ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH

TRƯỜNG ĐẠI HỌC
CÔNG NGHỆ THÔNG TIN

NHẬP MÔN CÔNG NGHÊ PHẦN MỀM

CS4273.N12.CTTT

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PROJECT: MANGA TRACKER

1. Overview

1.1. Abstract

In the year 2022, when information technology is developing and advancing with rocket speed bringing all kinds of benefits and advantages to our modern society. Simply with our smart phone and Internet access, we can get access to all sorts of entertainment available only within a few touches. And especially with the Japanese anime culture which has spread across the world for the past two decades, manga has also become one of the most important entertainment industries in the world and the amount of people who read manga daily has reached an astonishing figure. Furthermore, we are living in an amazing digital age, which means we can get unlimited access to the enormous number of manga online easily with just our phone, and we have don't have to buy a physical one which may be very expensive because of the shipping fee from Japan. With the vast number of manga available to us at any time, it's something hard to navigate through all of them just to find a good manga with your genre or from your favorite author. To overcome some of the difficulties and make it easier for us to read manga, we could use a manga management software to:

- Manage manga that we are reading/ have finished reading/ our favorite manga.

- Get recommendation of manga that are trending around the world.

- Share your opinion and comments about a manga with other people.

- Create and customize an account to fit to your personal preferences.

1.2. Actors survey

A manga management software system usually consists of two main parts: user (reader) and admin (page manager).

1.3. Organizational survey

Manga management include sorting manga into gerne and author's name, searching manga bases on genre and author's name, managing accounts, sorting manga of users bases on which they are reading, have finished reading, their personal favorite and showing them the trending manga as well as the statistic total manga they have read.

1.3.1. Manga searching procedure

- Step 1: User views the information in the main page.

- Step 2: User views the list manga sorted by genre or author's name using the searching tool.

1.3.2. Sign up procedure

- Step 1: User accesses the Signup page.

- Step 2: User enters username, password and email.

- Step 3: User presses Signup, if it's successful, user will be moved to the Login page.

1.3.3. Log in procedure

- Step 1: User accesses the Login page.

- Step 2: User enters username and password.

- Step 3: User presses Login, if it's successful, user will be moved to the main page.

1.3.4. Log out procedure

- Step 1: User accesses the account management page.

- Step 2: User presses Logout button and will be moved to the main page.

1.3.5. Account management procedure

- Admins can manage user's account by deleting inactive accounts, deleting negative comments, promoting active accounts in the page.

- Users can edit their accounts such as changing avatar, putting their favorite quote in the account home page, viewing the statistic of their manga reading process.

1.3.6. Manga management procedure

- Users can manga their process of reading manga by sorting them into 3 categories: in process of reading, finished reading and personal favorite.

- Admins and users can also recommend current trending manga on the main page.

1.3.7. Changing password procedure

- Step 1: User accesses the Login page.

- Step 2: User clicks on "Forget password ?" button, system will send an confirmation email to user.

- Step 3: User clicks on the confirmation link in the mail, after that user will be moved to the Changing password page.

- Step 4: User enters new password, if it's successful, user will be notified and moved to the main page.

1.3.8. View manga info procedure

User click on the manga he/she wants to read to view information about the gerne, the summary, the author's name and his/her process of reading.

1.4. Phenomenon survey
1.4.1. IT status

With user, usually from the age of 10 going up, have simple or basic knowledge of using smart phone, know how read manga online and create an account. With admin, usually from the age of 24 going up, have advanced knowledge in programming, creating and managing a system. Therefore, IT level and knowledge of user and admin is sufficient to access and read manga online.

1.4.2. Hardware status

Almost everyone in nowadays society has access to Internet and a smart phone with 2 – 8 GB RAM.

1.5. Requirement list

Ordinal	Requirement	Form	Regulation	Note
1	Create new track	F.1	R.1	
2	Manga information	F.2		
3	Manga track list	F.3		
4	Manga searching and filtering	F.4	R.4	

1.5.1. F.1 and R.1

F.1	Create Track	
Manga Name:	Scores:	
Reading chapter:	Start Date:	
	End Date:	

R.1 Start Date can't be a NULL value but End Date can, because of some reason like that Manga is still on going

Ex:

F.1	Create Track	
Manga Name: One-Piece	Scores: 9	
Reading chapter:122	Start Date: 12/11/2010	
	End Date:	

1.5.2. F.2

F.2	Manga information	
Manga Name:	Chapter:	
Genres:	Status:	
Author:	Publish year:	

Ex:

F.2	Manga information	
Manga Name: One-Piece	Chapter: 1024	
Genres: Shounen	Volumes: 104	
Author: Eiichiro Oda	Status: On-going	
	Publish year: 1997	

1.5.3. F.3

F.3	Manga Track List						
Ordinal	Manga Name	Genres	Scores	Reading chapter	Start date	End date	Publish year
1							
2							

1.5.4. F.4 and R.4

F.3	Manga List				
Ordinal	Manga Name	Genres	Author	Status	Publish year
1					
2					

R.4 Genres will be divided into tags for filtering

2. Use Case model

2.1. Actors List

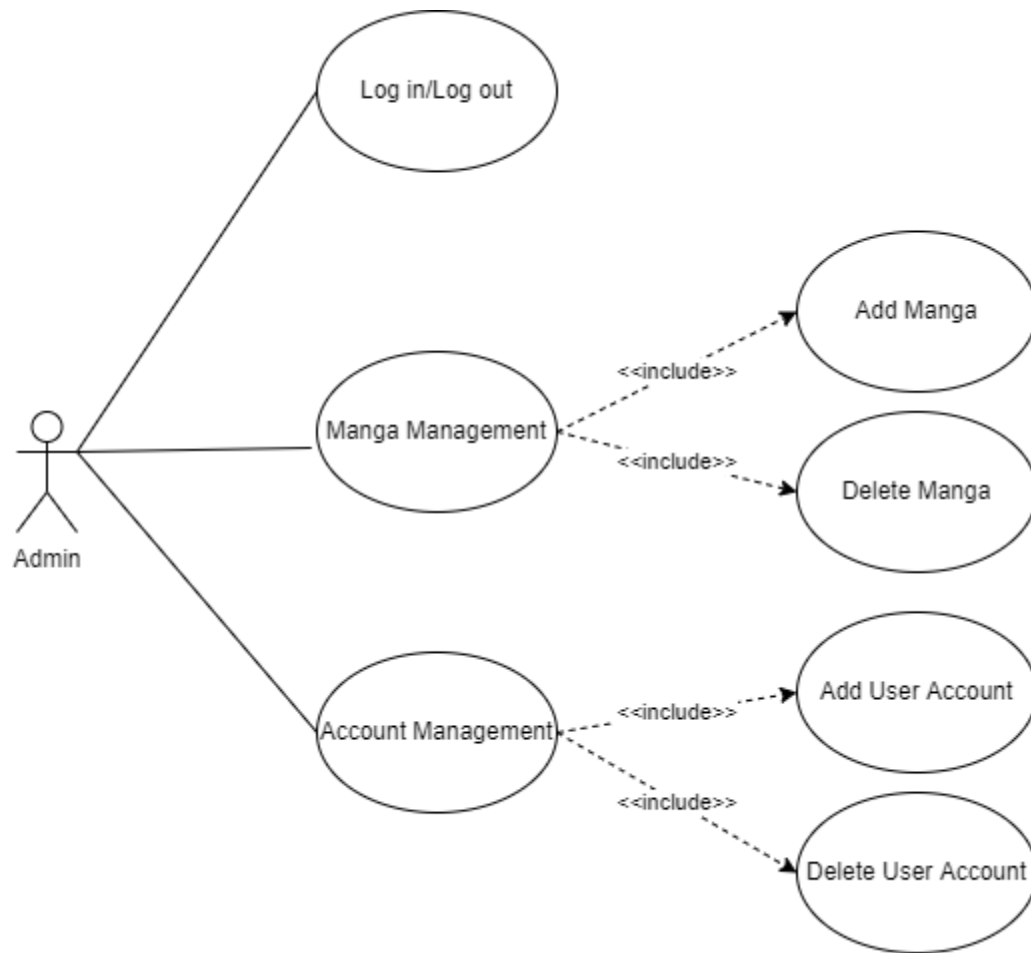| Num.	Actor Name	Meaning, Note
1	User	Read and search for manga, sign up, log in, log out and edit account.
2	Admin	Add new manga and account, delete old/corrupt manga link and inactive account.

2.2. Use Case Diagram

2.2.1. Use Case for user
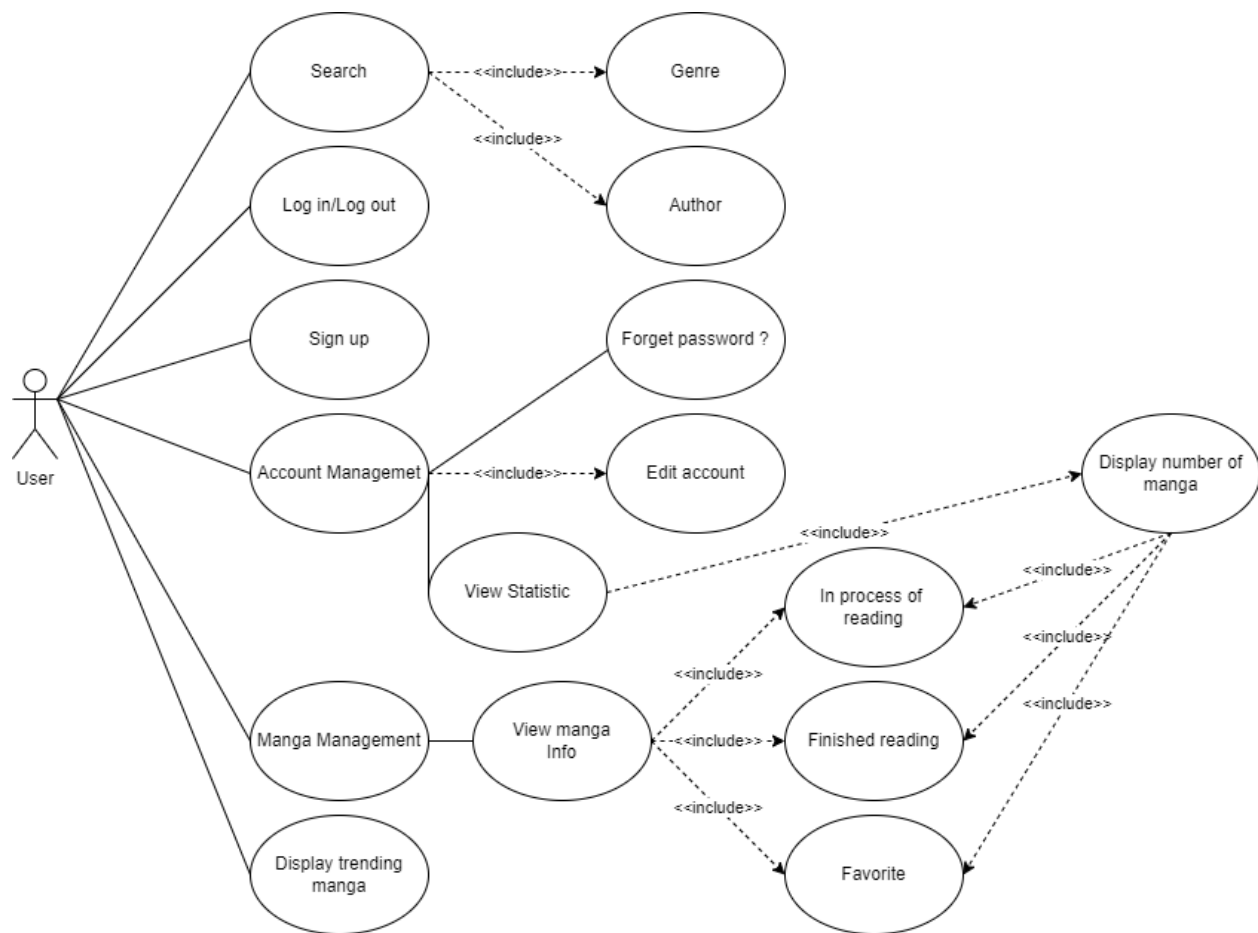
2.2.2. Use Case for Admin

2.3.Use Case List

Num	Use Case Name	Meaning, Note
1	Sign up	Create a new account into the system.
2	Log in	Login your account into the system.
3	Log out	Logout your account into the system.
4	Search	Search for manga based on genre/author.
5	Forget password	Allow user to create new password if old password is forgotten.
6	Account Management	Allow user to edit account, change password and view statistic.
7	Manga Management	User can view manga info and view which manga user is reading/finished reading/'s favorite.
8	View Statistic	Display the number of manga user is reading/finished reading/'s favorite.
9	Trending	Display the current trending manga for user.

10	View manga Info	User can view the description, the summary, the genre and the author of a manga which user is reading/finished reading/'s favorite or trending.

2.4.Use Case Description

2.4.1. Sign up Use Case

Description	User creates a new account into the system.	
Participating Actor	User.	
Flow of Events	User actions	System actions
	1. User clicks Sign up button.	2. Display Sign up form.
	3. Enter username, email and password into the form.	4. Check the validation of username and password, send out verification email.
	5. Click Verify button in the email.	6. Notify user sign up successfully.
		7. Return to main page.
Alternative Flows	4.a User entered invalid username/password/email. 4.b Request user to reenter the form.	
Exit Conditions	User entered valid username/password and verified email, or user hasn't created an account before using the same email.	

2.4.2. Log in Use Case

Description	User logs into created account.	
Participating Actor	User.	
Flow of Events	User actions.	System actions.
	1. User clicks Login button.	2. Display Login form.
	3. User enters username and password.	4. Check the validation of username and password.
		5. Notify user login in successfully.
		6. Return to main page.
Alternative Flows	4.a User entered invalid username or password. 4.b Request user to reenter valid username or password.	
Entry Conditions	User has created an account before.	
Exit Conditions	User logged in account successfully.	

2.4.3. Log out Use Case

Description	User logs out of already logged in account.	
Participating Actor	User.	
Flow of Events	User actions.	System actions.
	1. User clicks Log out button.	2. Display Log out form.
		3. Notify user log out successfully
		4. Return to main page.
Alternative Flows		
Entry Conditions	User has already logged in the account.	
Exit Conditions		

2.4.4. Search Use Case

Description	User searches for manga based on genre/author.	
Participating Actor	User.	
Flow of Events	User actions.	System actions.
	1. User choose a genre in the list or enters an author's name.	2. Display manga that have the chosen genre, or manga written by entered author's name.
Alternative Flows		
Entry Conditions		
Exit Conditions		

2.4.5. Forget password Use Case

Description	User creates a new password in case the old password is forgotten.	
Participating Actor	User.	
Flow of Events	User actions.	System actions
	1. User clicks Forget password button.	2. System sends out an email to user to verify.
	3. User clicks on the link in the email to confirm.	4. Display a change password form.
	5. User enters new password.	6. System check if the new password is the same as the old password.

	7. Notify user change password successfully.
Alternative Flows	6.a The new password is the same as old password. 6.b Notify user the new password is the same as the old password and ask user to reenter a different password.
Entry Conditions	User must click on the confirmation link in the mail sent by system.
Exit Conditions	User clicks cancel button. User enters a new and different password for the old one.

2.4.6. Account management Use Case

Description	Allow user to edit account, change password and view statistic.	
Participating Actor	User.	
Flow of Events	User actions.	System actions.
	1. User clicks the account avatar on the main page.	2. Display an information page of user's account.
Alternative Flows		
Entry Conditions	User has already logged in the account.	
Exit Conditions		

2.4.7. Manga management Use Case

Description	User can view manga info and view which manga user is reading/finished reading/'s favorite.	
Participating Actor	User.	
Flow of Events	User actions.	System action.
	1. User clicks on Manga management button.	2. Display manga info and view which manga user is reading/finished reading/'s favorite.
Alternative Flows	2.a User hasn't read a manga on this page before 2.b Notify user that they haven't read a mange on this page before and display an empty page.	
Entry Conditions	User has already logged in the account.	
Exit Conditions		

2.4.8. View statistic Use Case

Description	Display the number of manga user is reading/finished reading/'s favorite.	
Participating Actor	User.	
Flow of Events	User action.	System action.
	1. User click on View statistic button in User's account page.	2. Display the number of manga user is reading/finished reading/'s favorite in a table.
Alternative Flows		
Entry Conditions	User has already logged in the account.	
Exit Conditions		

2.4.9. Trending Use Case

Description	Display the current trending manga for user.	
Participating Actor	User.	
Flow of Events	User action.	System action.
	1. User enter the main page.	2. Display the current trending manga.
Alternative Flows		
Entry Conditions		
Exit Conditions		

2.4.10.   View manga info Use Case

Description	User can view the description, the summary, the genre and the author of a manga which user is reading/finished reading/'s favorite or trending.	
Participating Actor	User.	
Flow of Events	User actions.	System action.
	1. User clicks on a manga.	2. Display the description, the summary, the genre and the author of the manga.
Alternative Flows		
Entry Conditions		
Exit Conditions		

3. Sequence diagrams

3.1. Sign Up

Register

3.2. Log In

Login

User/Admin   Interface   Database

Enter username, password

verify user

alt   [Valid User account]

Valid account

Message: login succeed

Direct to Profile

[Valid Admin account]

Valid account

Message: login succeed

Direct to Profile

[Invalid Account]

Invalid account

Message: login succeed

Direct to Main menu
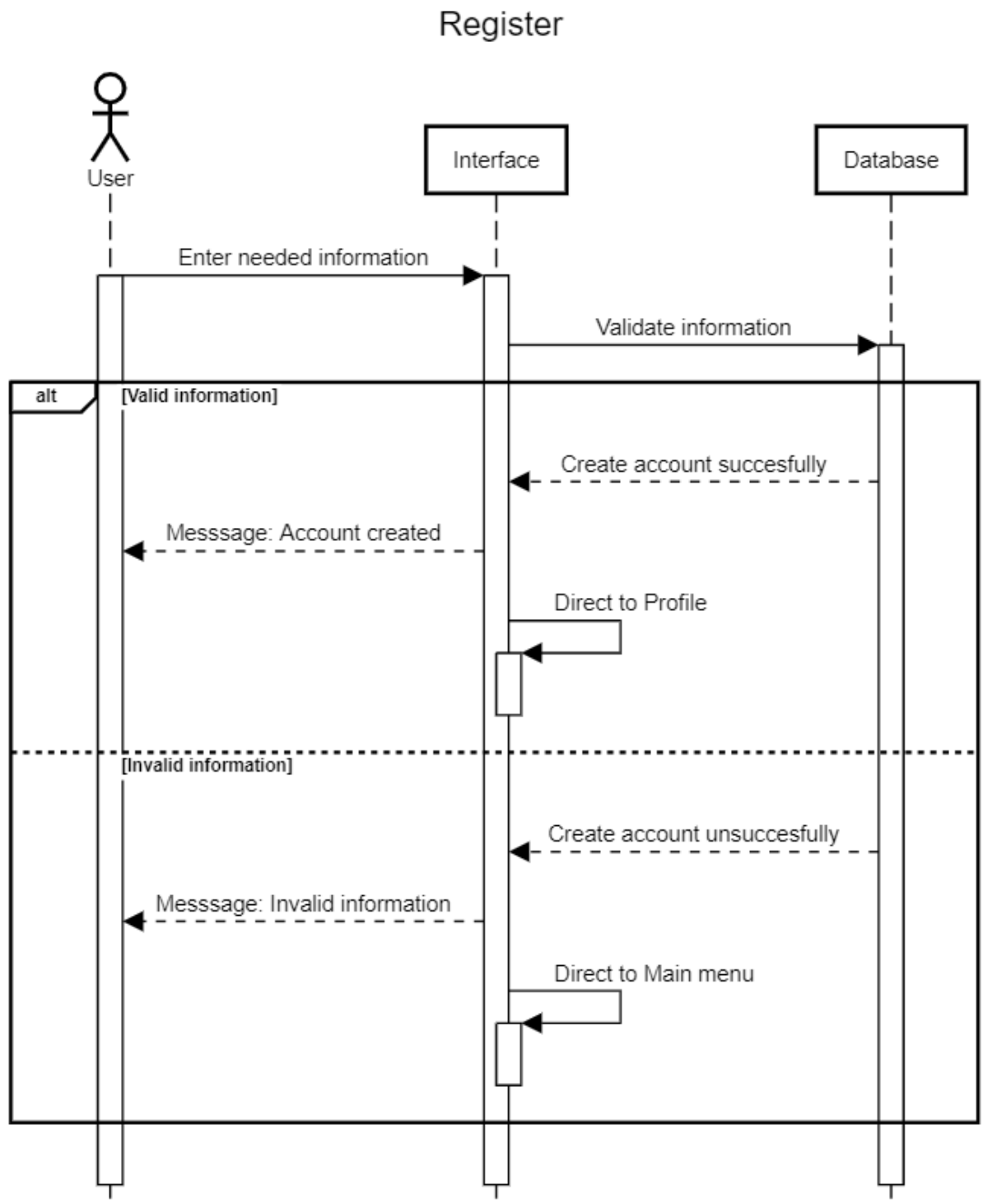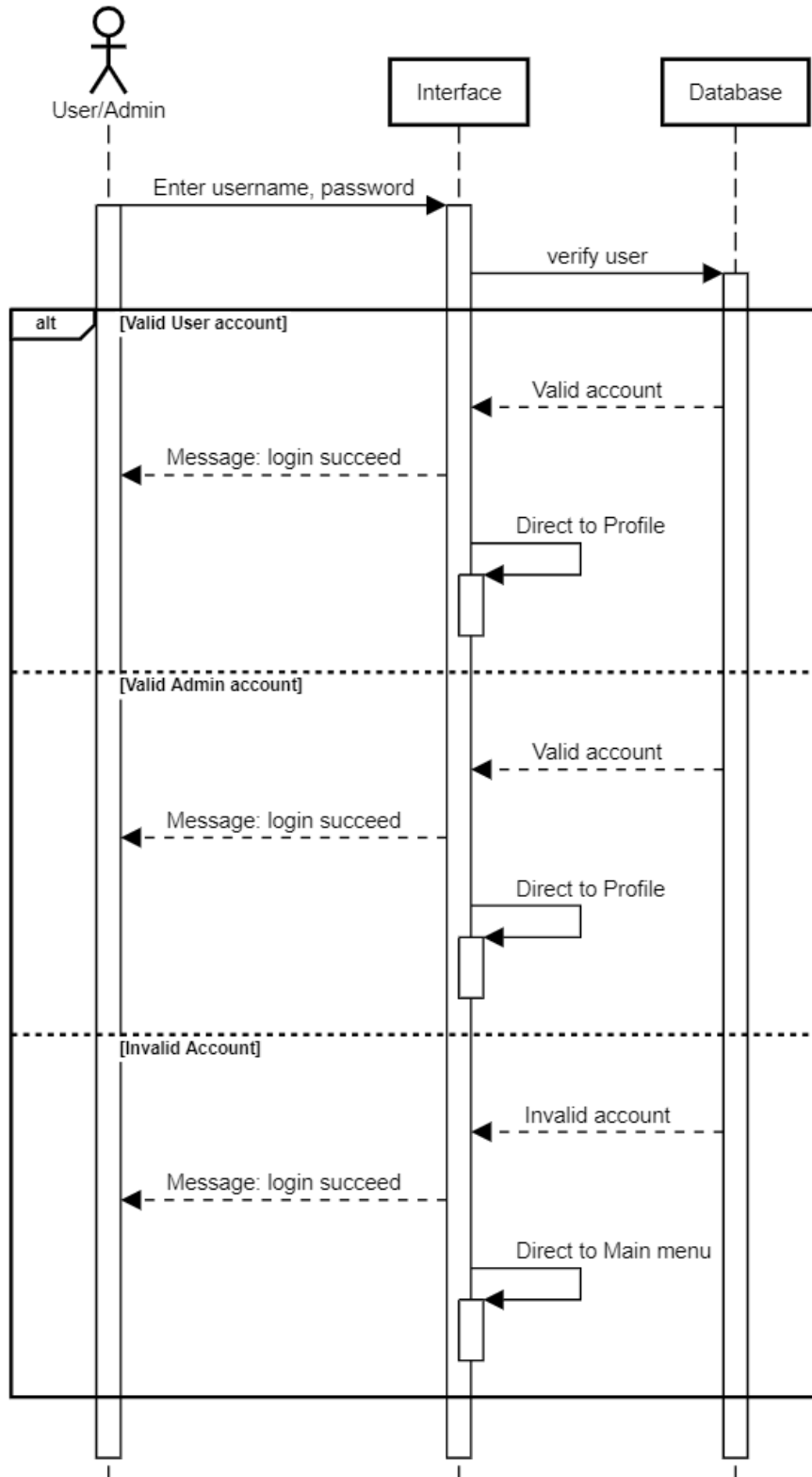
3.3.Log Out

Logout
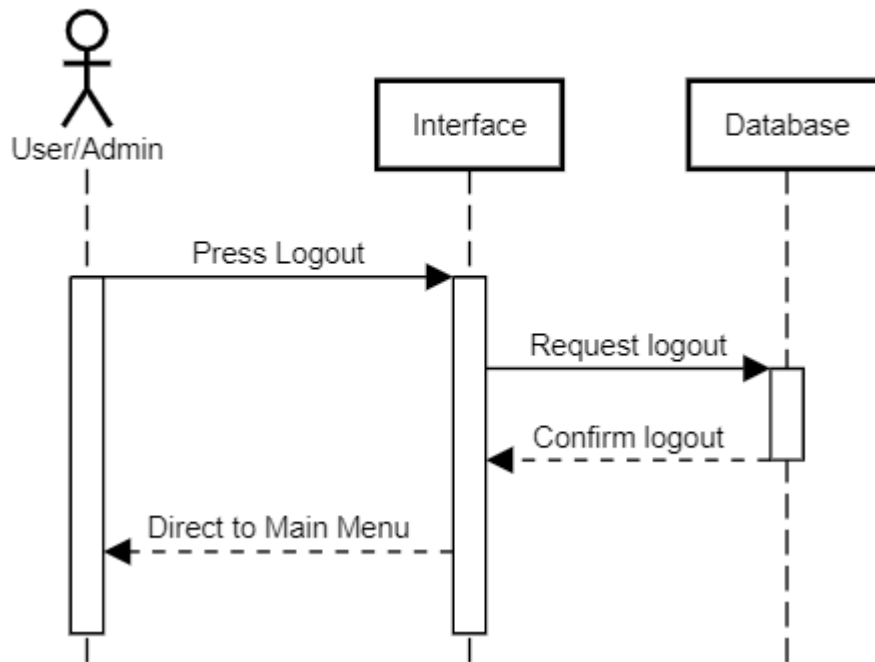
3.4. Search

Search
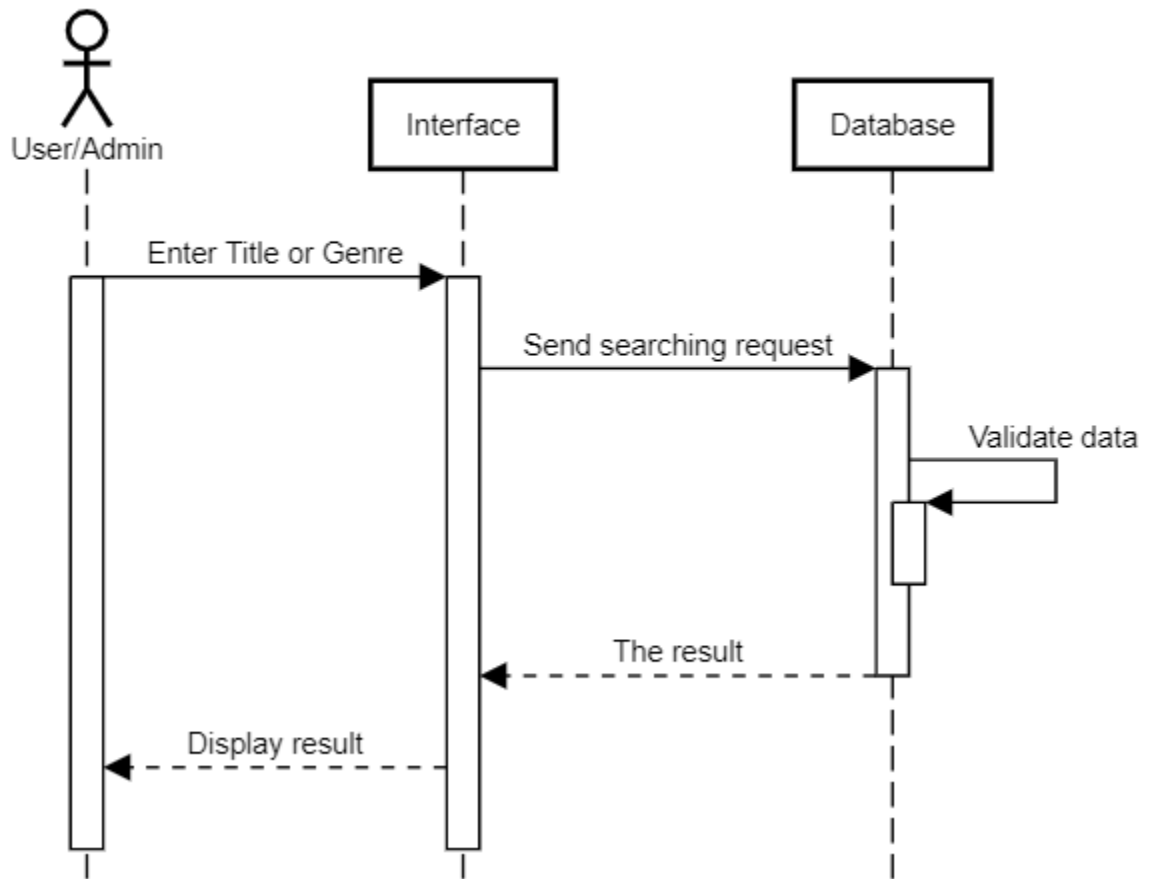
3.5. Forget password

Forget password

User   Interface   Database

Forget password

Sending request

Confirm request

Display: Enter new password

Enter new password

Sending request

Update account data

Password changed

Display: Password changed
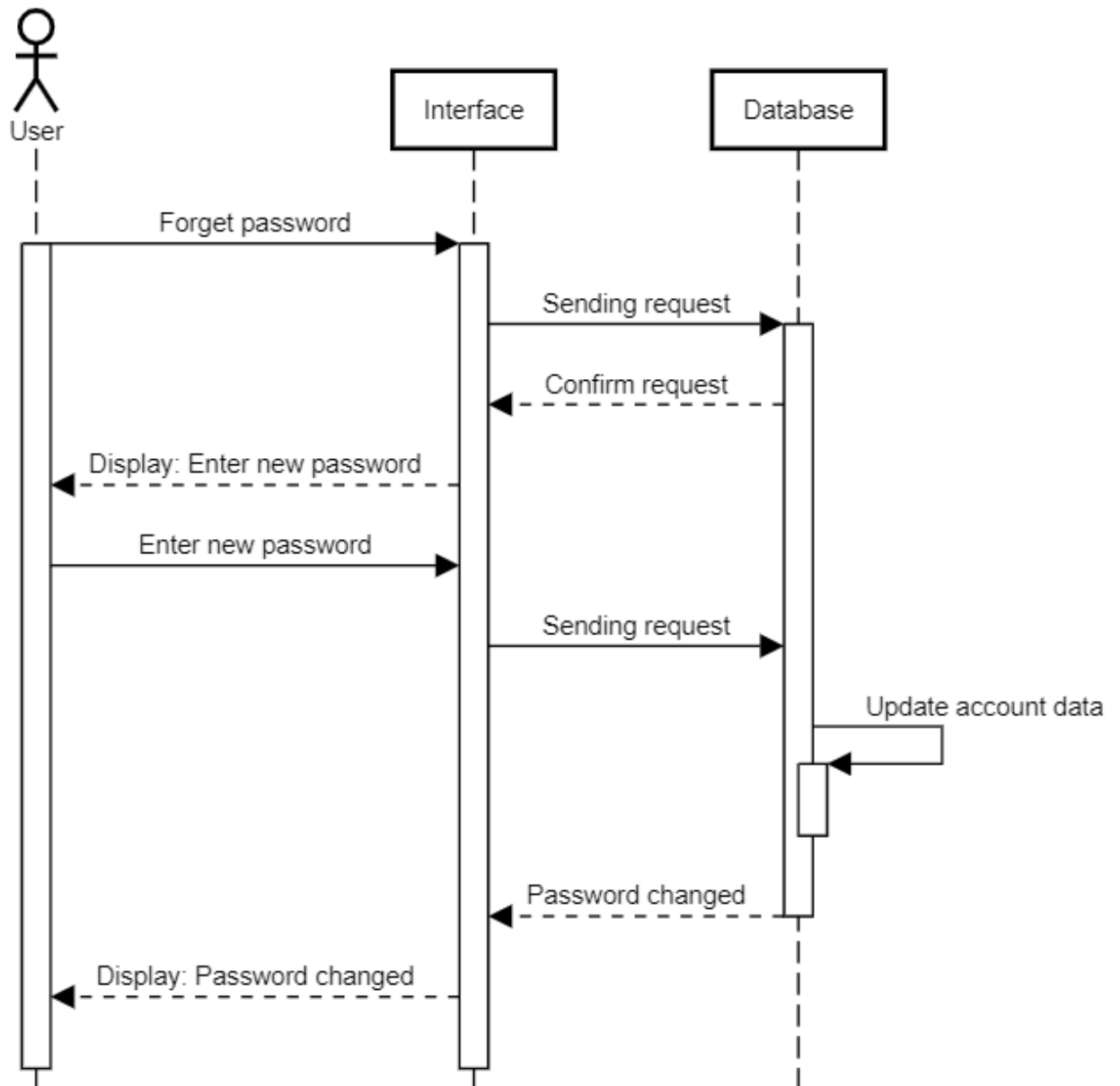
3.6. Account Management

Admin Account management
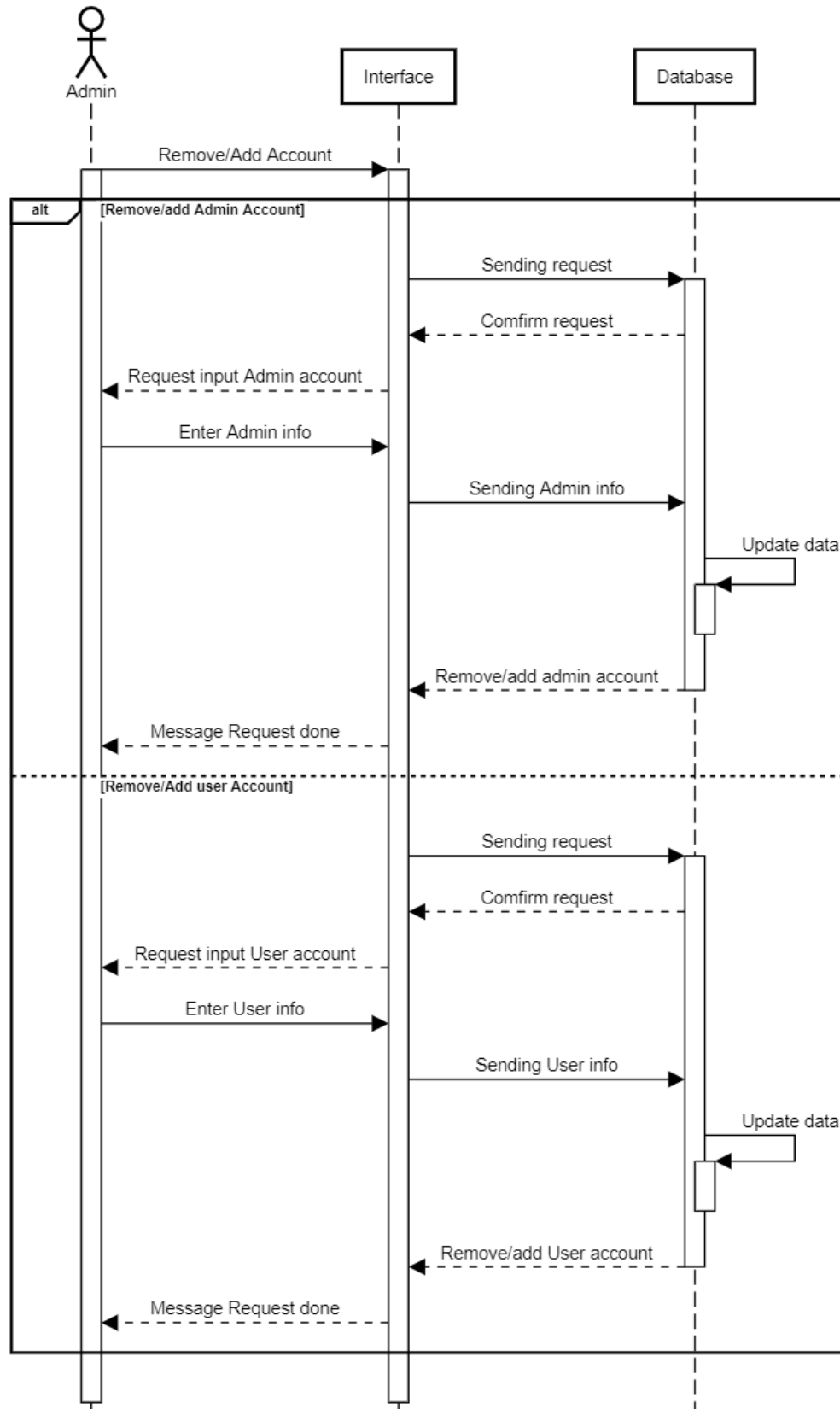
3.7. Manga Management

Admin Manga management
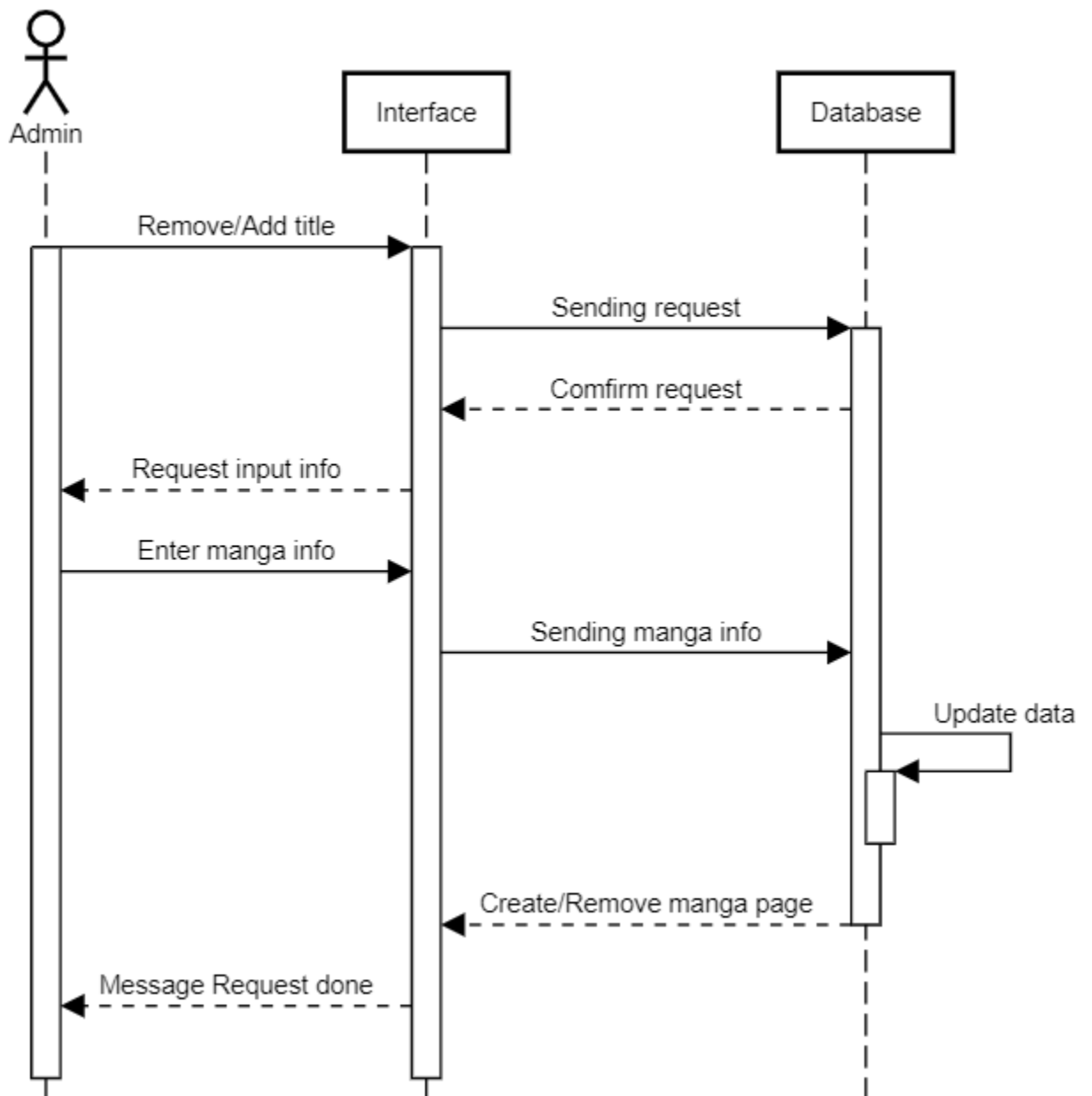
3.8. View Statistic

View Account Stats
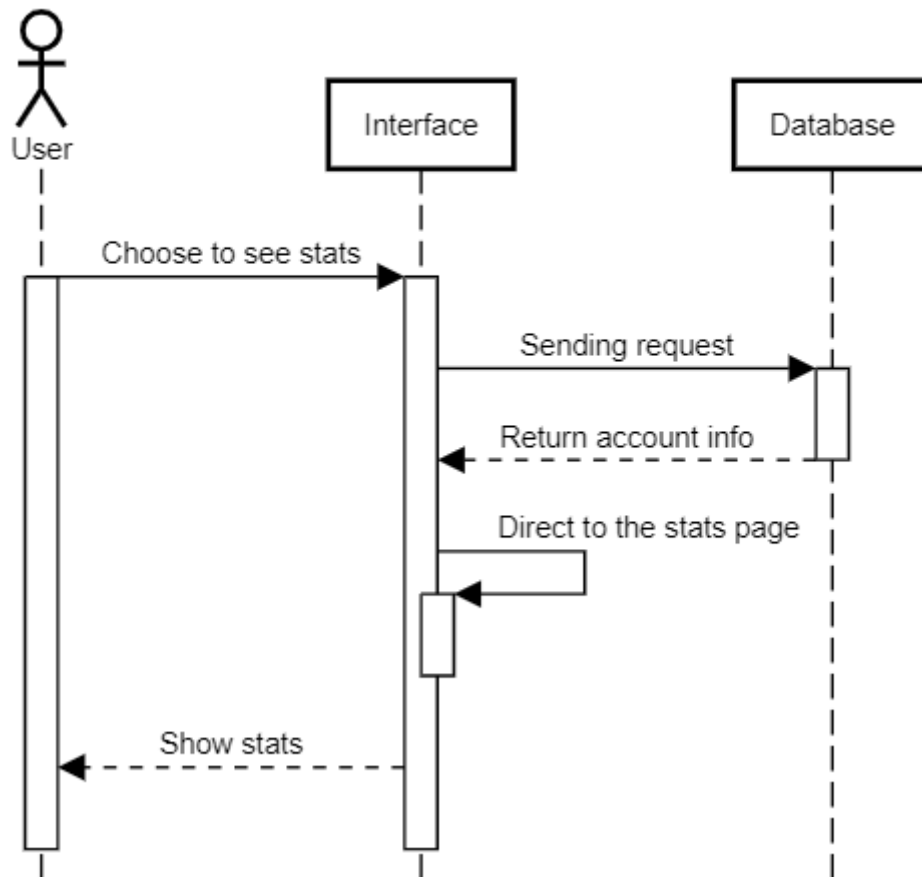
3.9. Trending

View Trending
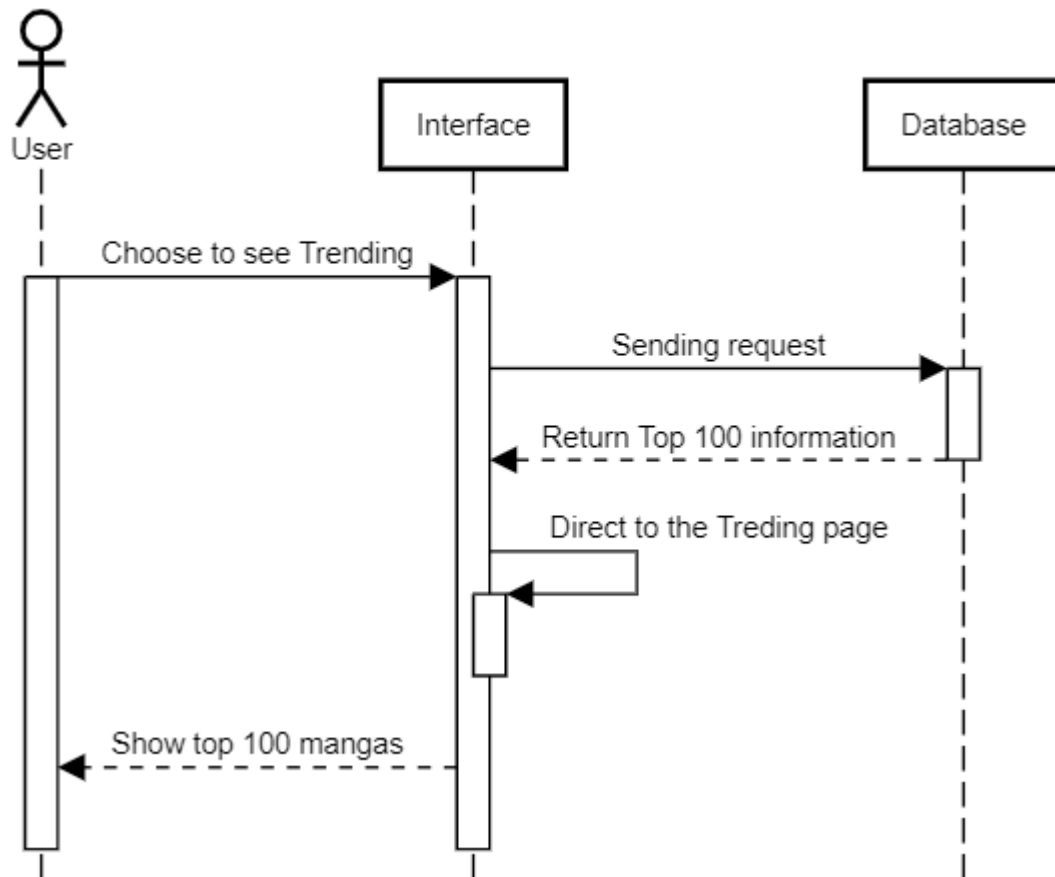
3.10. View manga info

View manga info
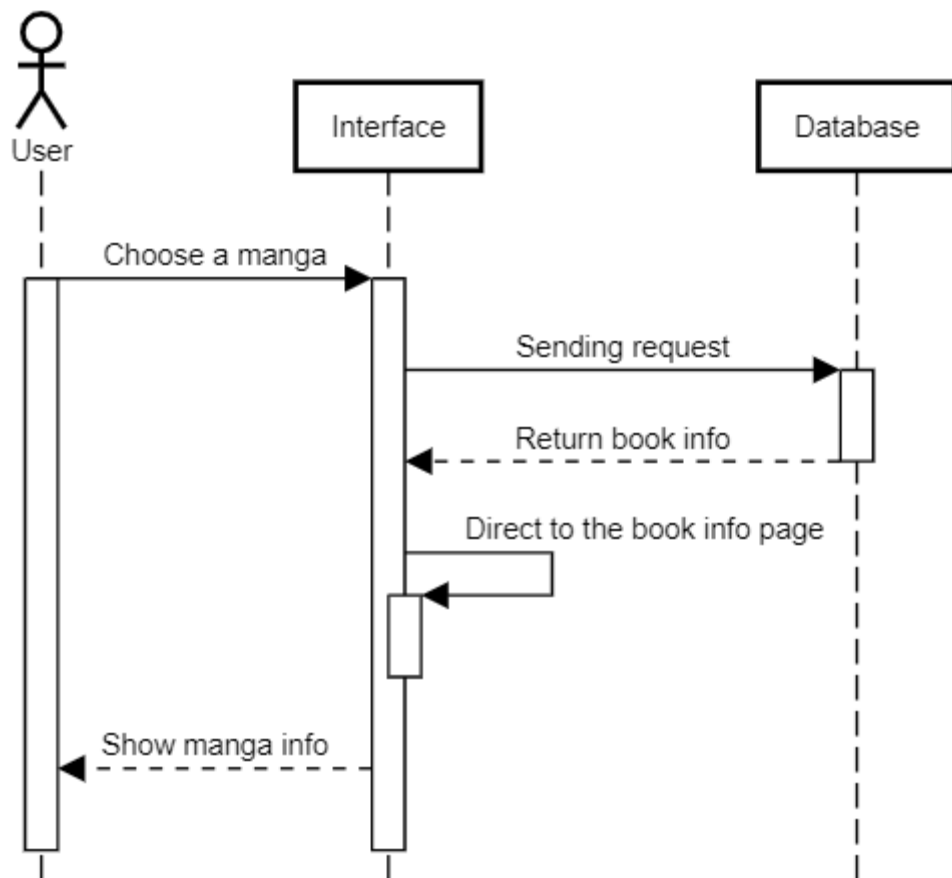
3.11. Change manga status

Change Book Status
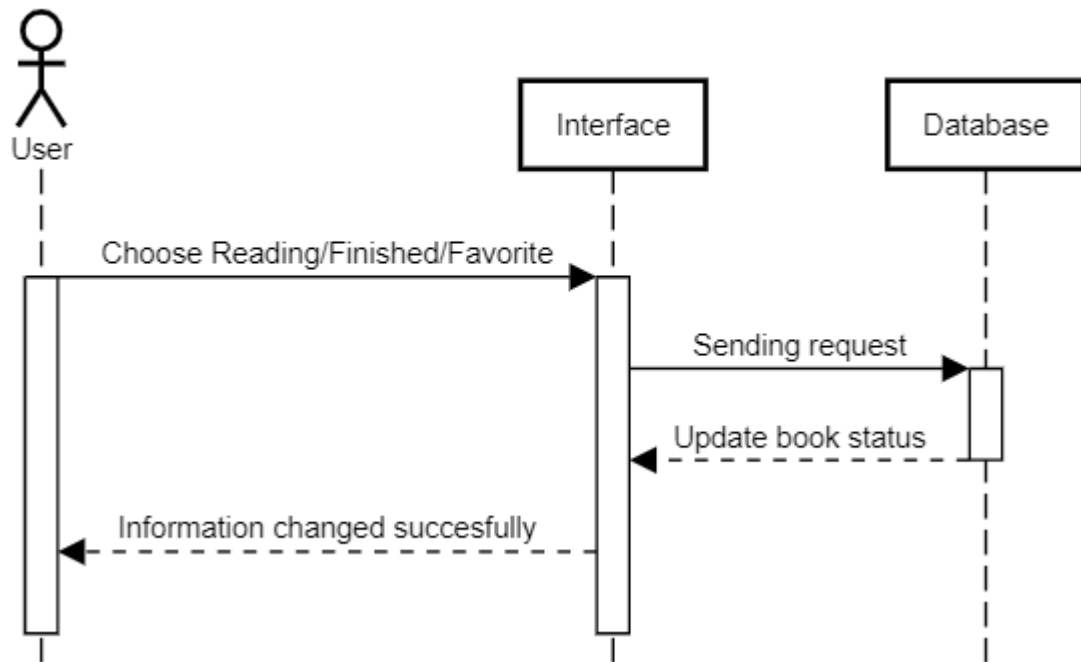
4. Database

4.1. Database design
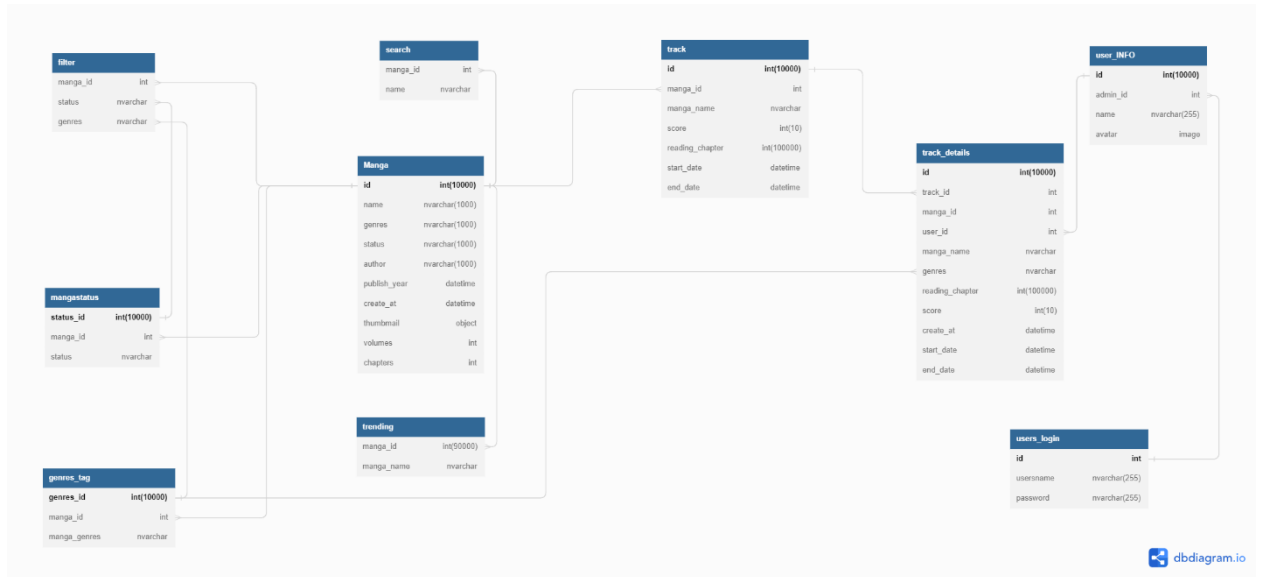
4.2. Database description

Table users_login

5. Ordinal	Field name	Data type	Constraint	Description
1	ID	Int(10000)	PrimaryKey	User ID
2	Name	Nvarchar(1000)	Not Null	Name of user
3	Password	Nvarchar(1000)	Not Null	Password

Table user_INFO

Ordinal	Field name	Data type	Constraint	Description
1	Id	Int(10000)	PrimaryKey	User Profile Id
2	Admin_id	Int(10000)	ForeignKey	References to table Login
2	Name	Nvarchar(1000)	Not Null	Name of user
3	Avatar	Object		Profile picture

Table Manga

Ordinal	Field name	Data type	Constraint	Description
1	id	Int(10000)	PrimaryKey	Manga ID
2	name	Nvarchar(1000)	Not Null	Name of user
4	genres	Nvarchar(1000)	Not Null	Genres of manga
4	status	Nvarchar(1000)	Not Null	Manga Status
5	author	Nvarchar(1000)	Not Null	Author of manga
6	publish_year	Datetime	Not Null	The year that a manga publish
7	create_at	Datetime	Not Null	The date manga adding into data
8	thumbnail	Object		Manga cover imange

Table track

Ordinal	Field name	Data type	Constraint	Description
1	id	Int(10000)	Primary Key	Track ID
2	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
3	manga_name	Nvarchar(1000)	Not Null	Name of Manga
4	score	Int(10)		Score review of user
5	reading chapter	Int(10000)	Not Null	Number of chapter which was read
6	start_date	Datetime	Not Null	The date starting reading
7	end_date	Datetime		The date completing reading

Table track _details

Ordinal	Field name	Data type	Constraint	Description
1	id	Int(10000)	Primary Key	Track detaild ID
2	track_id	Nvarchar(1000)	Foreign Key	References to table Track
3	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
4	user_id	Int(10000)	Foreign Key	References to table user_INFO
5	manga_name	Nvarchar(1000)	Not Null	Name of Manga
6	genres	Nvarchar(1000)	Foreign Key	References to table genres_tag

7	reading chapter	Int(10000)	Not Null	Number of chapter which was read
8	Score	Int(10)		Score review of user
6	start_date	Datetime	Not Null	The date starting reading
7	end_date	Datetime		The date completing reading

Table genres_tag

Ordinal	Field name	Data type	Constraint	Description
1	genres_id	Int(10000)	Primary Key	Genres Id
2	Genres	Nvarchar(1000)	Not Null	Genres of manga

Table mangastatus

Ordinal	Field name	Data type	Constraint	Description
1	status_id	Int(10000)	Primary Key	Status Id
2	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
3	status	Nvarchar(1000)	Not Null	Status of manga

Table filter

Ordinal	Field name	Data type	Constraint	Description
1	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
2	status	Nvarchar(1000)	Foreign Key	References to table mangastatus
3	genres	Nvarchar(1000)	Foreign Key	References to table genres_tag

Table search

Ordinal	Field name	Data type	Constraint	Description
1	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
2	Name	Nvarchar(1000)		Input name form user

Table trending

Ordinal	Field name	Data type	Constraint	Description
1	manga_id	Nvarchar(1000)	Foreign Key	References to table Manga
2	Name	Nvarchar(1000)		Name of manga

5. UI Prototype

5.1. Online Link

https://www.figma.com/file/YcCl0B32pICxjI1EjZZCez/CNPM-G3?node-id=136%3A106

5.2. Design List

Design	Description
Main menu	An introduction about the site and its features
Login	Login feature
Sign up	Sign up feature
Search	Search title, genre or authors
Profile	Show personal profile of users, theirs stats and activities
Trending	Show top 100 manga
Manga Information	Example of a manga information

5.3. Design

5.3.1. Main menu

The next-generation manga platform

Track,share, and discover your favorite
manga with MangaTracker.

Discover your obsessions
What are your highest rated
genres or most watched voice
actors? Follow your watching
habits over time with in-depth
statistics.

Bring MangaTracker anywhere
Keep track of your progress on-
the-go with one of many
MangaTracker apps across IOS,
Android, macOS, and Windows.

Join the conversation
Share your thoughts with our
thriving community, make
friend, socialize, and receive
recommendations.

Tweak it to your liking
Customize your scoring system,
title format, color sheme, and
much more! Also, we have a
dark mode.

Join now

Menu   Search   Trending   Forum   Login   Sign up

5.3.2. Login

Menu   Search   Trending   Forum   Login   Sign up

Login

Email/user name

Password

Login

Forgot password?

Not registered? Create an account

5.3.3. Sign up

5.3.4. Search

5.3.5. Profile

5.3.6. Trending

5.3.7. Manga Information

6. Conclusion

6.1. Result

6.1.1. Advantages

- Accessible by different devices, ranging from smart phone to PC, with minimum hardware requirements.

- Development cost is almost non-existent, the only minor development cost is developers' time.

- System is fairly stable without any buffer or error.

- Easy for new users to use or create new accounts.

- Easy for users to navigate and find the manga they want.

- Give users sufficient information about a manga to help them decide whether the manga is worth spending their precious time on.

6.1.2. Disadvantages

- The user's account has limited user interface customization capabilities.

- Some old manga's may be corrupted and need to be replaced.

- Can not handle a huge number of access.

6.2. Future plan

- User's account interface will be more customable in the future.

- System will handle more number of access.

- Make a mobile version

- Make a social platform

6.3. Work table

Name - ID	Task
Lê Trí Khoa - 20521466	Sequence Diagrams, designer, making report
Nguyễn Hữu Thiên - 20521951	Introduction, Conclusion, Use case
Lâm Lê Phúc Huy - 20521388	Lead designer
Nguyễn Phi Hùng - 20521425	Database design, requirement