



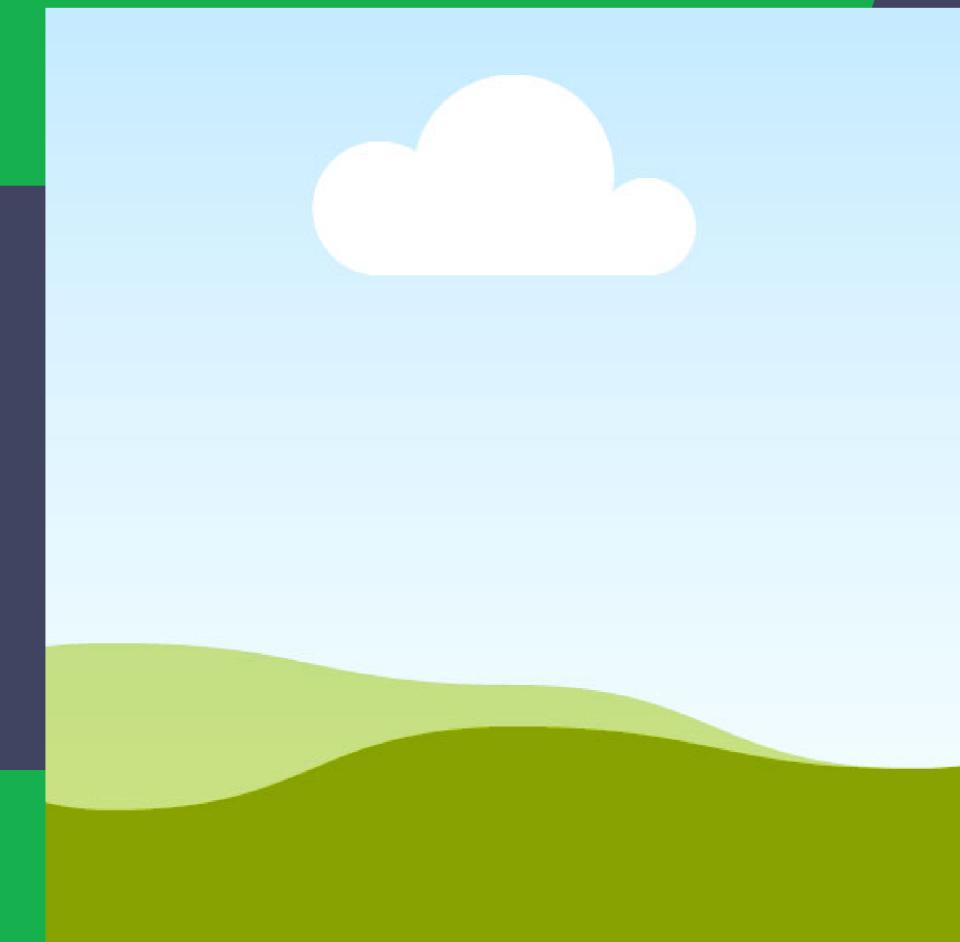
GYMM

Gym management



1

Our Mentor



Nguyễn Thị Hải Năng

Giảng viên khối ngành SE đại học FPT

2 Our Team



Hoàng Đức Lương

Leader



Nguyễn Công Nam

Member



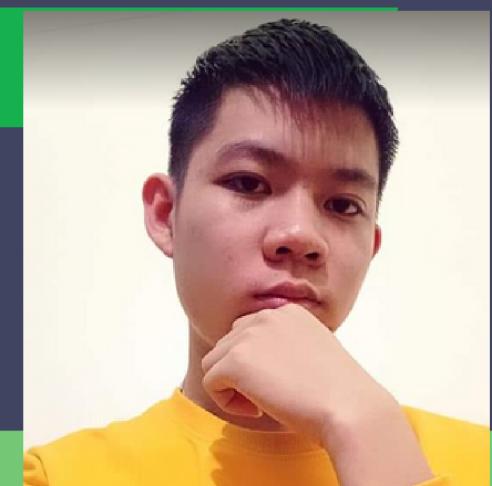
Trịnh Đình Khánh

Member



Lê Đại Dương

Member



Hoàng Minh Hiếu

Member

3

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INTRODUCTION



Background

The key to long-term success for businesses is customer loyalty, achieved through retaining existing customers and finding potential customers. In the rapidly changing business environment, it is crucial for businesses to focus on improving the user experience by upgrading equipment and management systems. Gyms today are following this trend by making their operations more convenient and accessible even when you are not physically present.



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For gym management software, developing a complete and flexible software can help you manage your gym more efficiently

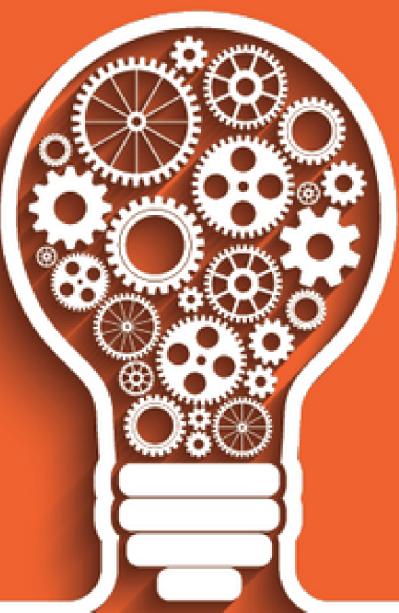
In summary, opening a gym and developing gym management software are both promising fields that can bring high profits.



Software Product Vision

The main issue is training students who need to train typing skills. Whereas other websites concentrate on marketing, their resources and training all take place offline. Typing Center is a website that specializes in providing an environment where teachers, students, officers, and freelancers can practice and test online.

PRODUCT VISION GUIDE



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Existing System



- Intuitive and easy to use user interface.
- There are many useful features such as class schedule management, student registration, customer account management, revenue reporting and many more.
- Support to manage multiple remote branches, making the management more efficient.



- Customer support methods are limited, only email or phone support, no live chat or live support.
- Customizing the interface and functions is still limited, it is not possible to customize according to the needs of each customer.
- Significant features include class schedule management, student registration.

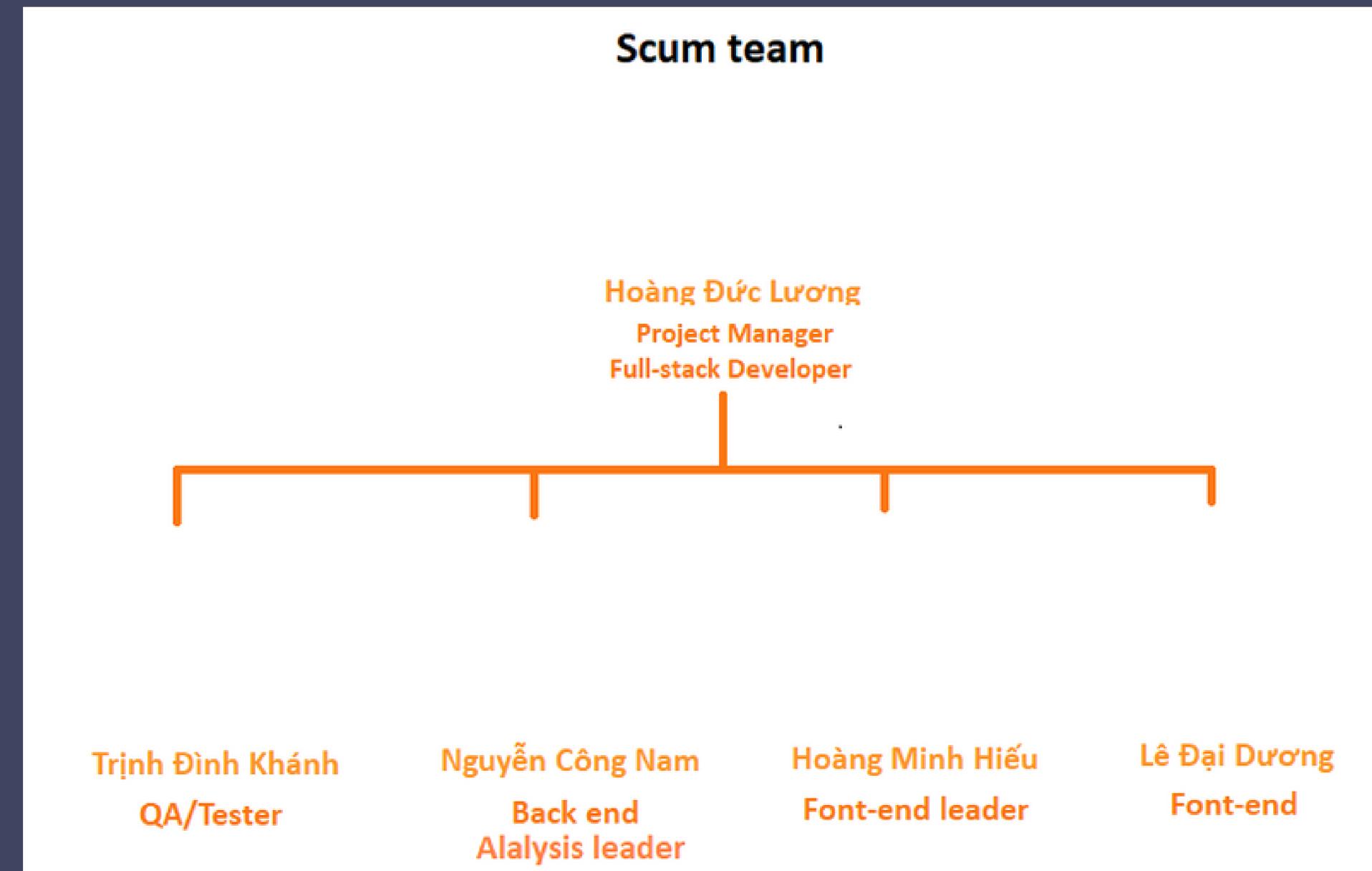
2. PROJECT MANAGEMENT

Software Process Model



This project uses the Iterative and Incremental Software Process Model. It emphasizes flexibility and collaboration to ensure continuous improvement and meeting project requirements.

Project Organization



Tools and Technologies



Development



Database



Deployment



GitLab



Google Drive

Management



Visual Paradigm



Others

Project Risk

#	Risk Description	Impact	Possibility	Response Plans
1	Don't understand requirements	High	High	Conduct a teacher to clear up any requirements required.
2	Not completed on time	High	High	All members need to work overtime to complete
3	Members misunderstand the requirements	High	Low	Organize more daily meetings for discussing requirements and members have to confirm that they understood the problem clearly.
4	Lost data	Medium	High	Backup data regularly

#	Risk Description	Impact	Possibility	Response Plans
4	Tasks assigned is behind schedule	Medium	High	Encourage team members to raise their issues to recognize the problem and encourage them to work overtime to cover the schedule.
5	Knowledge and skill are limitations	Medium	Medium	The technical leader will study and transfer them to all members during the project.
6	Lack of knowledge about technology used in project	High	Low	Leader must support members to increase skill and knowledge.

Communication Plan

#	Communication Item	Who/ Target	Purpose	When, Frequency	Type, Tool, Method(s)
1	Daily discussion with team member	All members	<ul style="list-style-type: none"> - Team members report daily work to leaders - Project team members discuss tasks and task issues 	20:30 PM Everyday	Online - Google Meet, Messenger
2	Unexpected meeting	All members	Project team members discuss and solve suddenly important issues	When there are suddenly important issues	Online - Google Meet
3	Team building	All members	<ul style="list-style-type: none"> - Enhance team members relationship - Raise the communication problem/project issue 	Team self-unified	Offline

WBS and Estimation

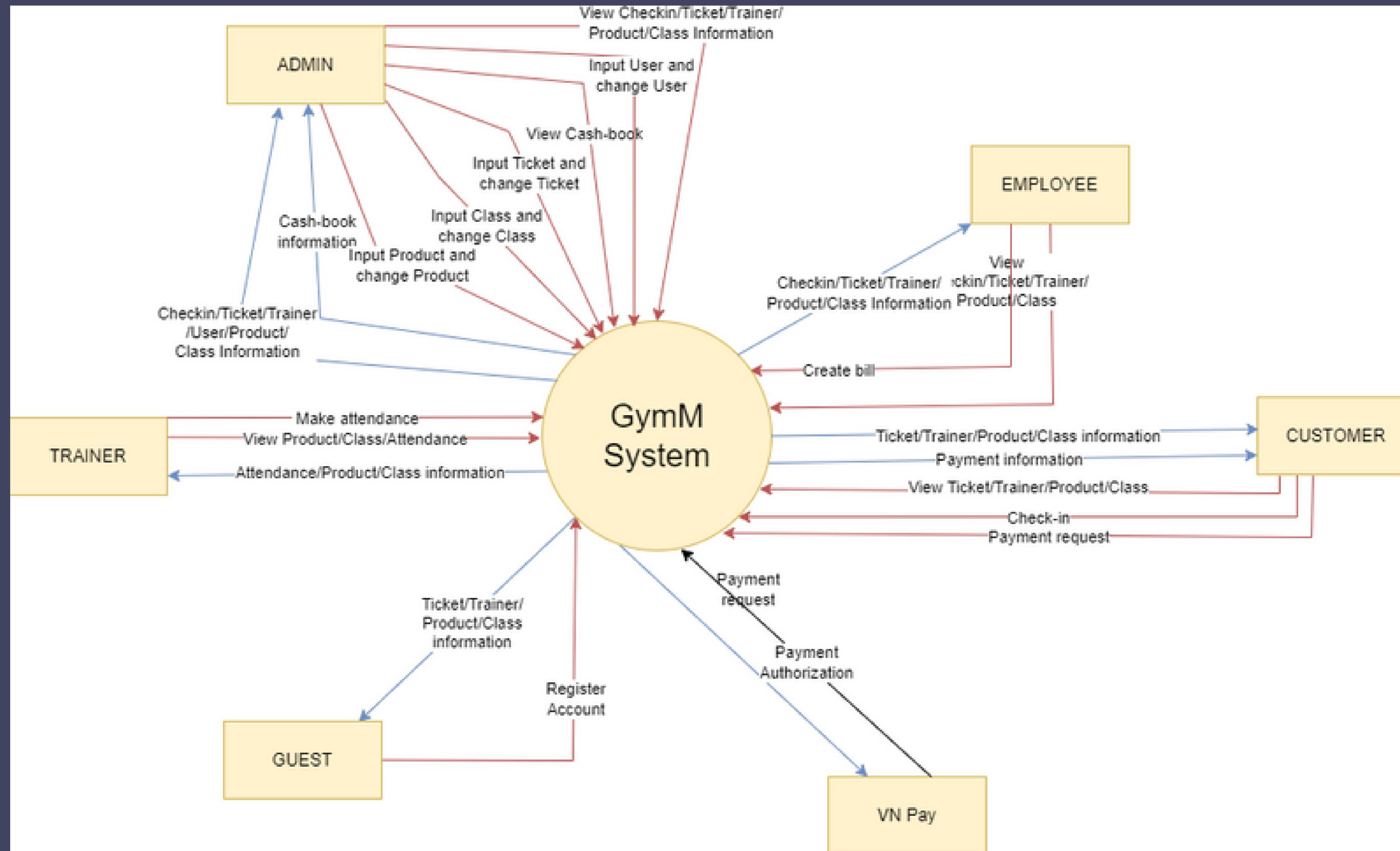
1 man-day = 4h working

#	WBS Item	Est. Effort (man-days)
1	Project Initiating	20
2	Project Planning	25
3	Software Development	50
4	Iteration 1	95
5	Iteration 2	95
6	Iteration 3	95
7	Iteration 4	100
8	System testing	40
9	Transitioning	30
10	Closing	20

Total Estimated Effort(man-days): 570

3. REQUIREMENT SPECIFICATIONS

Product Overview

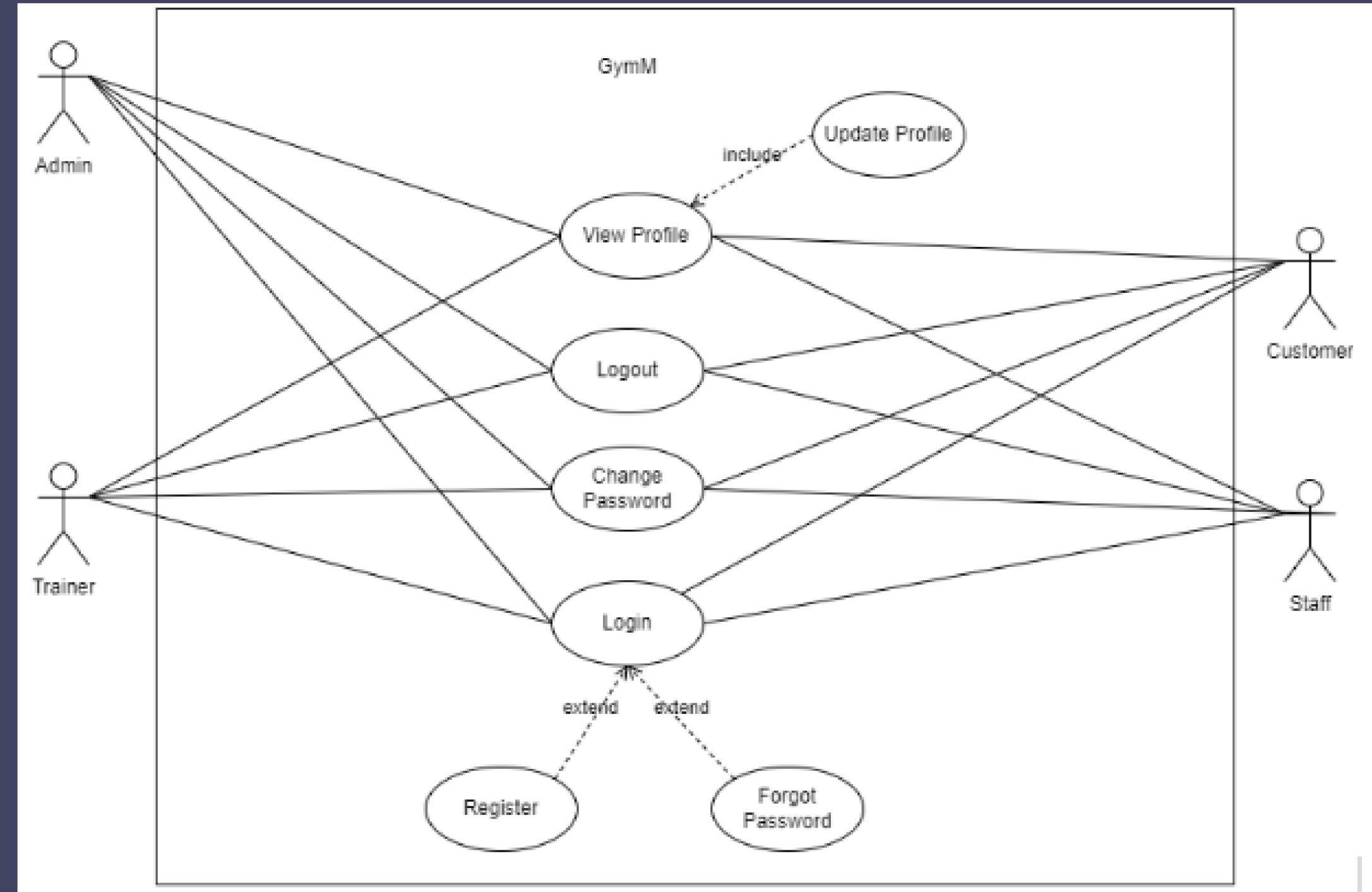


#	Actor	Description
1	Administrator	<ul style="list-style-type: none">• Admin has full control, manage system
2	Staff	view list Trainer, list Ticket, create ticket detail
3	Trainer/PT	Manage students, plan class learning content
4	Customer	Register for Ticket , trainer ticket, trainer
5	Guest	Access to the Home Page, Register account

User Requirement

Main Features:

Actor detail use case diagram



User Requirement

Main Features:

Admin

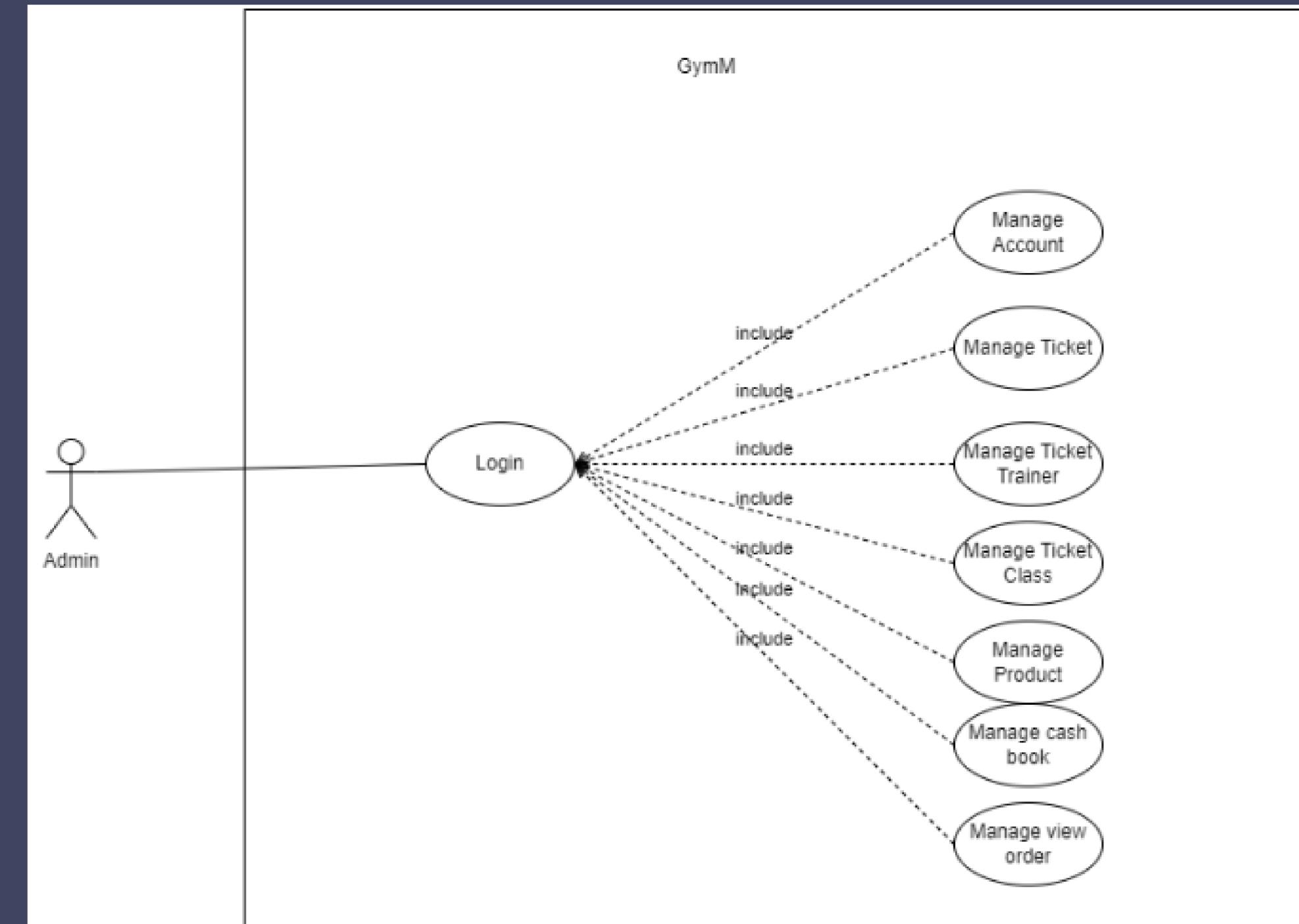


Figure 5. Admin use cases

User Requirement

Main Features:

Admin

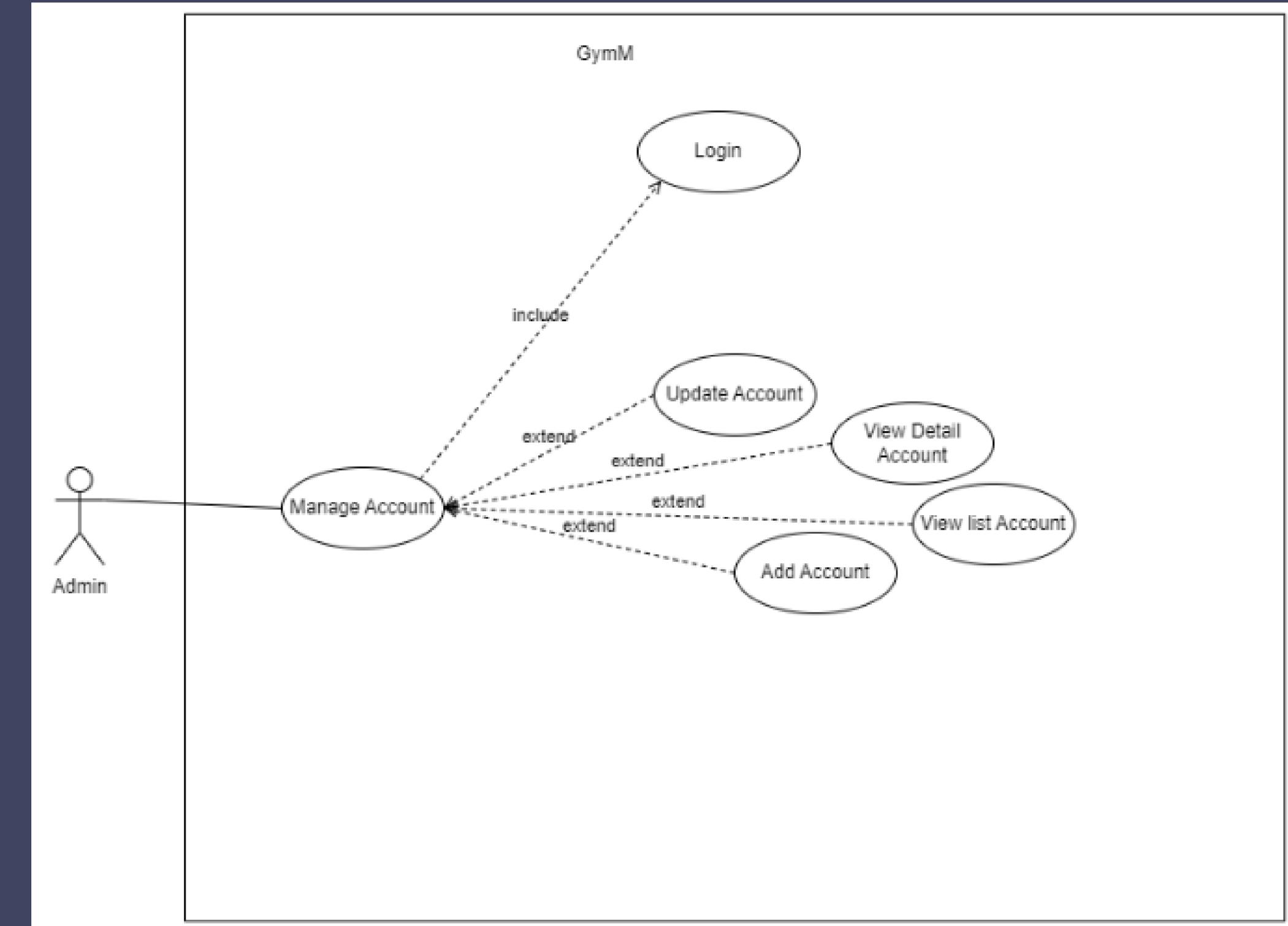


Figure 5. Admin with 'Manage Account' use cases

Main Features:

Admin

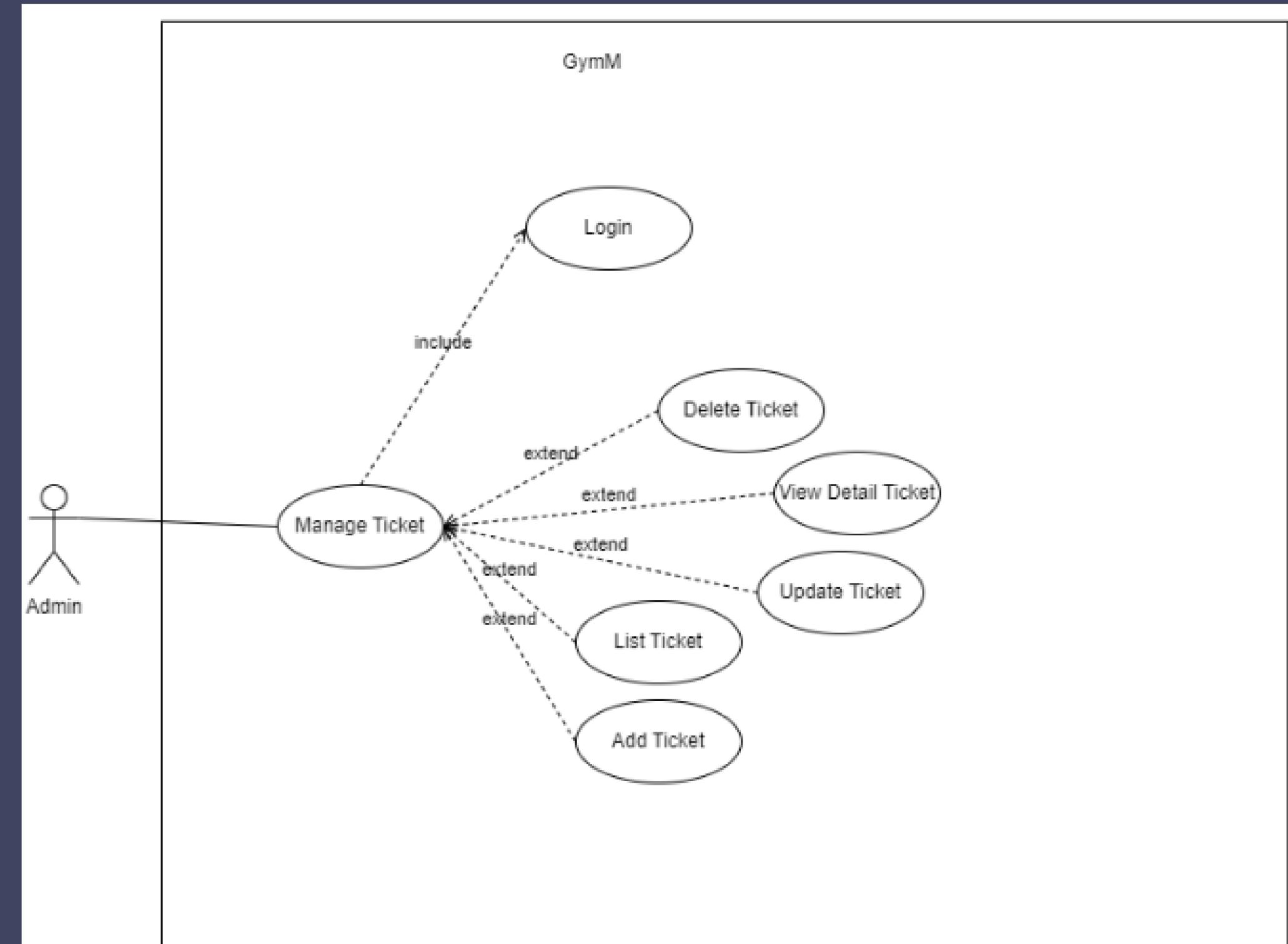
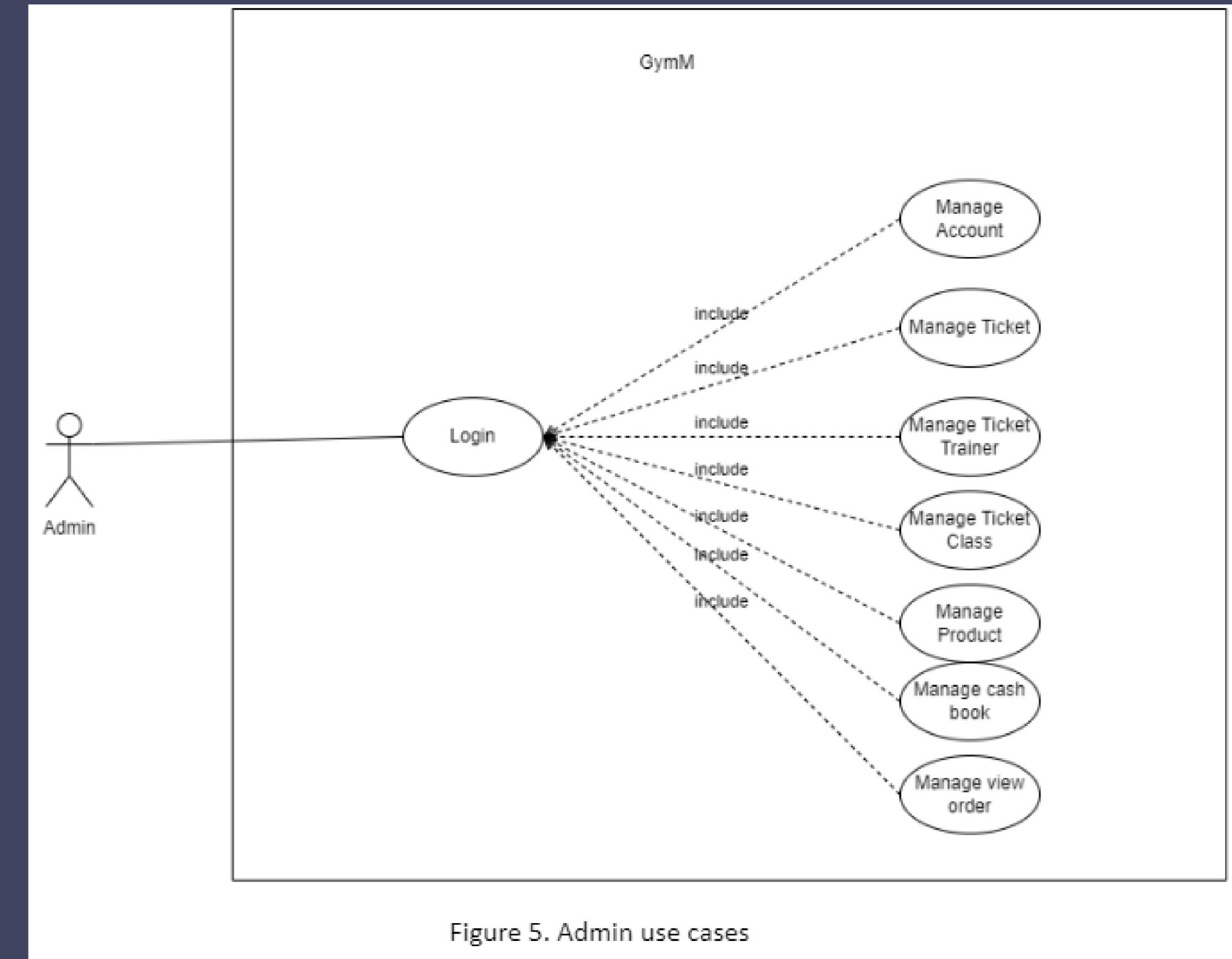


Figure 6. Admin with 'Manage Ticket' use case

User Requirement

Main Features:

Admin



Main Features:

Admin

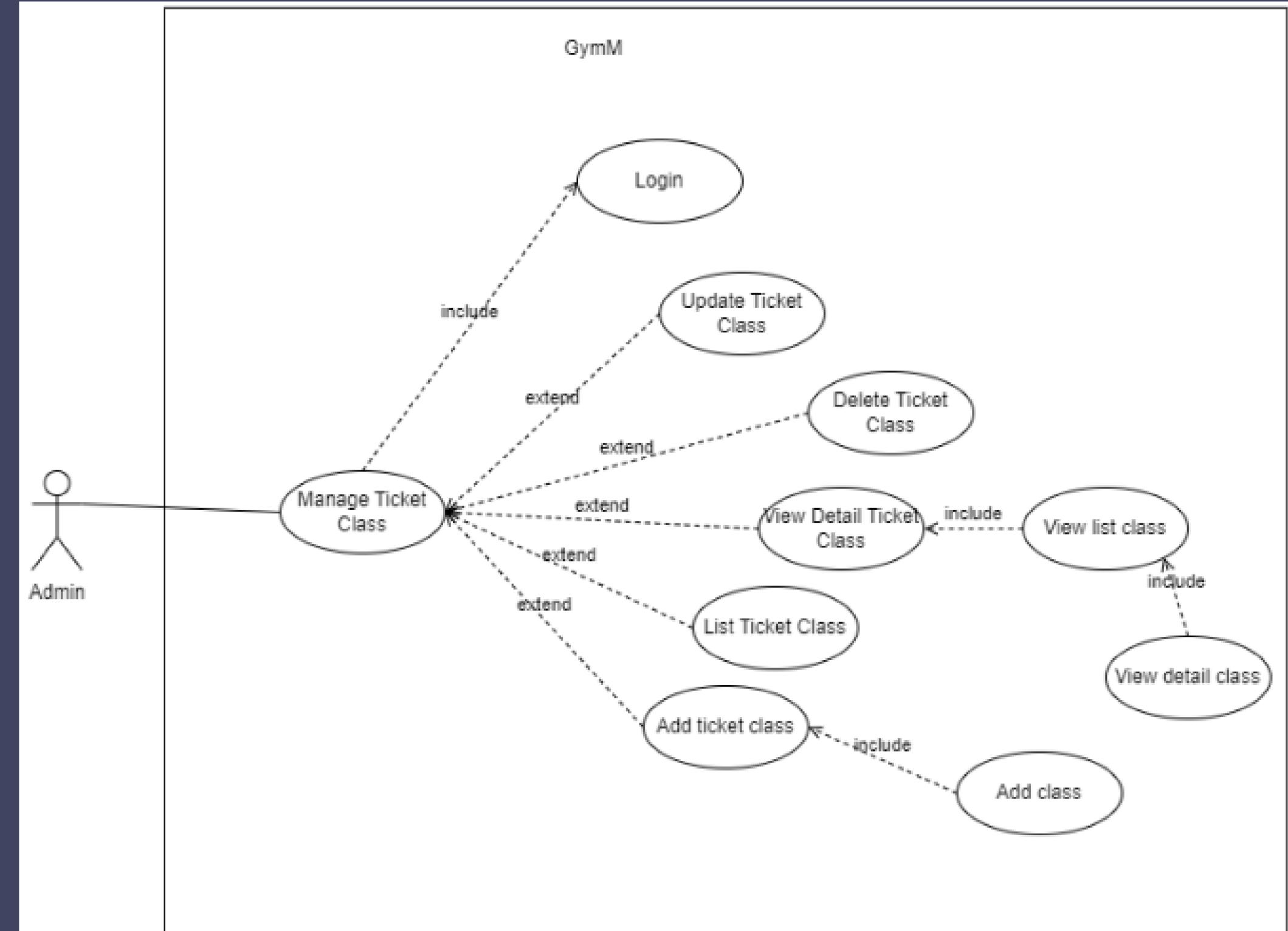


Figure 7. Admin with 'Manage Ticket Class' use case

User Requirement

Main Features:

Admin

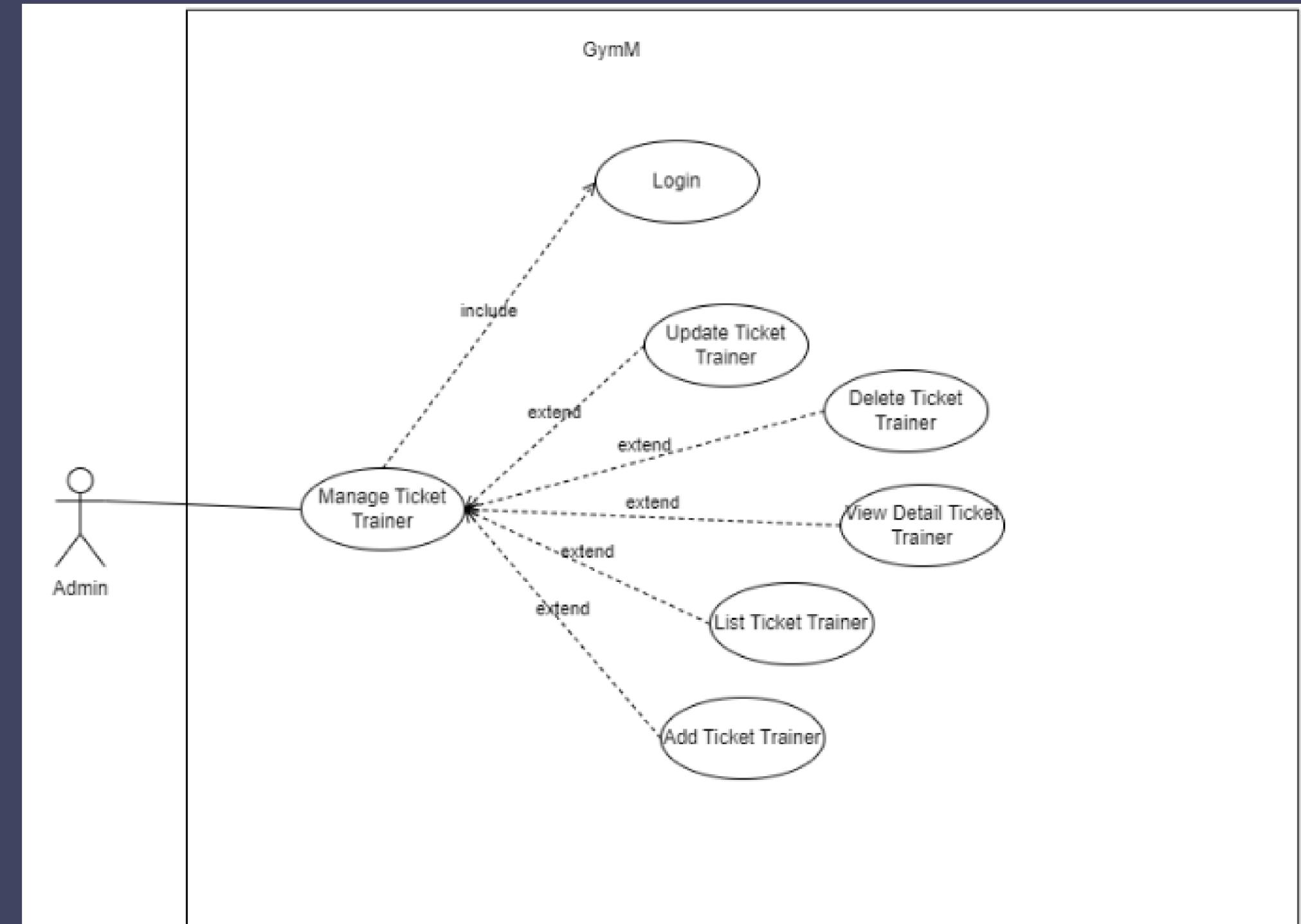
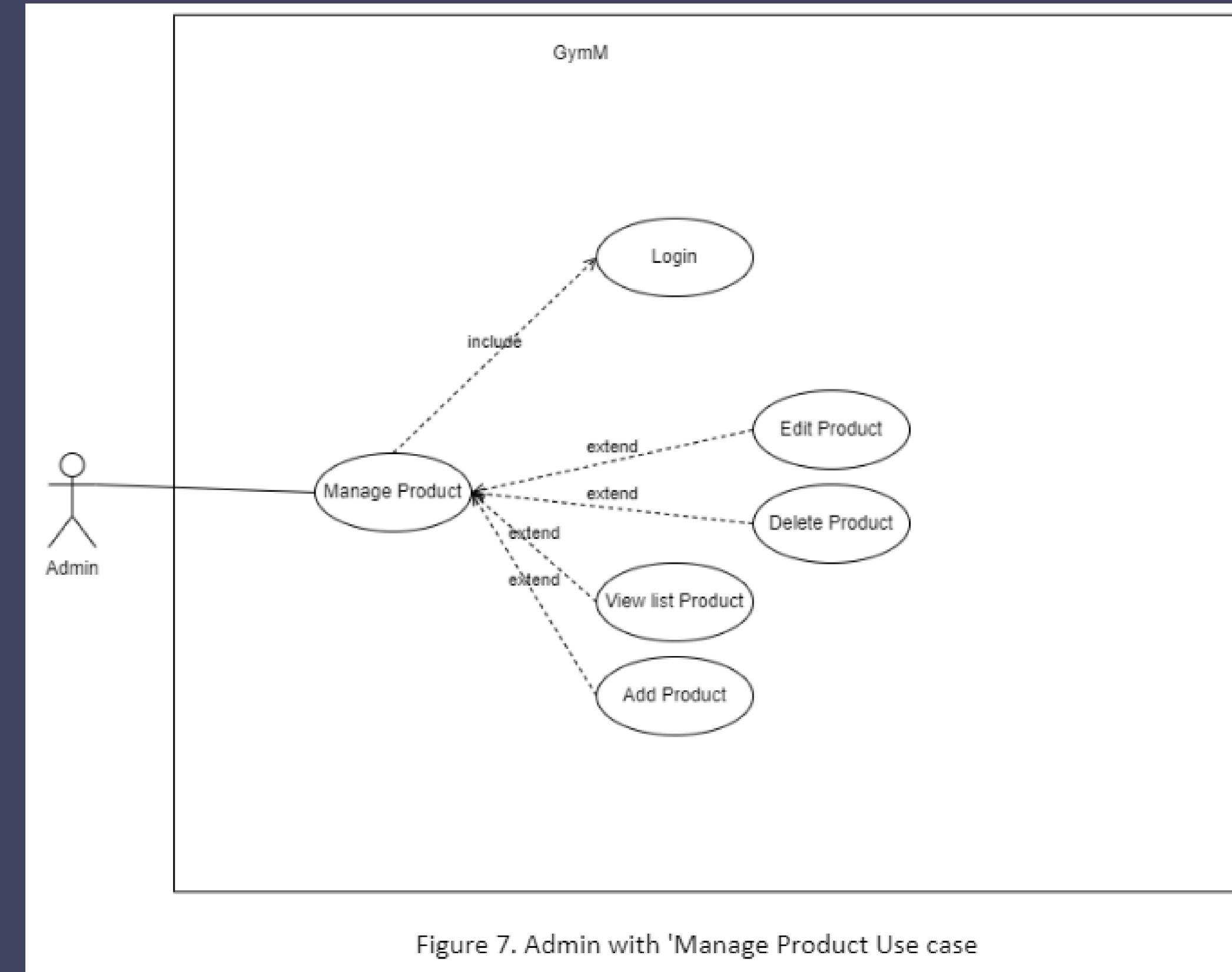


Figure 7. Admin with 'Manage Ticket Trainer' use case

User Requirement

Main Features:

Admin



User Requirement

Main Features:

Admin

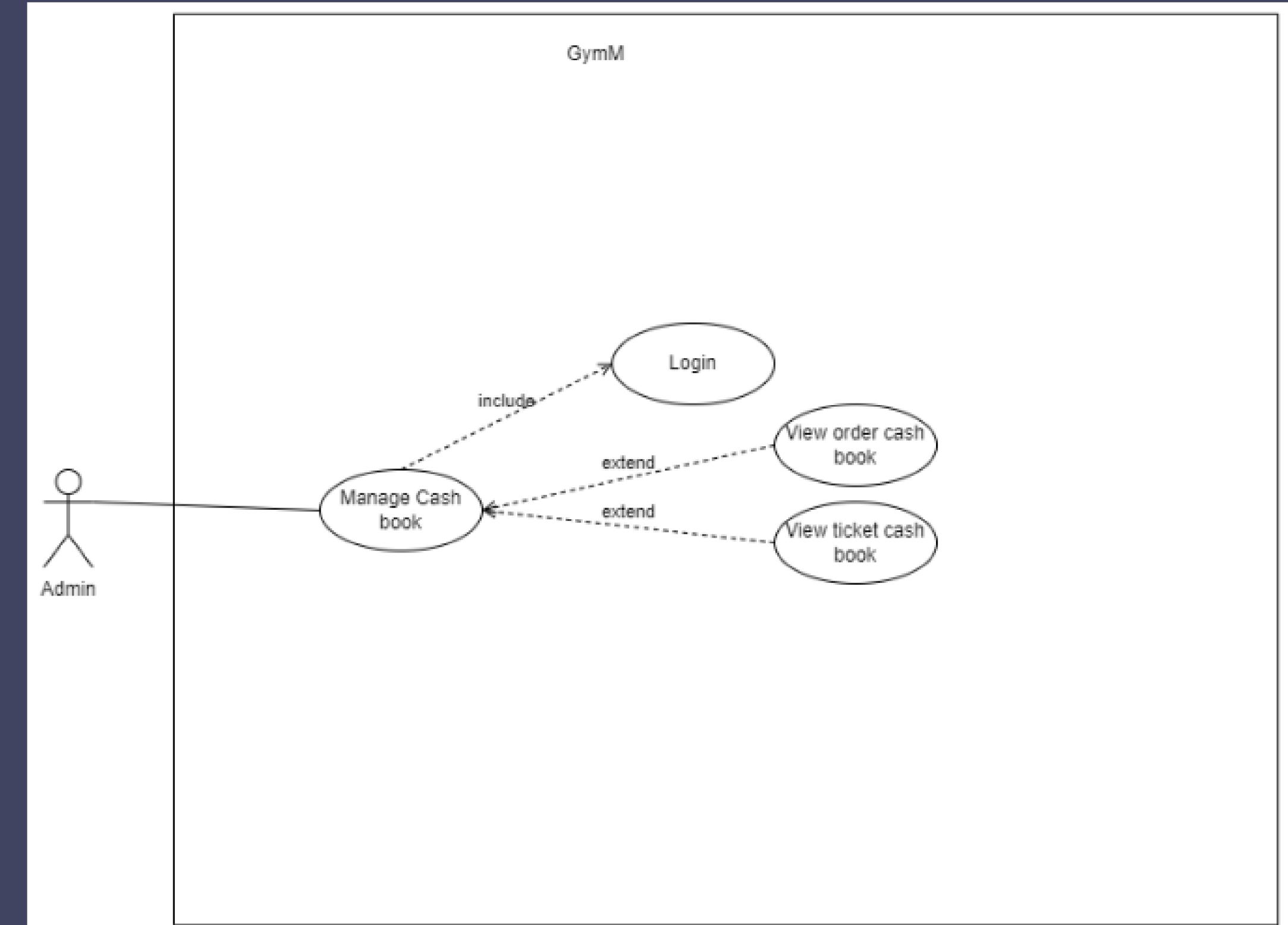


Figure 7. Admin with 'Manage Cash book' use case

User Requirement

Main Features:

Admin

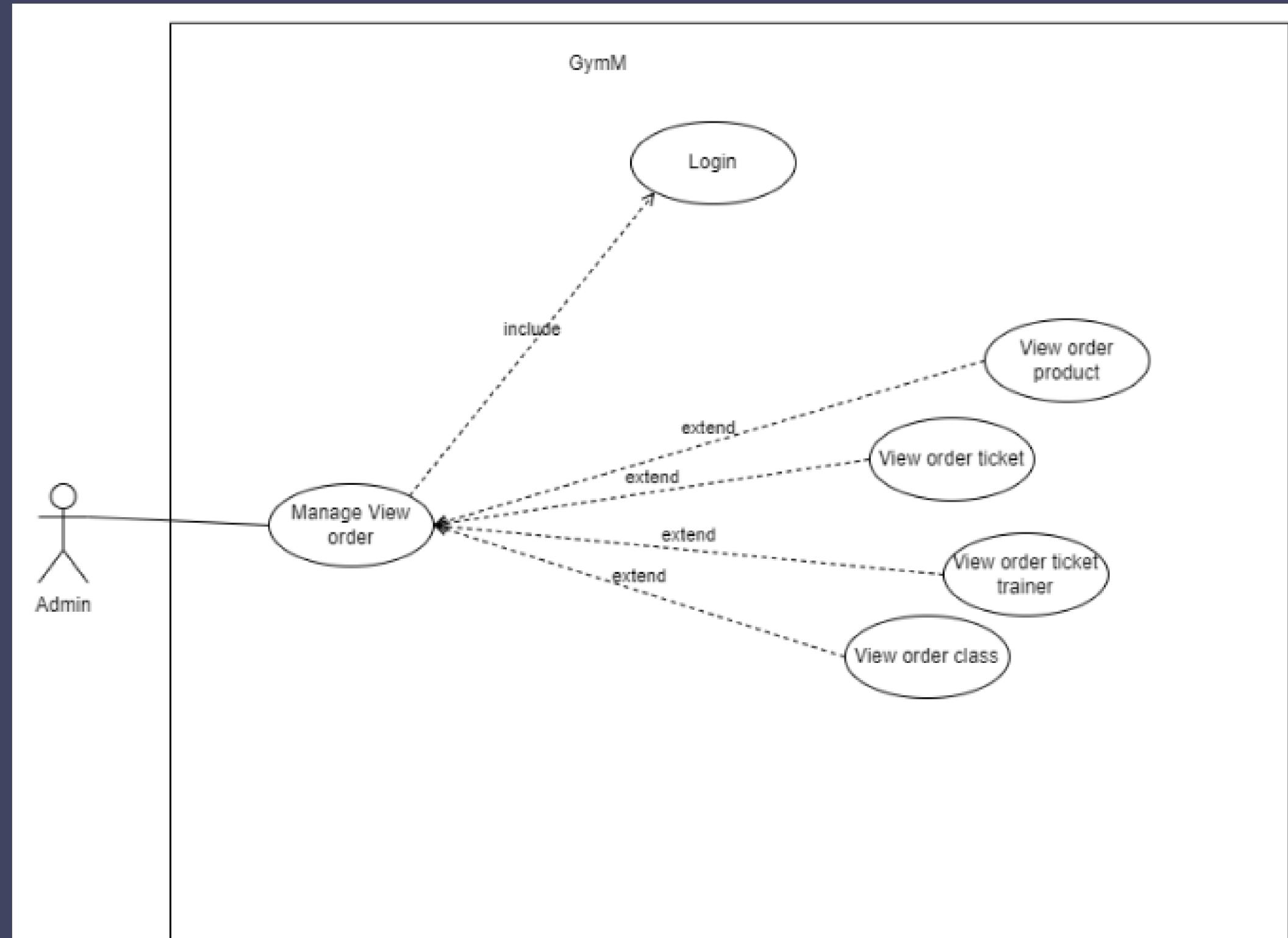


Figure 8. Admin with 'Manage View Order' use case

Main Features:

guest

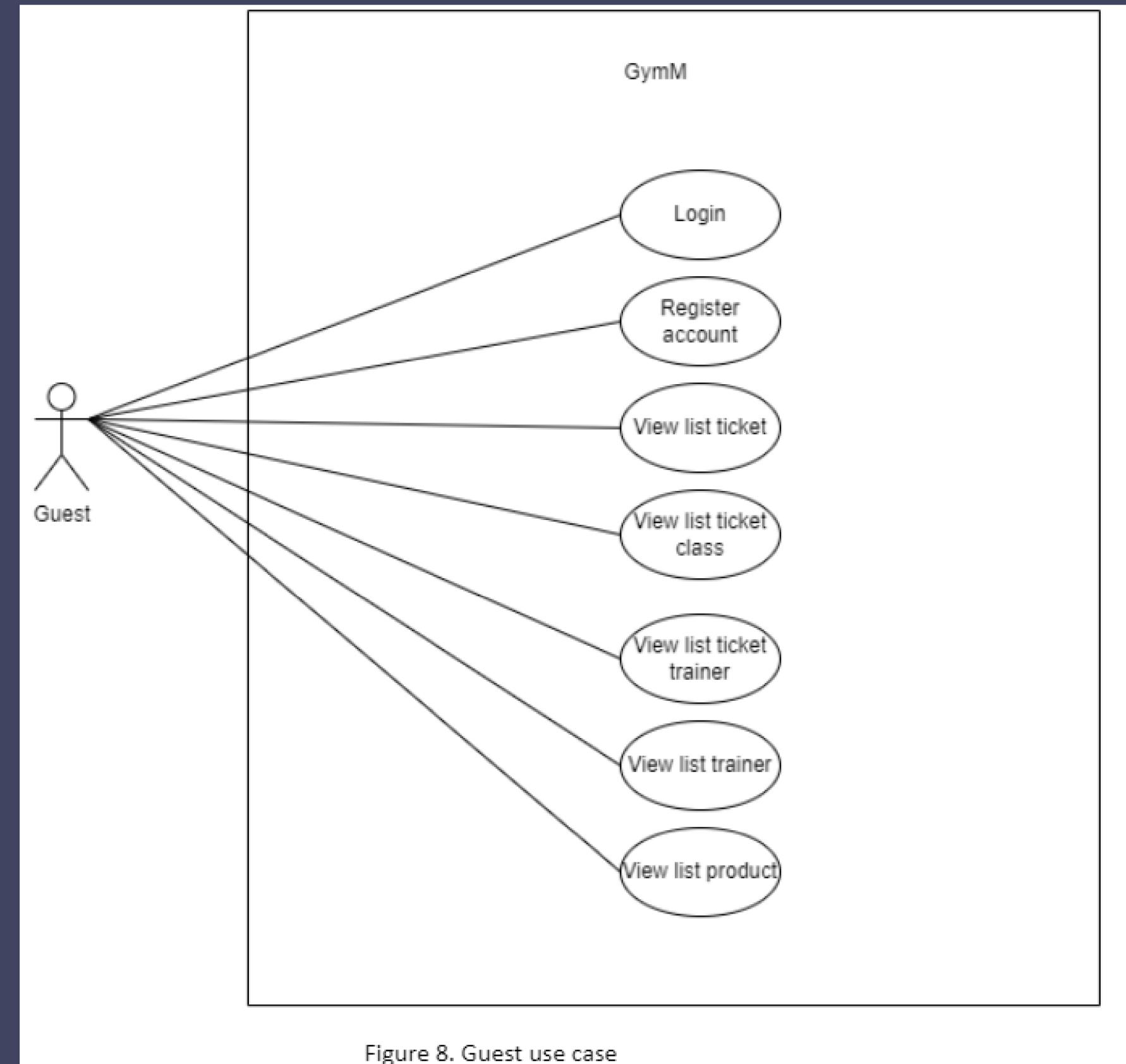


Figure 8. Guest use case

Main Features:

staff

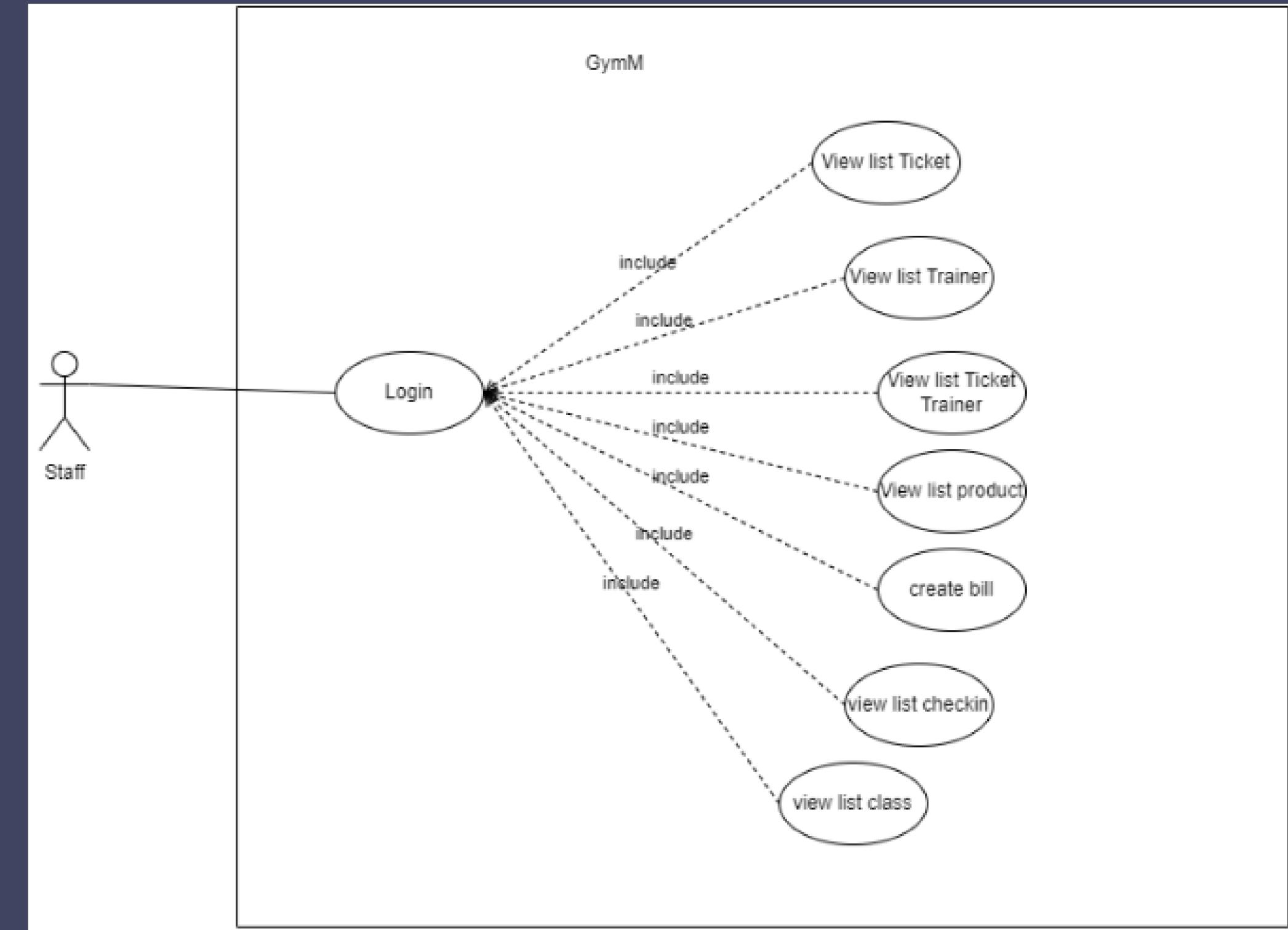


Figure 9. Staff use case

User Requirement

Main Features:

Trainer

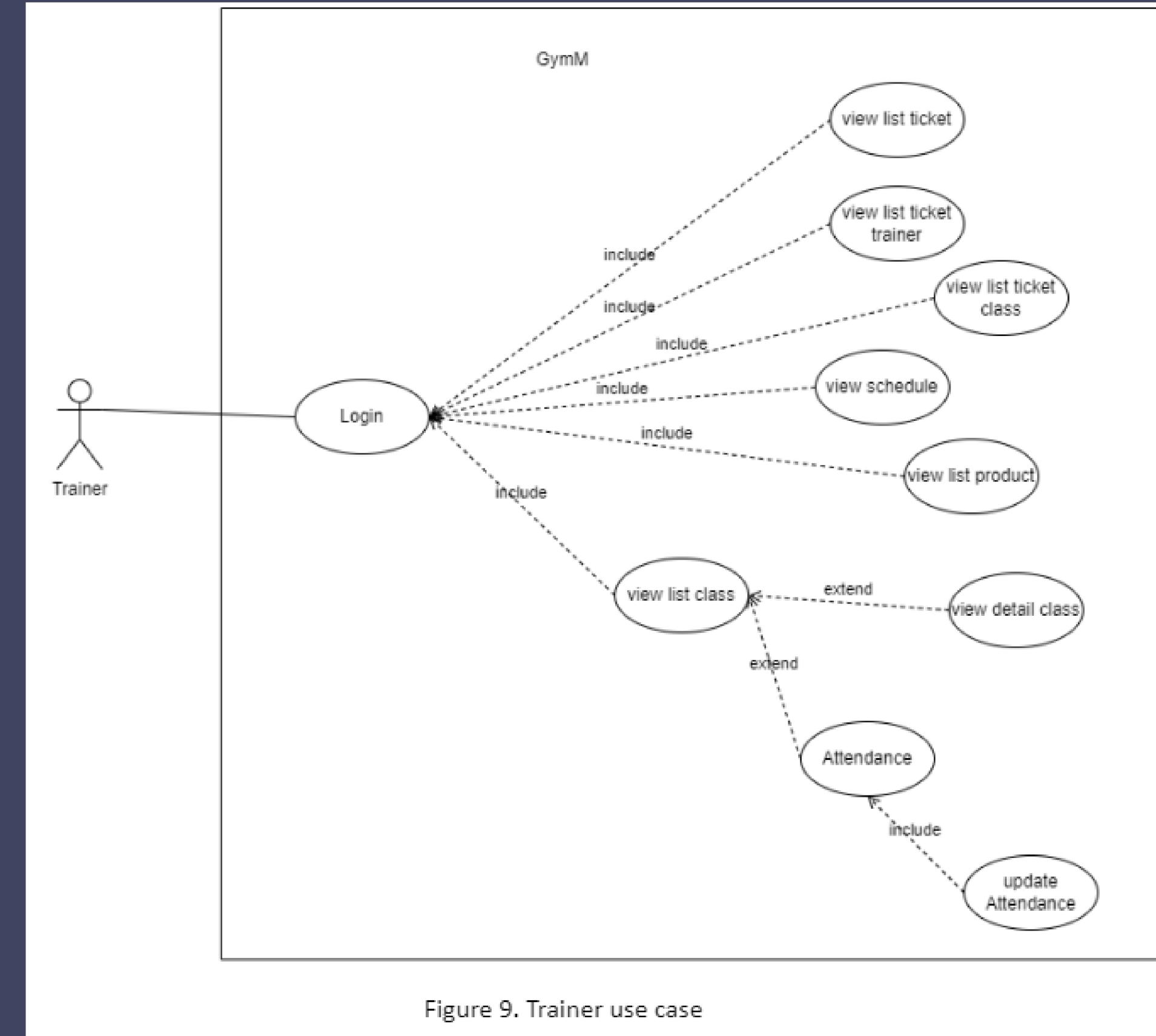


Figure 9. Trainer use case

User Requirement

Main Features:

Customer

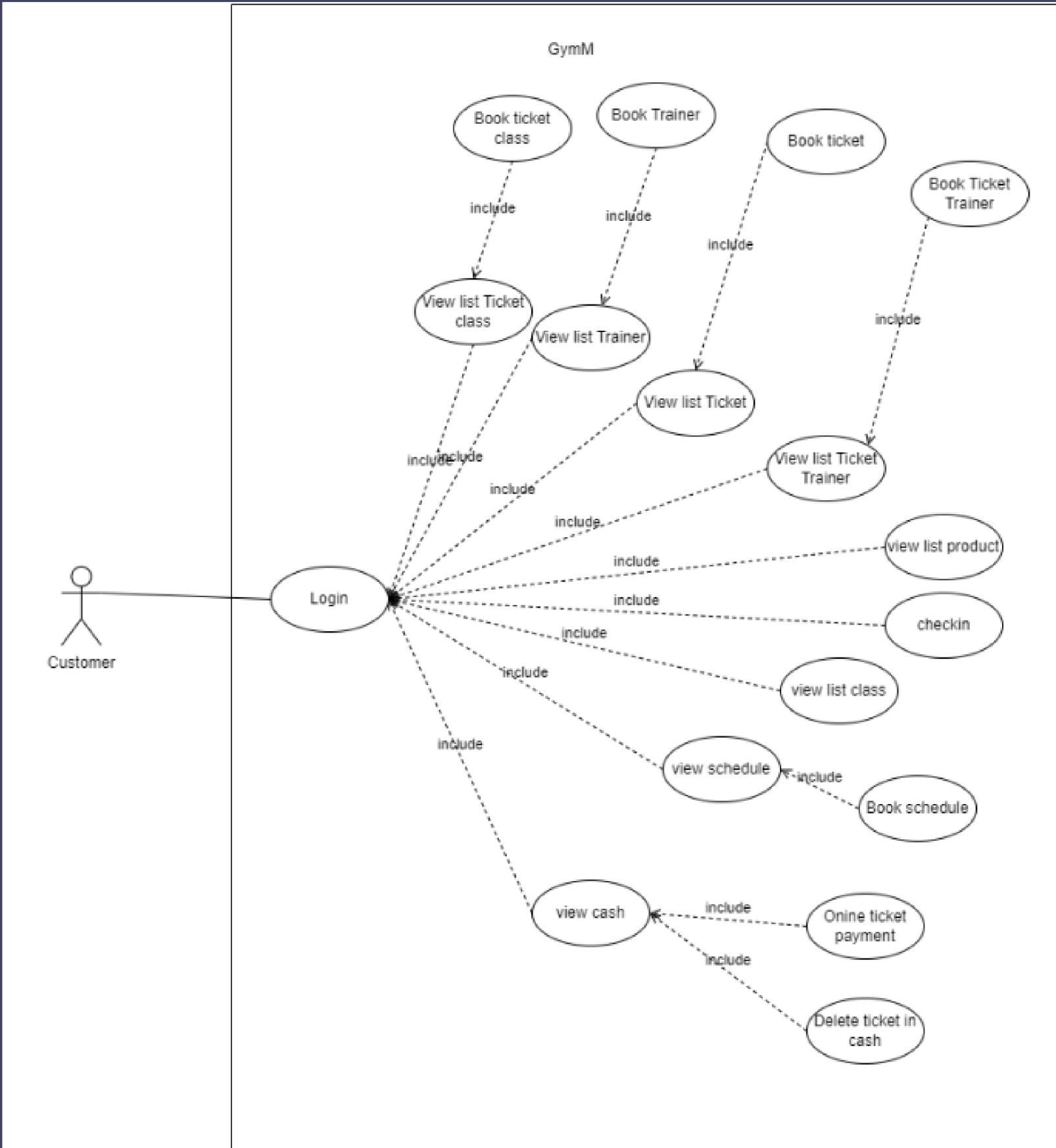
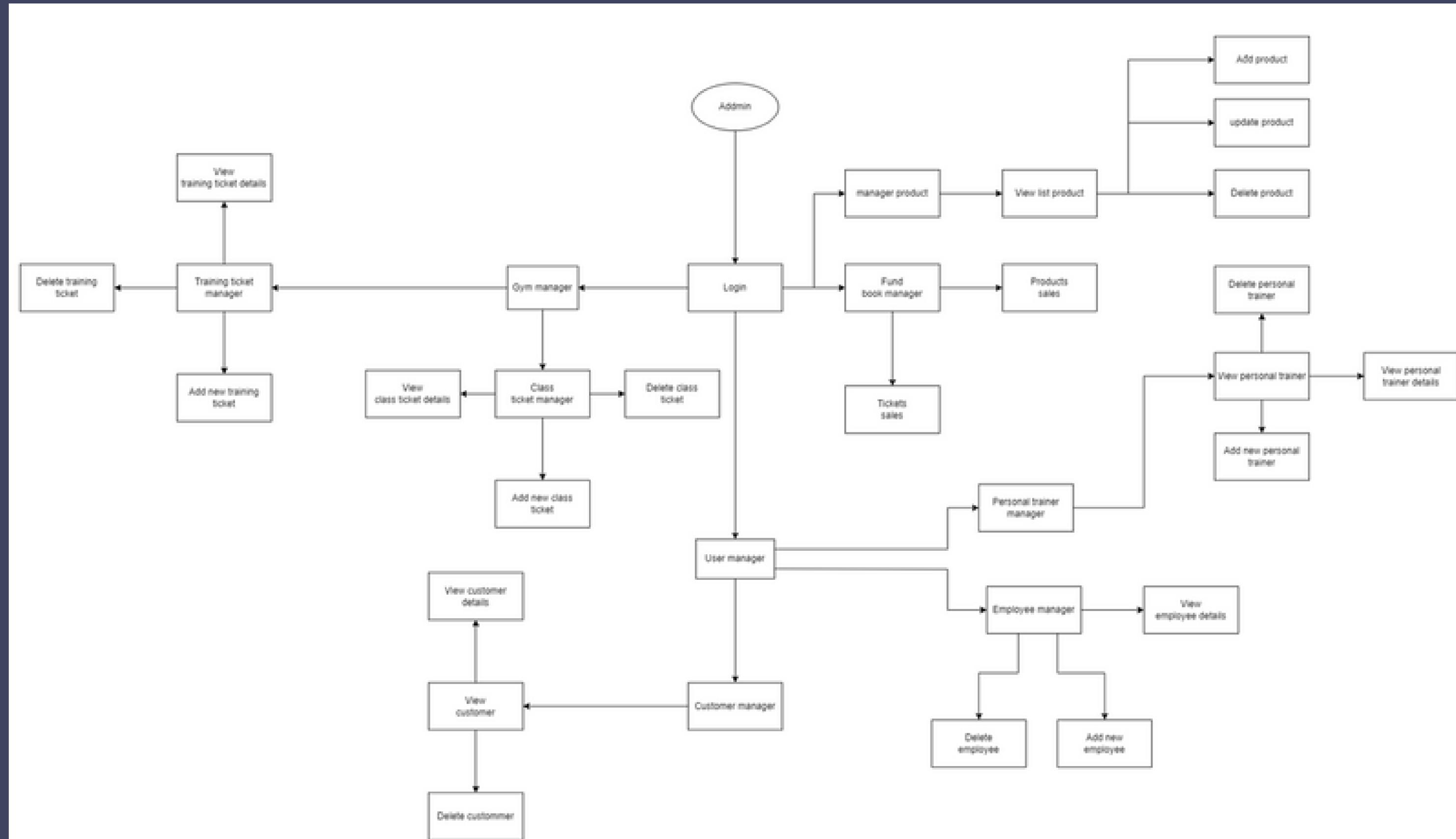


Figure . Customer use case

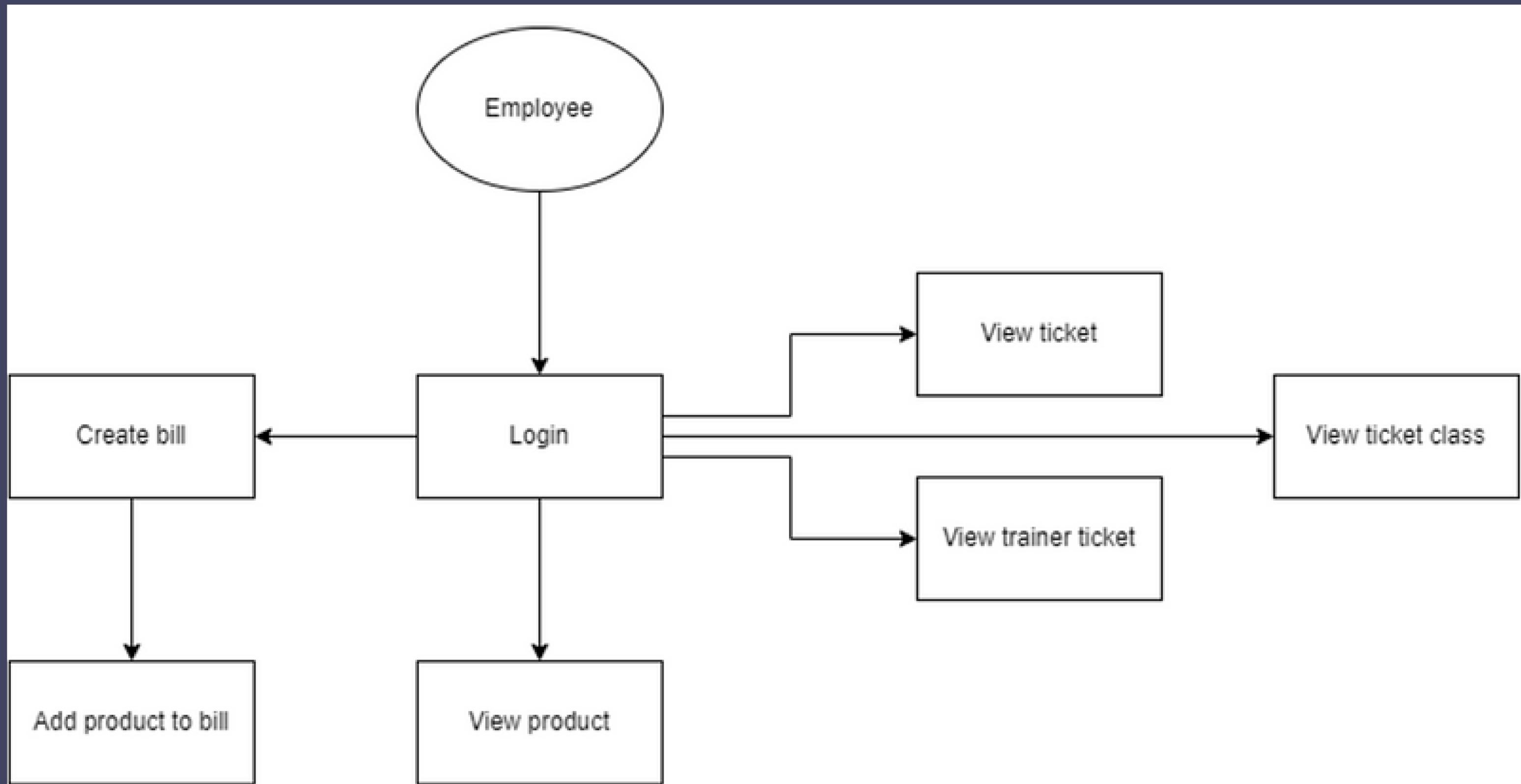
Functional Requirements

Screens Flow for Admin



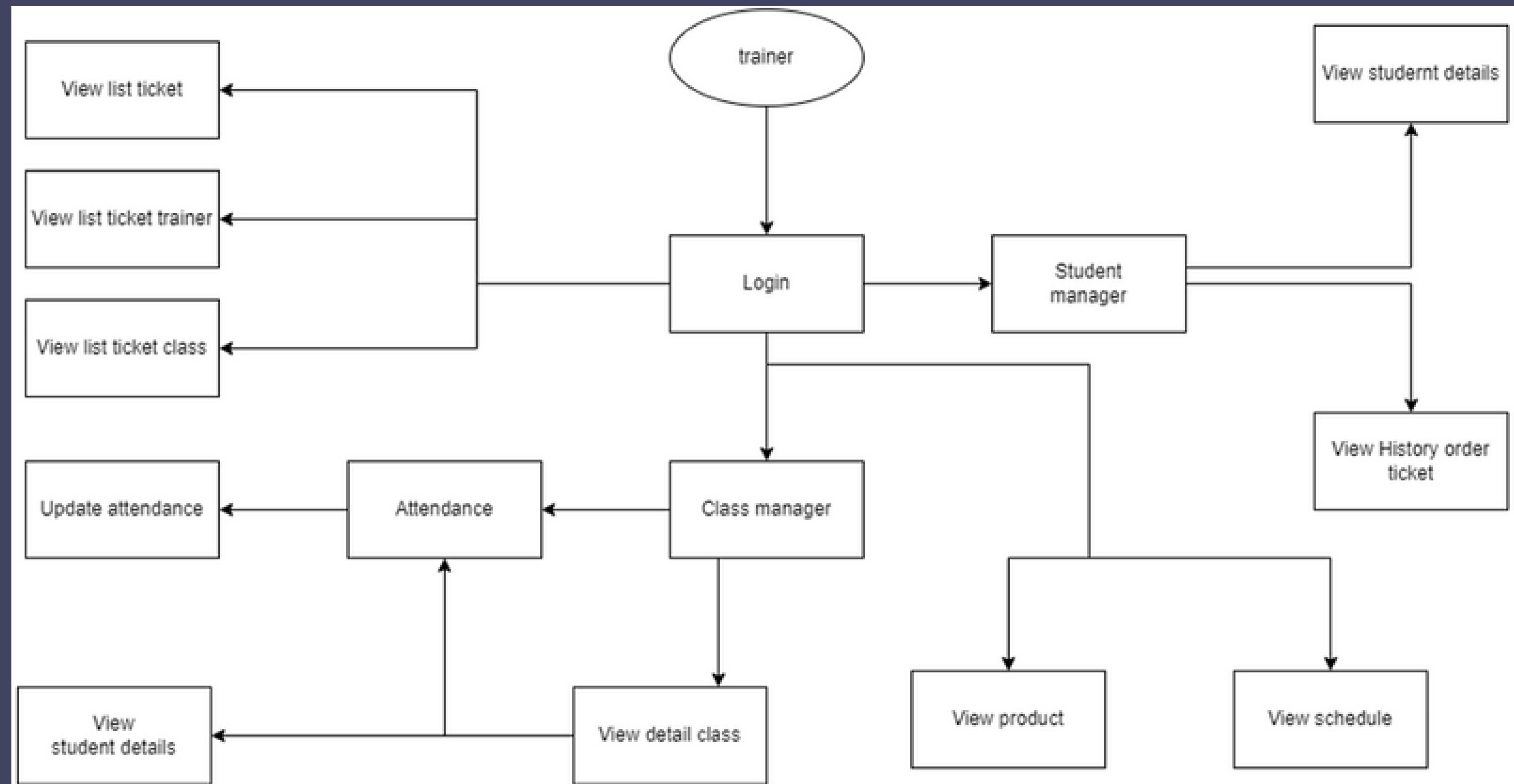
Functional Requirements

Screens Flow for Staff



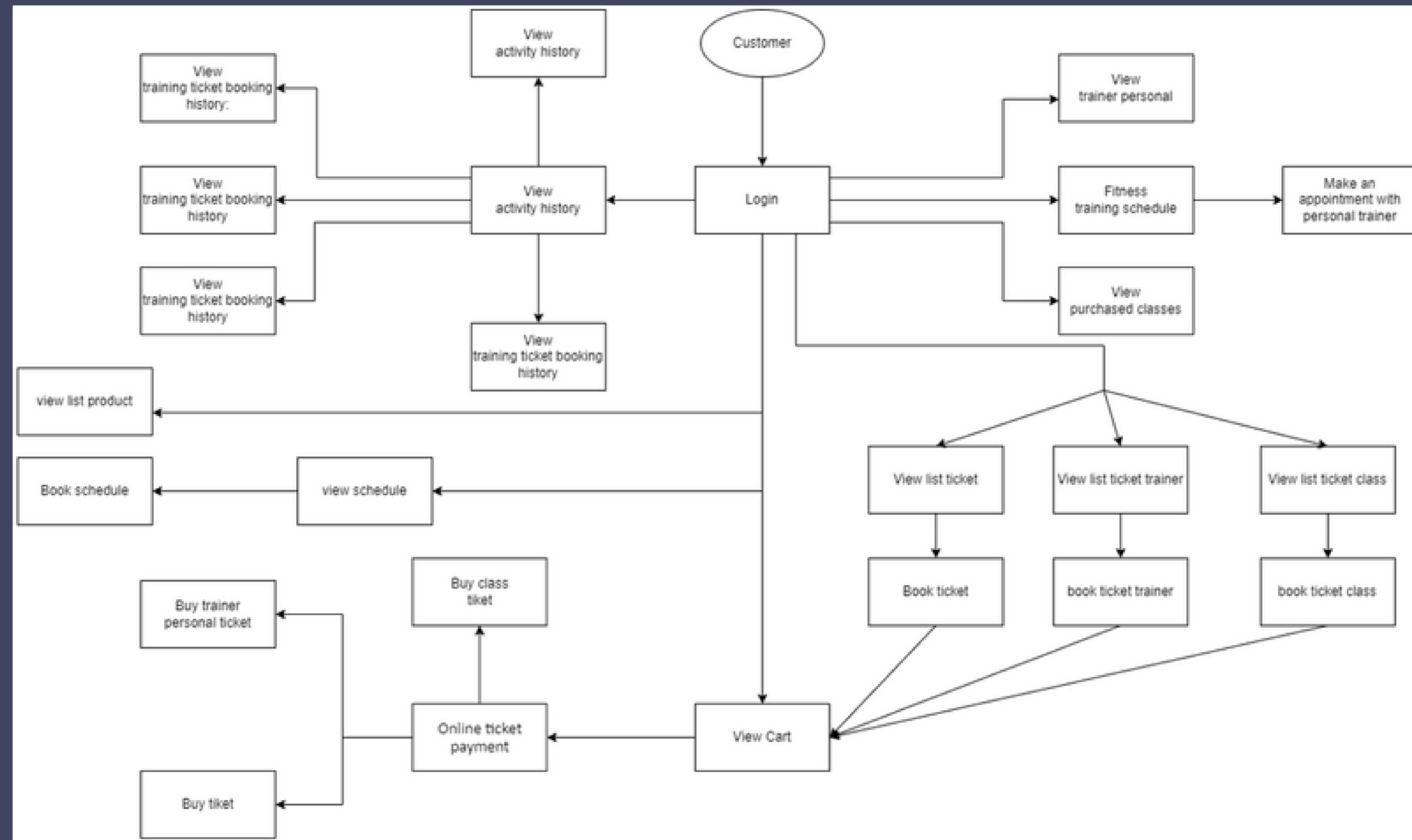
Functional Requirements

Screens Flow for trainer



Functional Requirements

Screens Flow for customer



Screen Descriptions

#	FEATURE	SCREEN	DESCRIPTION
1	Dashboard	Home page	User overview the system
2	Login	Login page	Page Screen for guest to sign into website
3	Register	Register page	Page Screen register new account to sign into the website
4	Reset password	Forgot password page	Screen where user wants to reset password.
5	home page	home page	User Profile Page Screen where user can see all information of logged account.
6	View profile	User profile page	Page Screen view detail profile
7	Change password	Change password page	Page Screen User can change new password
1	Add Account	add account by admin page	Page Screen Admin creates Account Staff
2	View Detail Account	View Detail Account page	Page Screen Admin can view detailed accounts.
3	Add Ticket	view add ticket page	Page Screen Admin create ticket.
4	Add Trainer for Ticket Trainer	View Trainer for Ticket Trainer page	Page Screen Admin add Trainer for Ticket Trainer
5	Add Ticket Class	view Add Ticket Class page	Page Screen Admin add Ticket Class
6	Add Class for Ticket Class	View Add Class for Ticket Class page	Page Screen Admin add Class for Ticket Class
7	View list Ticket	view View list Ticket page	Page Screen Users can see the list of tickets with information related to ticket and price.
8	View list Ticket Trainer	view View list Ticket Trainer page	Page Screen Users can see the list of Ticket Trainer with information related to Ticket Trainer and price.
9	View list Ticket Class	View View list Ticket Class page	Page Screen User can see the list of ticket with information related to ticket Class

Screen Descriptions

#	FEATURE	SCREEN	DESCRIPTION
UC-11	Delete Account	Admin	Admin can delete the account of a customer.
UC-12	View list Ticket	Admin	Users can see the list of ticket by clicking on "Vé vào cửa"
UC-13	Add ticket	Admin	Admin creates new Ticket by click "Thêm mới" and fillding in the required fields.
UC-14	View detail ticket	Admin	Admin can view the ticket details by clicking on the right eye icon in the "View List Account".
UC-15	Update ticket	Admin	The admin can update the ticket by filling in the fields that the user wants to change.
UC-16	Delete ticket	Admin	Admin can delete the ticket on the right trash icon in the "View list Ticket".
UC-17	View list ticket Trainer	Admin	Users can see the list of ticket by clicking on "Vé tập cùng huấn luyện viên"
UC-18	Add ticket trainer	Admin	Admin creates new Ticket Trainer by click "Thêm mới" and fillding in the required fields.
UC-19	View detail ticket trainer	Admin, Customer, Staff	Admin can view the ticket trainer details by clicking on the right eye icon in the "View List ticket trainer".
UC-20	Update Ticket trainer	Admin	The admin can update the ticket trainer by filling in the fields that the user wants to change.
UC-21	Delete Ticket trainer	Admin	Admin can delete the ticket trainer on the right trash icon in the "View list Ticket trainer".
UC-22	View list ticket Class	Admin	Users can see the list of ticket by clicking on "Vé tập cùng lớp"
UC-23	Add ticket class	Admin	Admin creates new Ticket class by click "Thêm mới" and fillding in the required fields.
UC-24	View detail ticket class	Admin	Admin can view the ticket trainer details by clicking on the right eye icon in the "View List ticket class".

Screen Descriptions

#	FEATURE	SCREEN	DESCRIPTION
UC-25	Update Ticket class	Admin	The admin can update the ticket class by filling in the fields that the user wants to change.
UC-26	Delete Ticket class	Admin	Admin can delete the ticket class on the right trash icon in the "View list Ticket class".
UC-27	View list class	Common	Users can see the list of class by clicking on "Lớp học"
UC-28	Add Class	Admin	Admin creates new class by click "Thêm mới" and fillding in the required fields.
UC-29	View Detail Class	Admin	Admin can view the class details by clicking on the right eye icon in the "View list class"
UC-30	Delete Class	Admin	Admin can delete the ticket class on the right trash icon in the "View list class".
UC-31	View order cash-book	Admin	Admin can view list order cash-book of product
UC-32	View ticket cash book	Admin	Admin can view list order cash-book of ticket
UC-33	View list Product	Common	All user can view list product
UC-34	Add product	Admin	Admin creates new product by click "Thêm mới" and fillding in the required fields.
UC-35	Update Product	Admin	Admin can update the product by filling in the fields that the user wants to change.
UC-36	Delete Product	Admin	Admin can delete products on the right trash icon in the "View list product".
UC-37	View History Order Product	Customer, Admin, Staff, Trainer	Customer, Admin, Staff can view all orders by product of the customer.
UC-38	View History Order Ticket	Customer, Admin	Customer, Admin can view all orders by ticket of the customer.

Screen Descriptions

#	FEATURE	SCREEN	DESCRIPTION	ĐẠI HỌC FPT
UC-39	View History Order Ticket Trainer	Customer, Admin	Customer, Admin can view all orders by the Ticket Trainer of the customer.	
UC-40	View History Order Class	Customer, Admin	Customer, Admin can view all orders by Ticket Class of the customer.	
UC-41	Create bill	Staff	staff can create orders to sell the store's products	
UC-42	View list check-in	Admin/Staff	User can view list check-in of customer	
UC-43	View schedule	Admin/Staff/Customer/Trainer	Users can view schedules of Trainer.	
UC-44	Add Attendance	Trainer	Trainer can attendance class	
UC-45	View Attendance	Trainer,Admin	Customers and Trainer can view schedules.	
UC-46	Update Attendance	Trainer	Trainer can update attendance class	
UC-47	Booking ticket class	Customer	Customer can add ticket class to cart	
UC-48	View List trainer	Admin, Staff,Customer	Admin, Staff,Customer can view list trainer	Screen description
UC-49	Booking ticket	Customer	Customer can add ticket to cart	
UC-50	Booking Ticket Trainer	Customer	Customer can add ticket trainer to cart	
UC-51	Check-in	Customer	Customer can check-in when clicking button "Check-in"	
UC-52	Booking schedule	Customer	Customer can use ticket to booking schedule	
UC-53	View Cart	Customer	Customers can view the list of tickets their order.	
UC-54	Online Payment	Customer	Customers can pay for tickets online.	

Screen Authorization

Screen	Admin	Staff	Trainer	Customer	Guest
Home Page	X	X	X	X	X
Login	X	X	X	X	X
Logout	X	X	X	X	X
Register					X
Change Password	X	X	X	X	
Forgot Password		X	X	X	
View Profile	X	X	X	X	
Update Profile	X	X	X	X	
Manage ticket	X				
View list class	X	X	X	X	
Manage class	X				
Manage cash-book	X				
Manage product	X				

Screen Authorization

Screen		Admin	Staff	Trainer	Customer	Guest
View history order product		X	X	X	X	
View history order ticket		X			X	
View history order ticket trainer		X			X	
View history order ticket class		X			X	
Create bill			X			
View list check in		X	X			
View schedule		X	X	X	X	
Add attendance				X		
View attendance		X		X		
Update attendance				X		
Booking ticket class					X	
View list trainer		X	X		X	
Check-in					X	
Booking schedule					X	
Online payment					X	
Manage cart					X	

User Interfaces

UI-01: The user interfaces must be simple, friendly.

UI-02: Icons used must be easy to recognize.

UI-03: The application supports Vietnamese only.

UI-04: The label of the input field and error message must be meaningful.

Non-Functional Requirements

Software Interfaces

SI-1: PostgreSQL: (version 14 or higher): used for relational data storage

SI-1.1: The database server is secured by a PostgreSQL account, so the .NET Client must have a specific username/password to connect to the server.

SI-2: Web browser: used for web application

SI-2.1: Browser Google Chrome (version 104 or higher), Microsoft Edge, Firefox,... or with any web browser that supports HTML and CSS.

SI-3: File Storage Service: The system can integrate storage Service and use its upload file API.

SI-4: For system handlers, it requires Windows 10 (Professional edition version 1909 or higher).

Hardware Interfaces

HI: Computer or laptop use operating system windows has connect network

Communication Interfaces

CI-1: HTTP Protocol is used for communication between web browsers and servers.

CI-3: The system can send email to notify users.

Usability

USE-1: The web application for the customer should be simple and easy to use with one day training.

USE-2: The web application for the manager should require no more than three days of training to be used.

USE-3: The user interface is designed to be easy to use, even for non-IT users.

Reliability

REL-1: The likelihood of the system failure is less than 5%

REL-2: Users can use online 24/7, except for maintenance time, the system will notify users in advance via email and notice on the website.

REL-3: Downtime for system repair is less than 3 hours

Performance

PER-1: Response time is equal to or less than 30 seconds for each request.

PER-3: All privacy information such as password is encrypted to ensure security.

PER-4: The system always checks for authorization and authentication before doing any features.

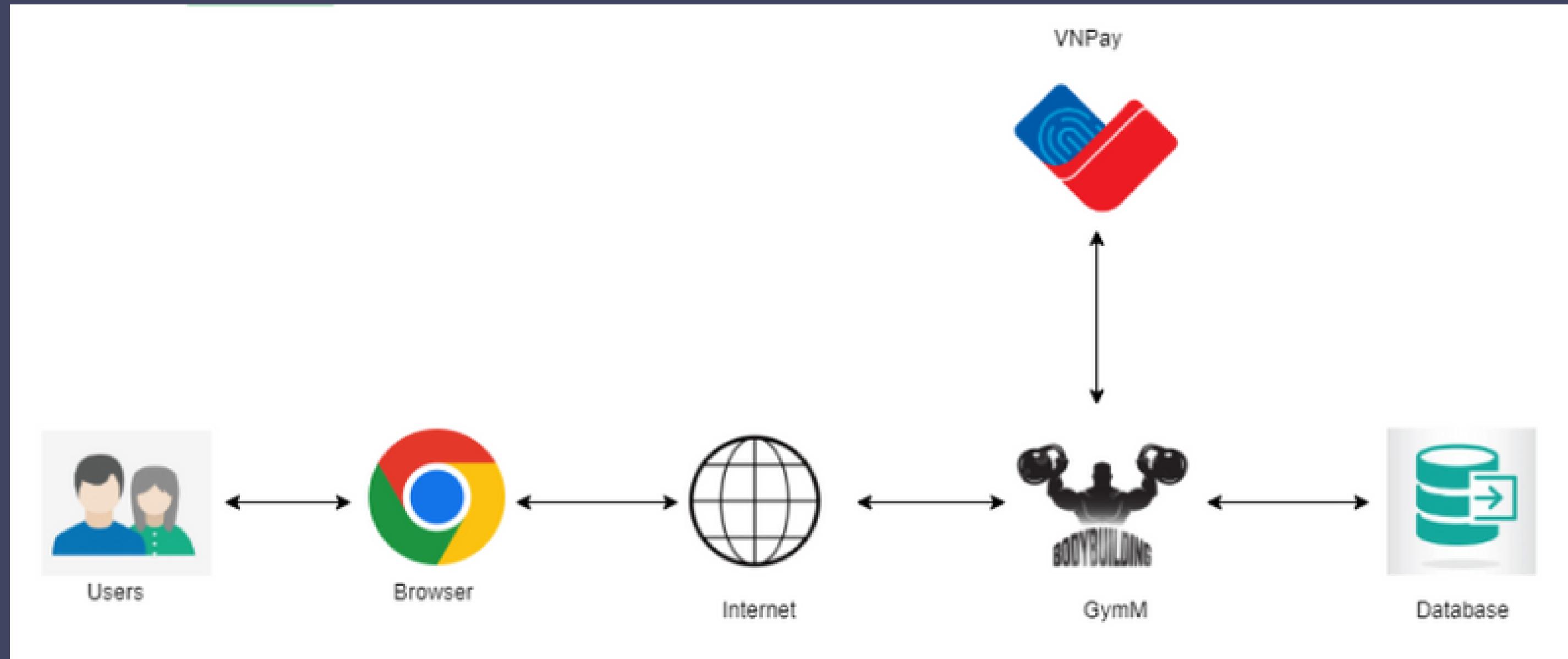
Security Requirements

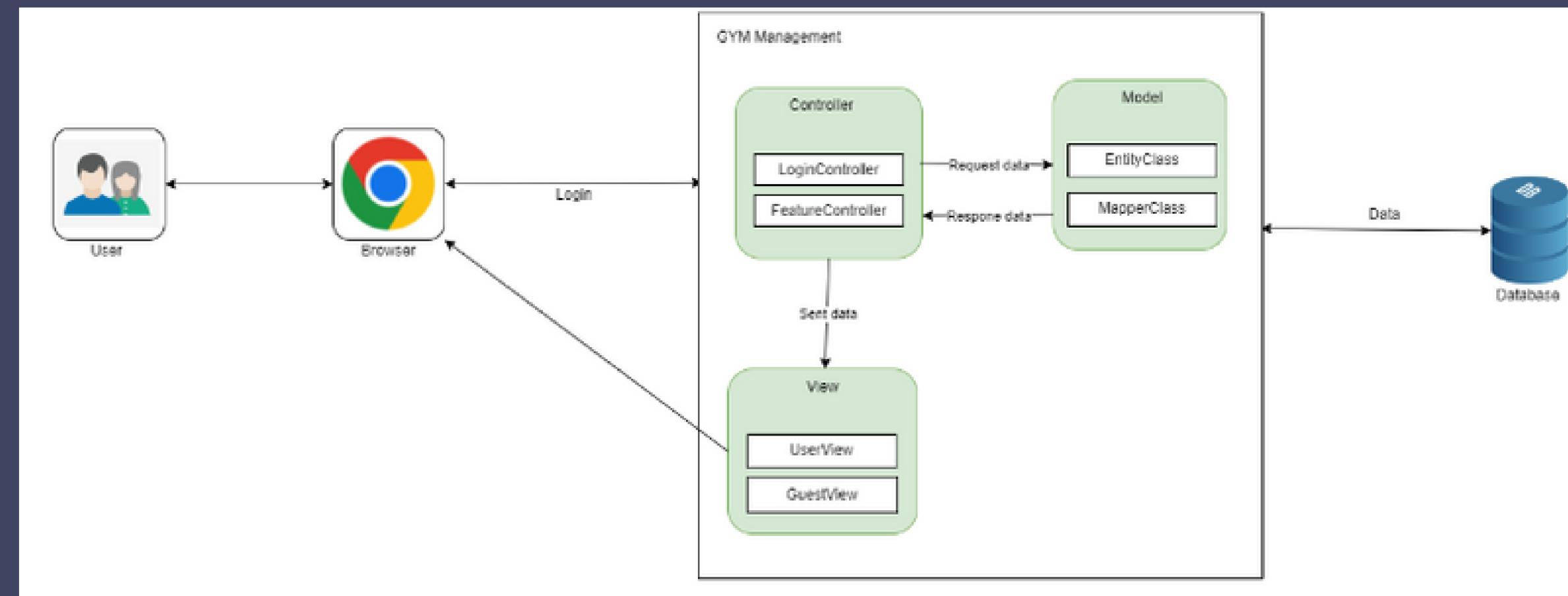
SEC-1: Each user in the system only can do what they have permission to do.

SEC-2: All input data are validated before saving to the database.

SEC-3: Spring security is used for authentication and authorization.

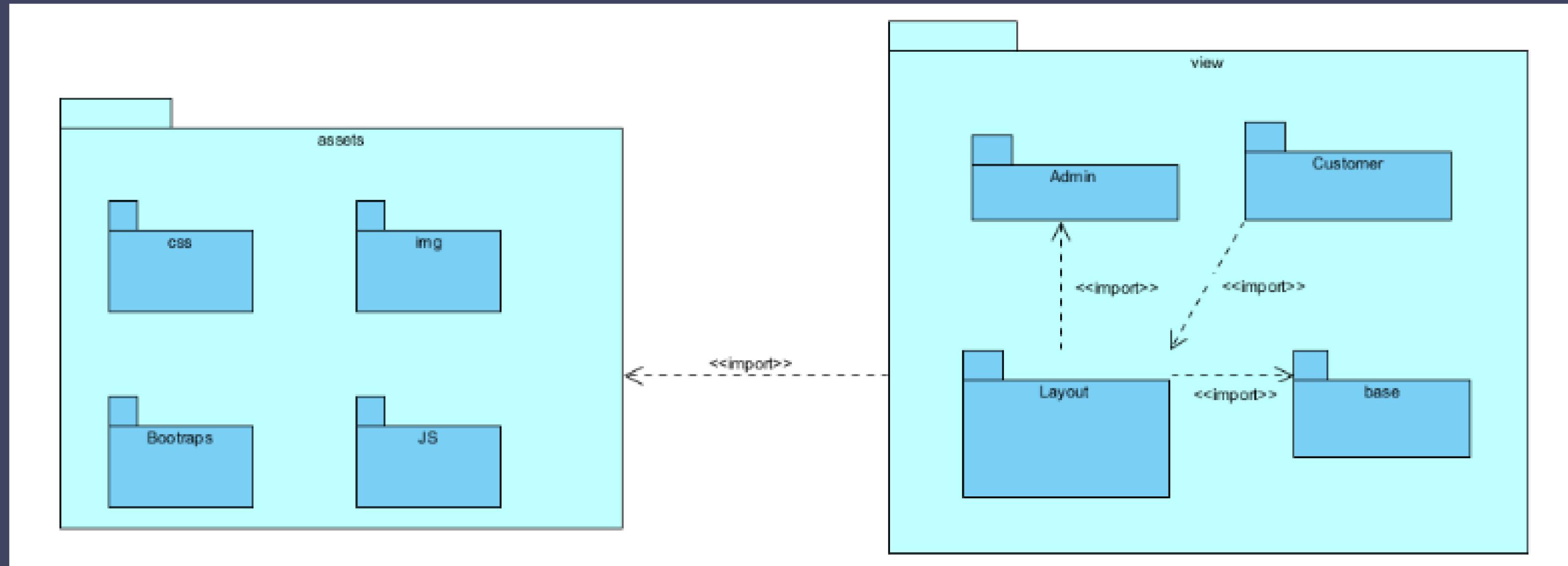
4. SOFTWARE DESIGN





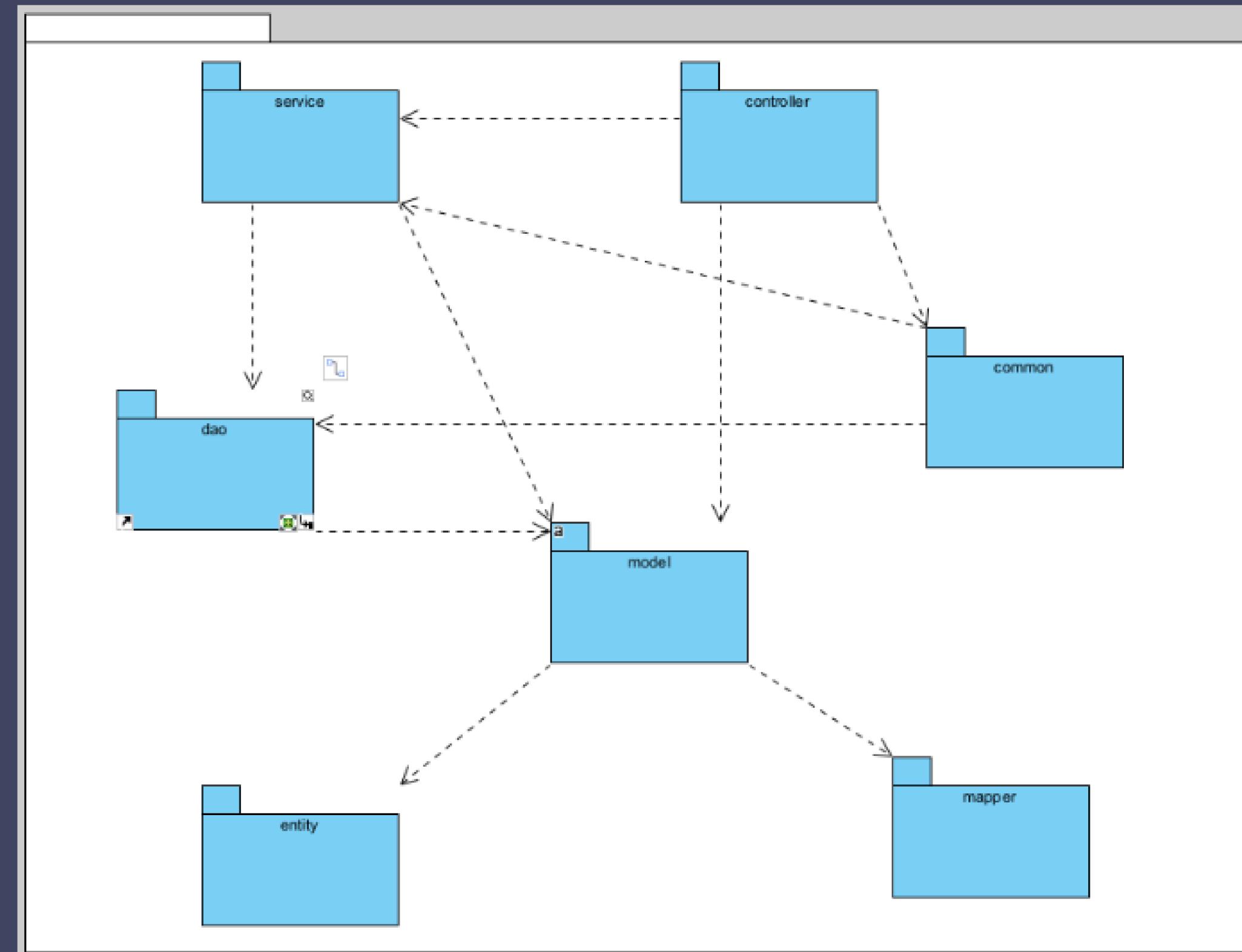
System Architecture Diagram

Package diagram



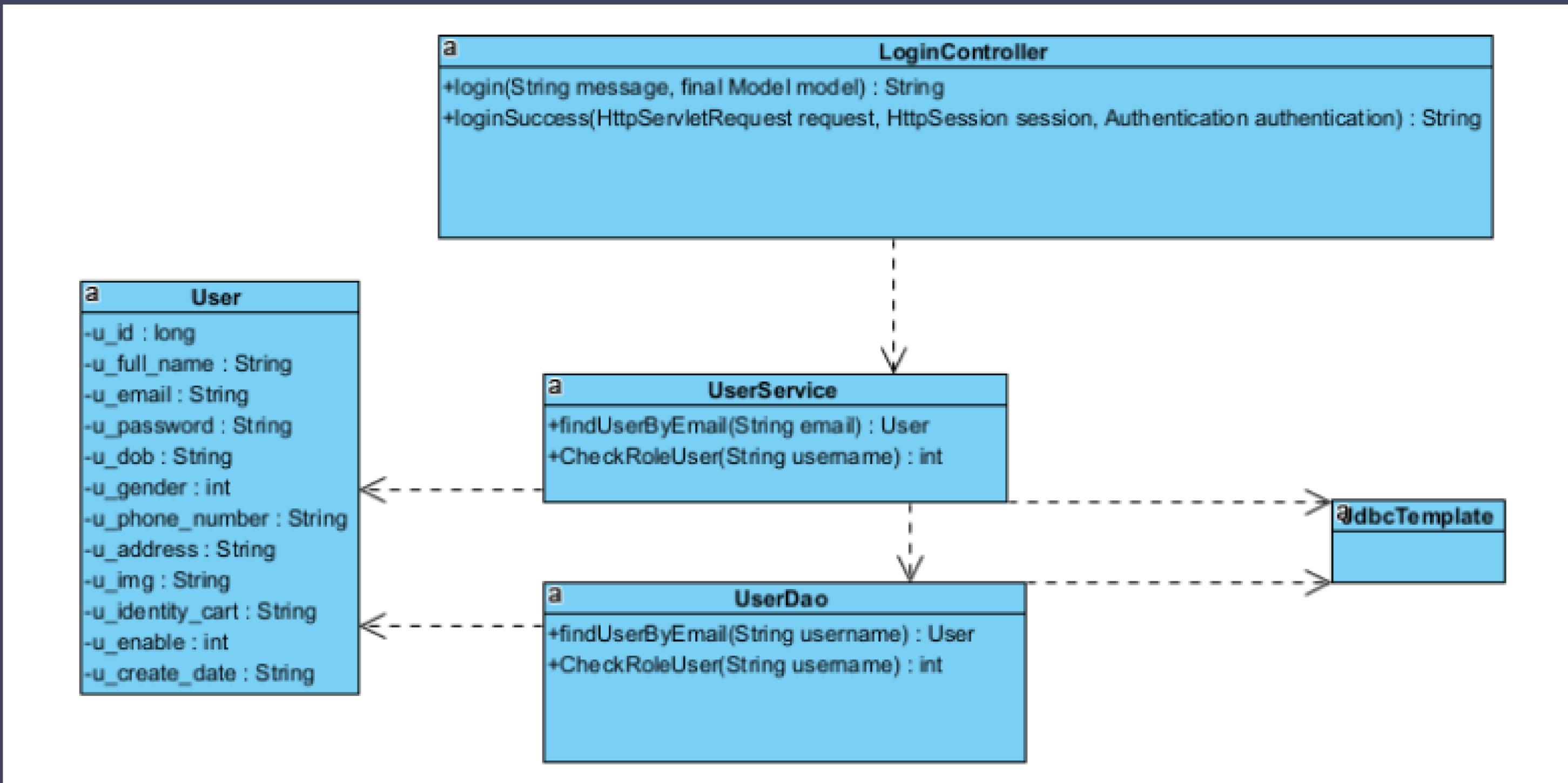
Frontend Package Diagram

Package diagram



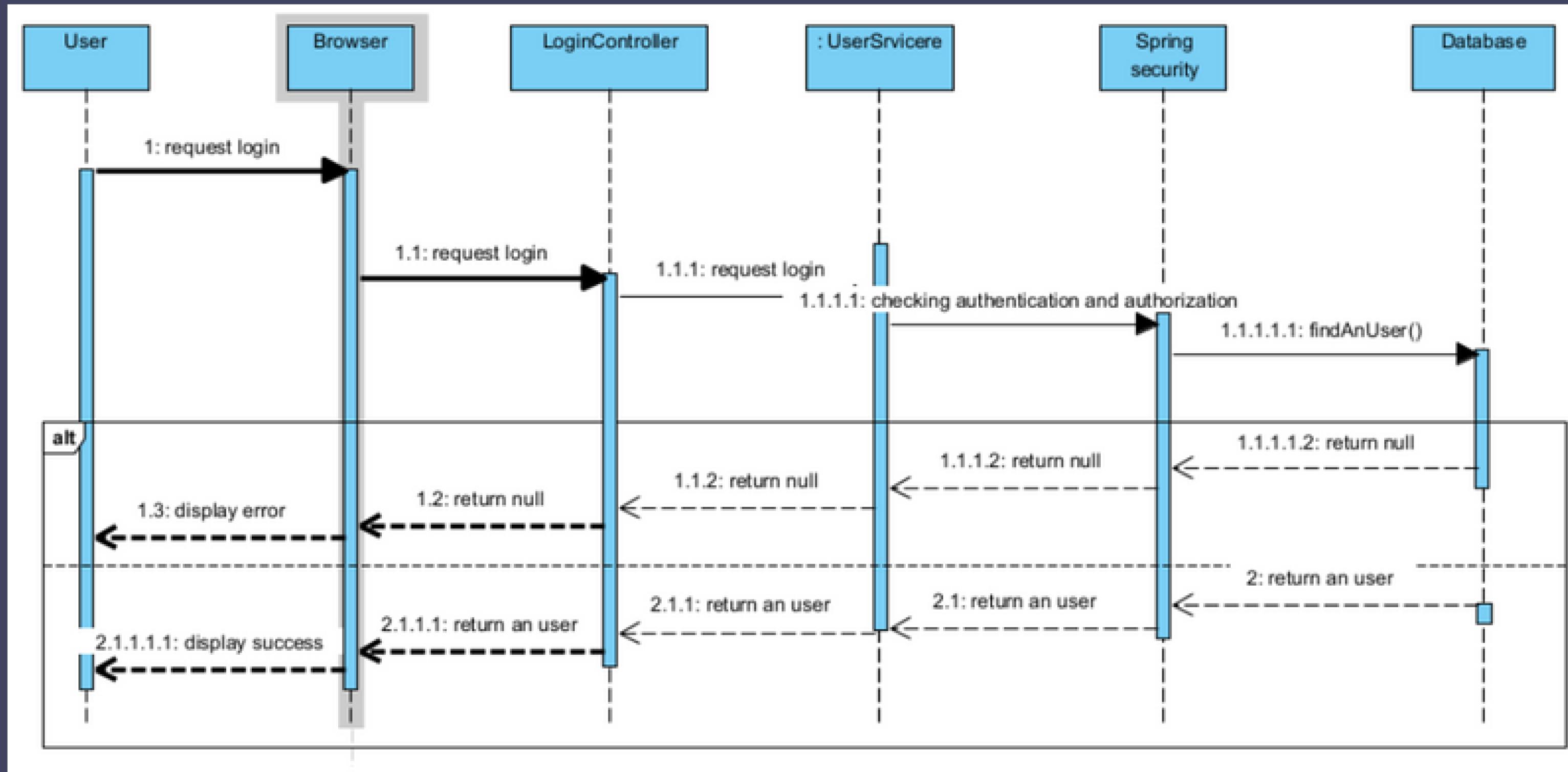
Back-end Package Diagram

Class Diagram



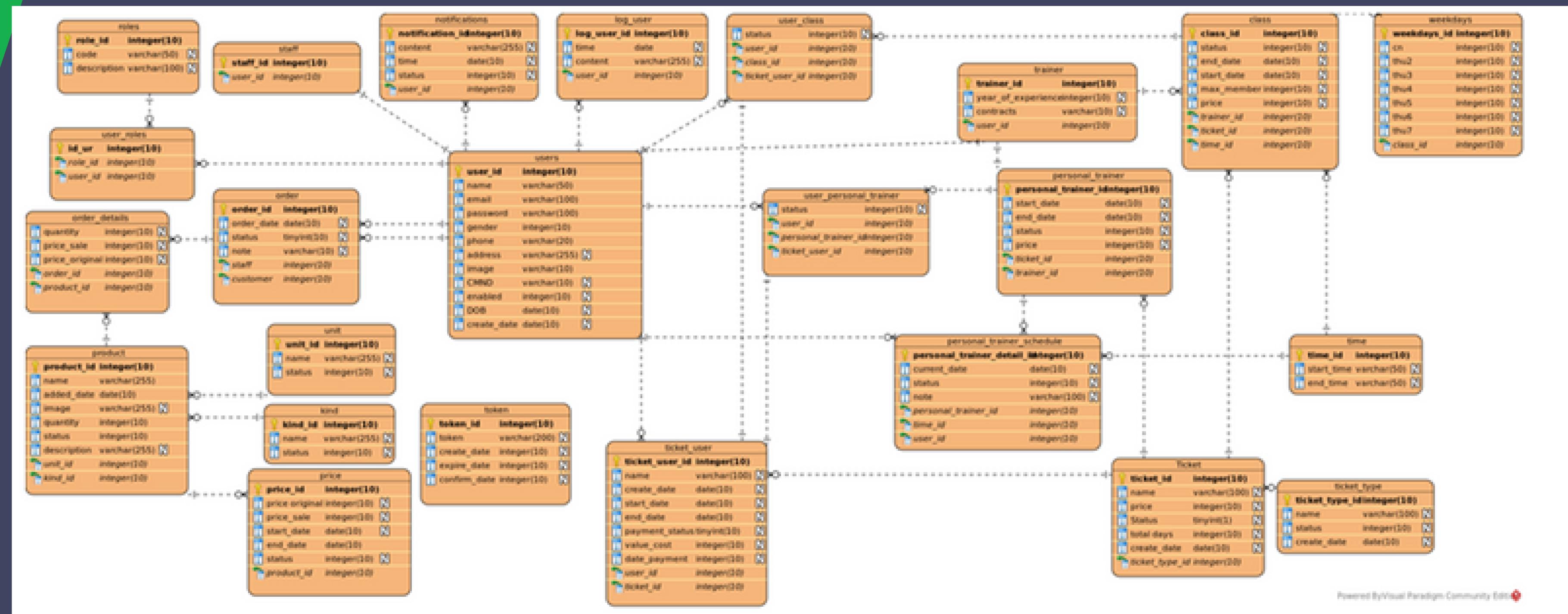
class diagram

Sequence Diagram



Sequence Diagram

Database Design

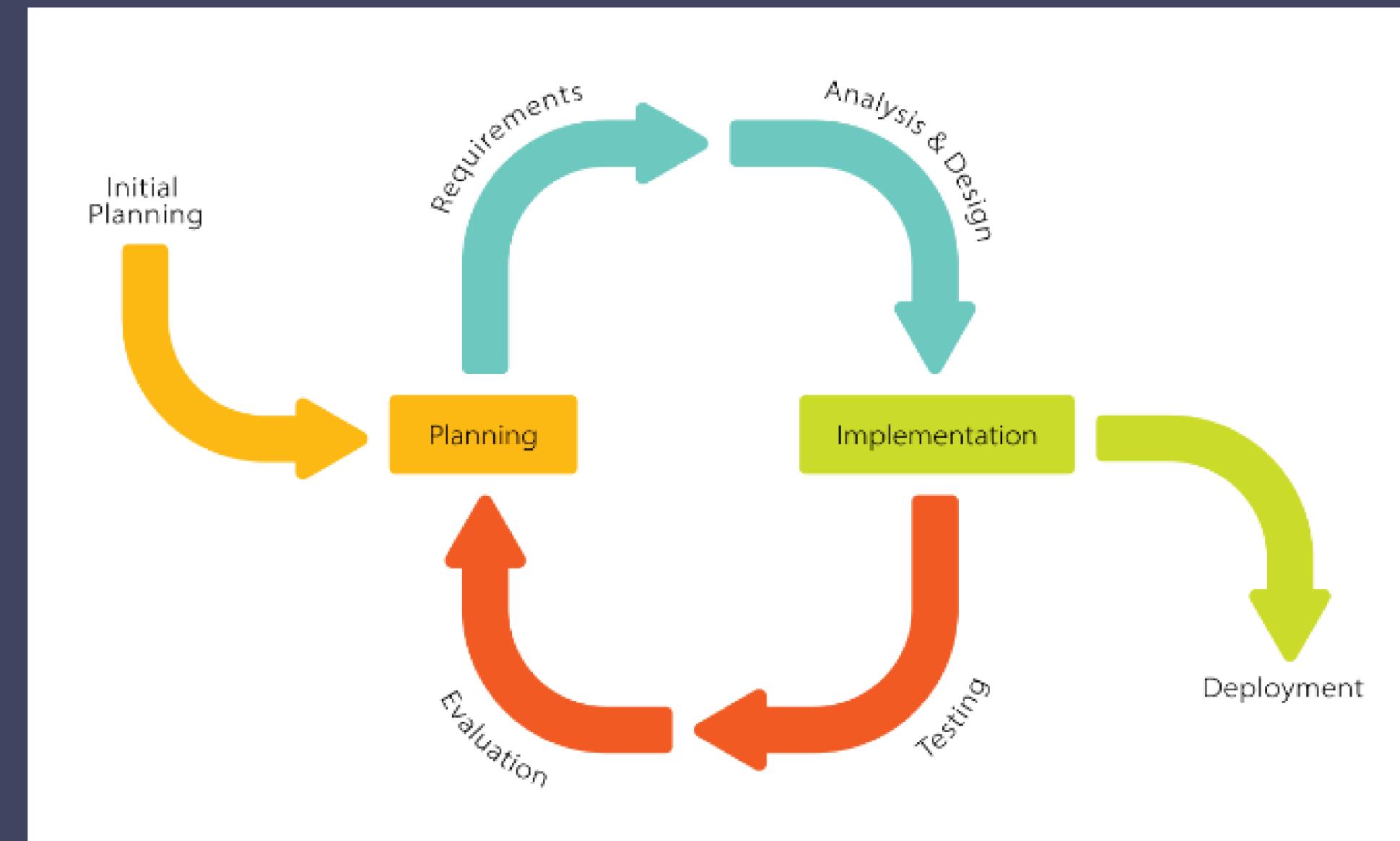


Entity Relationship Diagram

5. SOFTWARE TESTING

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Testing Model



The Iterative model iterates the Requirement, Design, Build, Test and Deploy phase again and again for each requirement and builds up the system iteratively till it is completely built.

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Supporting Tool



Google Sheets



Chrome



Microsoft Edge



IntelliJ IDE



POSTMAN

Postman

Test Environment

Purpose	Tool	Provider	Version
User Interface Testing	Chrome	Google	104.0.5112.79
Integration Testing	Chrome	Google	104.0.5112.79
System Testing	Chrome	Google	104.0.5112.79
Manager Issues	Excel	Excel	

Test Milestones

Milestone Task	Effort (md)	Start Date	End Date
Iteration 1	Create test plan	21/02/2023	22/01/2023
	Create Test Case for Iteration 1	08/03/2023	08/03/2023
	Execute Unit Test	20/03/2023	20/03/2023
	Execute Integration Test	21/03/2023	21/03/2023
Iteration 2	Create Test Case for Iteration 2	23/03/2023	23/03/2023
	Execute Unit Test 2	12/04/2023	12/02/2023
	Execute Integration Test 2	13/04/2023	13/02/2023
Iteration 3	Create Test Case for Iteration 3	15/04/2023	15/04/2023
	Execute Unit Test 3	05/05/2023	05/05/2023
	Execute Integration Test 3	06/05/2023	06/05/2023
Iteration 4	Create Test Case for Iteration 4	08/05/2023	09/05/2023
	Execute Unit Test 4	24/05/2023	25/05/2023
	Execute Integration Test 4	25/05/2023	25/05/2023
	Finish test	26/05/2023	27/05/2023

TEST CASE LIST

Project Name	Gym management
Project Code	GymM
Test Environment Setup Description	<List environment requires in this system 1. Server 2. Database 3. Web Browser ... >

TEST STATISTICS

Project Name	<i>Gym management</i>	Creator		Khanhtd
Project Code	<i>GymM</i>	Reviewer/Approver		
Document Code	<i>GymM_Test_Report_vx.x</i>	Issue Date		<i>25/05/2023</i>
Notes				

Test coverage

Test successful coverage

6. DEMONSTRATION AND Q&A

Question Session

If you have any
questions, you are
welcome to ask now

THANK YOU

