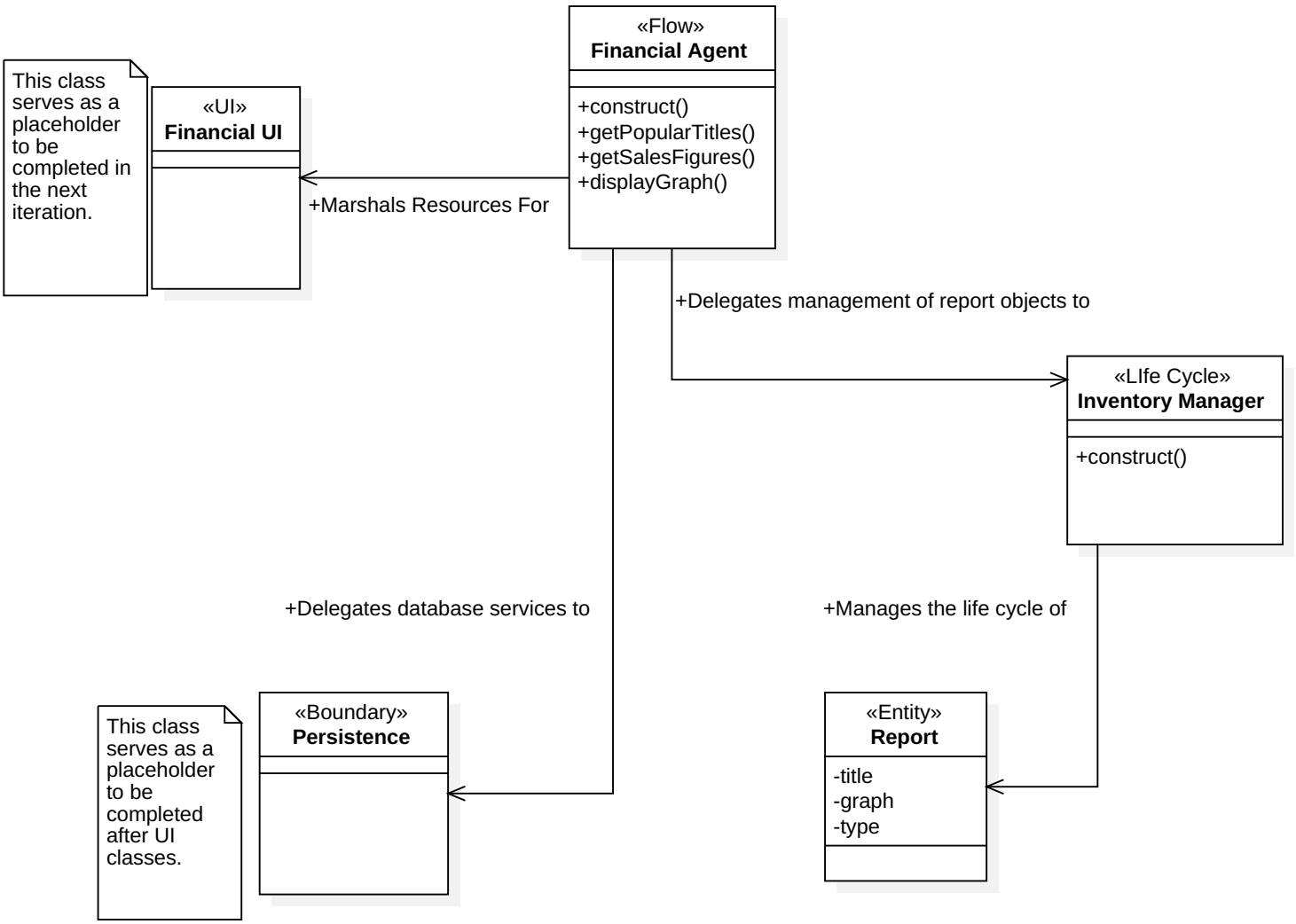
Model1::Registration Class Diagram

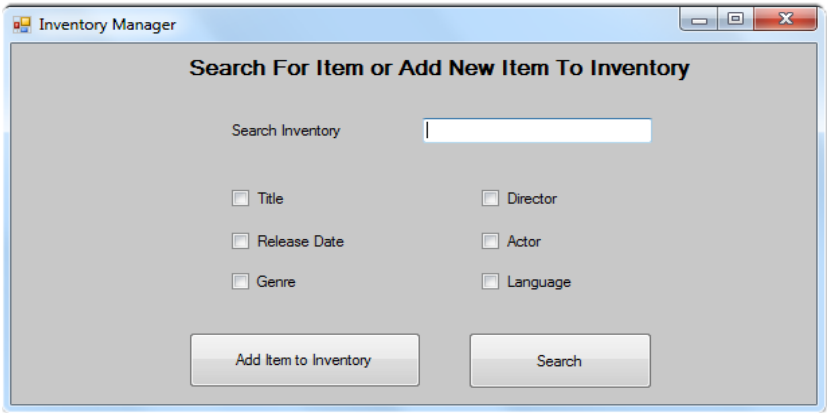


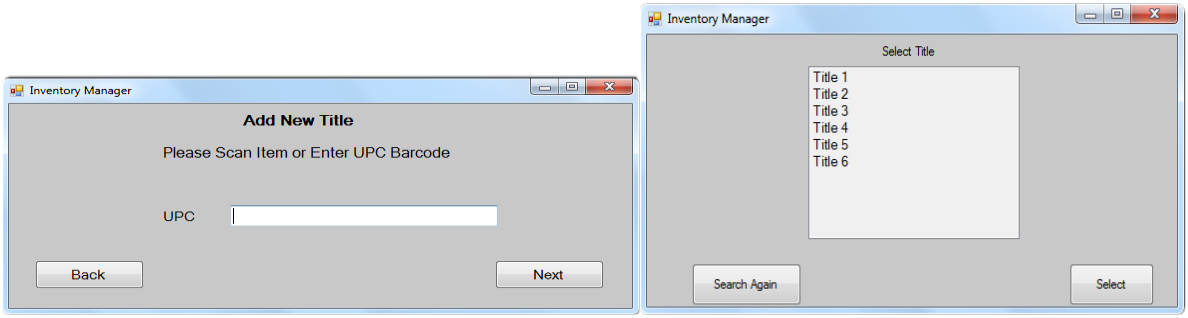
Model1::Transactions Class Diagram

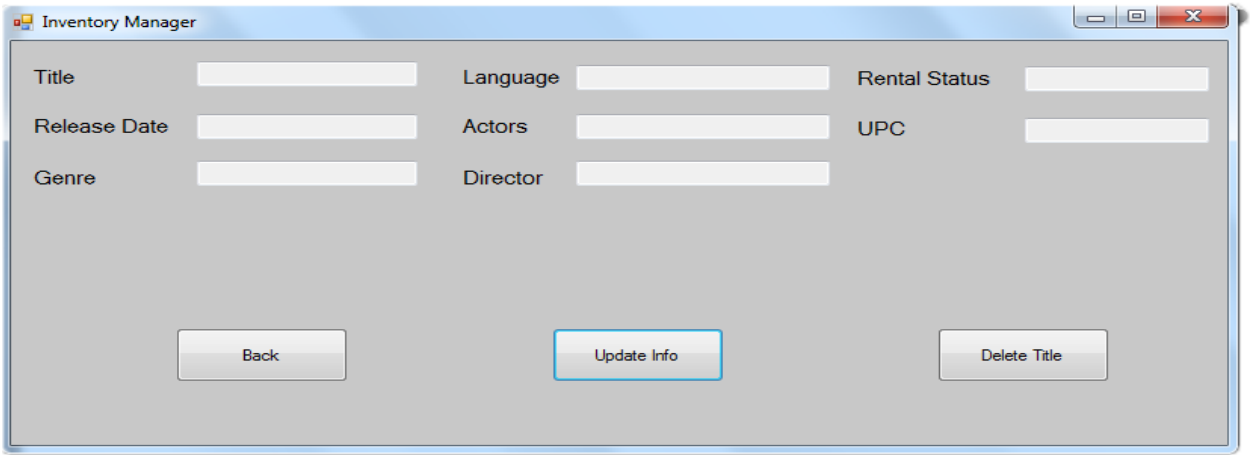


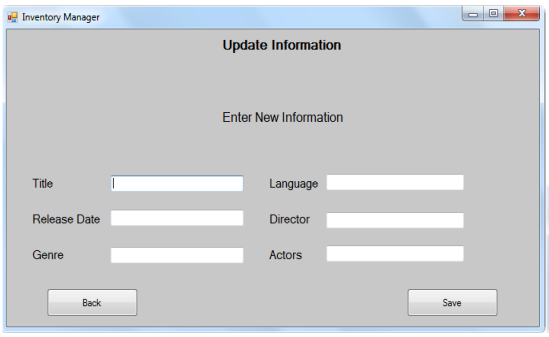
Model1::ReportsClass

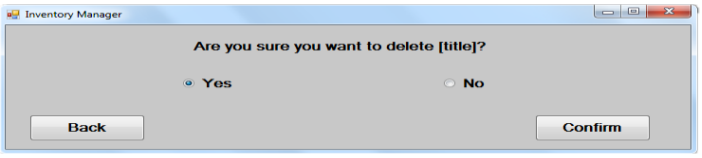


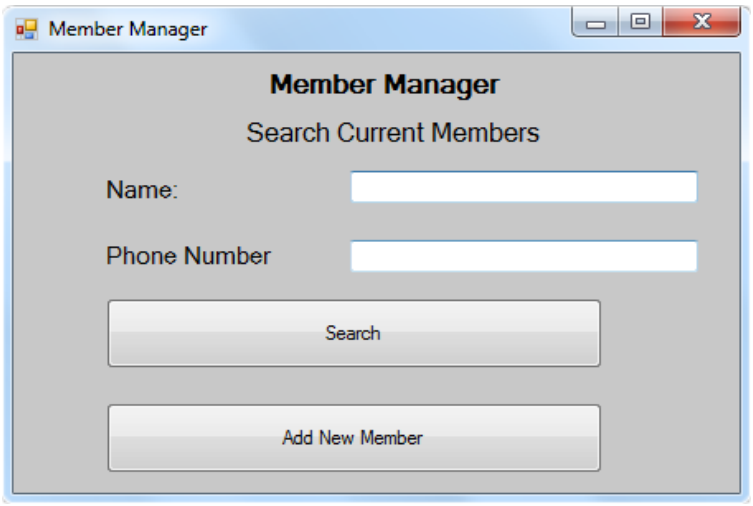

Inventory Manager
Search For Item or Add New Item To Inventory
Search Inventory
Title
Director
Release Date
Actor
Genre
Language
Add Item to Inventory
Search

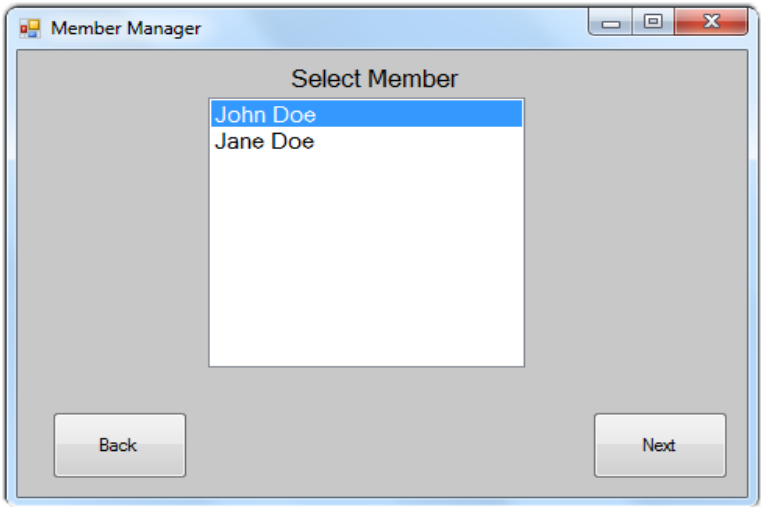

Inventory Manager
Add New Title
Please Scan Item or Enter UPC Barcode
UPC
Back
Next
Inventory Manager
Select Title
Title 1
Title 2
Title 3
Title 4
Title 5
Title 6
Search Again
Select

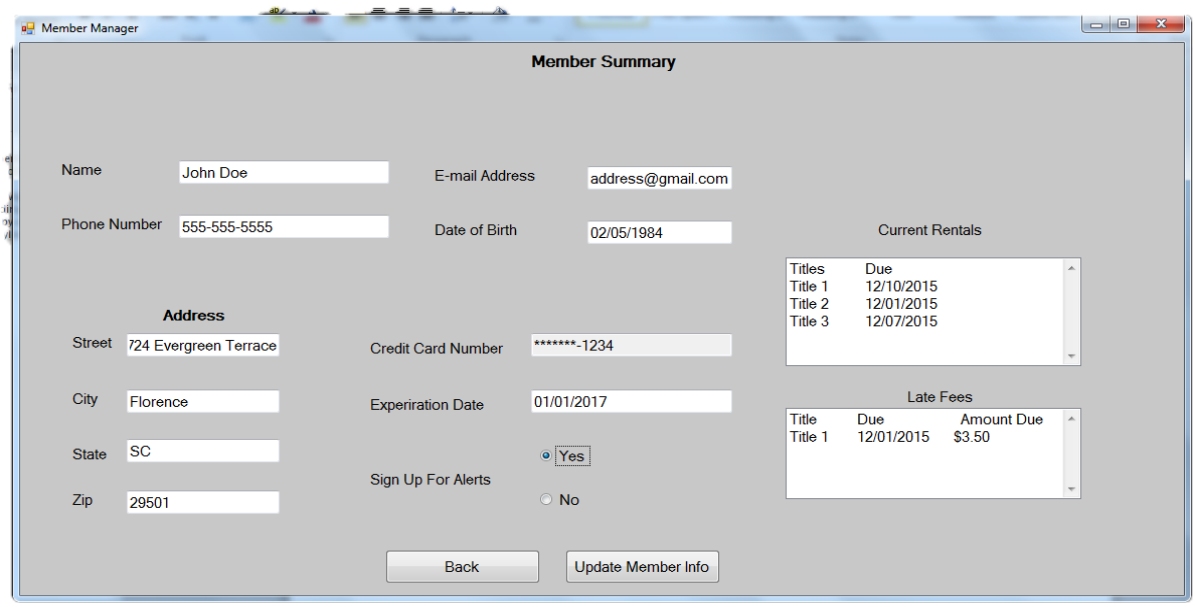

Inventory Manager
Title
Release Date
Genre
Language
Actors
Director
Rental Status
UPC
Back
Update Info
Delete Title

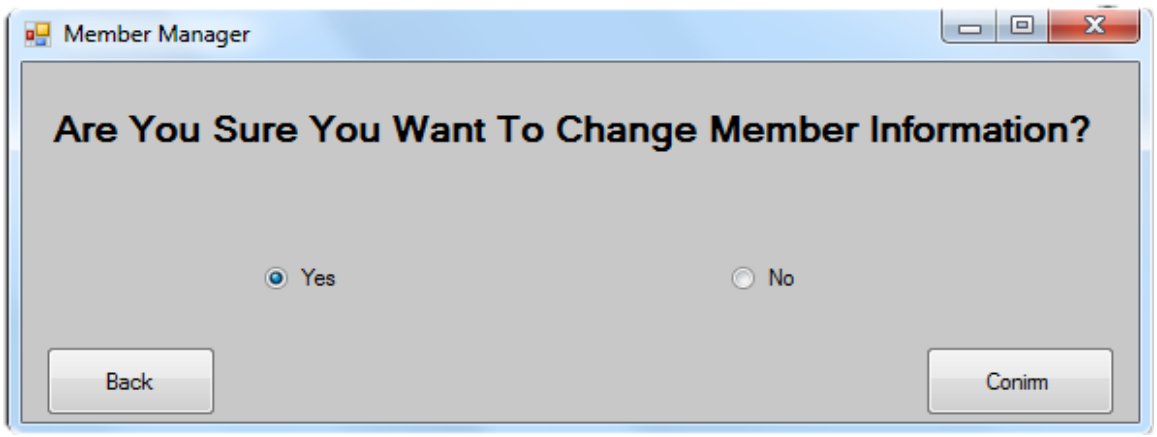

Inventory Manager
Update Information
Enter New Information
Title
Language
Release Date
Director
Genre
Actors
Back
Save

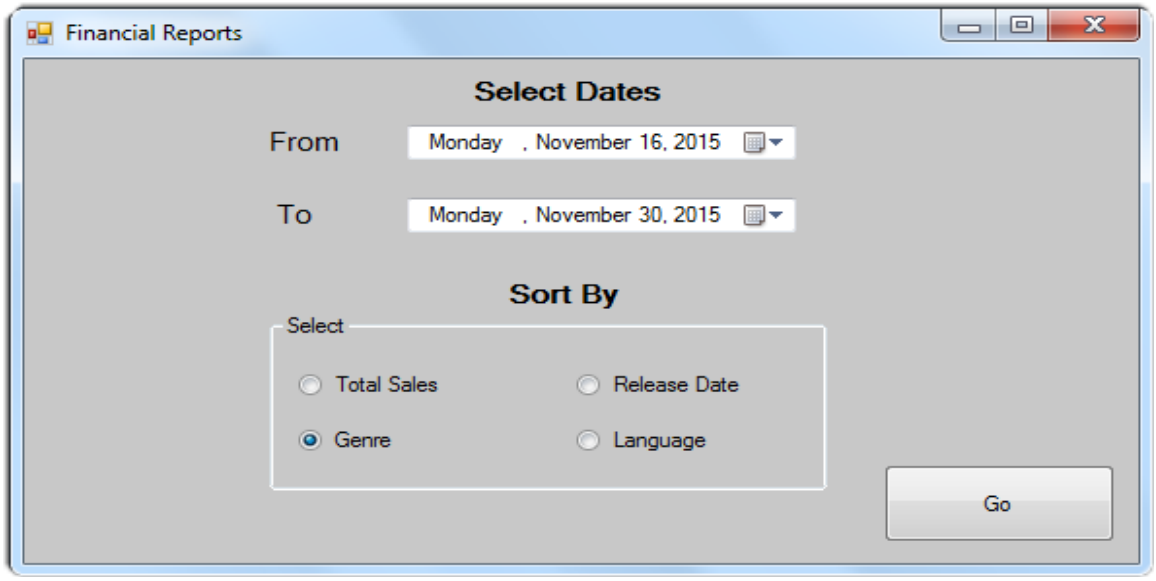

Inventory Manager
Are you sure you want to delete [title]?
Yes
No
Back
Confirm

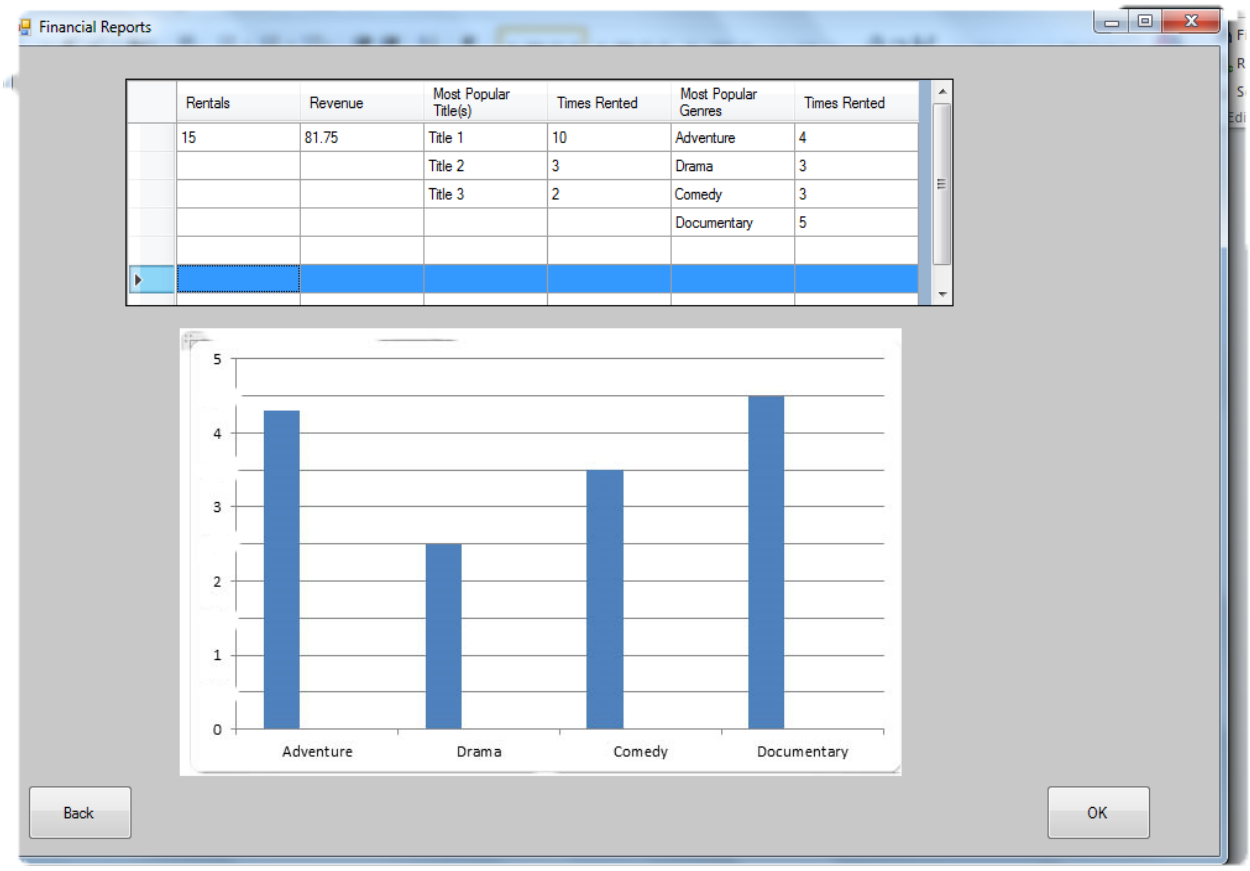

Member Manager
Member Manager
Search Current Members
Name:
Phone Number
Search
Add New Member

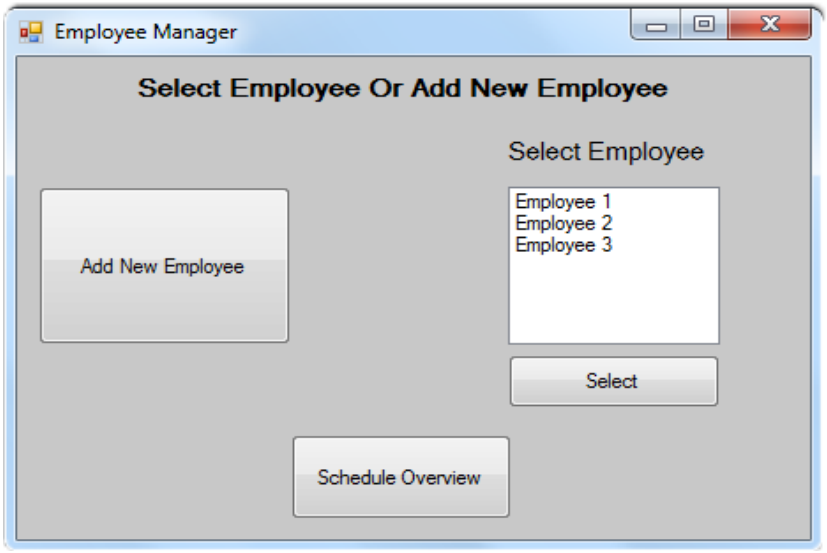

Member Manager
Select Member
John Doe
Jane Doe
Back
Next

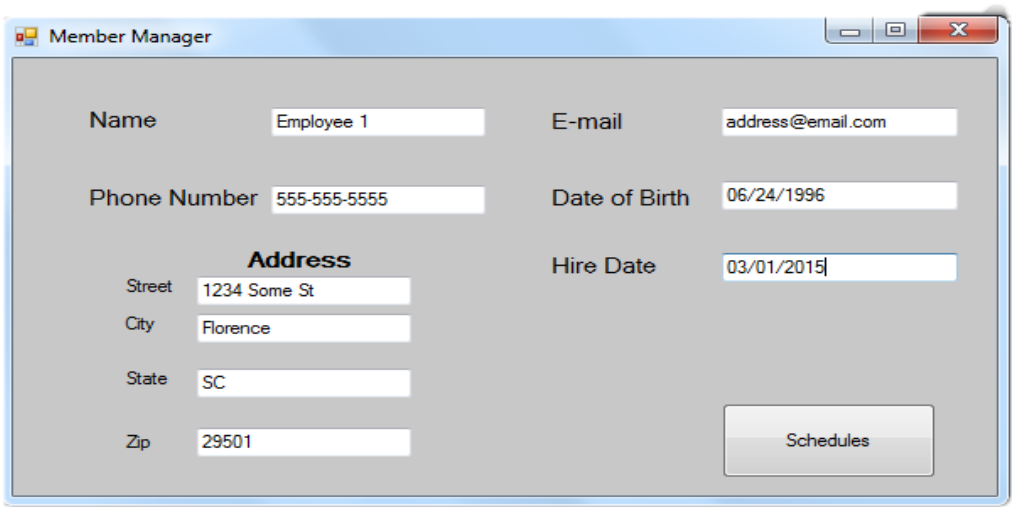

Member Manager
Member Summary
Name
John Doe
E-mail Address
address@gmail.com
Phone Number
555-555-5555
Date of Birth
02/05/1984
Current Rentals
Titles Due
Title 1 12/10/2015
Title 2 12/01/2015
Title 3 12/07/2015
Address
Street
724 Evergreen Terrace
Credit Card Number
*******-1234
City
Florence
Experiration Date
01/01/2017
Late Fees
Title Due Amount Due
Title 1 12/01/2015 $3.50
State
SC
Sign Up For Alerts
Yes
Zip
29501
No
Back
Update Member Info

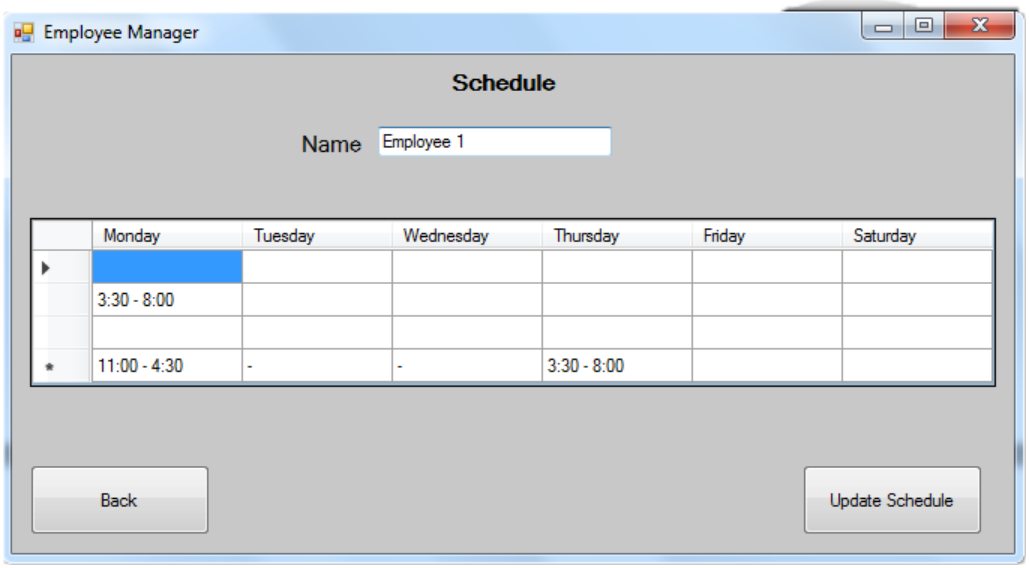

Member Manager
Are You Sure You Want To Change Member Information?
Yes
No
Back
Conirm

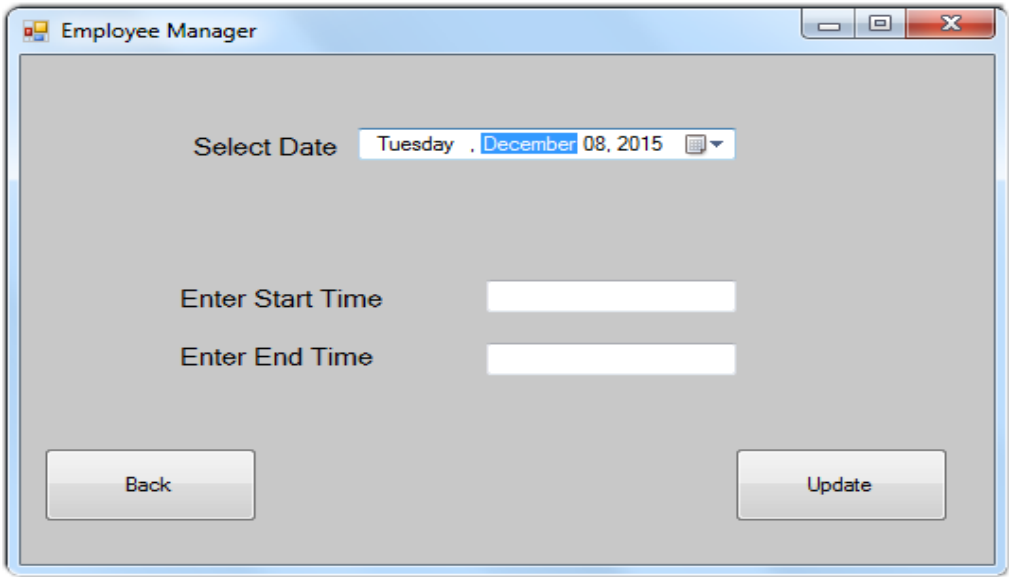

Financial Reports
Select Dates
From
Monday , November 16, 2015
To
Monday , November 30, 2015
Sort By
Select
Total Sales
Release Date
Genre
Language
Go

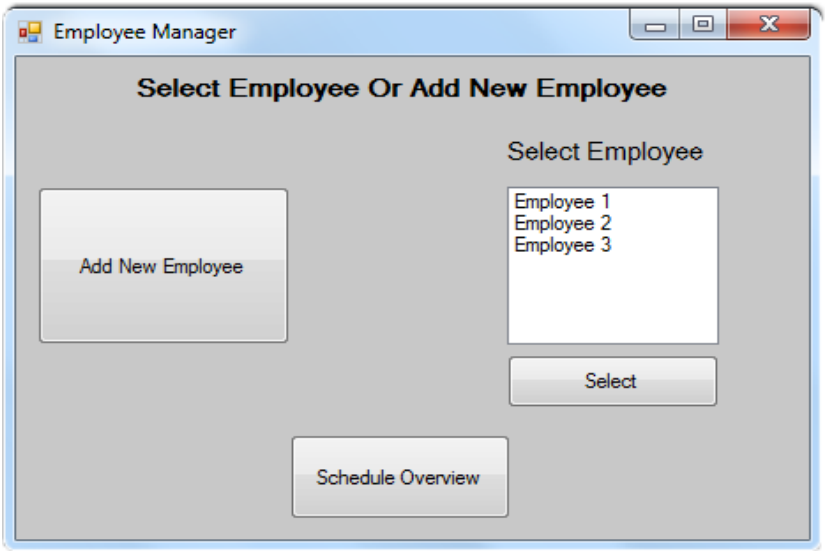

Financial Reports
Rentals
Revenue
Most Popular Title(s)
Times Rented
Most Popular Genres
Times Rented
15
81.75
Title 1
10
Adventure
4
Title 2
3
Drama
3
Title 3
2
Comedy
3
Documentary
5
0
1
2
3
4
5
Adventure
Drama
Comedy
Documentary
Back
OK

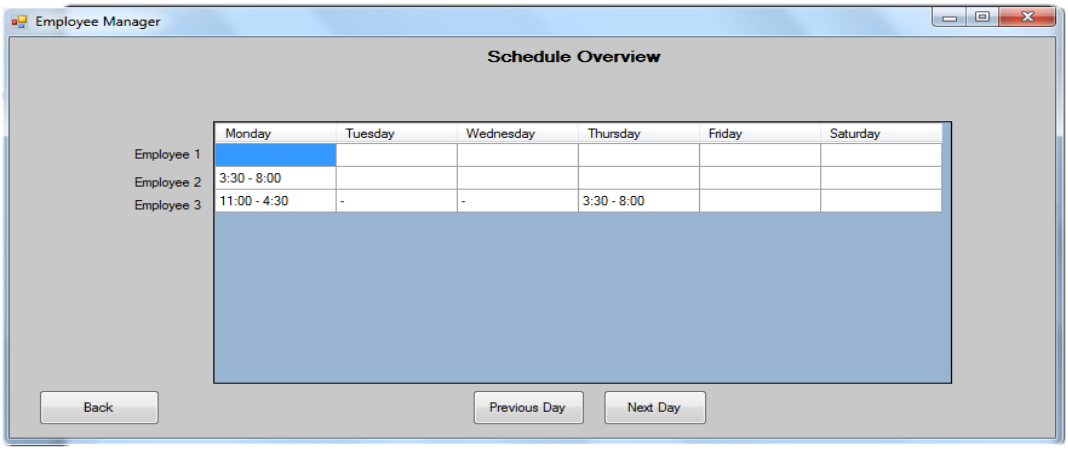

Employee Manager
Select Employee Or Add New Employee
Select Employee
Add New Employee
Employee 1
Employee 2
Employee 3
Select
Schedule Overview

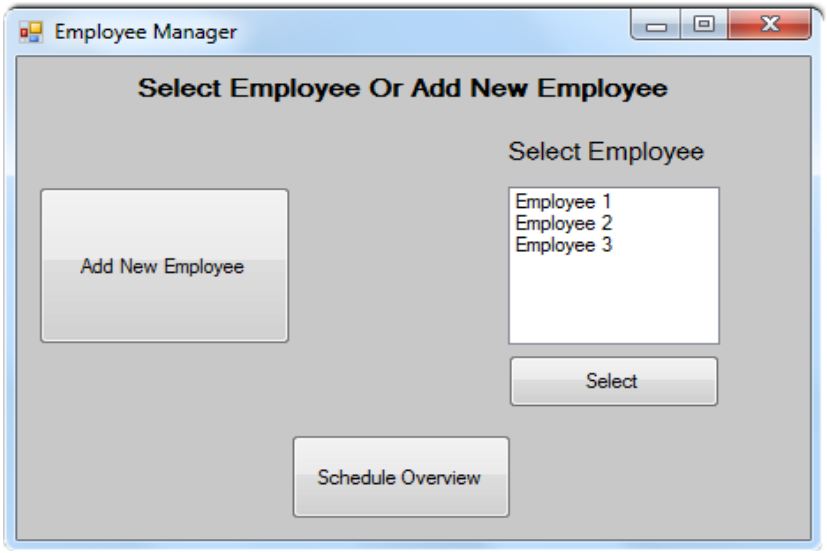

Member Manager
Name
Employee 1
E-mail
address@email.com
Phone Number
555-555-5555
Date of Birth
06/24/1996
Address
Hire Date
03/01/2015
Street
1234 Some St
City
Florence
State
SC
Zip
29501
Schedules

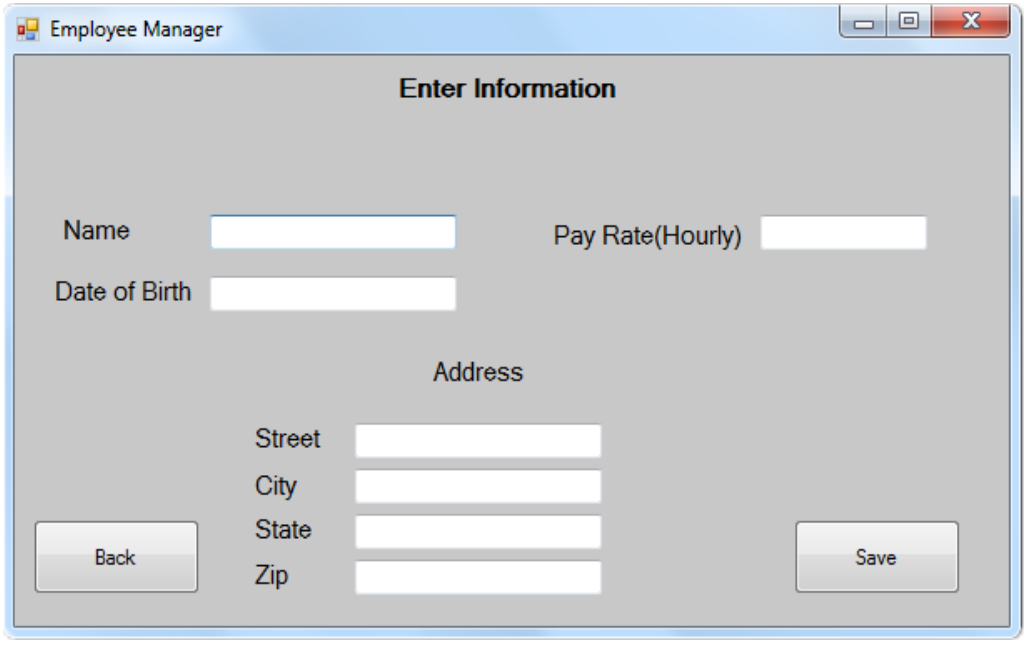

Employee Manager
Schedule
Name
Employee 1
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
3:30 - 8:00
11:00 - 4:30
-
-
3:30 - 8:00
Back
Update Schedule

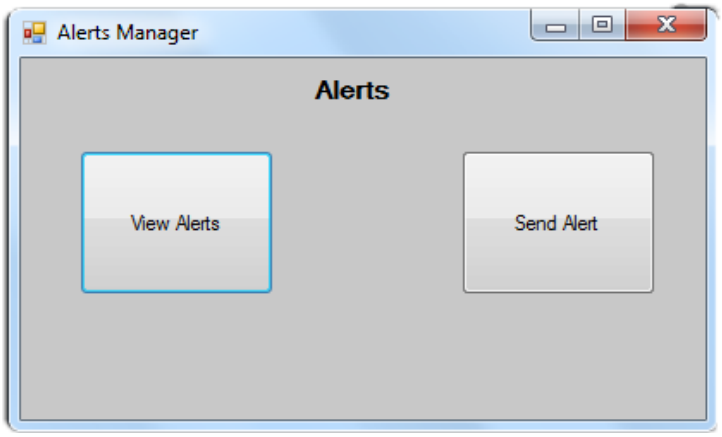

Employee Manager
Select Date
Tuesday , December 08, 2015
Enter Start Time
Enter End Time
Back
Update

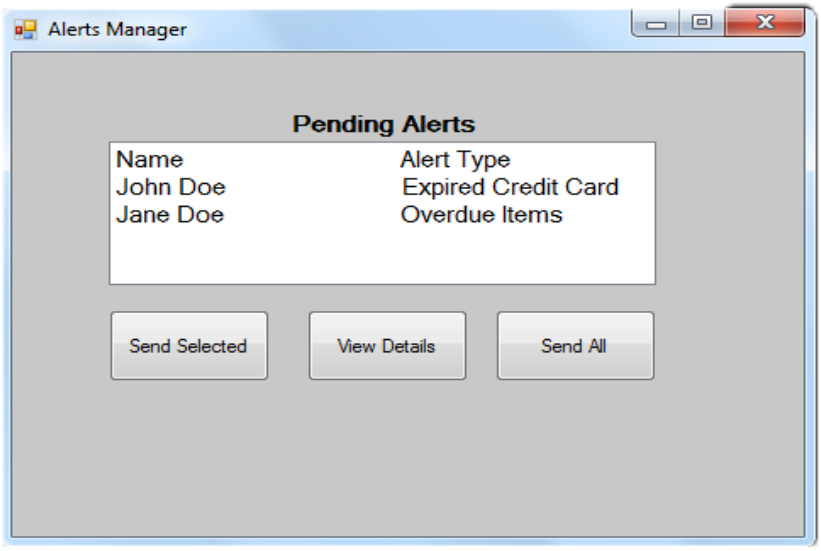

Employee Manager
Select Employee Or Add New Employee
Select Employee
Add New Employee
Employee 1
Employee 2
Employee 3
Select
Schedule Overview

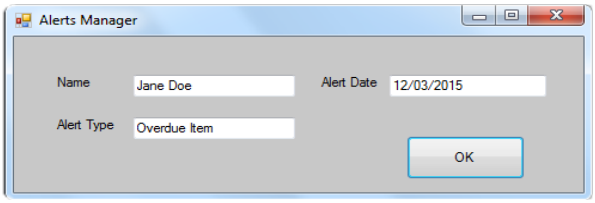

Employee Manager
Schedule Overview
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Employee 1
Employee 2
3:30 - 8:00
Employee 3
11:00 - 4:30
-
-
3:30 - 8:00
Back
Previous Day
Next Day

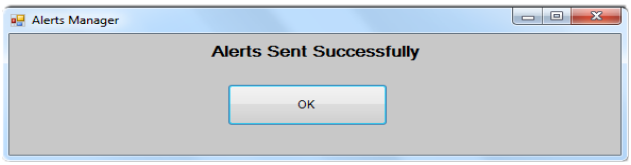

Employee Manager
Select Employee Or Add New Employee
Select Employee
Add New Employee
Employee 1
Employee 2
Employee 3
Select
Schedule Overview

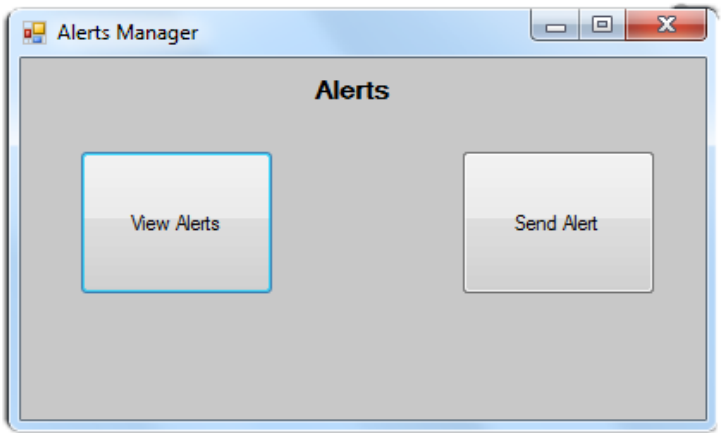

Employee Manager
Enter Information
Name
Pay Rate(Hourly)
Date of Birth
Address
Street
City
State
Zip
Back
Save

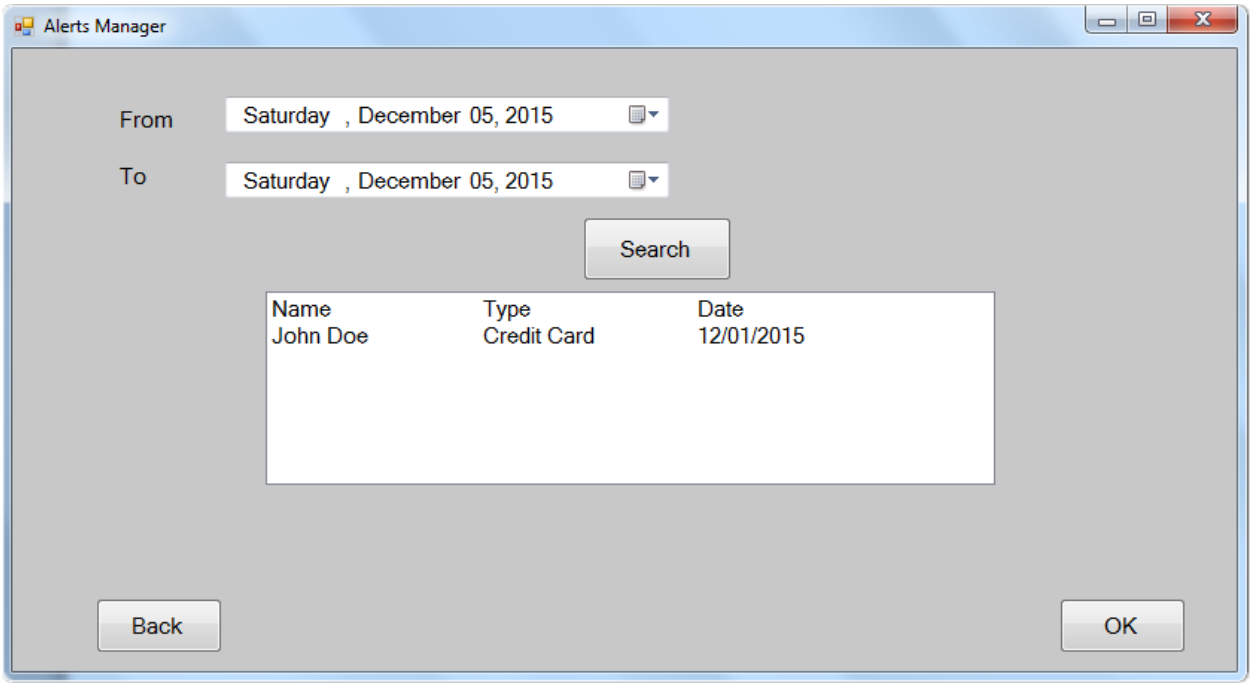

Alerts Manager
Alerts
View Alerts
Send Alert

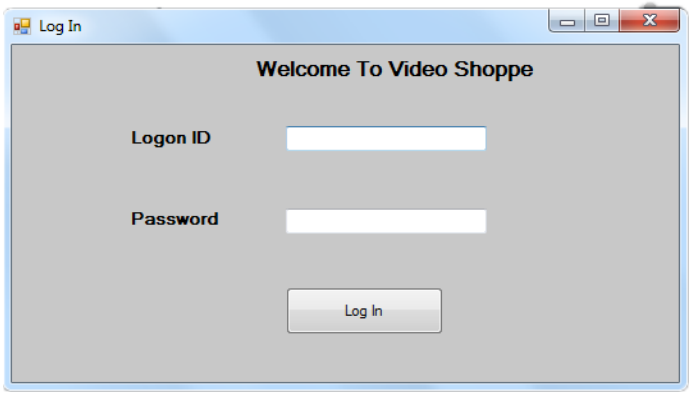

Alerts Manager
Pending Alerts
Name
Alert Type
John Doe
Expired Credit Card
Jane Doe
Overdue Items
Send Selected
View Details
Send All

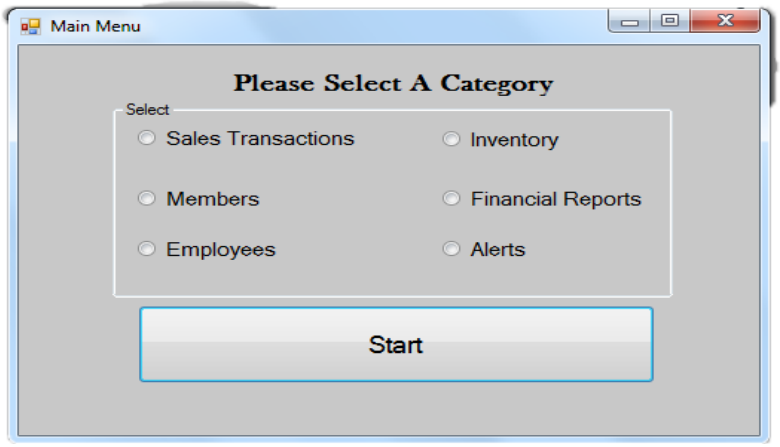

Alerts Manager
Name
Jane Doe
Alert Date
12/03/2015
Alert Type
Overdue Item
OK

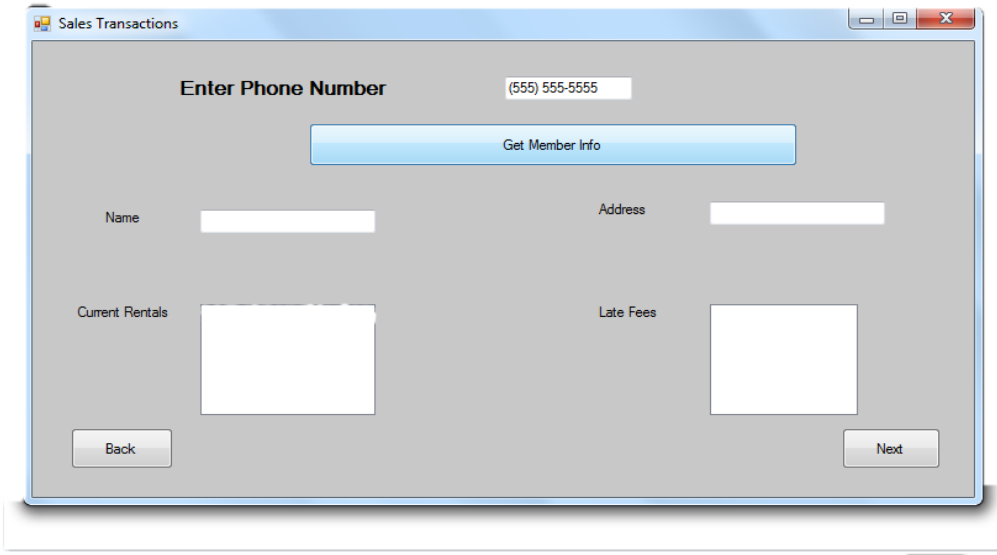

Alerts Manager
Alerts Sent Successfully
OK

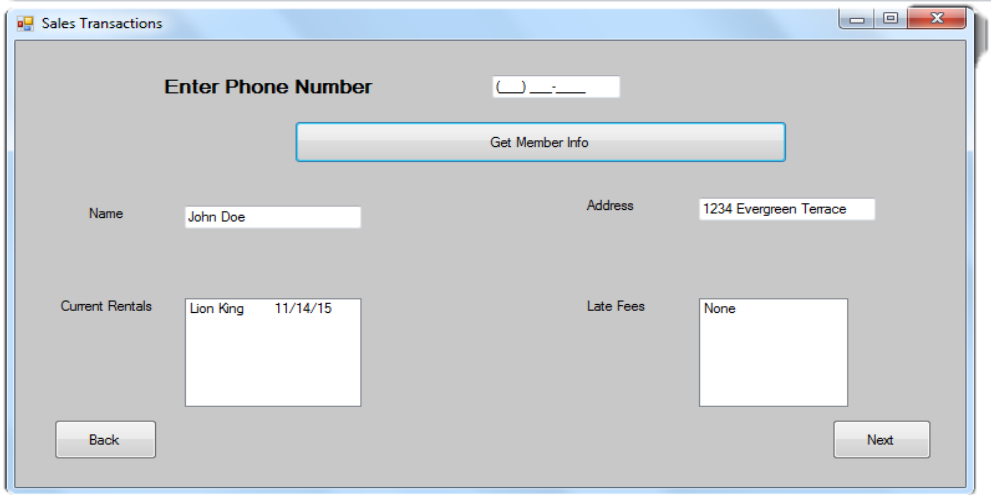

Alerts Manager
Alerts
View Alerts
Send Alert

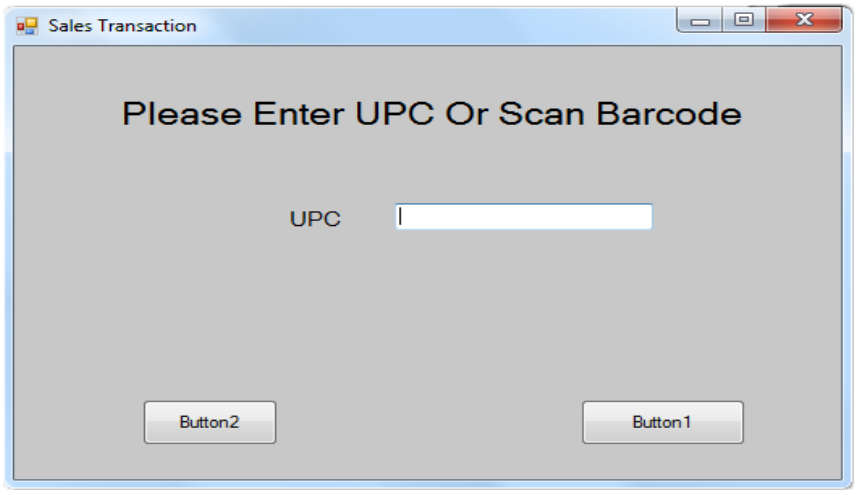

Alerts Manager
From
Saturday , December 05, 2015
To
Saturday , December 05, 2015
Search
Name
John Doe
Type
Credit Card
Date
12/01/2015
Back
OK

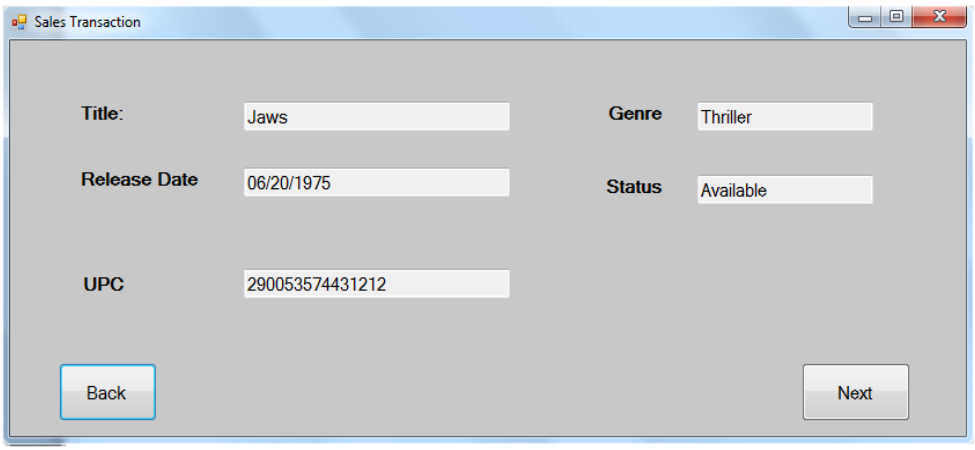

Log In
Welcome To Video Shoppe
Logon ID
Password
Log In

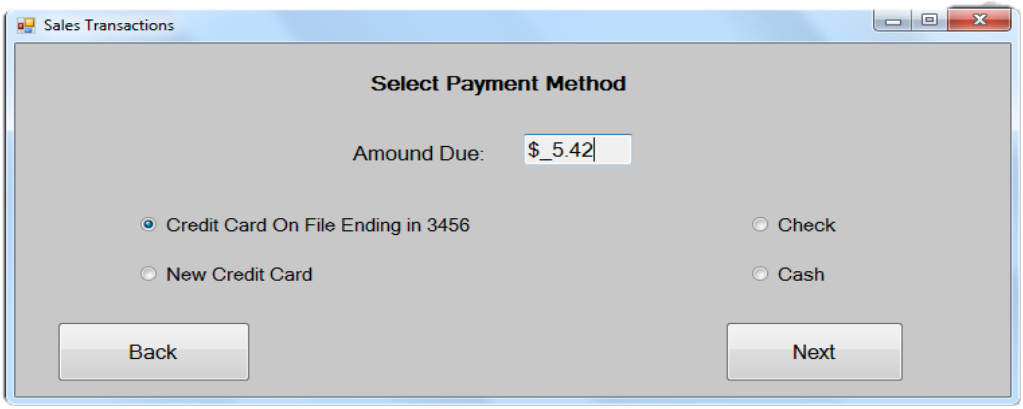

Main Menu
Please Select A Category
Select
Sales Transactions
Inventory
Members
Financial Reports
Employees
Alerts
Start

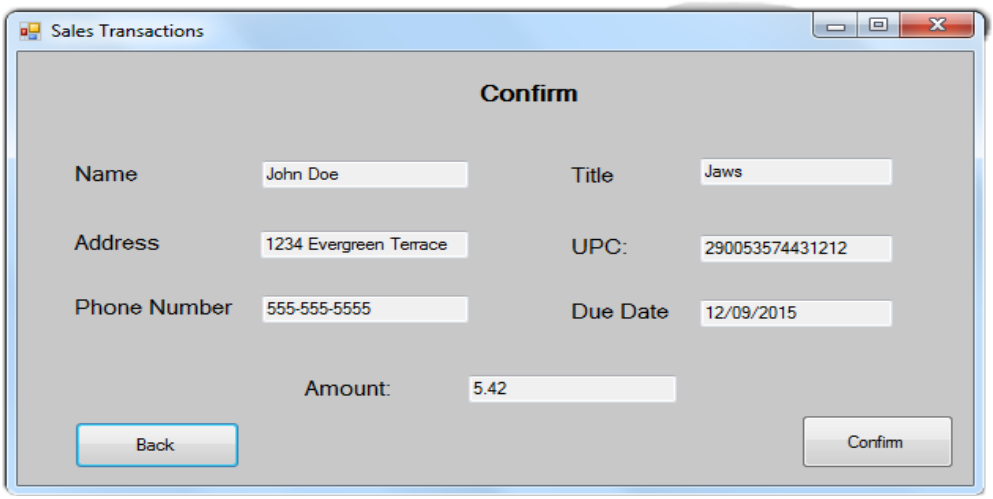

Sales Transactions
Enter Phone Number
(555) 555-5555
Get Member Info
Name
Address
Current Rentals
Late Fees
Back
Next

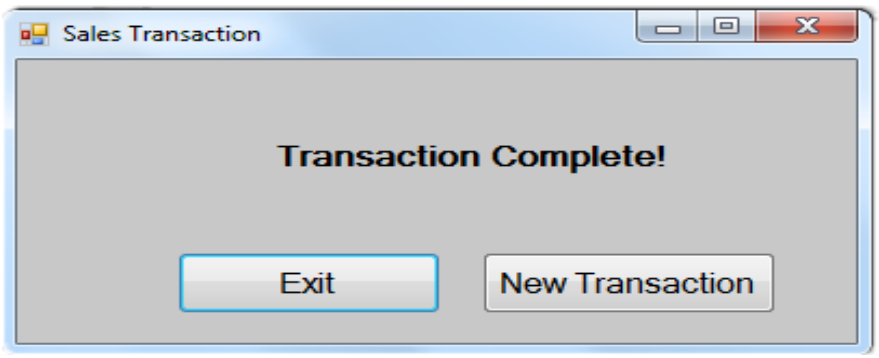

Sales Transactions
Enter Phone Number
(__) ___-____
Get Member Info
Name
John Doe
Address
1234 Evergreen Terrace
Current Rentals
Lion King 11/14/15
Late Fees
None
Back
Next


Sales Transaction
Please Enter UPC Or Scan Barcode
UPC
Button2
Button1

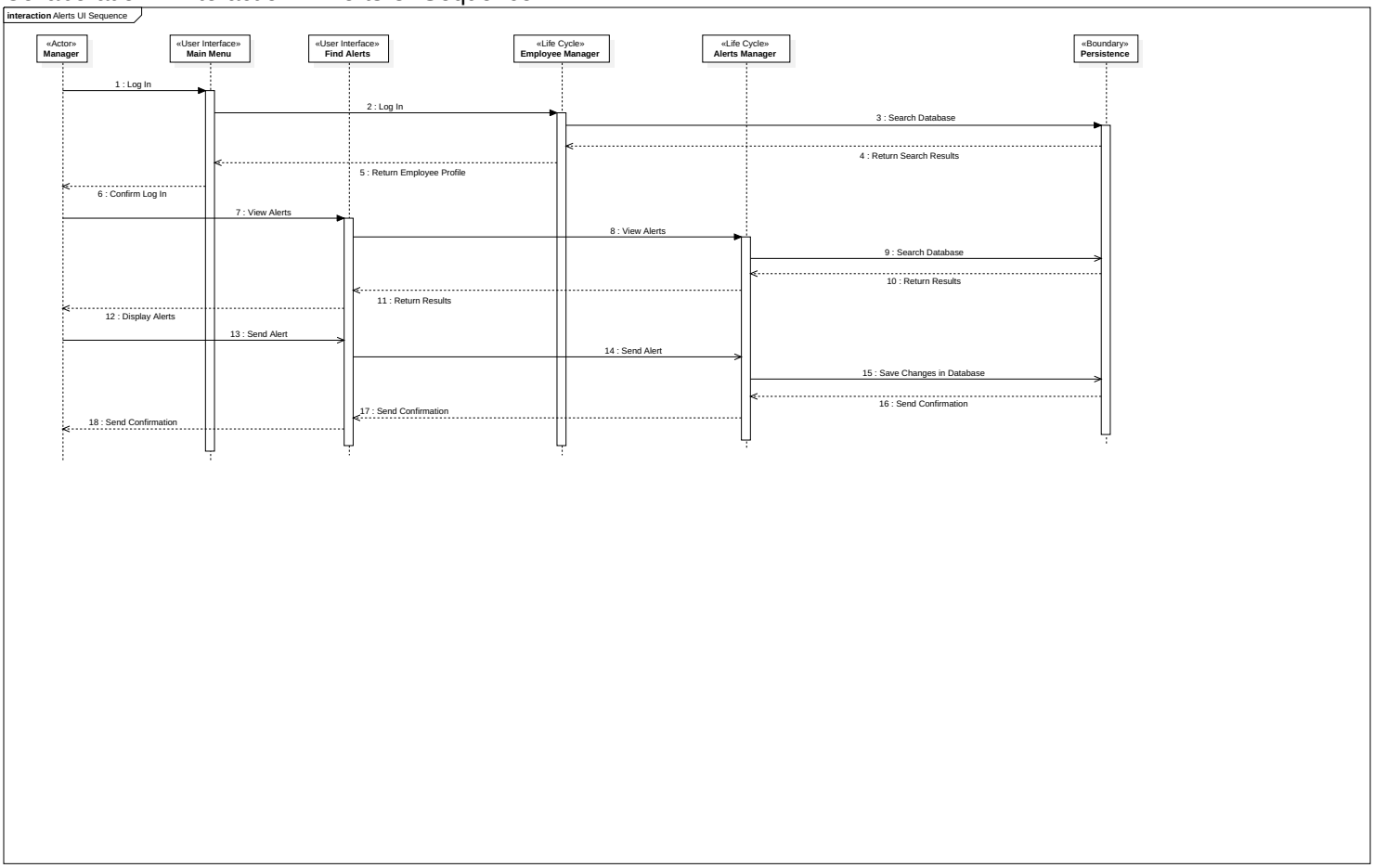

Sales Transaction
Title:
Jaws
Genre
Thriller
Release Date
06/20/1975
Status
Available
UPC
290053574431212
Back
Next


Sales Transactions
Select Payment Method
Amound Due:
$_5.42
Credit Card On File Ending in 3456
Check
New Credit Card
Cash
Back
Next

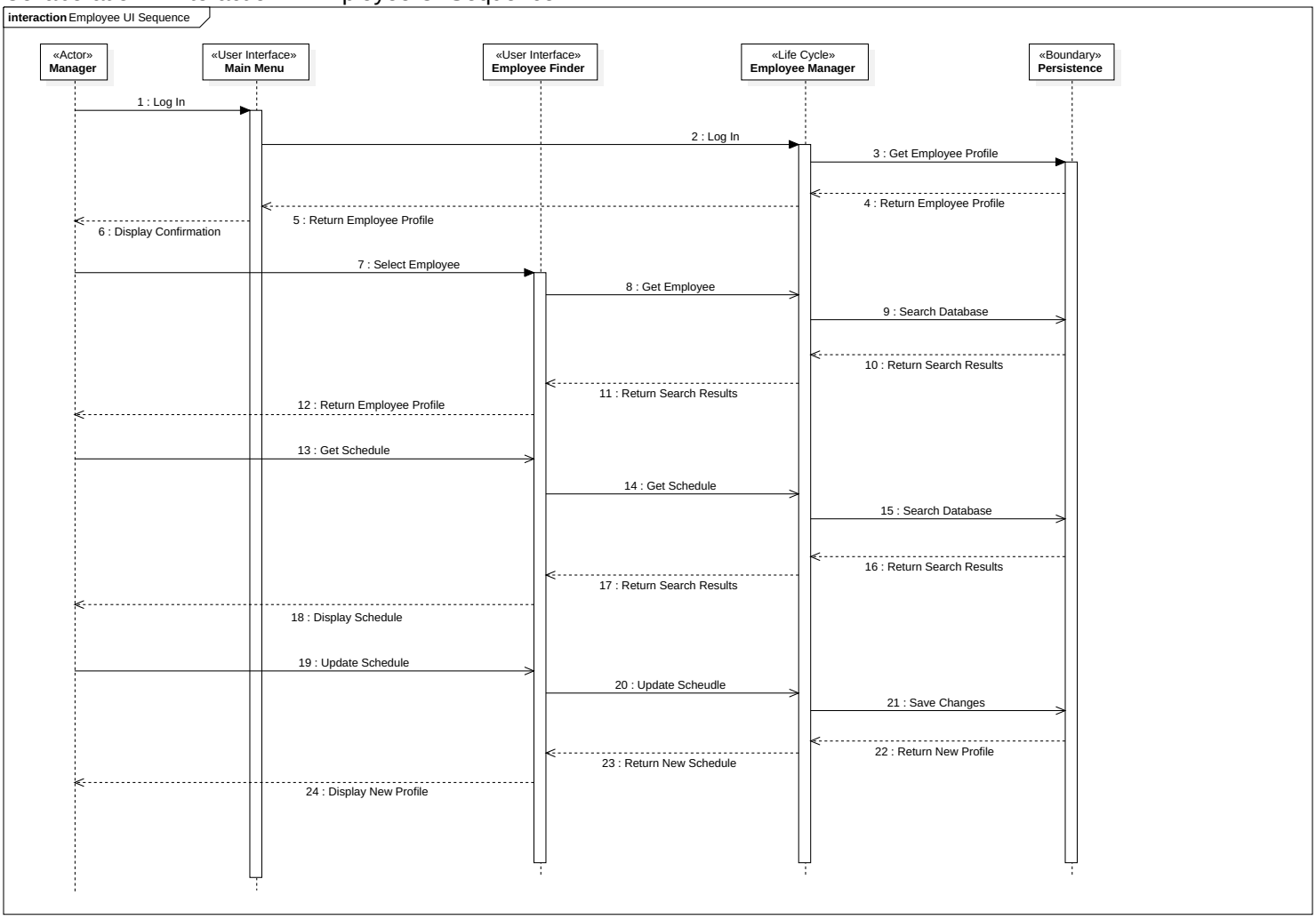

Sales Transactions
Confirm
Name
John Doe
Title
Jaws
Address
1234 Evergreen Terrace
UPC:
290053574431212
Phone Number
555-555-5555
Due Date
12/09/2015
Amount:
5.42
Back
Confirm


Sales Transaction
Transaction Complete!
Exit
New Transaction

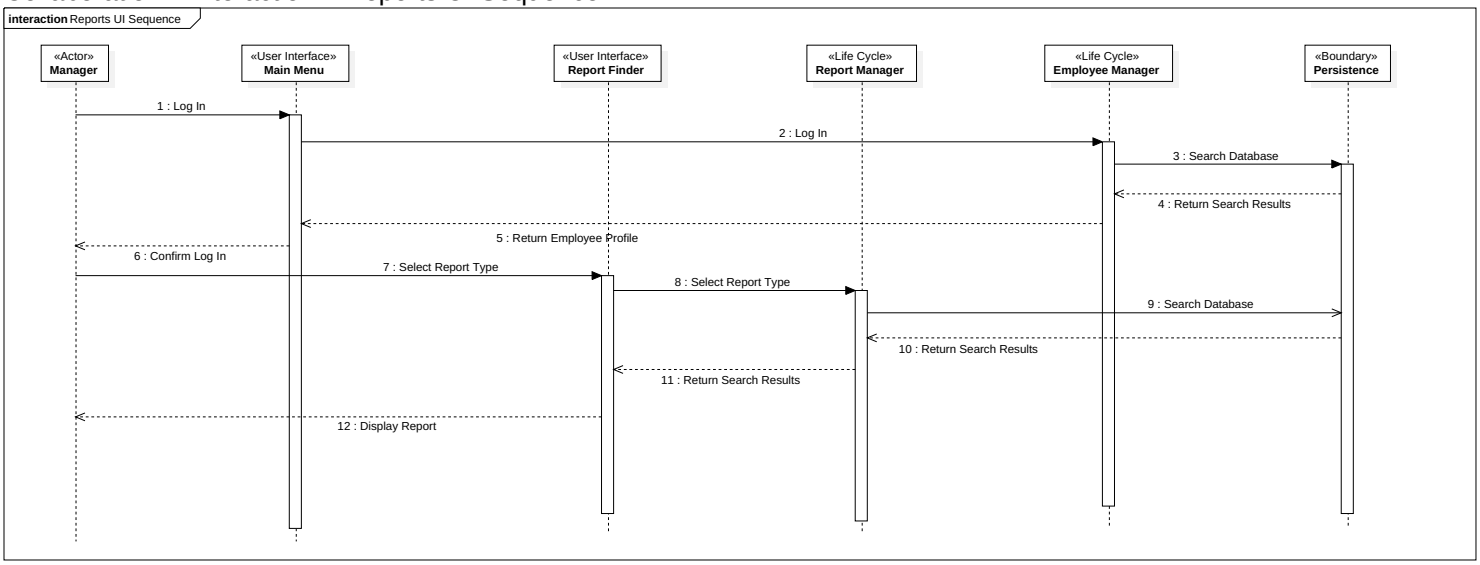
Collaboration1::Interaction1::Alerts UI Sequence



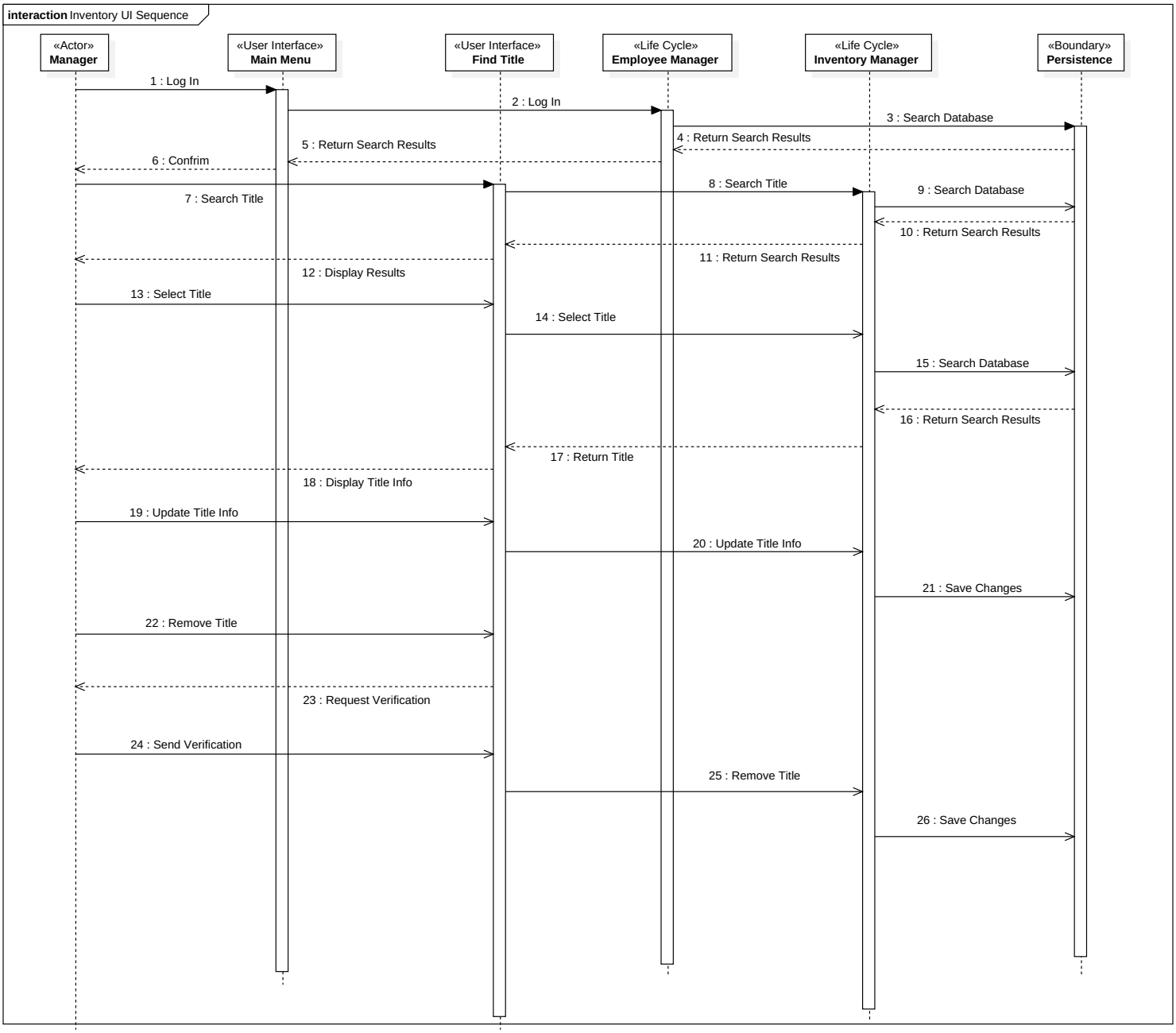
Collaboration1::Interaction1::Employee UI Sequence



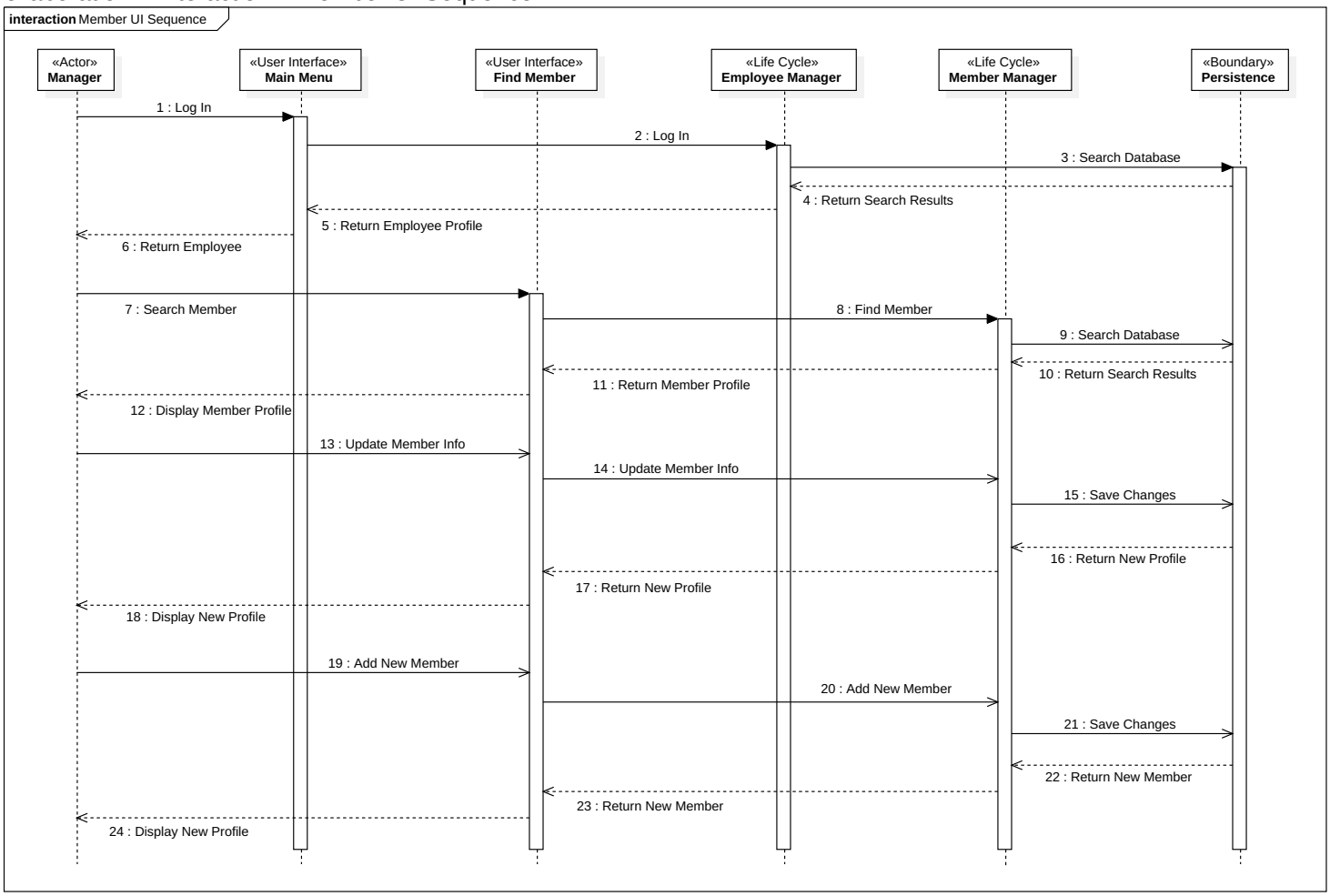
Collaboration1::Interaction1::Reports UI Sequence



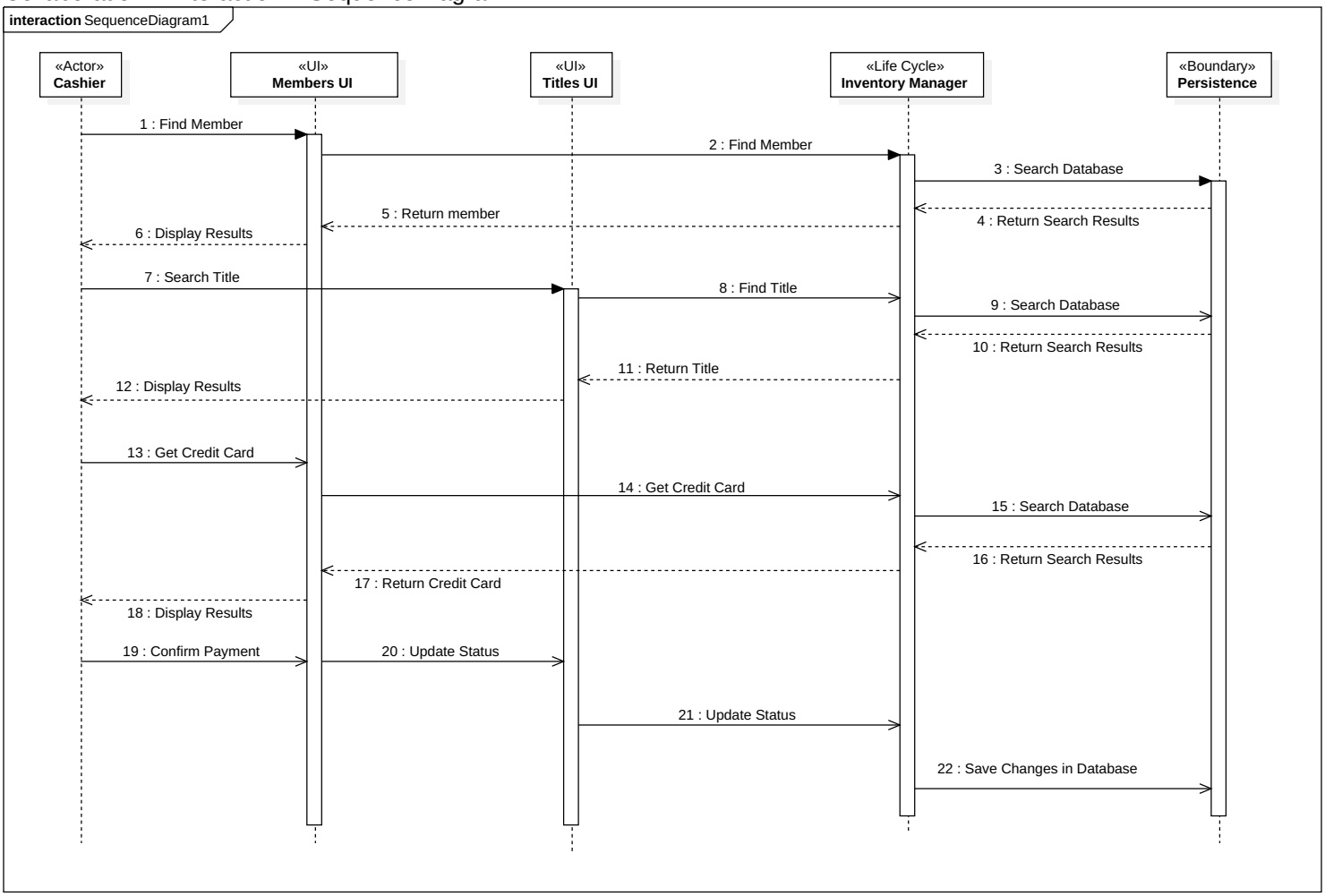
Collaboration1::Interaction1::Inventory UI Sequence



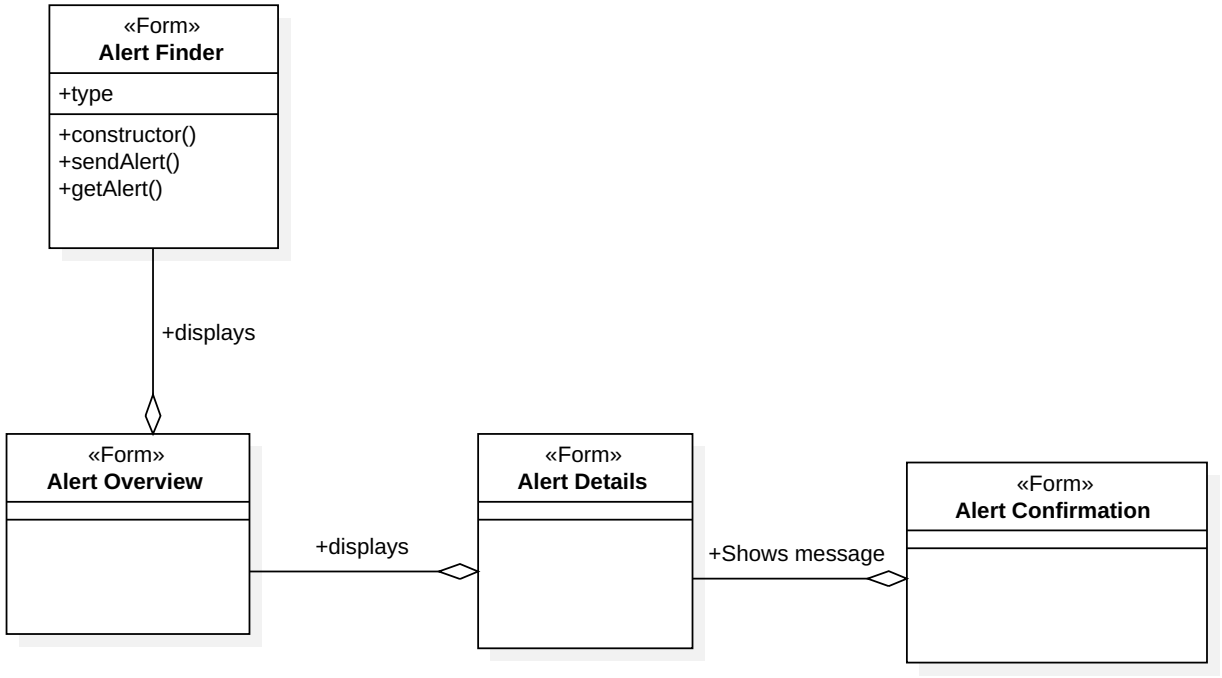
Collaboration1::Interaction1::Member UI Sequence



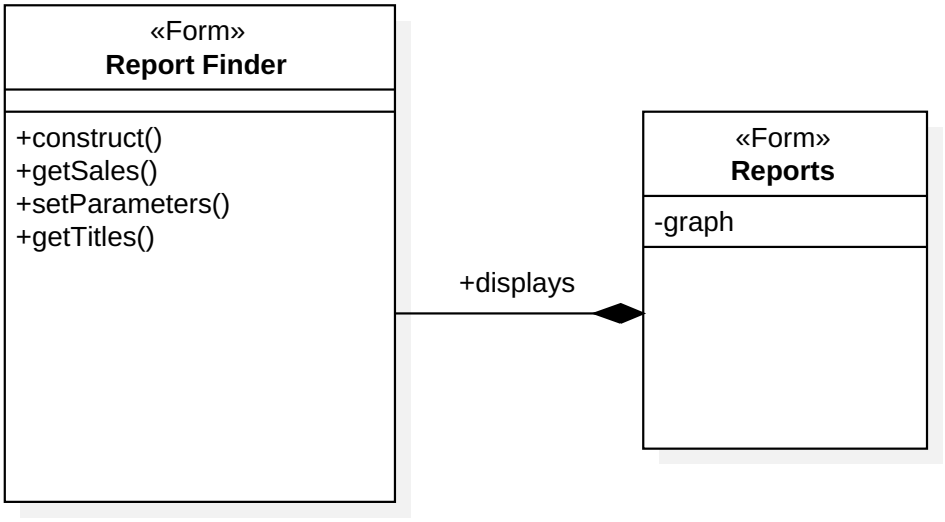
Collaboration1::Interaction1::SequenceDiagram1



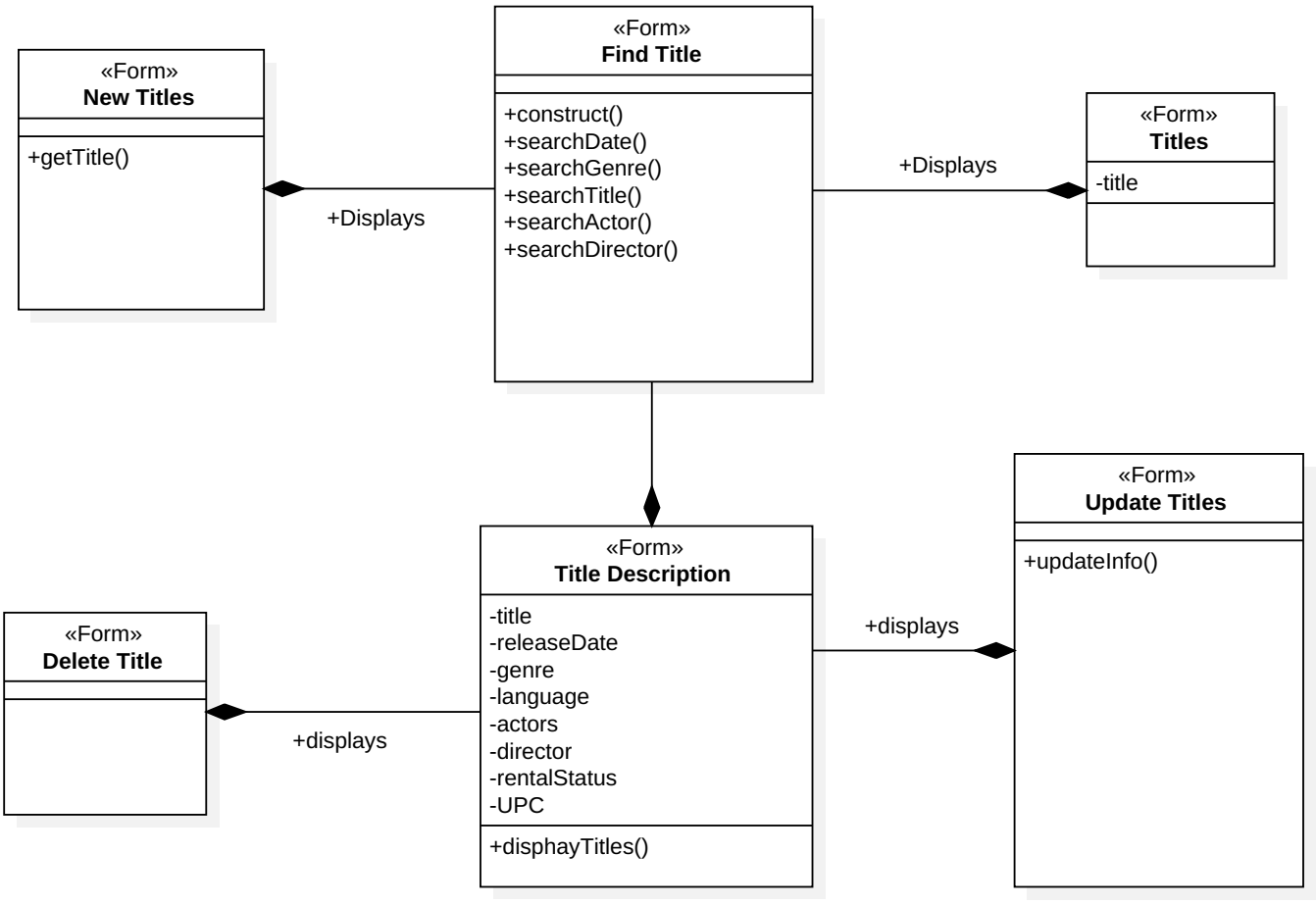
Model1::AlertsUIClass



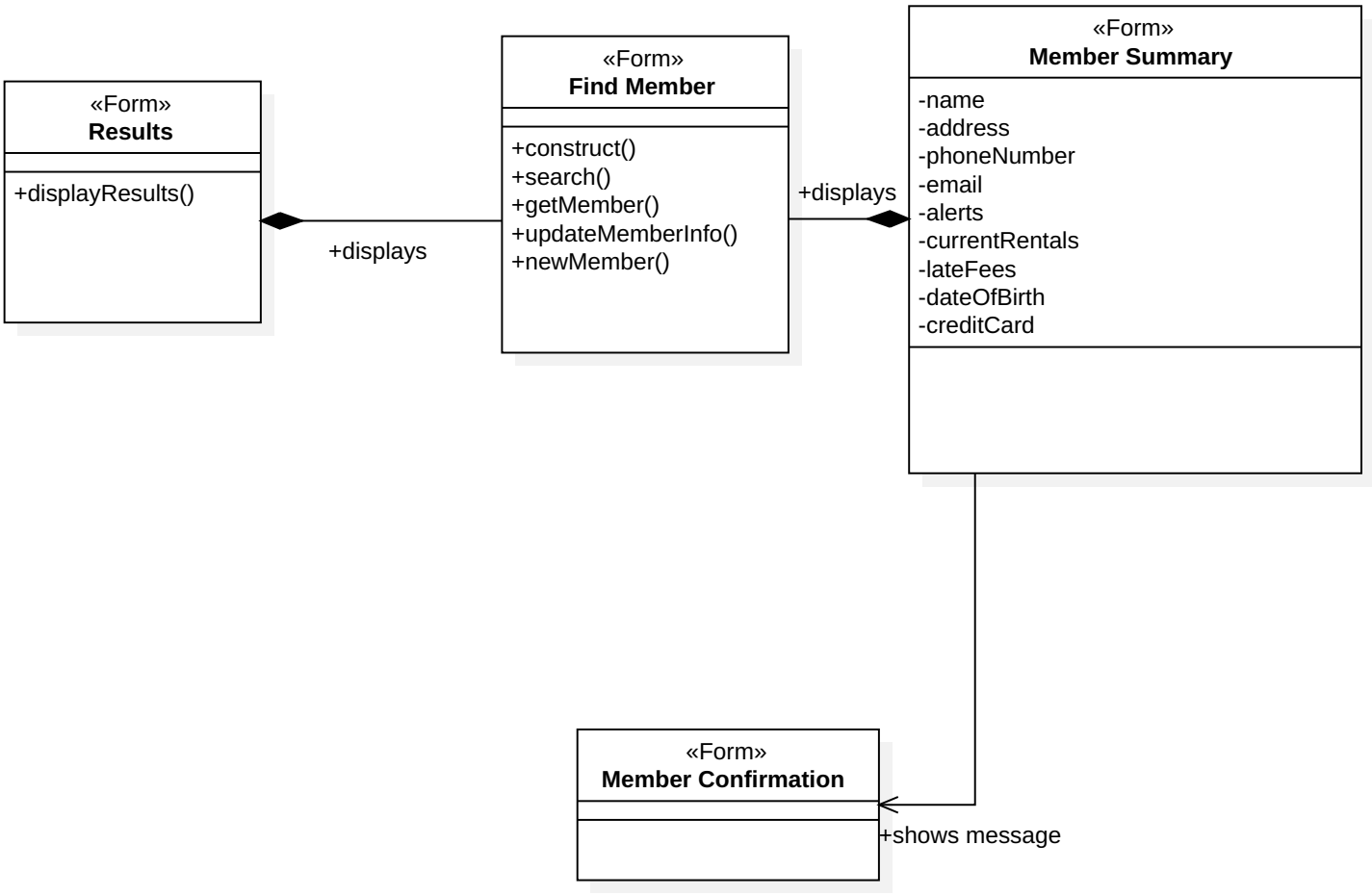
Model1::Reports UI Class



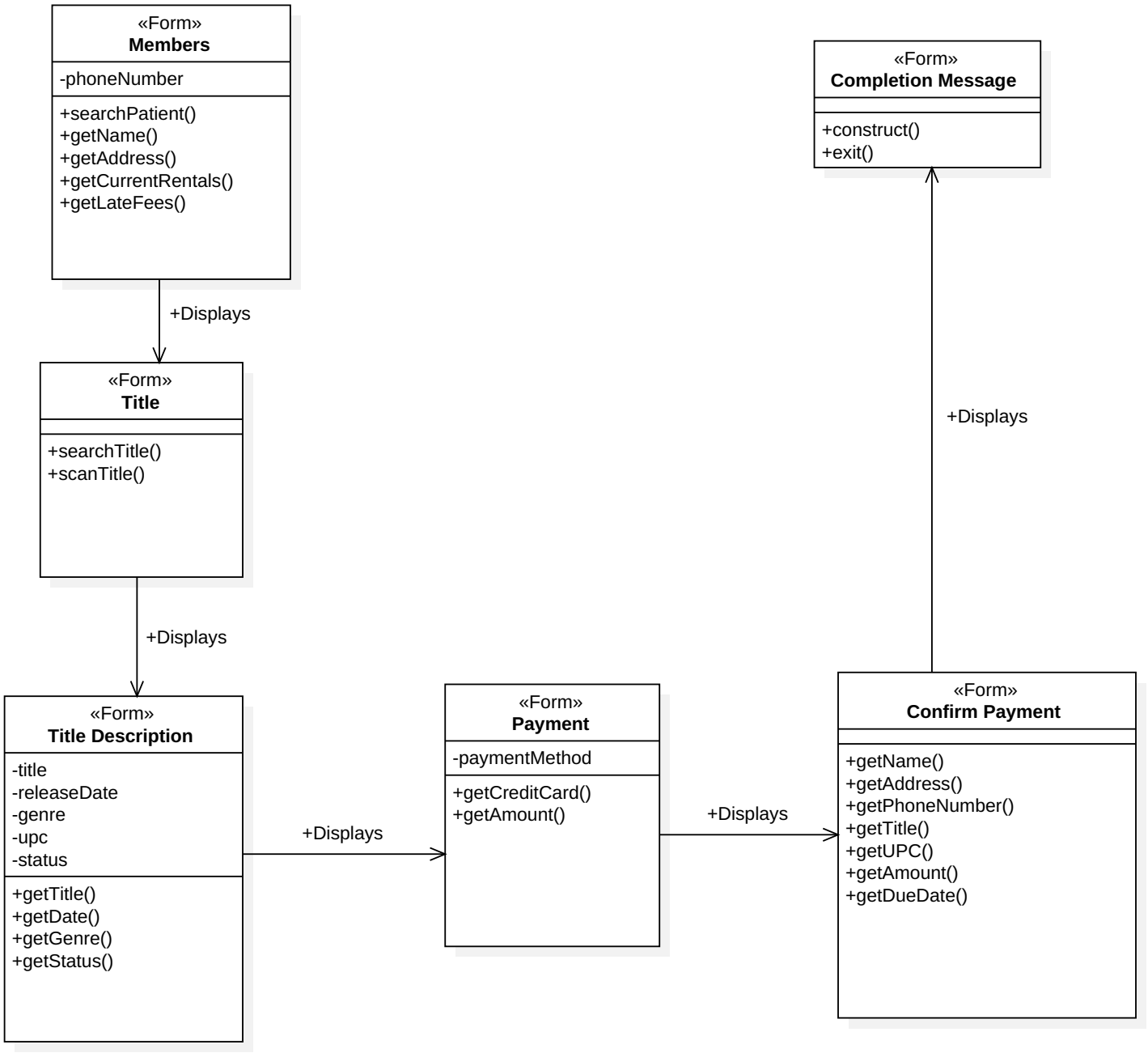
Model1::Inventory UI Class



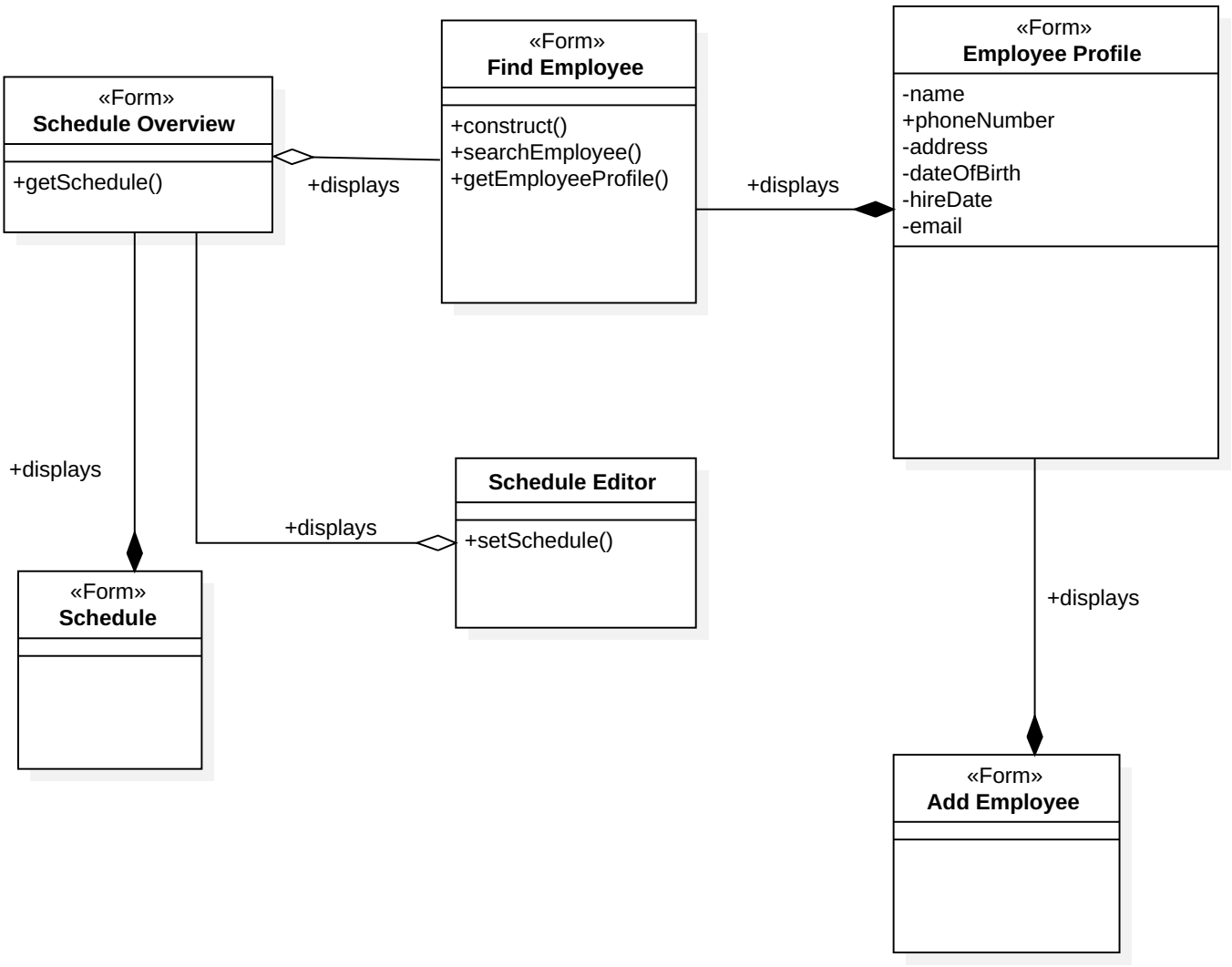
Model1::Member UI Class



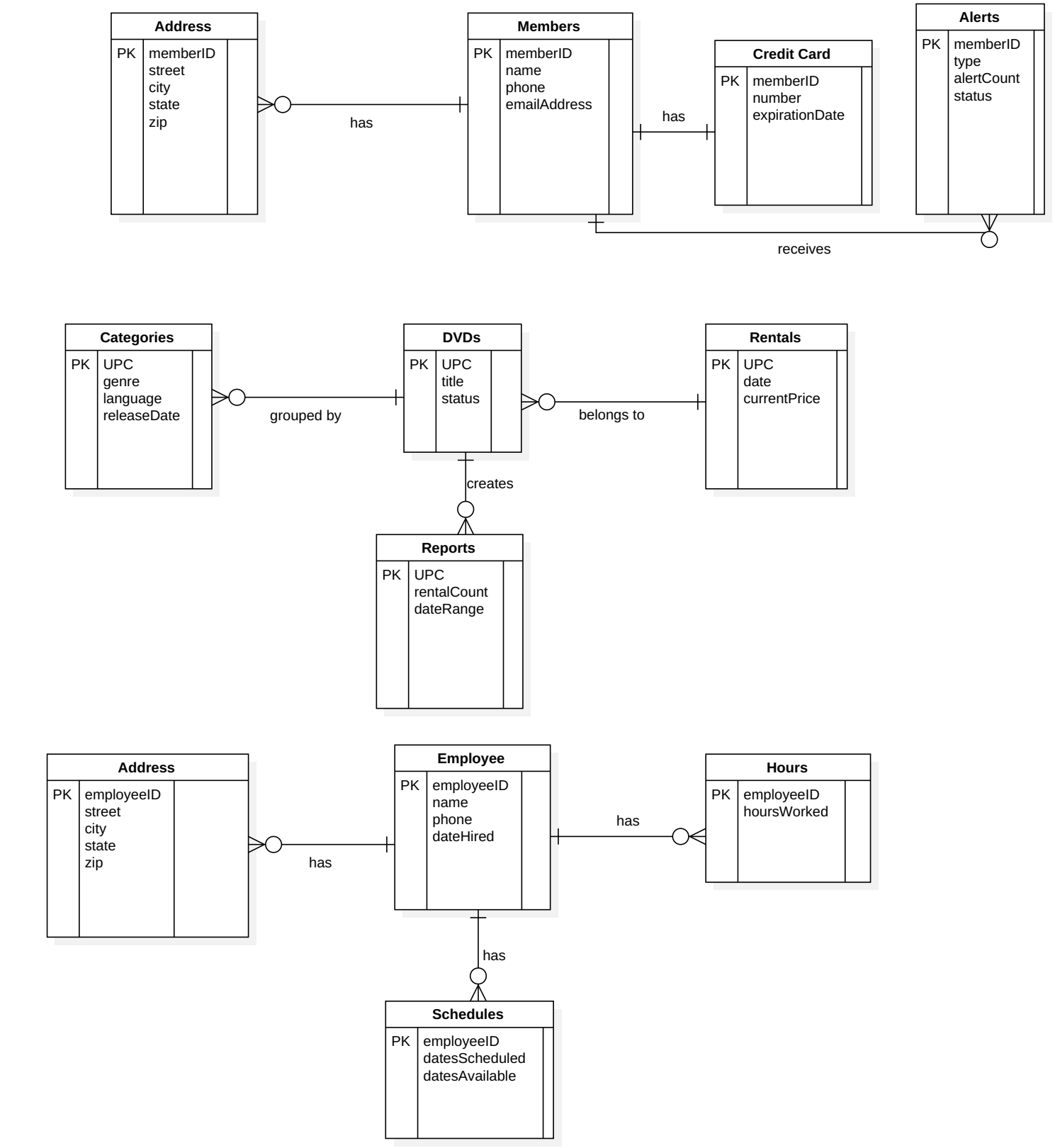
Model1::Sales UI Class



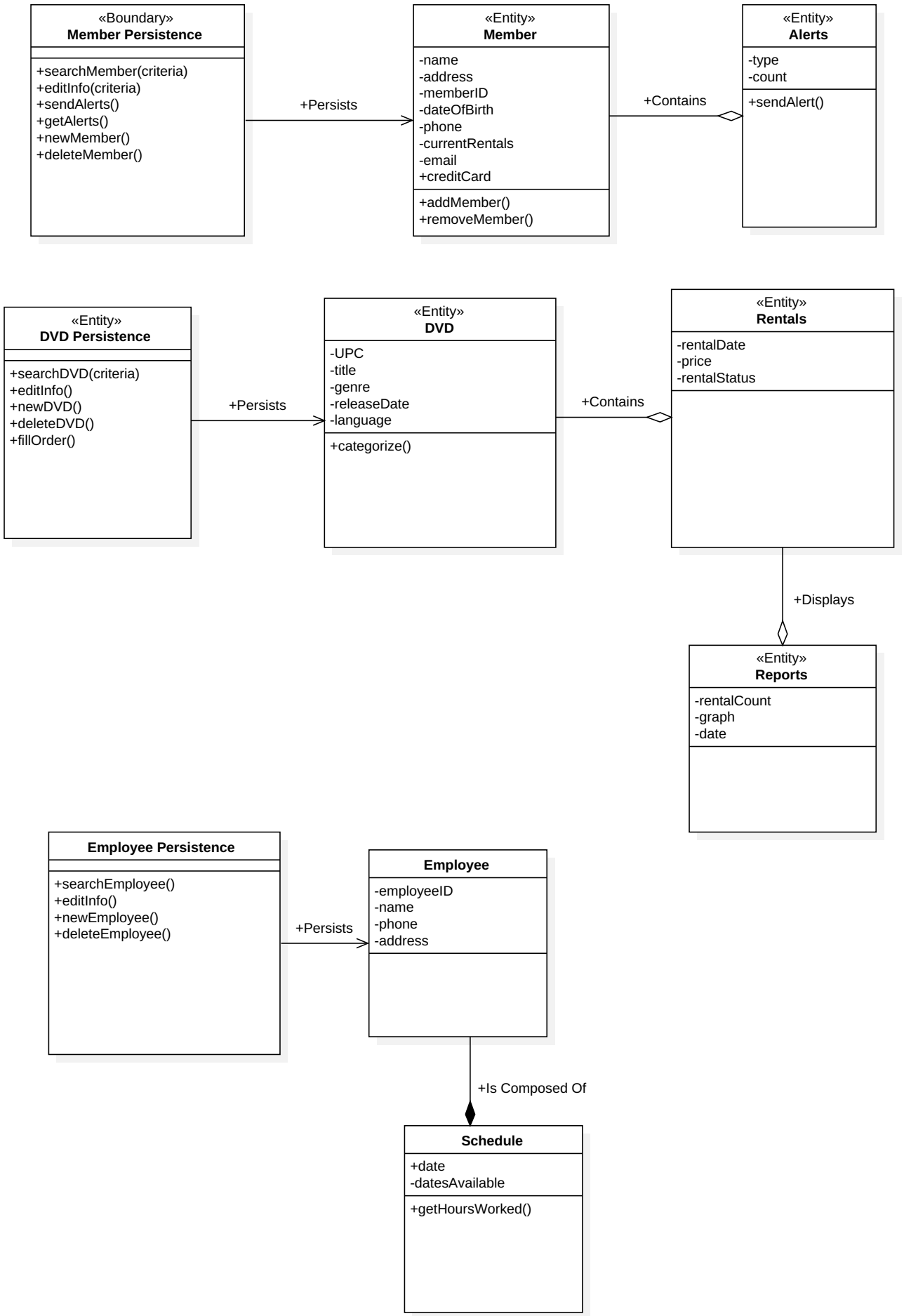
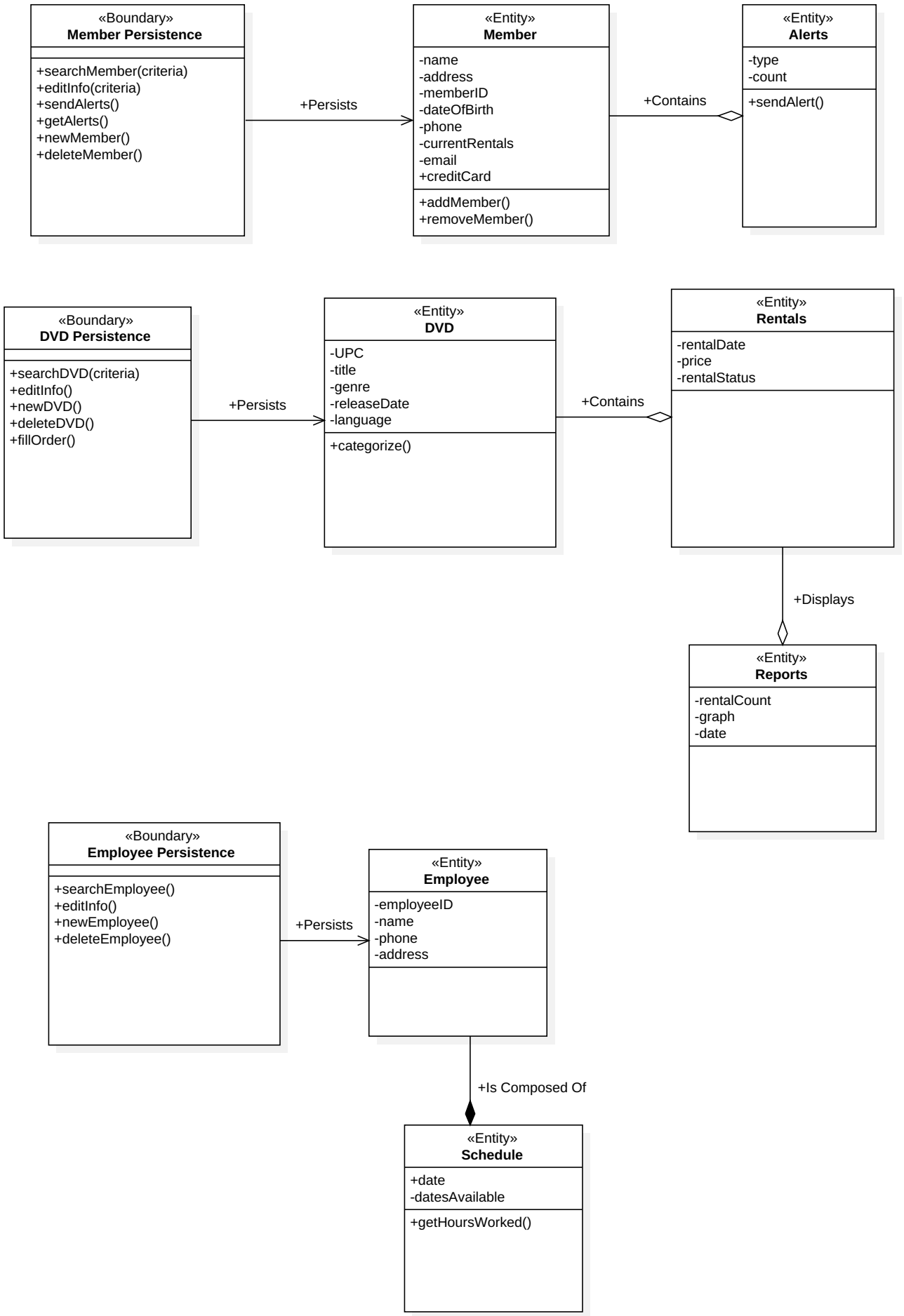
Model1::Employee UI Diagram



Data Model1::Database Tables



Model1::Database Classes



Model1::Database Classes