

AcadMap Web Application

Version 1.2

Group 17

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Final Report of *Acadmap*

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Contents

1	Introduction	5
1.1	Project Overview	5
1.2	Objective	5
1.3	Highlights	5
1.3.1	Consultation	5
1.3.2	Profile	6
1.3.3	Forum and Post	6
1.3.4	Filter posts	6
1.3.5	Matching algorithm	6
1.4	Technology	7
1.5	Project Statistics	7
2	System architecture Design	9
2.1	Architecture Design	9
2.1.1	Architecture Diagram	9
2.1.2	System components	9
2.2	Data Flow Diagram (DFD)	10
2.2.1	Database	10
2.2.2	Data Flow Diagram	10
2.2.2.1	Login and registration	10
2.2.2.2	Forum and post	11
2.2.2.3	Consultation	12
3	Detailed Description of Components by UML	13
3.1	Personal Account System	13
3.1.1	Structural Diagram	13
3.1.2	UML diagrams	14
3.1.2.1	Use case diagram	14
3.1.2.2	Sequence Diagram for Visitor	15
3.1.2.3	Activity Diagram for Visitor	16
3.1.2.4	Sequence Diagram for User	17
3.1.3	Functionality	18
3.1.4	Procedures and Functions	18
3.2	Forum and Post System	20
3.2.1	Structural Diagram	20
3.2.2	UML Diagrams	21
3.2.2.1	Use Case Diagram	21
3.2.2.2	UML Sequence Diagram for view, filter, add and edit posts	22
3.2.2.3	UML Sequence Diagram for comment, like and edit posts	23
3.2.2.4	Forum activity diagram	24
3.2.3	Functionality	25
3.2.4	Procedures and Functions	25

3.3	Consultation System	27
3.3.1	Structural Diagram	27
3.3.2	UML diagrams	28
3.3.2.1	Use Case Diagram	28
3.3.2.2	Sequence Diagram for finding consultor	29
3.3.2.3	Sequence Diagram for Consultation process	30
3.3.2.4	Sequence Diagram for comment, rank and refund for consultation	31
3.3.2.5	Consultation activity diagram	32
3.3.3	Functionality	33
3.3.4	Procedures and Functions	33
4	User Interface Design	35
4.1	Description of the User Interface	35
4.1.1	User-friendliness	35
4.1.2	User Interface Design principles	35
4.2	Walk through Acadmap with screen captures	36
4.2.1	Introductory page	36
4.2.2	Login and direction to register	37
4.2.2.1	Register	38
4.2.2.2	Reset Password	39
4.2.2.3	Forum and Post	42
4.2.3	Profile	50
4.2.3.1	My profile	50
4.2.3.2	Visiting others' profile	51
4.2.4	Consultation	52
4.2.4.1	Find consultors	52
4.2.4.2	General chat	55
4.2.4.3	Negotiate consultation fee	56
4.2.4.4	Payment	57
4.2.4.5	Formal consultation	58
4.2.4.6	End consultation and provide comment and rate	59
5	Test	60
5.1	Overview and plan	60
5.2	Personal Account System	60
5.2.1	Purpose	60
5.2.2	Test cases and results	60
5.2.2.1	Login Page	60
5.2.2.2	Registration Page	62
5.2.2.3	Verification Page	64
5.2.2.4	Reset Page	65
5.3	Forum and Post system	66
5.3.1	Purpose	66
5.3.2	Add post	66

5.3.2.1	Test cases and results	66
5.3.3	Edit post	68
5.3.3.1	Test cases and results	68
5.3.4	Comment	70
5.3.4.1	Test cases and results	70
5.3.5	Like	71
5.3.5.1	Test cases and results	71
5.3.6	Filter	73
5.3.6.1	Test cases and results	73
5.4	Consultation system	77
5.4.1	Purpose	77
5.4.2	Match to find a consultor	77
5.4.2.1	Test cases and results	77
5.4.3	Directly approach a consultor	79
5.4.3.1	Test cases and results	79
5.4.4	General chat	80
5.4.4.1	Test cases and results	80
5.4.5	Price negotiation	80
5.4.5.1	Test cases and results	80
5.4.6	Consultation	81
5.4.6.1	Test cases and results	81
5.4.7	Consultation	81
5.4.7.1	Test cases and results	81
5.5	Miscellaneous	82
6	Improvement after Demo	83
7	Lesson Learned	84
8	Conclusion	85
9	References	86

1 Introduction

1.1 Project Overview

AcadMap is an integrated platform consisting a forum, chatrooms, and a consultation system. It allows users to communicate and seek advice on future paths in their academic careers and allow sharing of the experience in their current studies.

In AcadMap, we provide the purest form of academic careers consultation, no distraction, no useless talk, just the useful information and professional consultation will be provided by us and other enthusiastic users.

1.2 Objective

Some forums have already provided modules for users to discuss about their studies. However, we notice that most of the posts in those forums are irrelevant to future study, in which a formal communication channels in seeking constructive advice is not available, especially for higher-level education. Take postgraduate degree as an example, it is rare to see a discussion on pursuing a master's degree and doctorates' degree. According to statistics[1], above 40% of students feel a deviation from what they expected after achieving the actual degree after HKDSE in Hong Kong. This exposed the problems that students are actually lack of sufficient understanding before applying for higher education, and they need a channel to have a specific focus on future studies paths for users to get a reference.

Addressing the needs, we aim to provide professional, one-to-one consultation service integrated into a forum, which users can look for professional advice with their educational issues. The forum allows discussion and sharing of general information on their academics and users can seek specialized consultation by our matching-and-consultation system. We also hope that it can be corporate with higher-level institutions to provide official and updated information to our service.

1.3 Highlights

1.3.1 Consultation

With the consultation service, we can provide a platform for people to keen consultors. Consultors can be found through our matching algorithm by filling our a matching form. Consultees can also go to other users' profiles and request to consult directly. Users can chat between themselves. After chatting between themselves, consultees can decide whether to start a formal consultation. Consultees and consultors will agree on a price before the consultation starts and consultees will pay the bill by credit card. Consultees can rate and comment on the consultation. Also they can request for refund if they are dissatisfied with the consultation. The administrator will decide whether their reason for refund request is reasonable based on their content of consultation.

1.3.2 Profile

To let other users know more about their background information, Acadmap provides profiles in which user can introduce and briefly describe themselves. Users can view backgrounds of the consultors in their profiles to decide whether he/she is suitable consultant.

1.3.3 Forum and Post

Users are allowed to create posts, which they can share valuable information or personal experiences in the forum. When a post is added, it need to have a title, and fit into one of three categories. If the user wants to revisit a specific post posted by themselves, they can check their published post in ‘post history’ page, within that page they can also edit their post, in which the title, the category and the contents of the post can be edited. Besides, they can view, comment on and like others’ posts. They can also go to the post author’s profile to know more about him/her.

1.3.4 Filter posts

To best satisfy what users need, the forum allows users to filter the posts by different categories including post category, post time and the number of likes. With the posts being filtered according to users’ preferences, users are more likely to find the information they are interested in.

1.3.5 Matching algorithm

Acadmap aimed to provide users with the best one-to-one consultation service. If a consultee have no idea about whom to consult, they can use the “match to consult” function in their profile. We will match them to the most suitable consultors based on their preferences and requirements which they have filled out in the preference form. And then the consultee will see the profile of the consultor being matched by the algorithm.

For the matching algorithm, users are allowed to choose their preference, this will have a weighting in calculating the matching score. Consultees can also fill our the desired educational level, faculty and previous consultation score of the consultor.

The weighting table is as follows.

Weighting for Different Preference	
1st Preference	1.2
2nd Preference	1.1
3rd Preference	1.0

Users are free to write down their preference on the matching request form or not to write. Moreover, for the characteristic of the consultation score, the score will be divided by 5 and then multiply with the weighting.

1.4 Technology

Our project is implemented by XAMPP with SQL as database setup and php as backend programming language. In the meantime, we use HTML5 to define how two computers speak to each other over the Internet and also CSS3.0 to make the webpage more friendly and attractive.

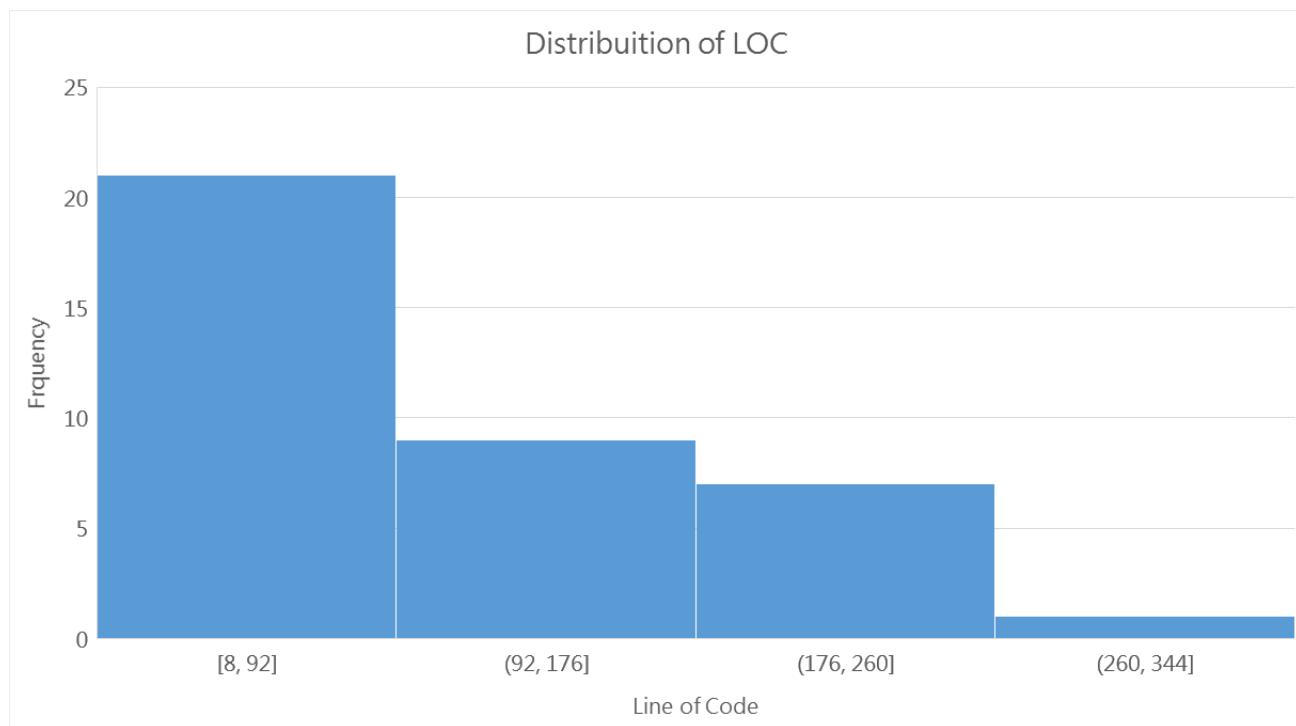
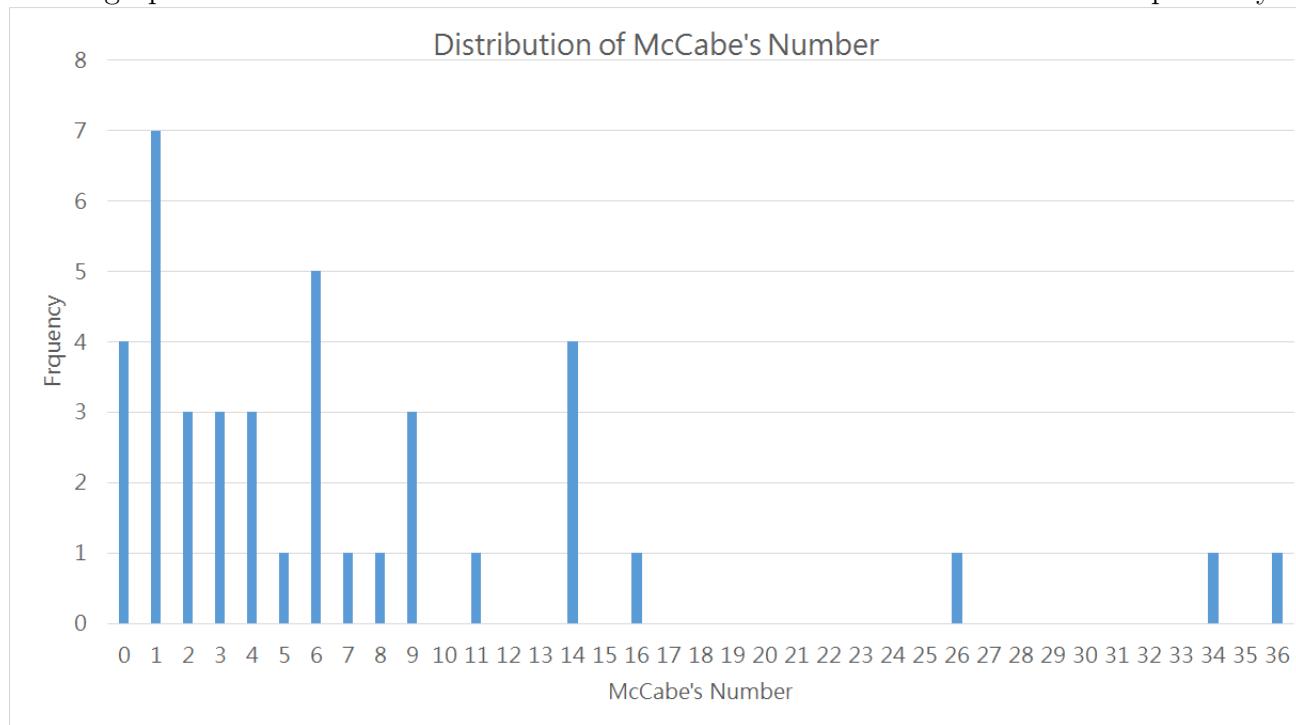
1.5 Project Statistics

The table below is the component of our website. The LOC was indicated in github, and the McCabe's number is calculated using SonarQube.

As our project uses PHP, all page without extension are all PHP files, unless specifies.

File	Mccabe's Number	Line of Code	File	Mccabe's Number	Line of Code
Root files					
403	0	39	404	3	62
ConnectDatabase	1	11	index	0	51
logout	0	11	navbar	1	22
Chat related files					
accept	6	82	chat_messages	6	101
chatp	2	42	chatrooms	14	235
consult	9	72	cschatrooms	6	147
end	8	111	refresh	11	136
reject	5	63			
Forum related files					
add_post	14	139	buildcroom	4	49
ConnectDatabase	1	18	edit_post	9	100
editprofile	26	290	error	2	16
FetchPost	1	14	FetchPost0	1	8
forum	36	223	like	6	52
match	4	57	match_form	0	95
myprofile	14	252	othersprofile	14	255
post	4	103	process	3	40
storeprofile	3	63	user_post_history	34	203
Login related files					
ConnectDatabase	1	20	error	2	19
login	9	207	Register	16	197
reset	7	107	verification.html	1	19
verification	6	134			

The graphs below show the distribution of McCabe's Number and line of code respectively.



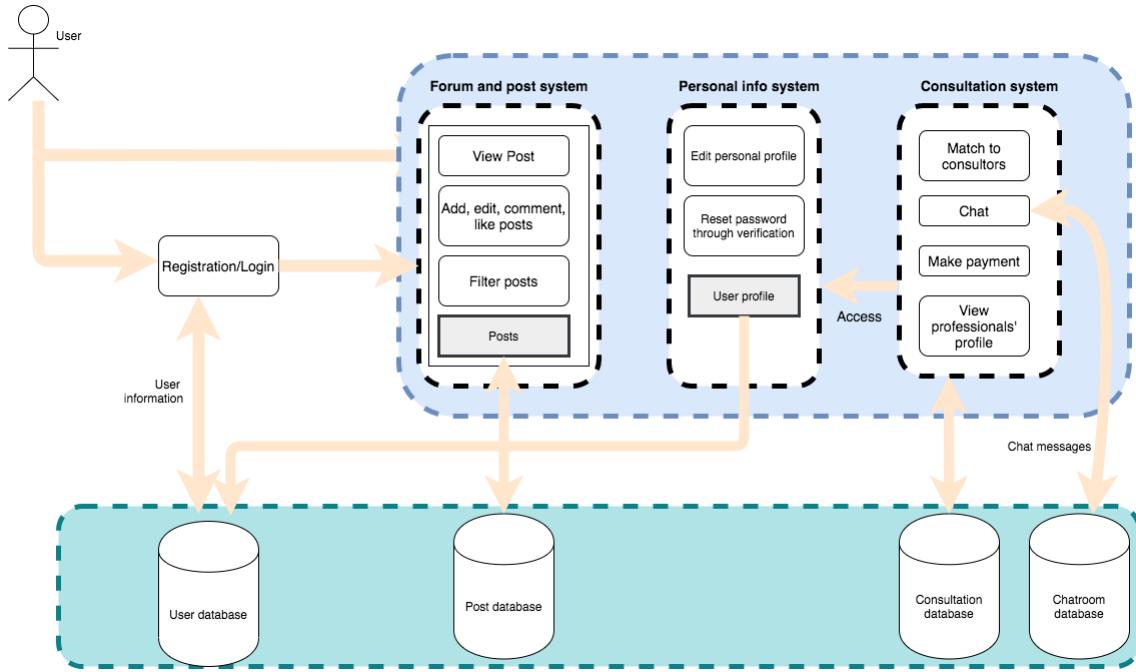
In this project, we have 40 pages, totaling 3865 lines of code. The total complexity is 290. The average lines of code for each files is 96.625 lines. And the average complexity is 7.25. As our team have 5 person, the LOC per person is 773.

The majority of our files have a McCabe's number lower than 10, and have lines of code below 176, showing our system is in appropriate complexity and in manageable size.

2 System architecture Design

2.1 Architecture Design

2.1.1 Architecture Diagram



2.1.2 System components

Personal information system	User information is stored in the user database. The system allows users to edit their profiles, i.e. institution, credit card information, etc. Personal profiles are accessible and visible to others.
Forum and post system	This system manages user activities in the forum. All posts are stored in the post database. By using the filter, users are able to find their desired information.
Consultation system	Using the matching function in their profile, or directly approach a consultor, consultees can consult them through the consultation system. Moreover, users can also build a one-to-one chatroom for casual chatting. Apart from chatting, the system also provides payment, rating and comments for consultation.

2.2 Data Flow Diagram (DFD)

2.2.1 Database

There are four databases in total for Acadmap listed below:

1. User database

User database stores user account information including username, password, faculty, education level, etc. We also encourage users to provide an introduction about themselves.

2. Post database

Post database stores all posts created by users. Some information attached to posts like comments and likes of posts are also included in the post database.

3. Consultation database

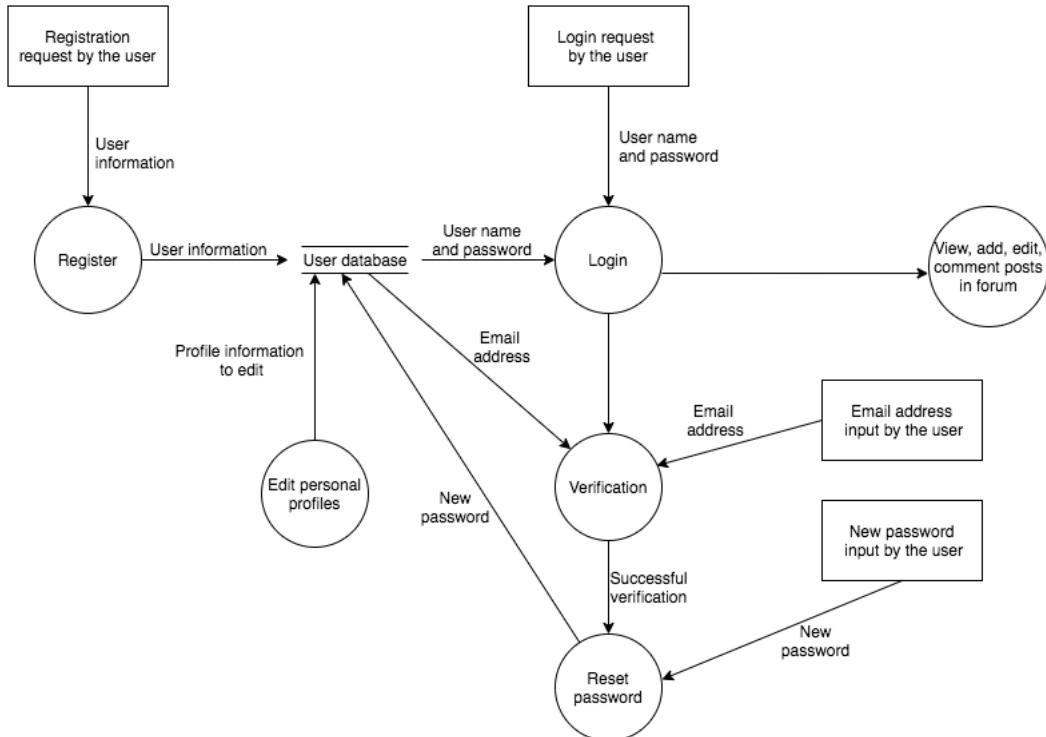
Consultation database stores the consultation information including consultation rating and comments for every consultation.

4. Chatroom database

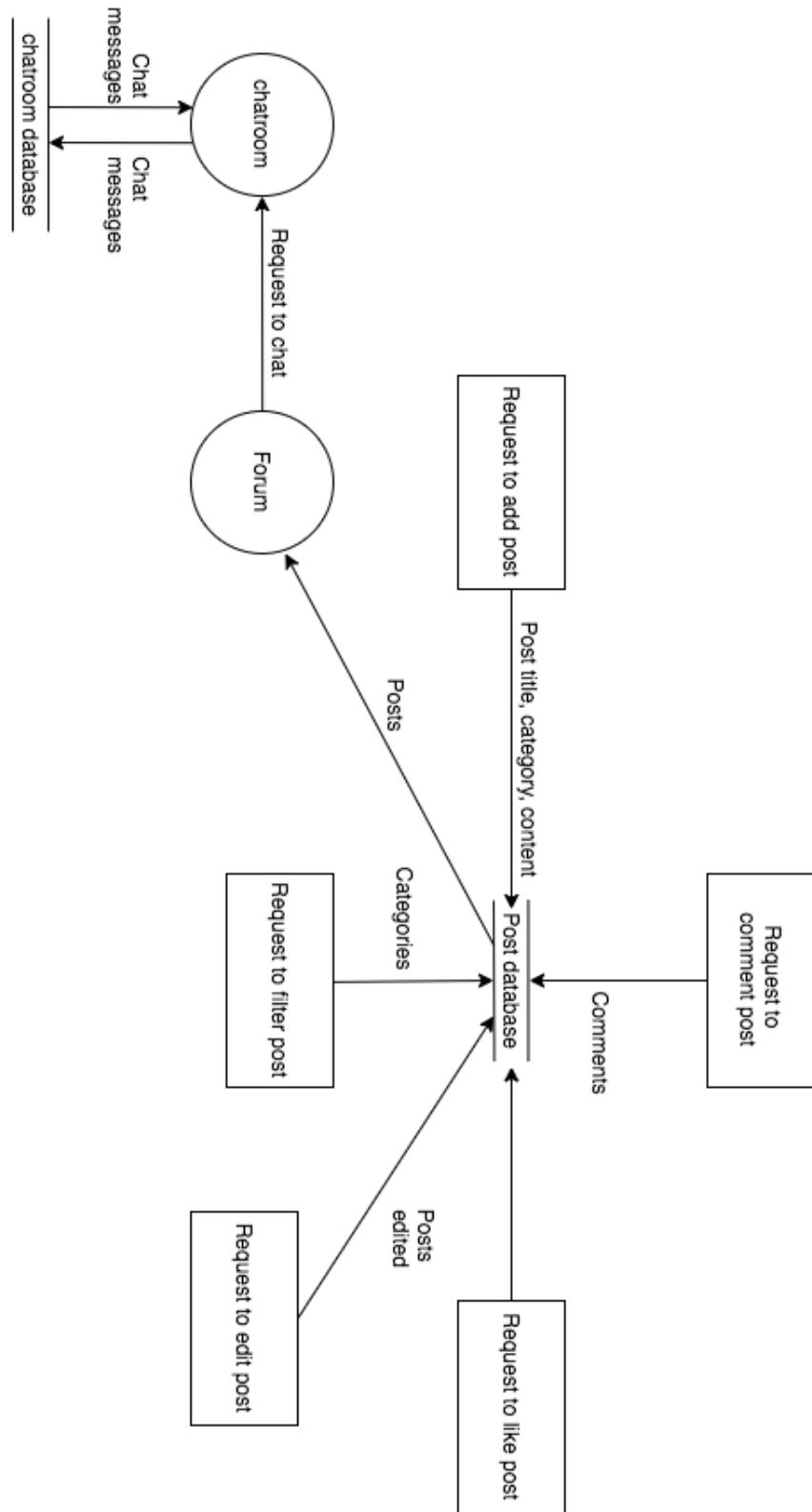
Chatroom database stores both messages from normal chatroom and consultation chatroom.

2.2.2 Data Flow Diagram

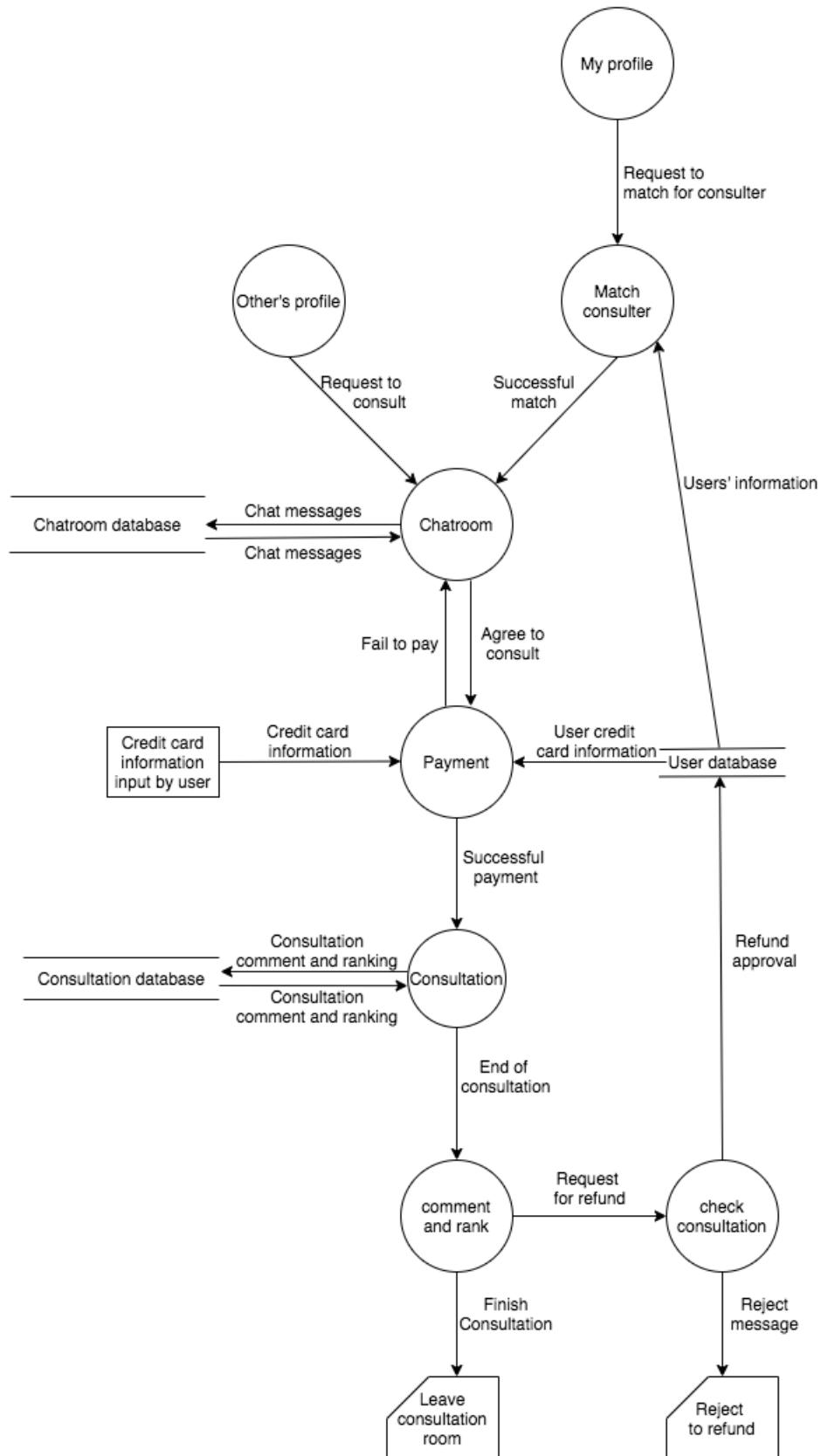
2.2.2.1 Login and registration



2.2.2.2 Forum and post



2.2.2.3 Consultation



3 Detailed Description of Components by UML

3.1 Personal Account System

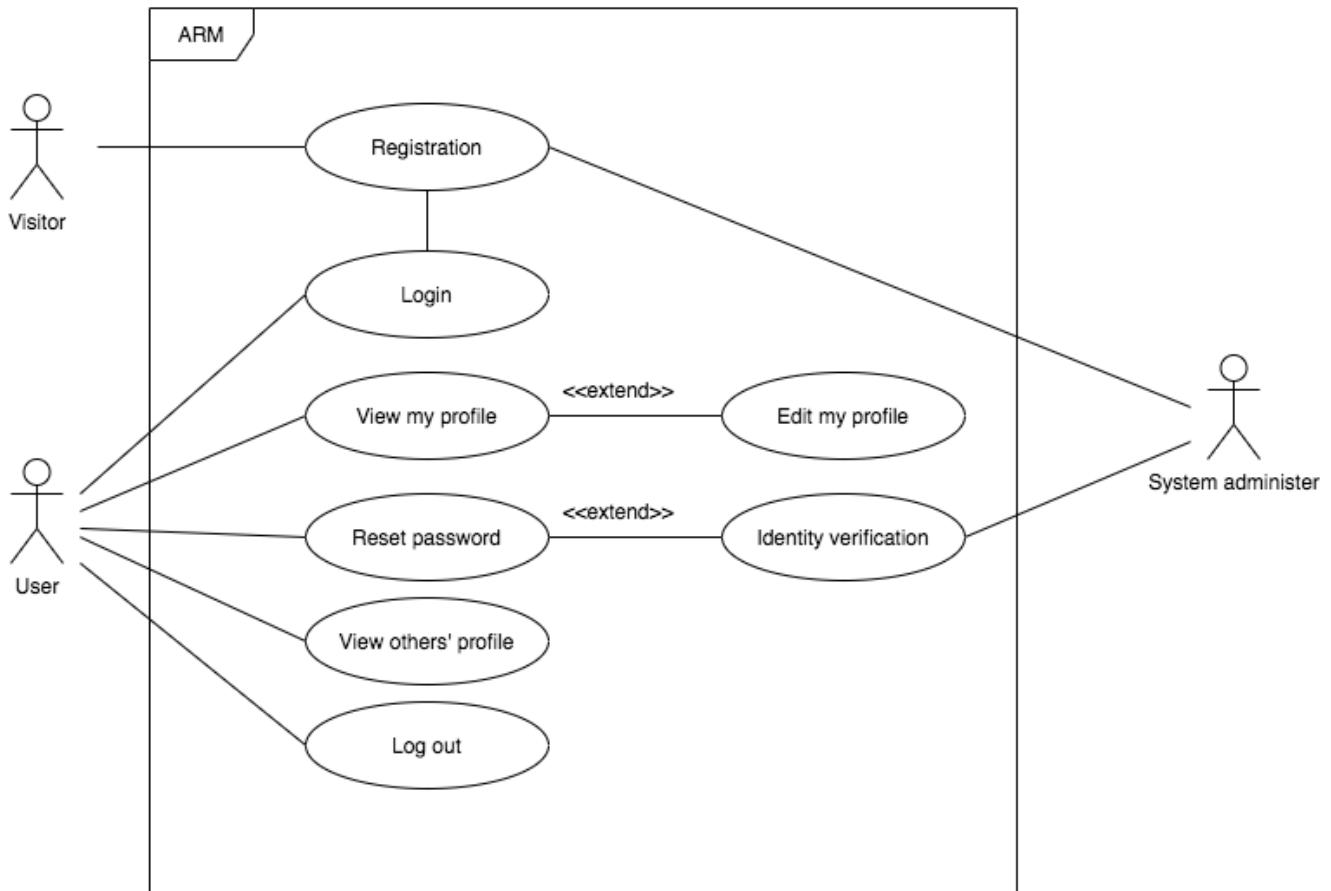
Personal Information System manages user profiles that contain their basic information.

3.1.1 Structural Diagram

User Account
+ userPicture: image + userID: string + userName: string - password: string + emailAddress: string + education: string + personalDescription: string + major: string + consultationStatus: string - creditCardInfor: string
+ createAccount(): bool - deleteAccount(): bool - changePassword(): bool - forgetPassword(): bool - logout(): bool - editEducation(): string - editConsultStatus(): bool - editDescription(): bool - editUserPicture(): bool - editMajor(): bool - editName(): bool - editCreditCardInfo(): bool

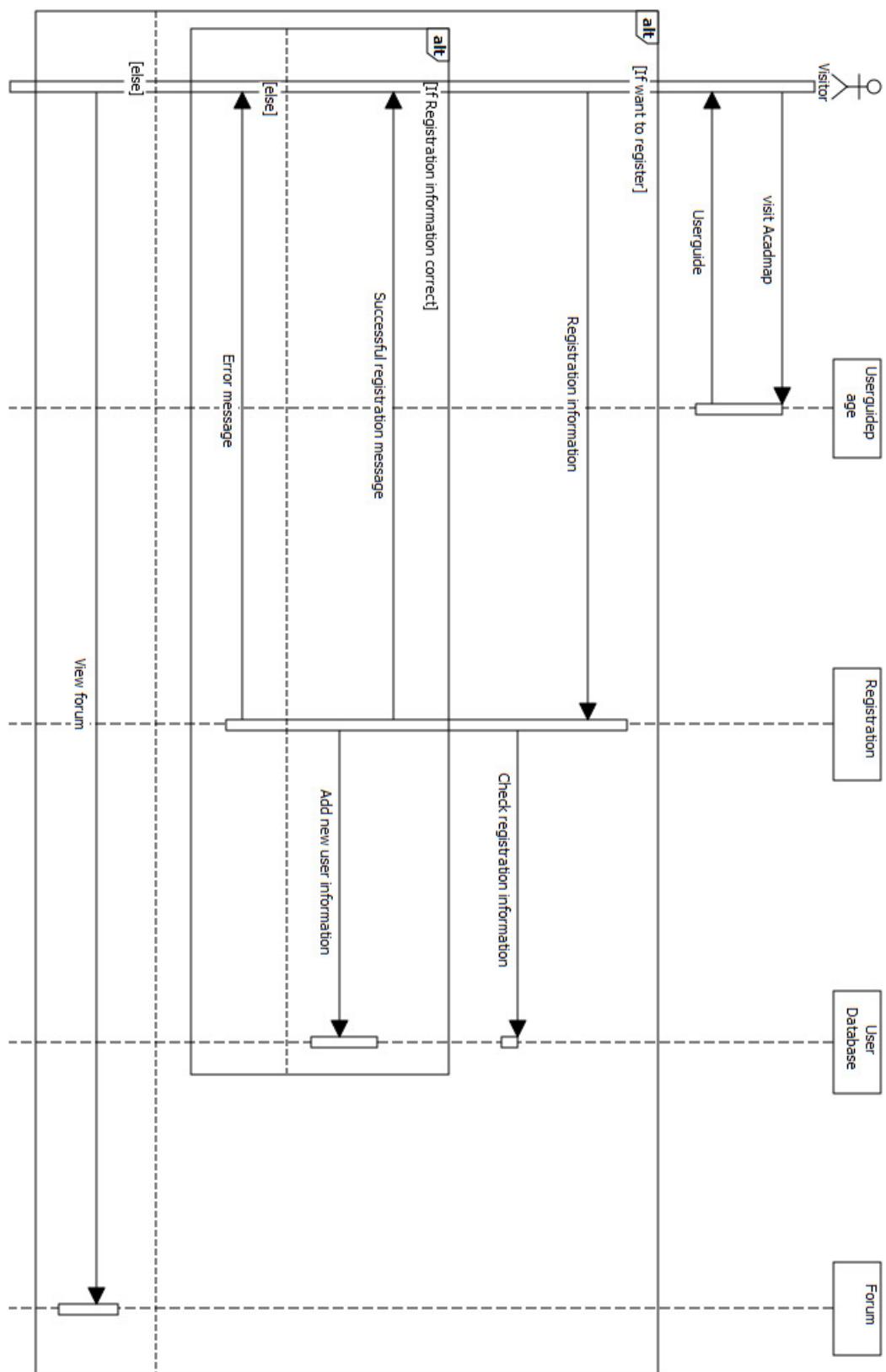
3.1.2 UML diagrams

3.1.2.1 Use case diagram

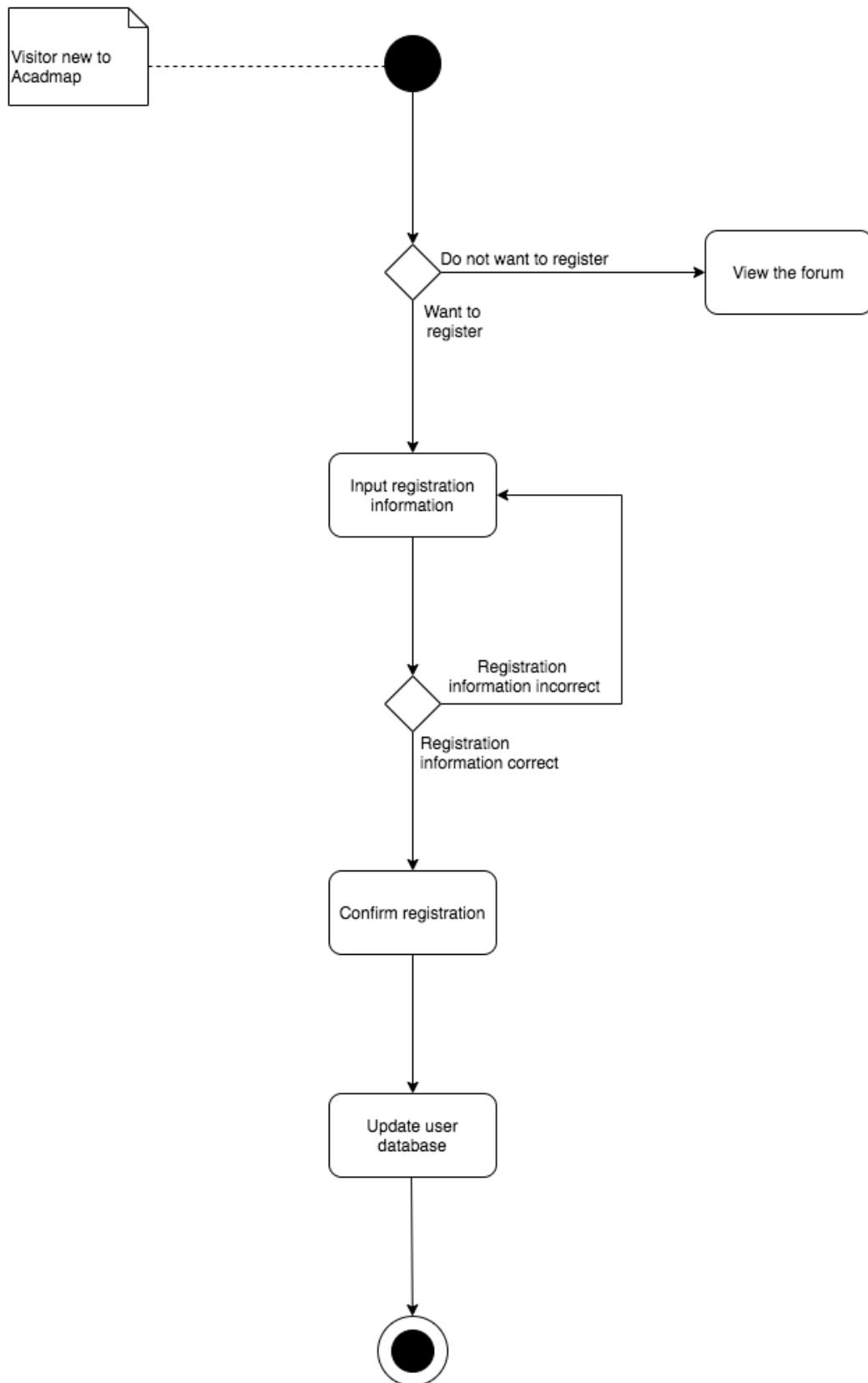


For our first-time visitor, Personal Account System allows them to register a new account and log in to enjoy our services. For the users of Acadmap, they can first log in and then view their personal profile. In their own profile, they can change their personal information, i.e. username, email address, personal description, etc. If they have forgotten their password, they can reset password after entering the verification code. They can also access to others' profiles to know more about them. Lastly, they can logout for security purpose.

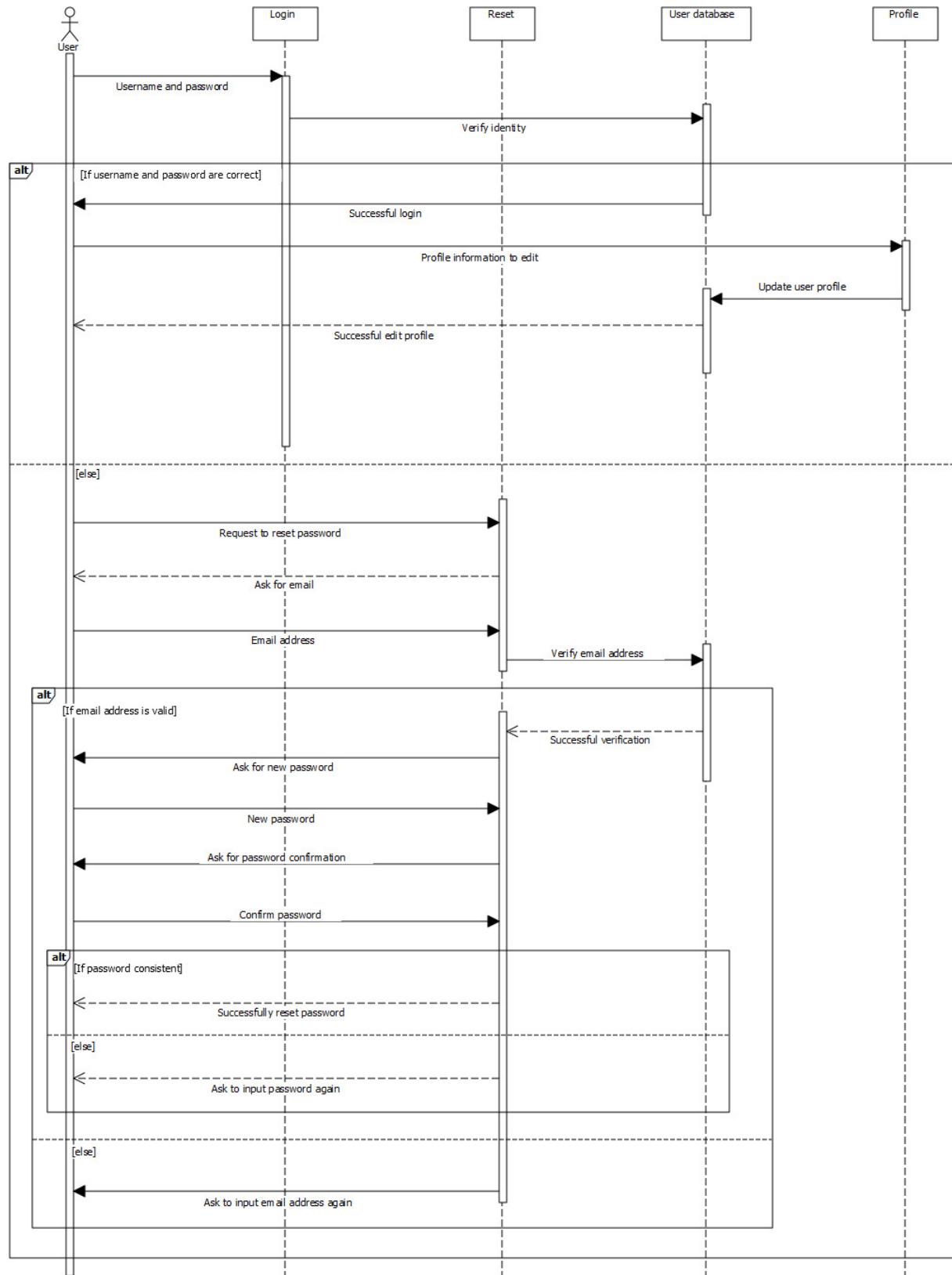
3.1.2.2 Sequence Diagram for Visitor



3.1.2.3 Activity Diagram for Visitor



3.1.2.4 Sequence Diagram for User



3.1.3 Functionality

This component enables visitors to register to our service. And users are able to log in and manage their account.

Visitors can only view the post in the forum. Besides, For user profiles, users are able to edit their profiles after they have logged in. Users need to enter their credit card information before using consultation. Although users need to enter credit card information in the profile, this information is not visible to other users. If users have forgotten their password, they can reset it following the procedure listed in the email. For safety purpose, password will be encrypted before storing in user database.

3.1.4 Procedures and Functions

This component provides guidelines page, registration page, login page, verification page, password reset page, user profile.

The guidelines page provides a handy guide on how to use Acadmap. Users can learn about Acadmap and how it works. From guidelines page, visitors can go to registration page and users can go to login page.

The registration page serves a place for visitors to register a new account in Acadmap. After visitors have filled in all information required, the data will be sent to user database to check its correctness and validity, i.e. whether they have input a valid email address, whether there exist the same username in the database, whether they input consistent password, etc. And the password they input will be encrypted before being stored into the user database.

The login page is for Acadmap users to log into their accounts. After they input username and password, the data will be sent to user database to check for correctness.

The verification page is for users who forget their login password. After they have input their email address corresponding to their account, they will receive a verification email. They can follow the link in the email and reset their password.

The password reset page is for users who forget their login password and have successfully verified themselves to reset their password. After they input their new password and confirm the new password, the new password will be encrypted and updated.

User profile is to display users' background information, e.g. major, education, personal description, etc. Users can get familiar with each other through visiting others' profiles. However, private information will not be displayed in the user profile and is only visible to the profile owners. Moreover, this page allows users to edit their profiles, and all input information will also be checked for validity and correctness. It will then send request to the server and update the user database.

For the back-end implementation, functions with SQL statements are used to retrieve and update user information from the user database. And it will display those information in the corresponding pages. The update from database and display in the corresponding pages are real-time. Users can see their changes in profiles immediately after their edition.

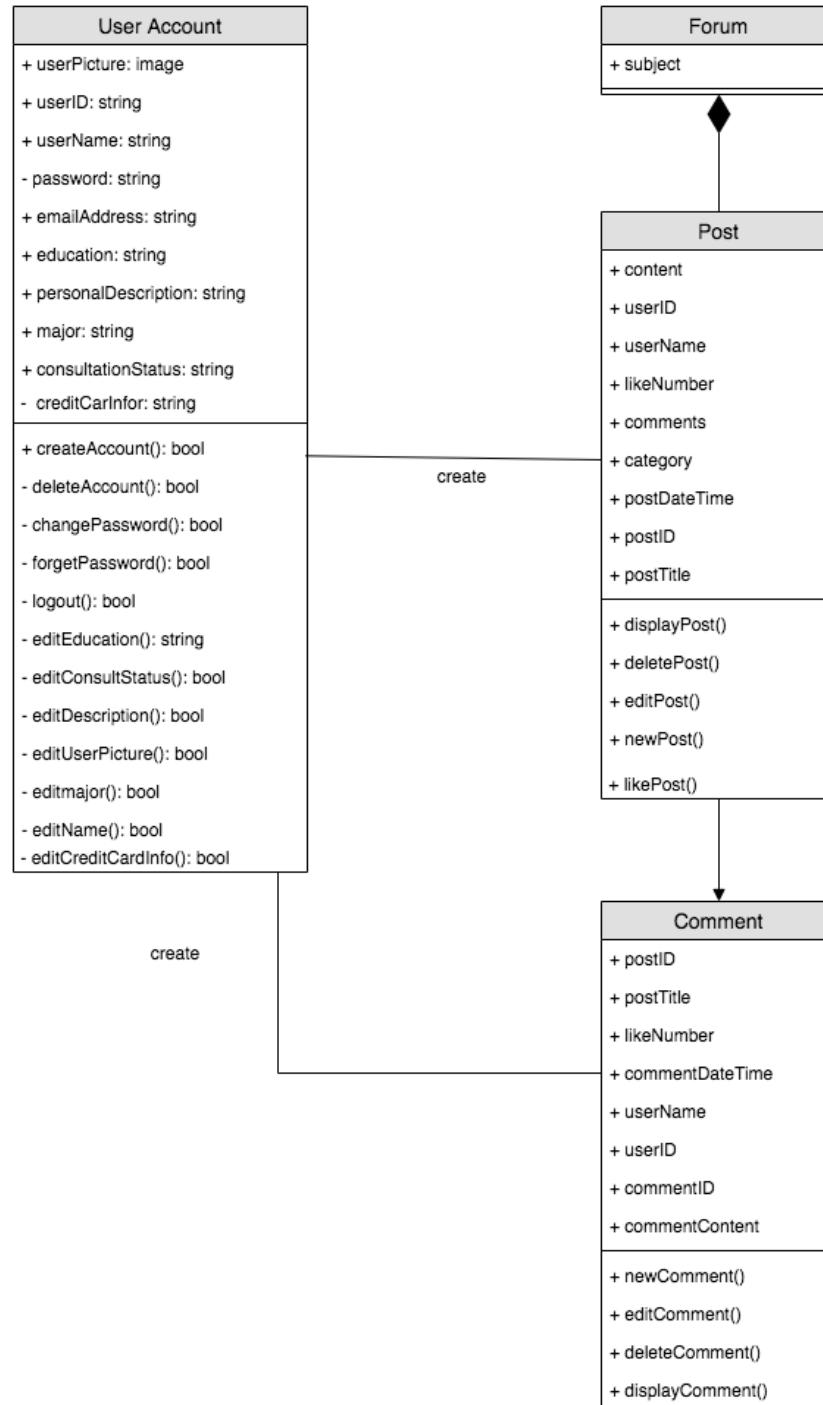
In conclusion, personal account system includes the following functions:

- Register a new account, the system will check whether the information input by visitors is valid and correct and whether they have missed some fields. If all fields are filled with valid and correct information, i.e. no duplicate username, no missing fields and etc., a new account will be created and visitors can use the username and password to log in. At the same time, the database will be updated with new user information added. Otherwise, the error message(s) will be shown and they need to input registration information again.
- Logging in , which is used for users to log in their own accounts. After the user inputs his/her username and password, the data will be sent to the database to check for correctness and consistency. If the information the user inputs is correct, the users will be log into their account successfully. Otherwise, the user needs to input their username and password again.
- Reset password and verification, which is used for users who forget they password to reset it.
- Personal profile, which allows users to know more about each other and change their personal information.
- Logout, which terminates users' session in Acadmap.

3.2 Forum and Post System

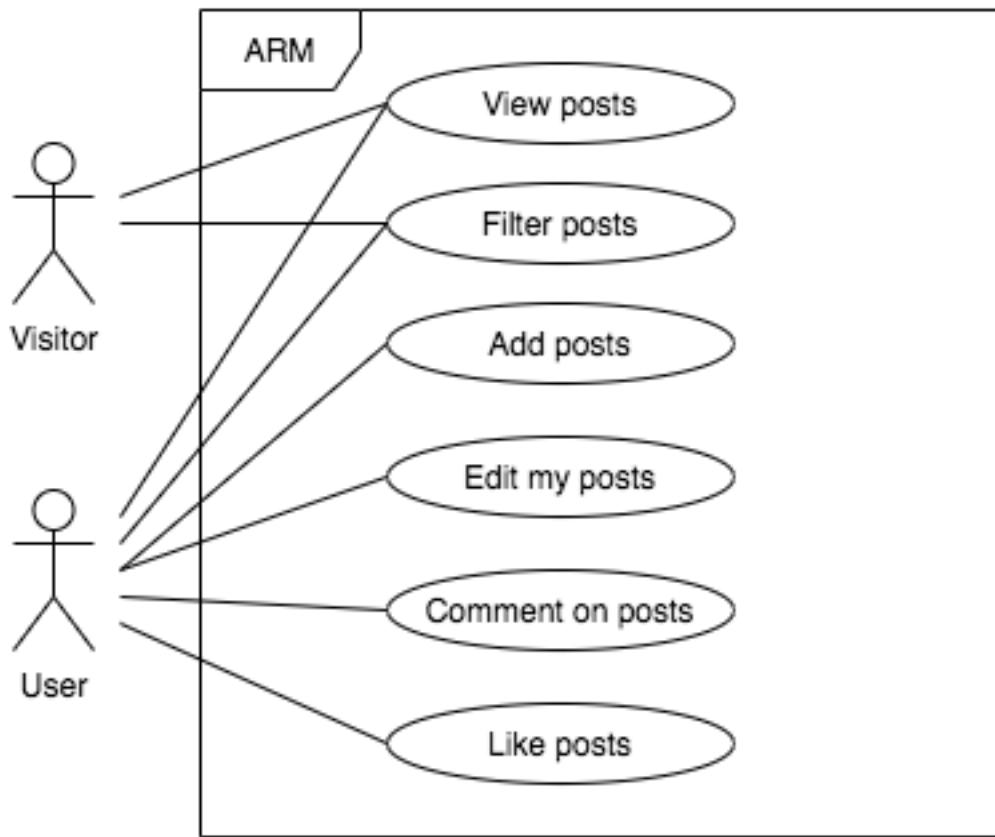
Our forum provides users a platform to share information and communicate with each other through posts and comments.

3.2.1 Structural Diagram



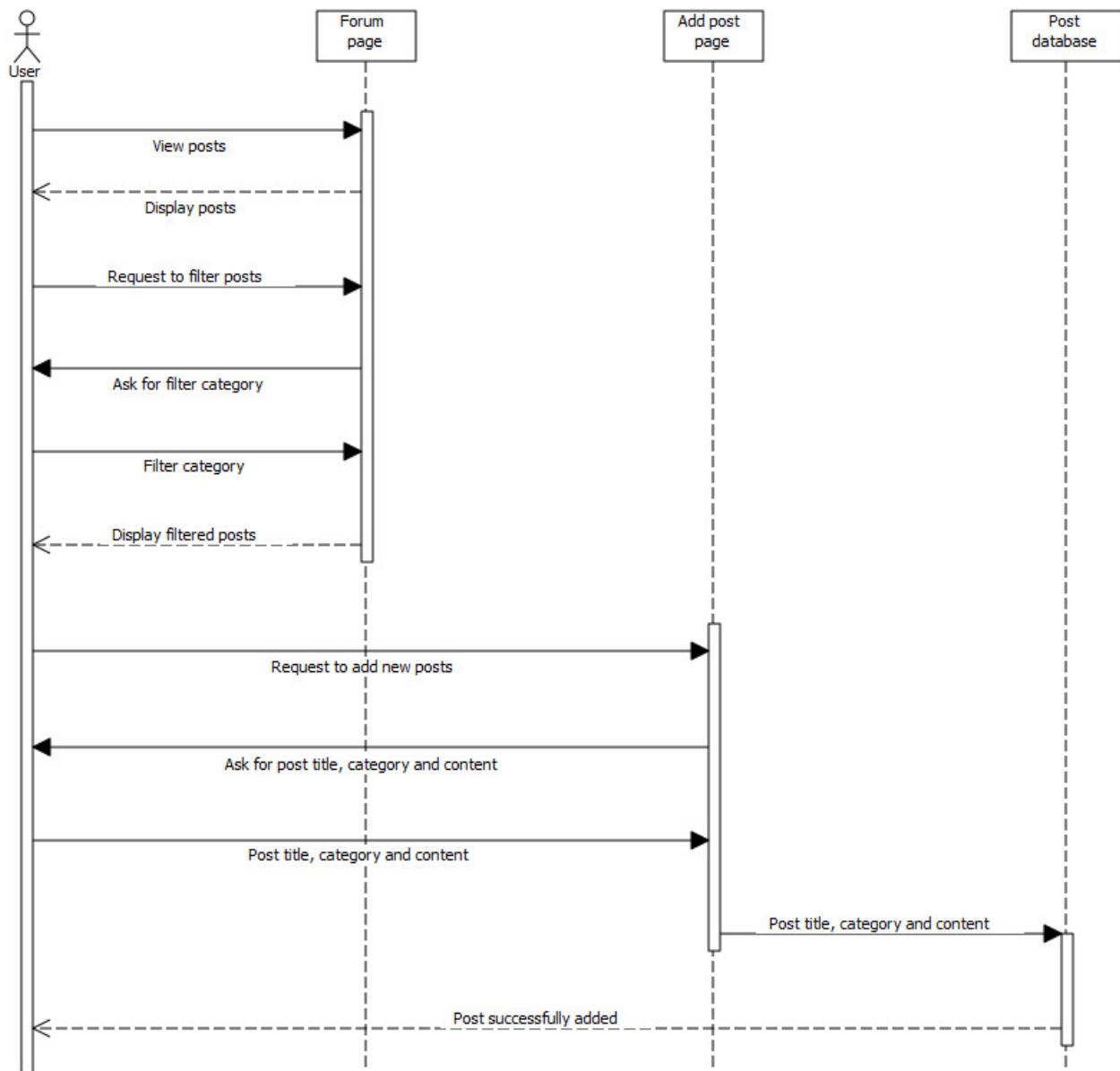
3.2.2 UML Diagrams

3.2.2.1 Use Case Diagram

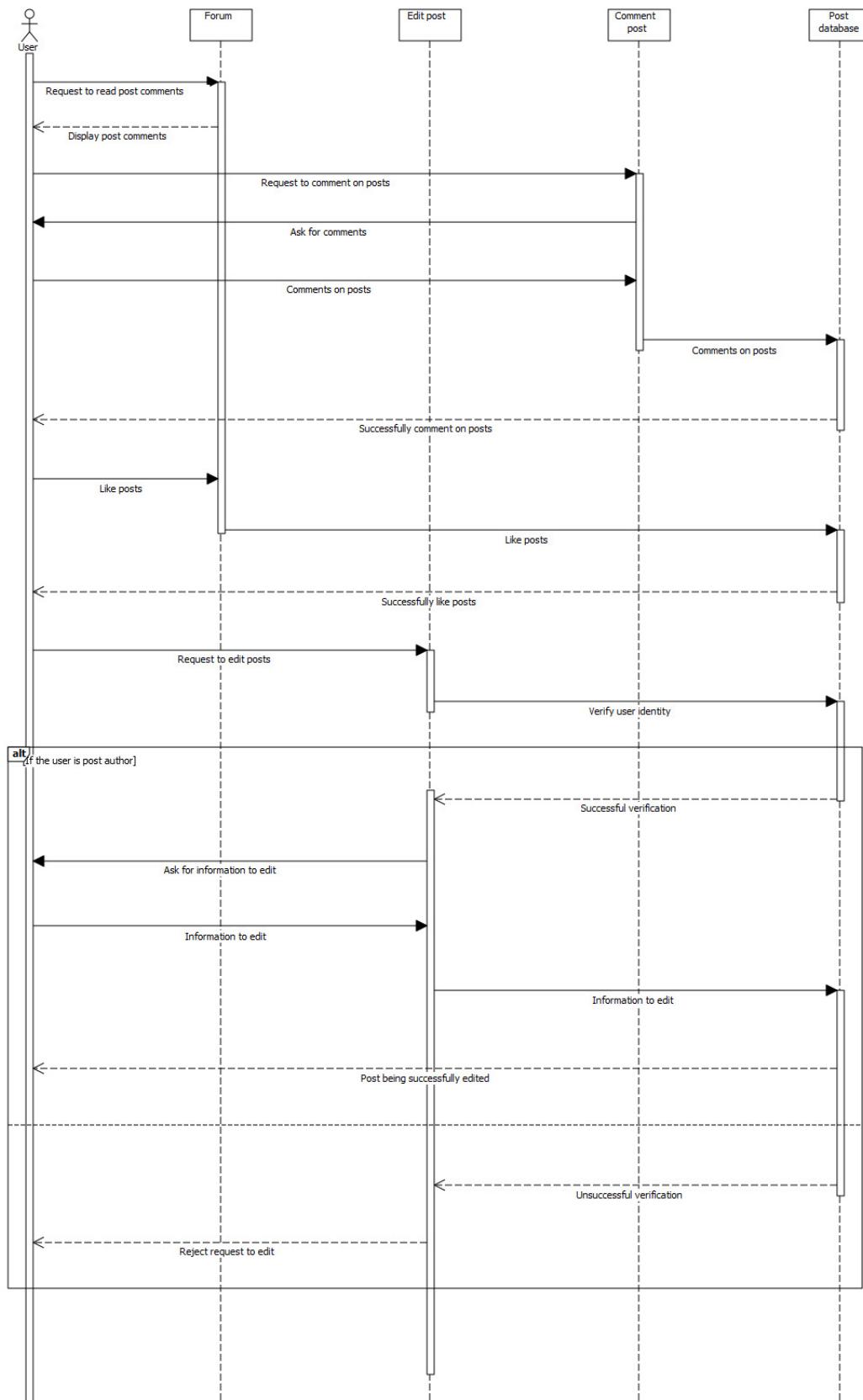


In the forum, visitors can only view the posts. Besides viewing posts, users can add, edit, comment and like posts. Before adding new posts, they need to give the new post title, category and input the contents. The posts can be filtered by various categories including post date, like numbers and etc.

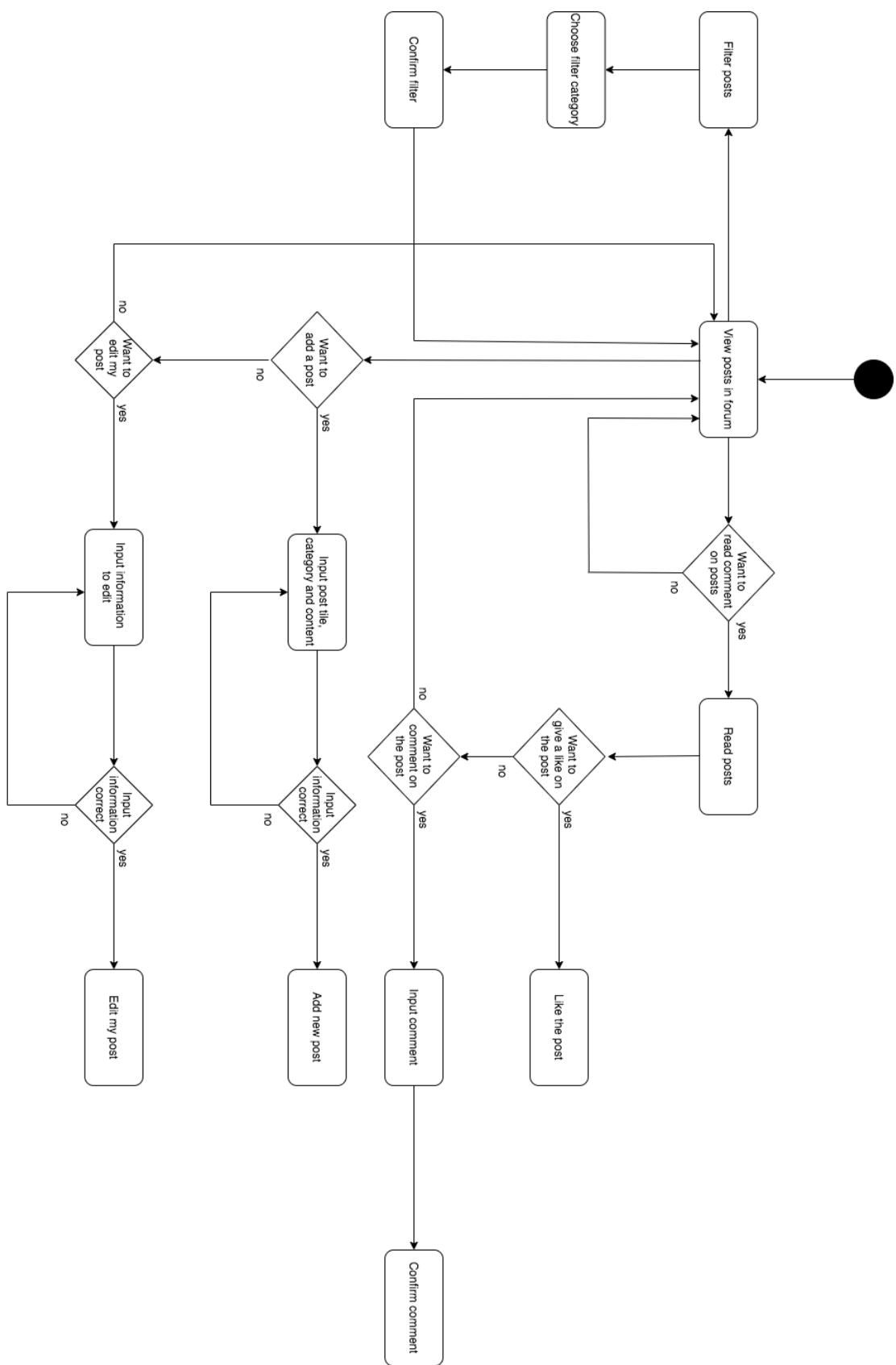
3.2.2.2 UML Sequence Diagram for view, filter, add and edit posts



3.2.2.3 UML Sequence Diagram for comment, like and edit posts



3.2.2.4 Forum activity diagram



3.2.3 Functionality

The Forum and Post system allows users and visitors to view all the posts. The system also supports filtering. Besides, users can add, view, edit, comment and like posts in the forum.

All the posts are available at any time for users and visitors to view. Through filtering posts according to their preferences, such as post date, the number of likes, they are more able to find the posts they are interested in.

The forum and post system allows users to add posts to share valuable information and some interesting experiences. Also, it allows users to edit their own posts afterwards. If users find interesting posts in the forum, they can leave their comments or give a like to the post. Their comments and like will be shown immediately after they submit it.

Users can edit their post using the edit button in “Post History” page.

3.2.4 Procedures and Functions

For visitors, we limit their access to only viewing posts. Their identity will be checked if they attempt to add, comment or like posts.

For users, the system provides them full permissions. They can view, filter, add, edit, comment and like posts. When adding posts, users need to enter post title, category and contents. Error messages will be shown if they fail to input valid information in the fields. After they submitted, the post information will be sent to post database to perform an update. And the new post will be visible to every user and visitor in the forum.

When users want to edit posts, we will check their identity. If their identity is checked to be not the post author, they will find themselves unable to edit the post. Only the author is allowed to modify the post.

For visitors, we limit their access to only view history posts or view by filtering posts. Their identity will be checked if they attempt to add, comment or like posts.

For users, the system provides them with full permissions. They can view, view by filtering, add, edit, comment and like posts. When adding posts, users need to enter post title, category and contents. Error messages will pop up if they fail to input valid information in every field. After they submit the add post form, the new post information will be sent to post database for update. And the new post will be visible to every user and visitor in the forum.

When users want to edit posts, we will check their identity. If their identity is checked to be not the post author, they will find themselves unable to edit the post. Only the author is allowed to further modify the post.

For comment and like posts, after users submit the valid information, the data will be sent to the post database and contents will show in the forum.

For the back end implementation, post database is used to gather the information of posts and display them in the forum, the database also stores the comments and the likes of each post, which can also be retrieved to display to users.

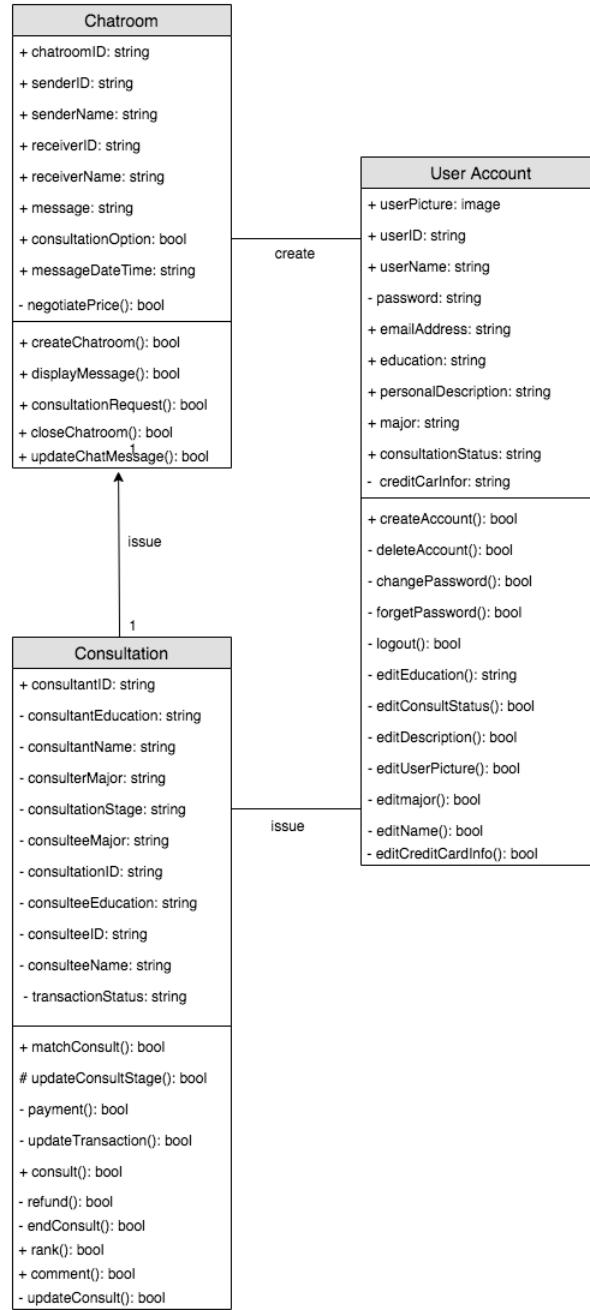
In conclusion, the forum and post system supports the following functions:

- View and filter posts. All posts are accessible to all users and visitors. They can also choose to filter the posts by certain categories to find information more efficiently.
- Add new posts, which allows users to share valuable information, future study plan and application experiences in the forum.
- Edit post. Authors can edit their own posts.
- Like and comment on post, which allows users to leave comments and like the posts they find interesting or useful.

3.3 Consultation System

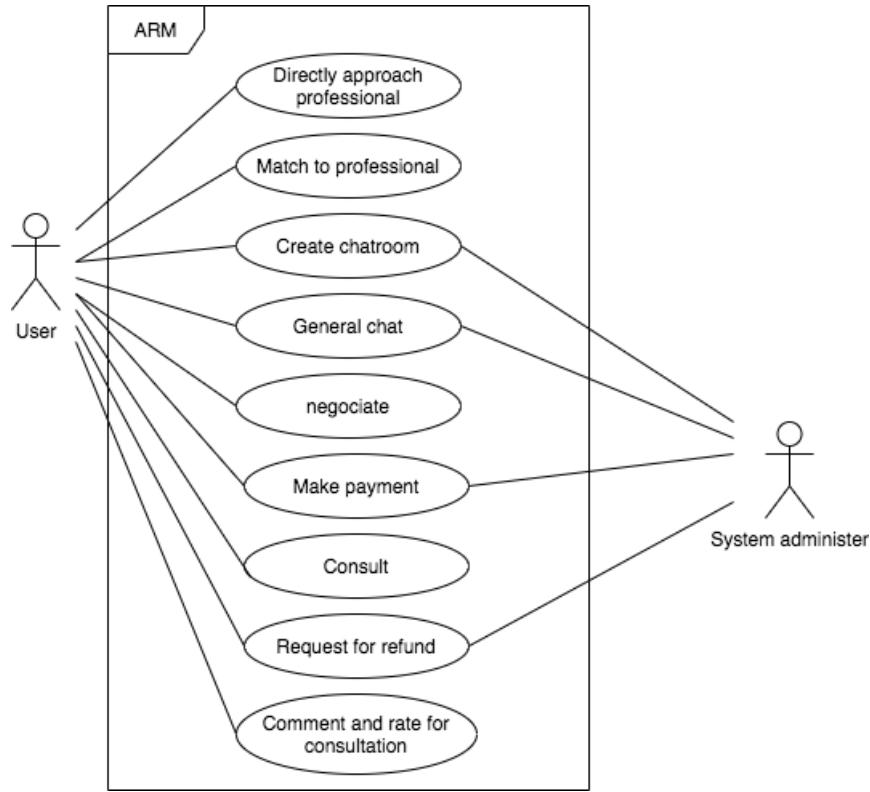
Consultation system is used to conduct one-to-one consultation with consultors. The users could match to an appropriate consultor or approach the consultor directly. This system also enables them to leave comments and rating after consultation.

3.3.1 Structural Diagram



3.3.2 UML diagrams

3.3.2.1 Use Case Diagram



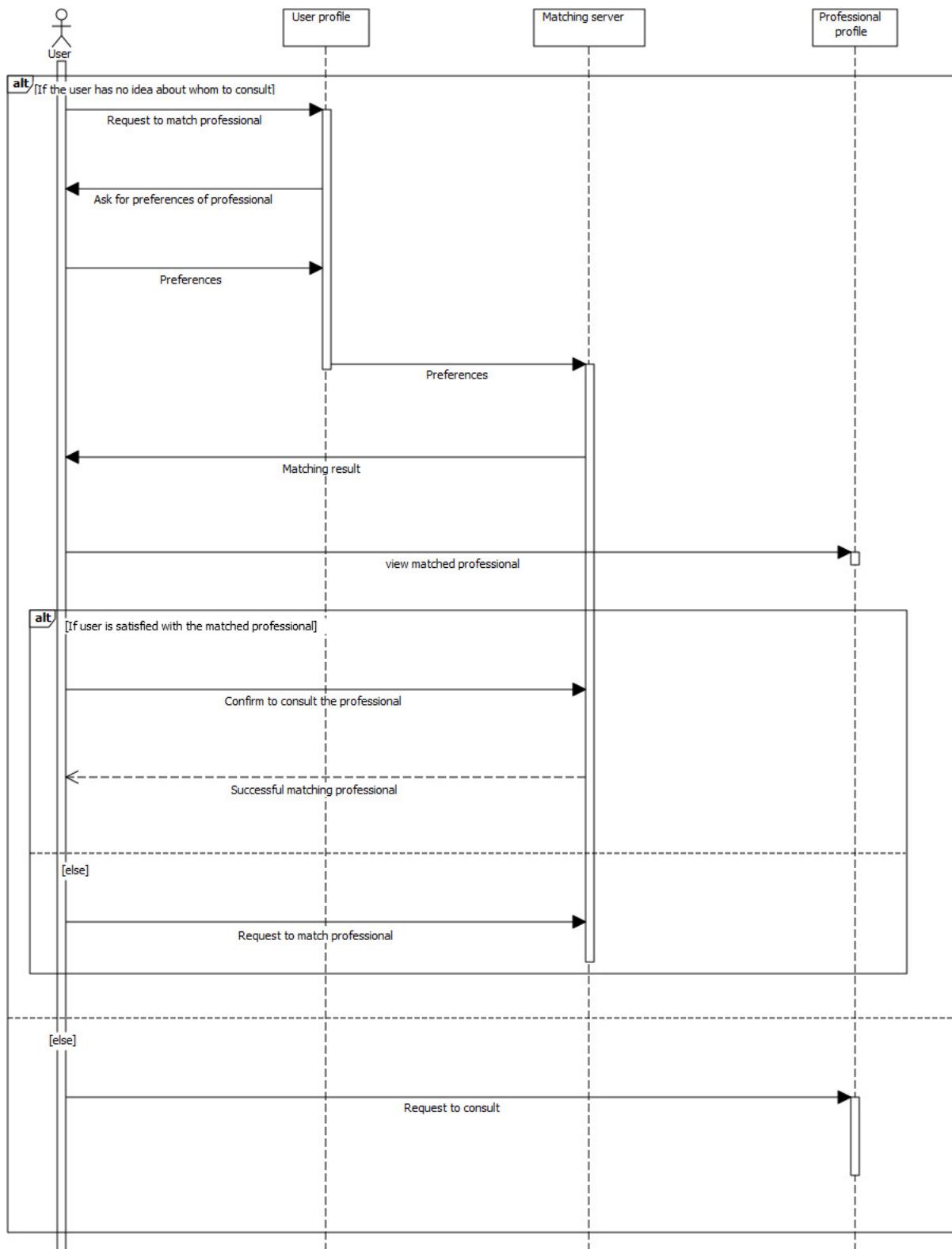
In the consultation system, only user who have filled out their credit card information can use the consultation service.

There are two ways for users to find an academic consultor.

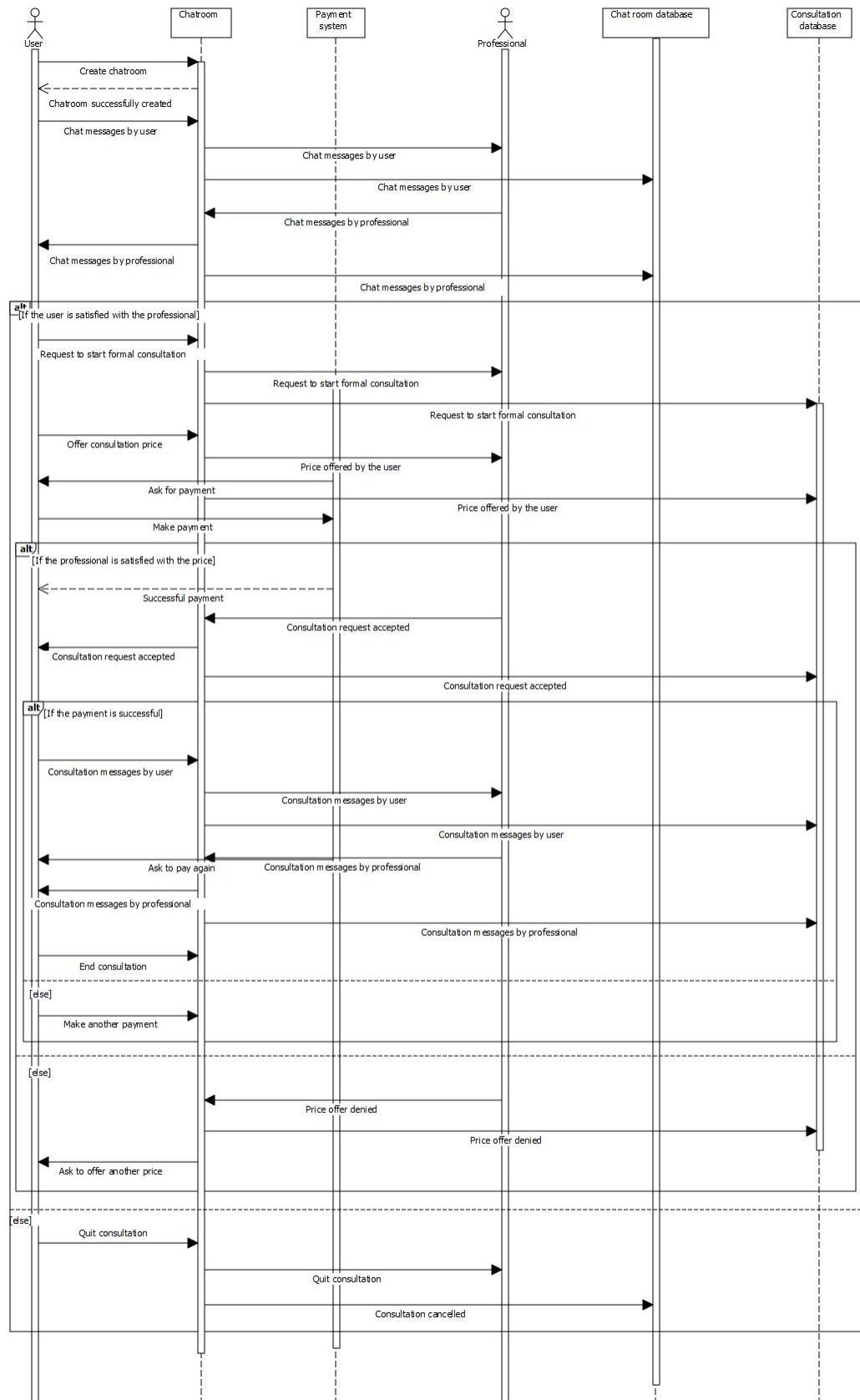
1. Visiting others' profiles by clicking on the username or posts in the forum, and directly request for consultation.
2. Filling out the preference form by clicking the “match to consult” button located in their profile. The matching algorithm will recommend a suitable consultor by displaying their profile to the consultee.

Both method allows the user to chat with the other side before requesting for a formal consultation, which can serve as a test that if the consultation will match the users' expectation. Users can opt for not requesting a consultation if they find it not suitable or when they cannot negotiate for an appropriate consultation fee. If both sides agree, the consultee pays the bill and starts consultation. After consultation, users can request for refund by the intervention of administrators if they are unsatisfied. The refund request will be checked by the administrator. If both sides are satisfied, users can end the chatroom and choose to leave a comment and rating for the consultor.

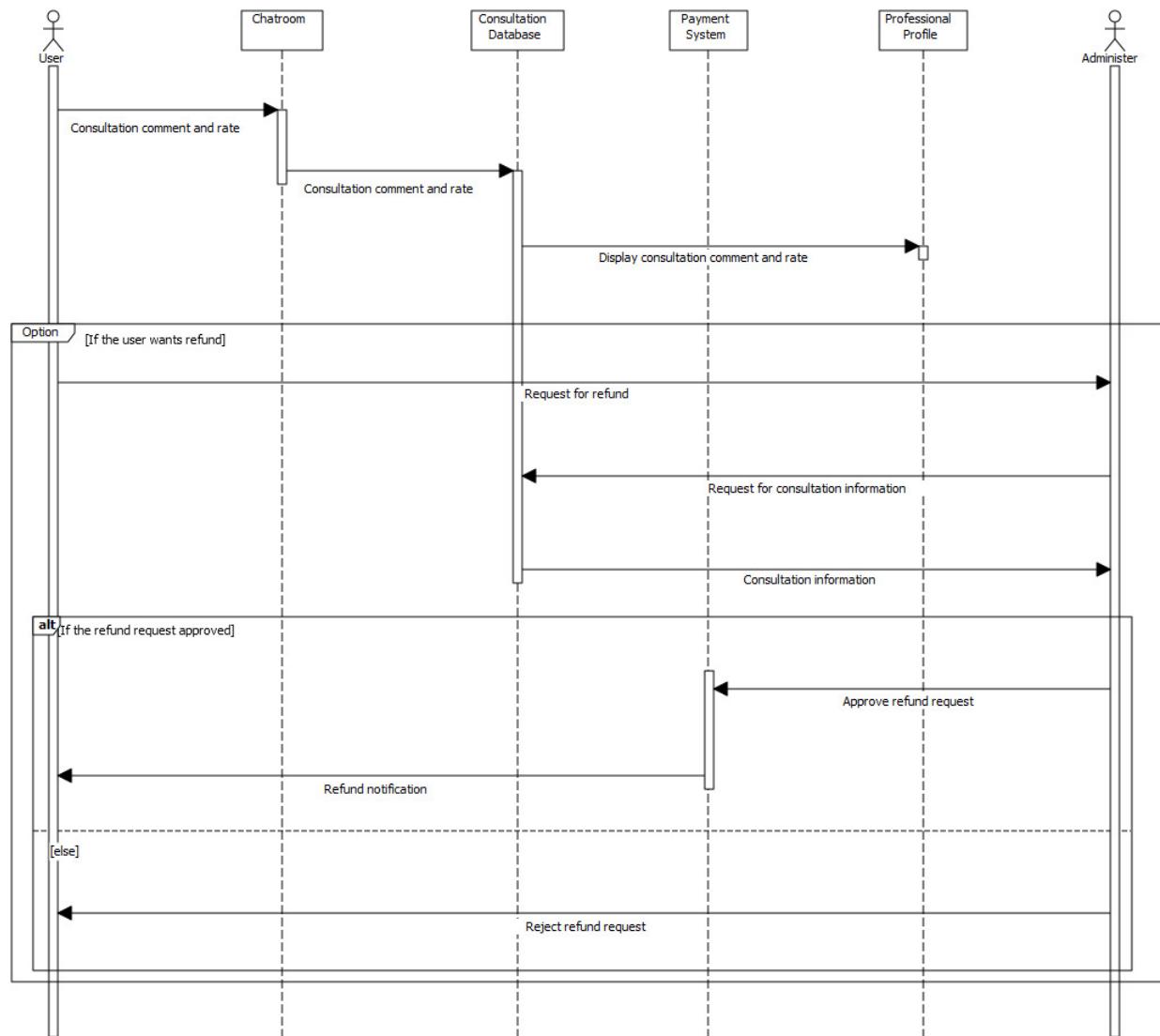
3.3.2.2 Sequence Diagram for finding consultor



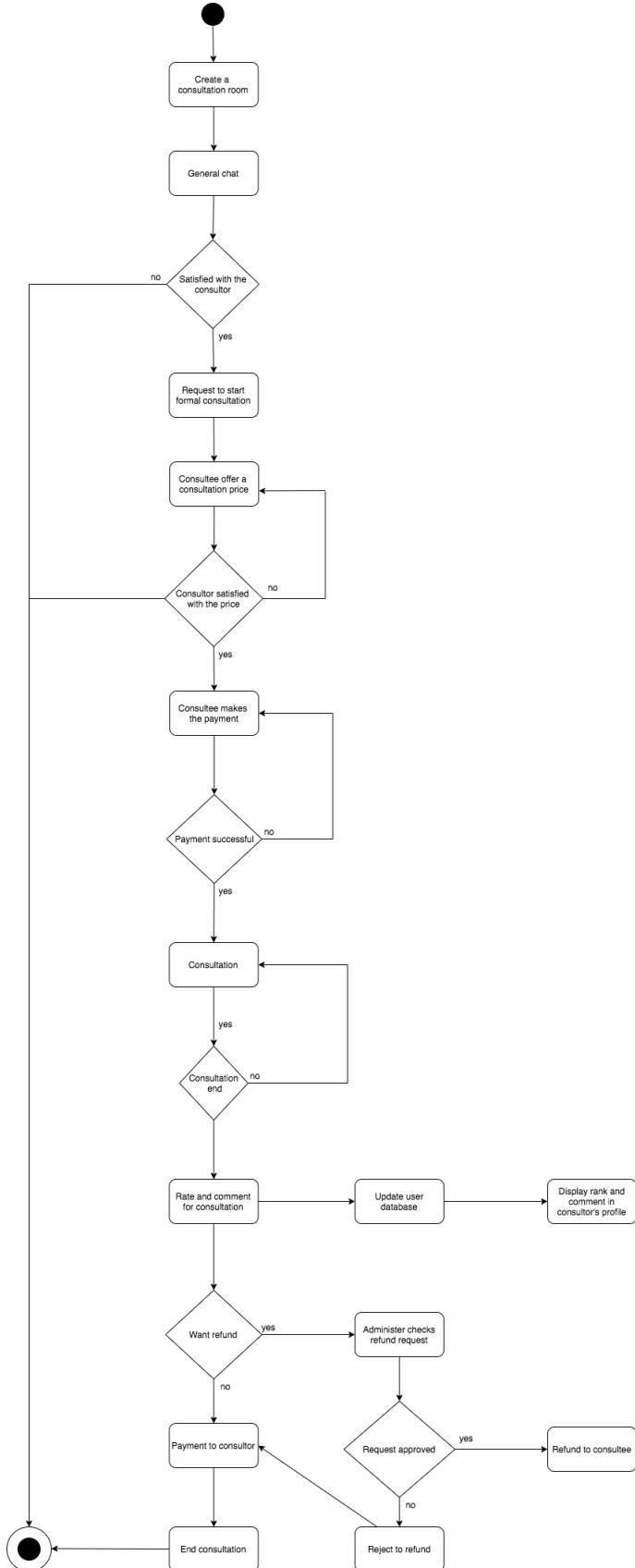
3.3.2.3 Sequence Diagram for Consultation process



3.3.2.4 Sequence Diagram for comment, rank and refund for consultation



3.3.2.5 Consultation activity diagram



3.3.3 Functionality

The consultation system is the highlight of Acadmap. It provides a platform for consultees to make one-to-one consultations with consultors. Consultees can create a chatroom, chatting with potential consultors. To reach an agreement on the price, they can negotiate with the consultor on consultation price. The payment system allows users to pay via credit card. After users end the consultation, they can close the chatroom and leave some comments and ranks for the consultation. If they are unsatisfied, they can request for refund, which will be submitted to the administrator for final decision.

3.3.4 Procedures and Functions

For the front-end part, the consultation system mainly provides one web page which contains several functions, namely, match to consultor, request to consult, general chat, quit, negotiate, pay, consult, comment, rank, end consultation and close chatroom, refund.

Consultees can approach consultors directly by visiting their profiles to request for consultation. Alternatively, they can use the matching function to find a suitable professional to consult. The matching algorithm will help users to match professionals based on the preferences they input.

Before consultees request for formal consultation, they are allowed to have a casual chat with consultors to know more about the him/her and decide whether the consultor will be worthwhile to consult. If they find it not suitable, they can leave the chatroom. If they find it worthwhile to consult, they can request for a consultation by submitting their expected consultation fee. Consultors may or may not accept the price. If the price is declined by the consultor, consultee may need to offer a new price which can fulfill the consultor's demand. After settling down the price, consultees will pay the bill via credit card. If the payment is successful, consultees and consultors can start the formal consultation. Otherwise, the system will send a payment failure notification.

In the formal consultation, the messages send between the consultee and the consultor will be available to both sides immediately. After the consultation ends, the users can leave comments and rank for the professional, which will be sent to consultation database. The comments and rank users provide will be displayed in professional's profile. Additionally, in professional's profile, there will be an average rank that takes the average of all ranks to the consultor in his/her past consultation as a consultor.

The consultation system also supports refund for the consultees who are unsatisfied with the consultation. They can submit the refund request to the administrator and administrator will check the consultation process to decide whether to approve or decline.

In conclusion, this system includes the following functions:

- Match to consultors, which allows consultees to efficiently find suitable consultors based on their preferences.
- Request to consult, which allows consultees who known whom to consult to directly request to consult the consultor they desire.
- General chat, which is aimed at helping users know more about the consultor and decide whether the consultation is worthwhile to continue.
- Negotiate, which allows consultees and consultors to find a price that is acceptable to both parties. If the price offered by the consultee is denied by the professional, the consultee can offer another higher price. They will repeat this process until they have settle down the price.
- Paying, After the negotiation, the consultee will pay the bill. If the payment process is unsuccessful, the user needs to make another transection. Otherwise, the consultee and the consultor will go to formal consultation.
- Consult, After all the preparations before consultation are done, the consultee can feel free to ask any questions and seek any information they want to know from the consultor. The consultation message transmitted real-time to both side, i.e. messages will be available for both sides immediately after messages are sent out.
- Comment and rank, which allows consultee to evaluate the consultation. Consultee can leave comments for the consultation and rank for the consultor, which will be shown in the consultor’s profile.
- Ending consultation and closing chatroom, consultee will end the consultation and close the chatroom after the consultation is finished to stop all consultation process and access to the chatroom.
- Refund, which allows consultees who are unsatisfied with the consultation to submit the refund request. The request will be checked by system administrator. If the request is found to be reasonable, the user will get refund in their credit card via payment system. However, it is possible that the request will be rejected.

4 User Interface Design

4.1 Description of the User Interface

4.1.1 User-friendliness

The user interface of Acadmap is easily controlled by the user. Even for visitors who have never visited Acadmap before, they can get instructions from the messages shown in the page. We provide a welcome page that briefly introduce major functions of Acadmap and how to use it. Besides, all Acadmap pages have a navigation bar in the top, which enables users to switch different pages easily.

4.1.2 User Interface Design principles

First, our user interface strive for clean and clear design, which prevents users from being disturbed from irrelevant information. Most of our webpages adopt light color background. Users will feel relaxed and comfortable when visiting Acadmap web pages and can easily find the icons they want.

Second, to enable users to have the full control when visiting Acadmap, we have prepared a navigation bar on the top in every page. So users can easily go to the page they want by clicking the links in the navigation bar instead of going back many times to the original page, and then try to navigate to the page they want. It saves users a lot of time and helps improve user experiences.

Third, Acadmap webpage always provide error messages to users when something goes wrong. For example, if the visitor does not input consistent password in the “confirm password” field, the registration page will remind visitors of such problems. And then visitors can double check the password before submitting the form. The error messages help users to find and fix problems quickly, and make their visit in Acadmap more smoothly.

Besides, a lot of hover and active effects are made not only attracting users’ attention to reduce the possibility that they press the wrong buttons, but they also helps to take on different effects. See 1 and 2.



Figure 1: With hovering effect



Figure 2: Without hovering effect

4.2 Walk through Acadmap with screen captures

4.2.1 Introductory page

In Acadmap, the first page users and visitors will see is the introductory page. Visitors can learn about the major functions and features of Acadmap. They can register for a new account by clicking the “Login/Register” button on the top right. They can also click the “forum” button to browse the posts in the forum. And users can also go to the login page by clicking the “Login/Register” button. The welcome and introductory page can be seen in Figure 3.

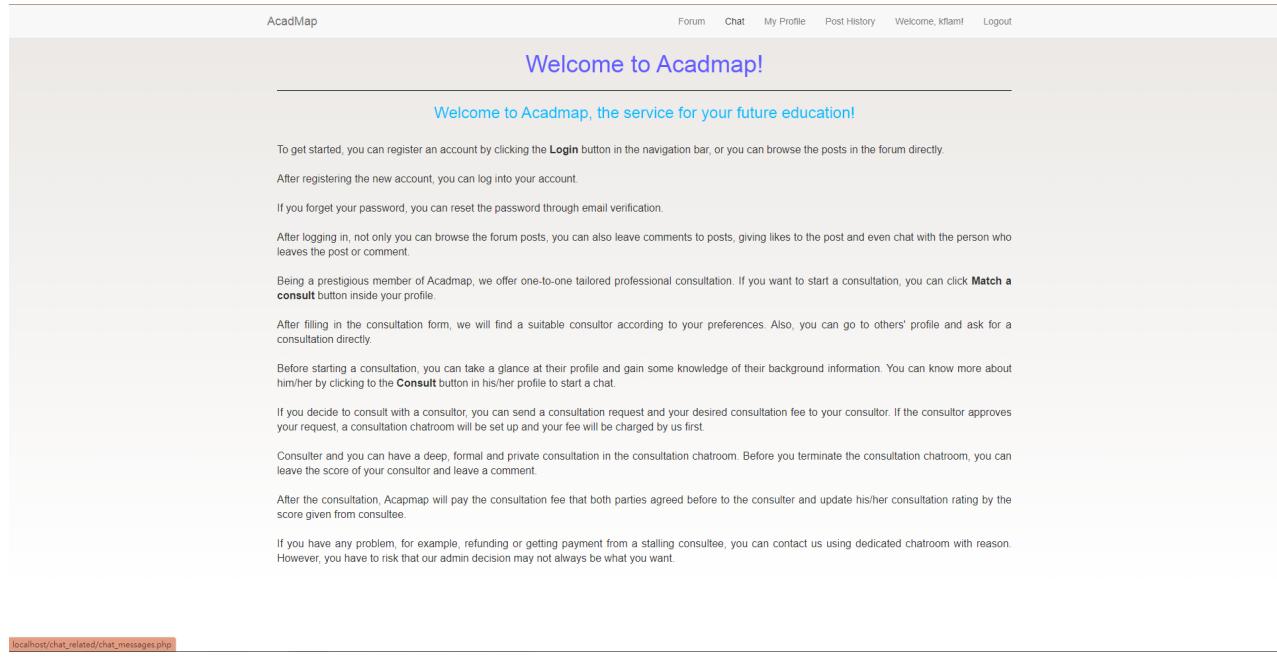


Figure 3: Index page

4.2.2 Login and direction to register

The login page is shown in the Figure 4. Visitors can click the “Register” button on the right to go to registration page. And users can input username and password to log into their Acadmap account. If the username or password they input is incorrect, an error message “username/password is incorrect” will pop up after they click the “CONFIRM” button, as shown in Figure 5. Users need to double check their username and password and input them again. If users forget their password, they can click the “Forget” button to reset the password, which will direct them to the reset password page.

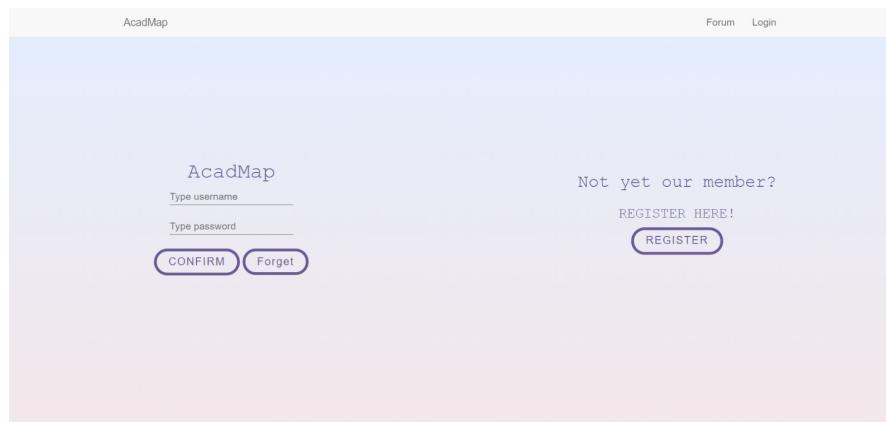


Figure 4: Login page

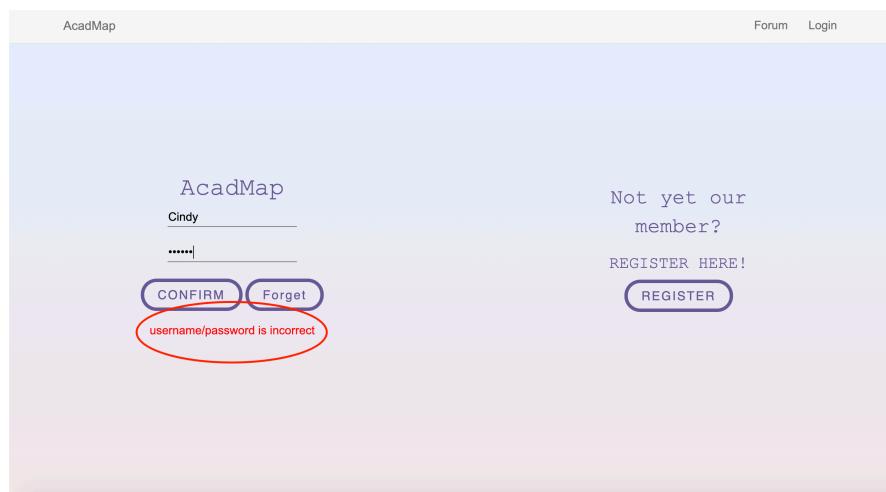


Figure 5: Login page with error

4.2.2.1 Register

When visitors click the “Register” button, they will be redirected to the registration page as shown in Figure 6. They need to input all the required information. After filling out all the necessary information, they can submit the form. If some of the information they have entered is invalid or incorrect, error message(s) will be shown at the bottom, as shown in Figure 7.

Start Your Bright Future

First Name _____ Last Name _____ Username _____

password _____

confirm password _____

Email Address _____

Personal Description: characteristics, habits...

Faculty _____ Education _____

submit

Figure 6: Register page

Start Your Bright Future

First Name _____ Last Name _____ Cin _____

password _____

confirm password _____

Email Address _____

Personal Description: characteristics, habits...

Faculty _____ Education _____

submit

Email is required
Confirm password is required
Password is required
Email must be in format 123@example.com
email already exists

Figure 7: Register page with error

4.2.2.2 Reset Password

If users forget their password, they can reset their password through email verification. Specifically, they can click on the “Forget” button in the login page as shown in Figure 8, which will redirect them to the verification page, as shown in Figure 9. In the verification page, they are required to input their email address that is used to register their account. If they input invalid email address, an error message will pop up, as shown in Figure 10. After that, they will receive a verification email (Figure 11) that contains a link to reset the password. (Figure 12) In the reset page, they can input their new password and confirm it. If the confirm password is consistent with the password they input, they will successfully reset their password after they submit the form. Otherwise, error messages will show. (Figure 13)

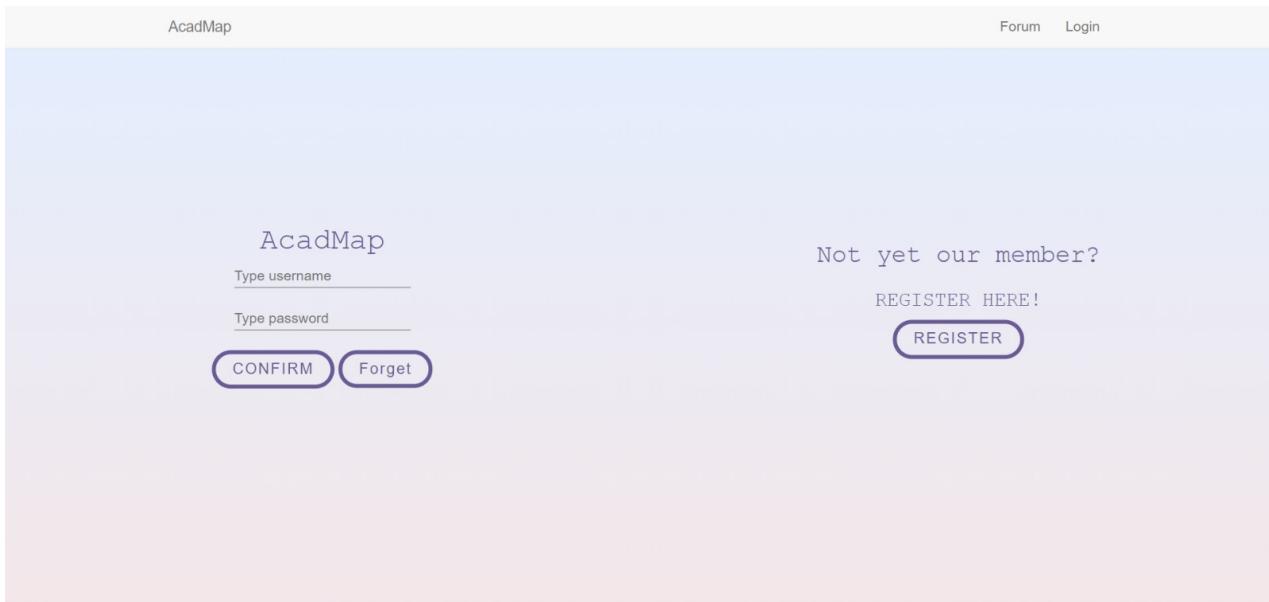


Figure 8: Login page

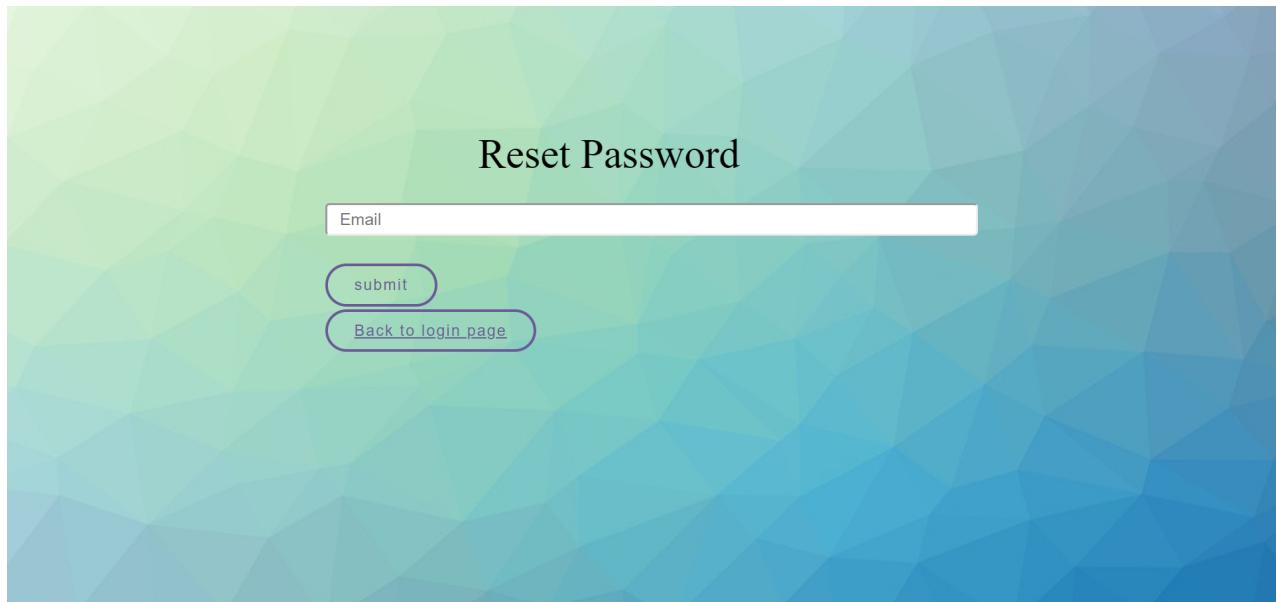


Figure 9: Reset password page



Figure 10: Wrong email format



Figure 11: Password reset email

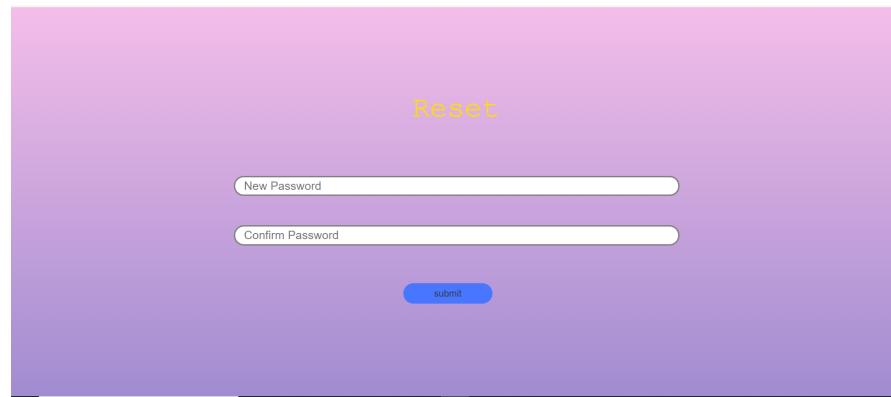


Figure 12: Change password page

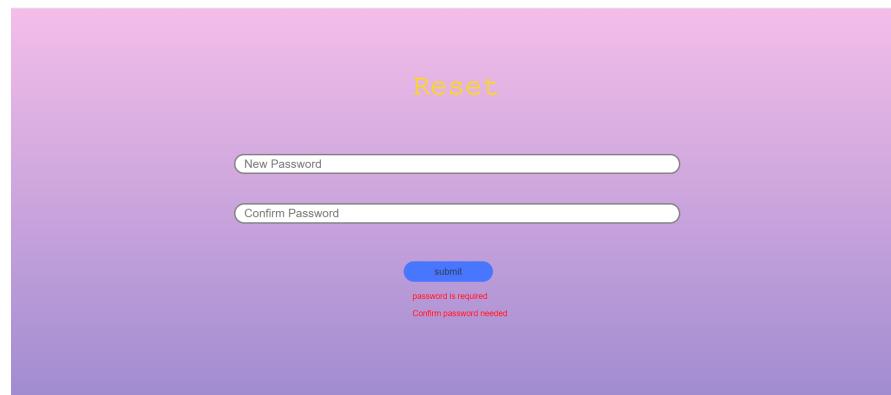


Figure 13: Change password page with error

4.2.2.3 Forum and Post

4.2.2.3.1 View and Filter Posts In the forum, visitors and users can view all posts. Filter is located at the top-right corner as shown in Figure 14. They can also filter posts according to some categories to more efficiently find the posts they are interested in as shown in Figure 15, 16 and 17.

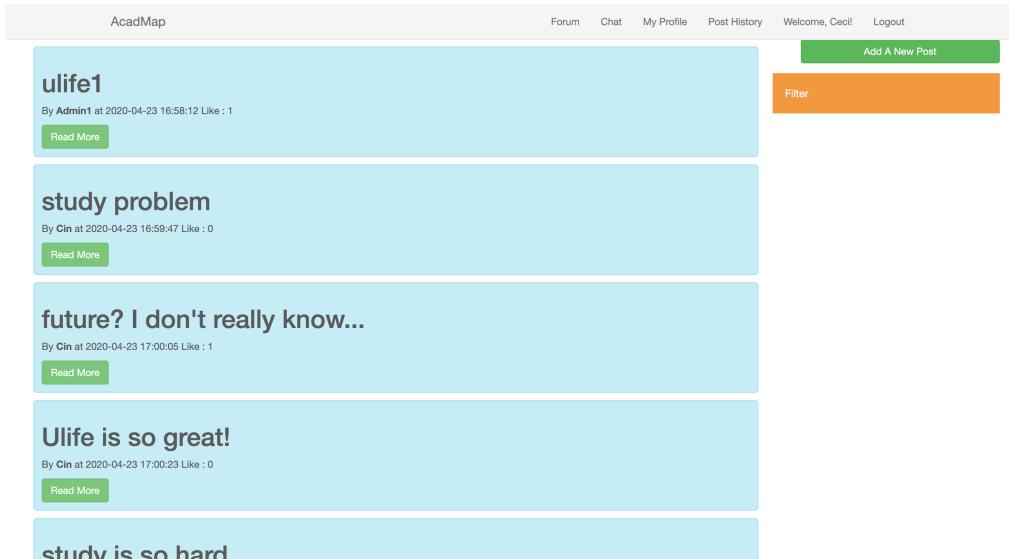


Figure 14: Forum

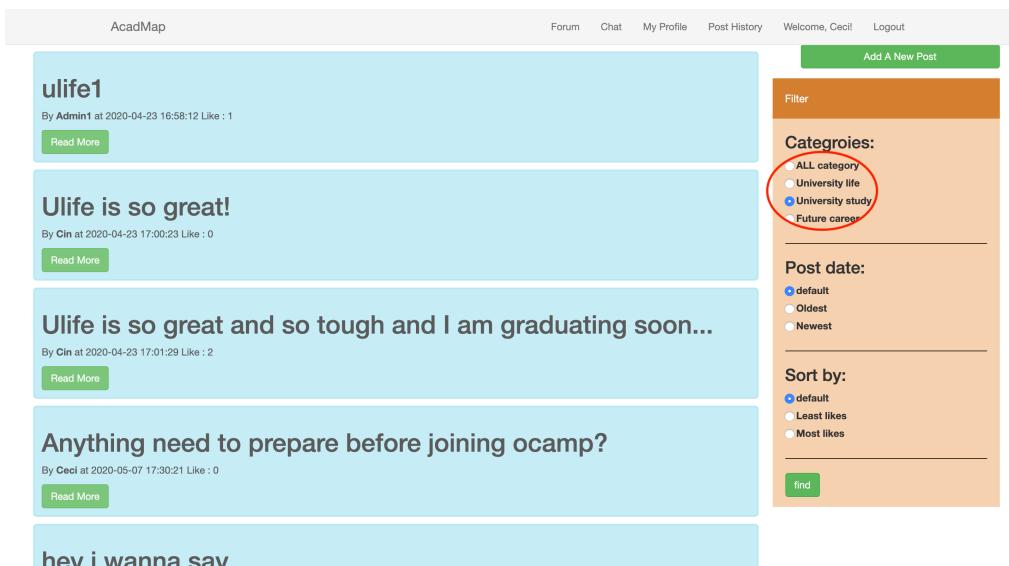


Figure 15: Filter of Categories

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#)

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#)

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#)

Filter

Categorieis:

- ALL category
- University life
- University study
- Future career

Post date:

- default
- Oldest
- Newest

Sort by:

- default
- Least likes
- Most likes

[find](#)

Figure 16: Filter according to Post date in category “University Study”

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#)

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#)

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#)

Filter

Categorieis:

- ALL category
- University life
- University study
- Future career

Post date:

- default
- Oldest
- Newest

Sort by:

- default
- Least likes
- Most likes

[find](#)

Figure 17: Filter according to Like Number in category “University Study”

4.2.2.3.2 Add posts Besides viewing posts, users can also add new posts by clicking the “Add New Post” button on the upper right in the forum page (Figure 18). They will be directed into the add post page as shown in Figure 19. After they fill in the post title, post category and post content, they can submit the new post. The new post can be seen in the forum immediately after they have submitted it.

The screenshot shows a forum interface with the following elements:

- Header:** Forum, Chat, My Profile, Post History, Welcome, Cecil, Logout, Add A New Post (button).
- Filter Sidebar (right):**
 - Filter:**
 - Categorieos:**
 - ALL category
 - University life
 - University study
 - Future career
 - Post date:**
 - default
 - Oldest
 - Newest
 - Sort by:**
 - default
 - Least likes
 - Most likes
 - find** (button)
- Posts (left):**
 - Ulife is so great and so tough and I am graduating soon...** (By Cin at 2020-04-23 17:01:29 Like : 1)
 - career? I also don't really know** (By Cin at 2020-04-23 17:00:58 Like : 0)
 - study is so hard** (By Cin at 2020-04-23 17:00:37 Like : 0)
 - Ulife is so great!** (By Cin at 2020-04-23 17:00:23 Like : 0)
 - future? I don't really know...**

Figure 18: Add Post in Forum

The screenshot shows the "Add new post" form with the following fields:

- Share your experience** (Section title)
- Post Title** (Input field)
- Category** (Select dropdown menu)
- Post content** (Input field)
- Add new post** (Submit button)

Figure 19: Add Post UI

4.2.2.3.3 Edit posts Users are allowed to edit their own posts after adding the post in the user post history page. They can click the edit button as shown in Figure 20, which will direct them to the page to edit their post as shown in Figure 21. After they fill in the post title, post category and post content, they can submit the edited post. The edited post can be shown in the forum immediately after submission, as shown in Figure 22 and Figure 23.

The screenshot shows a list of user posts on the AcadMap platform. The posts are as follows:

- study problem** (By Cin at 2020-04-23 16:59:47 Like : 0)
- future? I don't really know...** (By Cin at 2020-04-23 17:00:05 Like : 0) - This post has its 'Edit' button circled in red.
- Ulfe is so great!** (By Cin at 2020-04-23 17:00:23 Like : 0)
- study is so hard** (By Cin at 2020-04-23 17:00:37 Like : 0)

Figure 20: Edit button

The screenshot shows the 'Edit post' page for the second post. The post details are as follows:

- Title:** future? I don't really know...
- Content:** study
- Edited Content:** confused (edit: thx to Ceci for suggestion on the post and also in private chat! I am great and will utilize my time to explore more! It should be a great chance for me instead of an obstacle in life!)

Figure 21: Edit post page

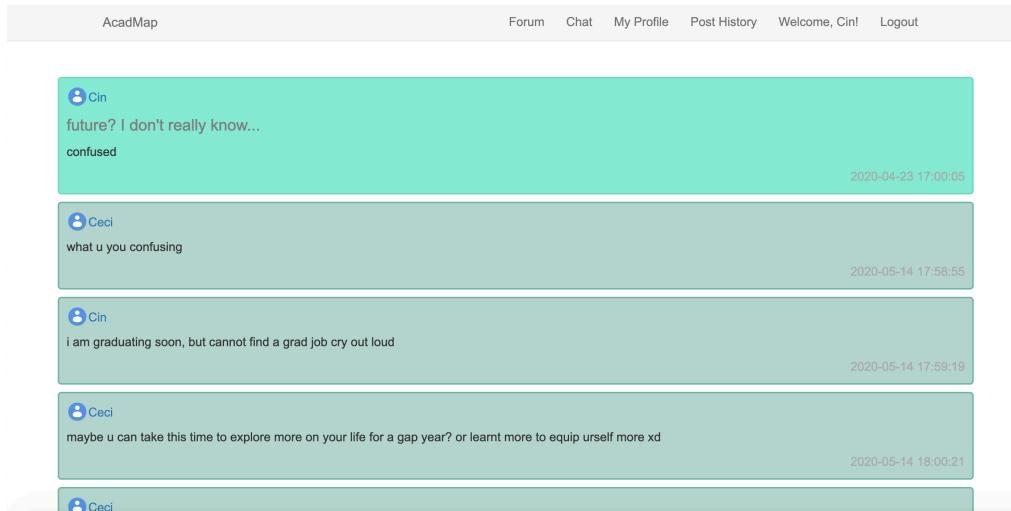


Figure 22: Edit post: Before edit a post

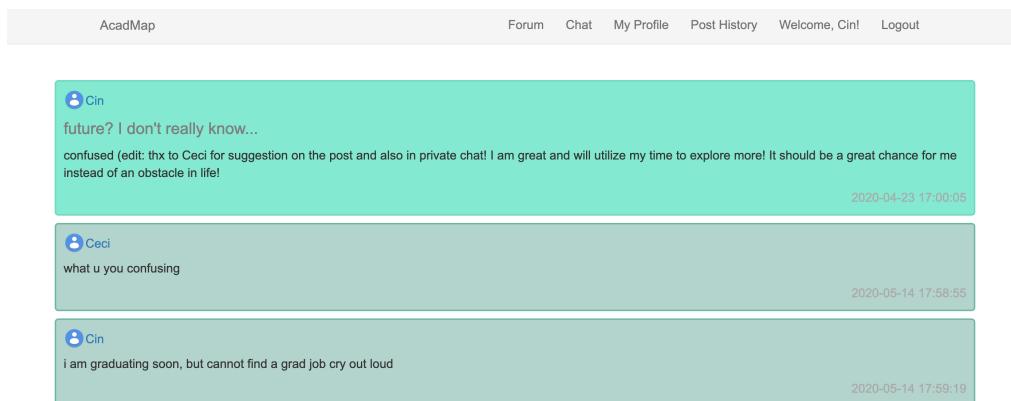


Figure 23: Edit post: After edit a post

4.2.2.3.4 Comment and like If users find some posts interesting, they can click “Read more” in the post as shown in Figure 24. After clicking “Read more” they can also see comments from others as shown in Figure 25. They are also welcome to leave comments by typing comments and submitting it as shown in Figure 26. The comment will then shown under the post or under the latest comment before, as shown in Figure 27. To give the post a like, they can click the blue “like” button next to “submit”, which are shown at the bottom of Figure 28, 29 and 30.

The screenshot shows the AcadMap forum interface. At the top, there is a navigation bar with links for Forum, Chat, My Profile, Post History, Welcome, Cecil, and Logout. A green button labeled "Add A New Post" is located in the top right corner. On the left, there is a sidebar titled "Filter" with sections for "Categories:", "Post date:", and "Sort by:". The "Categories:" section has radio buttons for "ALL category", "University life", "University study", and "Future career", with "ALL category" selected. The "Post date:" section has radio buttons for "default", "Oldest", and "Newest", with "default" selected. The "Sort by:" section has radio buttons for "default", "Least likes", and "Most likes", with "Most likes" selected. Below the sidebar, there are five forum posts listed:

- Ulife is so great and so tough and I am graduating soon...** By Cin at 2020-04-23 17:01:29 Like : 1
- career? I also don't really know** By Cin at 2020-04-23 17:00:58 Like : 0
- study is so hard** By Cin at 2020-04-23 17:00:37 Like : 0
- Ulife is so great!** By Cin at 2020-04-23 17:00:23 Like : 0
- future? I don't really know...**

Each post has a "Read More" button below it.

Figure 24: Read More in Forum

The screenshot shows a conversation between users Cin and Ceci on the AcadMap forum. The messages are displayed in a list:

- Cin: Ulife is so great and so tough and I am graduating soon...
sigh
2020-04-23 17:01:29
- Cin: yes
2020-04-24 07:45:11
- Ceci: I am going to uni soon, why say so great and so tough?
2020-05-07 19:29:05

Below the messages, there is a comment input field with the placeholder "Type comment..". At the bottom of the input field, there are two buttons: "Submit" and "Like".

Figure 25: Post

The screenshot shows a user interface for a forum or social media platform. At the top, there is a navigation bar with links for 'Forum', 'Chat', 'My Profile', 'Post History', 'Welcome, Ceci!', and 'Logout'. Below the navigation bar, a post is displayed from a user named 'Cin'. The post content is: 'career? I also don't really know arrr...'. The timestamp for this post is '2020-04-23 17:00:58'. Below the post, there is a comment section with the placeholder text 'same... no idea to work in what field thus planning postgrad xd'. There are two buttons at the bottom of this section: 'Submit' and 'Like'.

Figure 26: Before adding new comment

This screenshot shows the same interface after a new comment has been added. The original post by 'Cin' remains the same. Below it, a new comment by 'Ceci' has been added with the content: 'same... no idea to work in what field thus planning postgrad xd'. The timestamp for this comment is '2020-05-14 18:10:52'. The 'Comment:' section below the comments now contains the placeholder text 'Type comment..'. The 'Submit' and 'Like' buttons are still present at the bottom.

Figure 27: After adding new comment

This screenshot displays a list of posts on the AcadMap platform. The first post is titled 'study problem' and was made by 'Cin' at '2020-04-23 16:59:47'. It has 0 likes. The second post is titled 'future? I don't really know...' and was made by 'Cin' at '2020-04-23 17:00:05'. It also has 0 likes. The third post is titled 'Ulfe is so great!' and was made by 'Cin' at '2020-04-23 17:00:23'. The fourth post is titled 'study is so hard' and was made by 'Cin' at '2020-04-23 17:00:37'. The fifth post is partially visible with the title 'career? I also don't really know...'. Each post includes a 'Read More' button.

Figure 28: Before like: 0 in post, title: future? I don't really know...

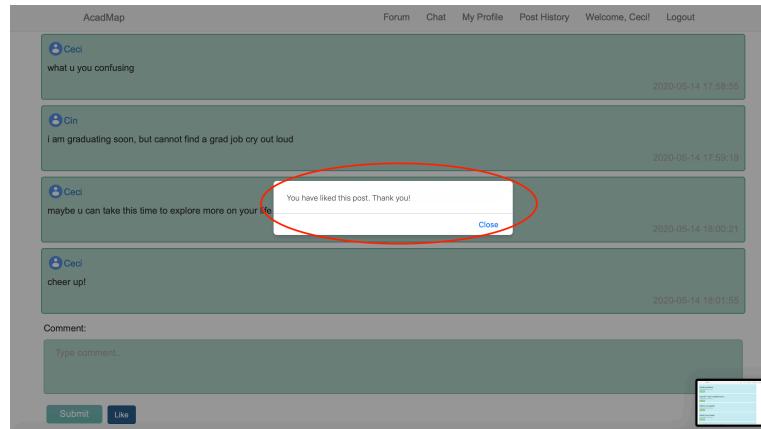


Figure 29: After pressing like button in post “future? I don’t really know...”:



Figure 30: After like: 1 in post, title: future? I don’t really know...

4.2.3 Profile

4.2.3.1 My profile

All users will have their own profiles that display some of their background information as shown in Figure 31.

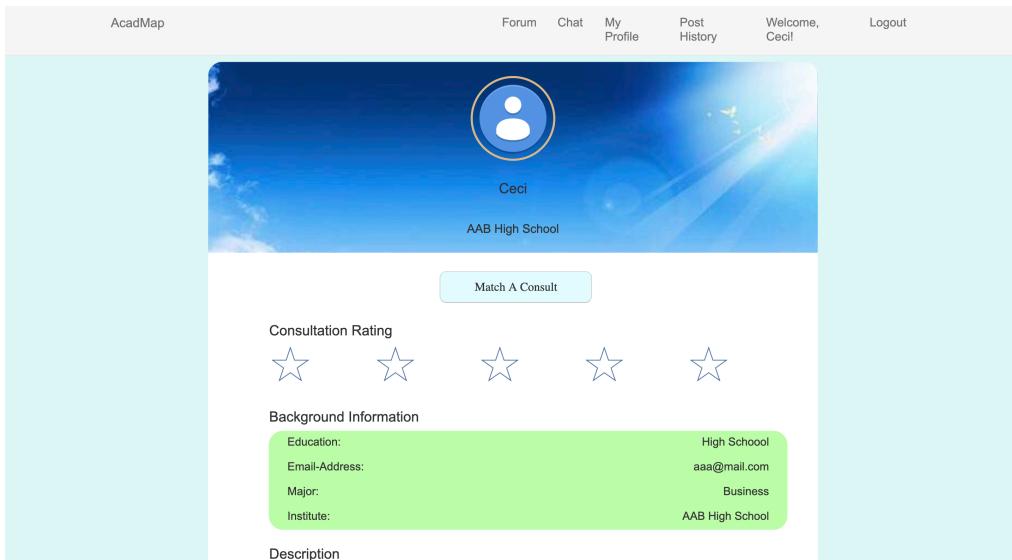


Figure 31: My profile

After clicking “Edit” , users will be redirected to edit their personal information including credit card information, which will not be shown to the public, as shown in Figure 32.

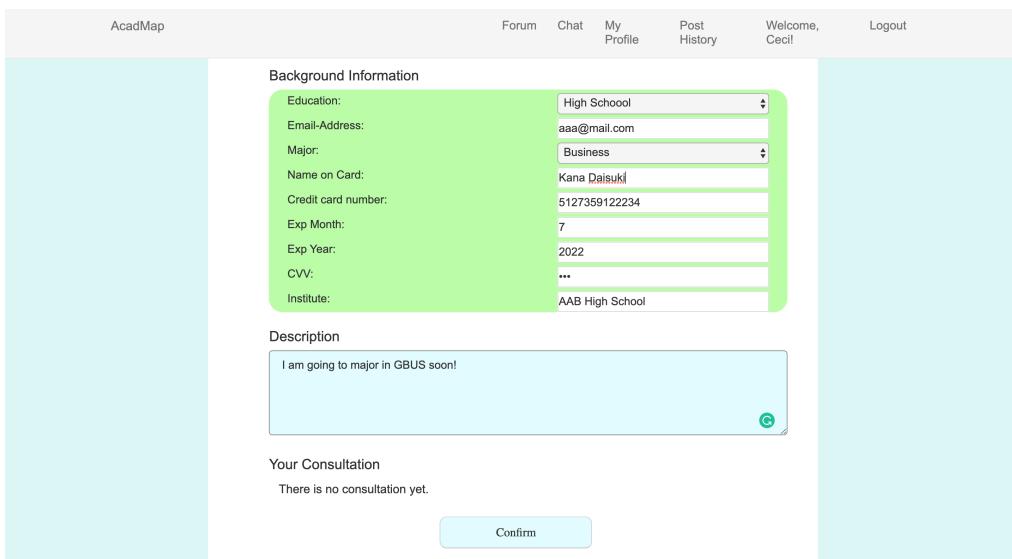


Figure 32: Editing

After finish editing their profile, the personal information will be updated in both profile page and user database, as shown in Figure 33.

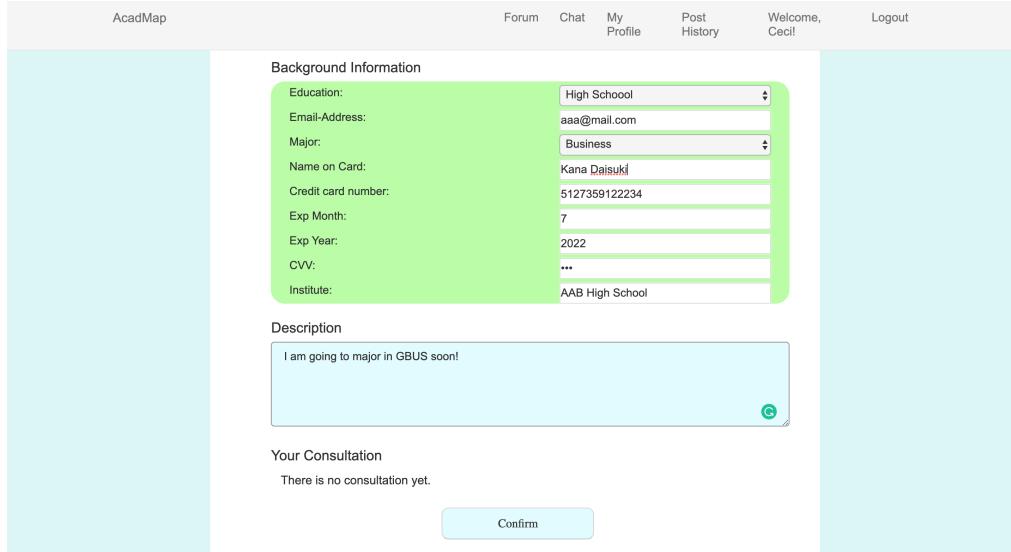


Figure 33: My profile after editing

4.2.3.2 Visiting others' profile

Users can also visit others' profile by clicking others' portrait in the forum. Other's profile users will see is shown in Figure 34.

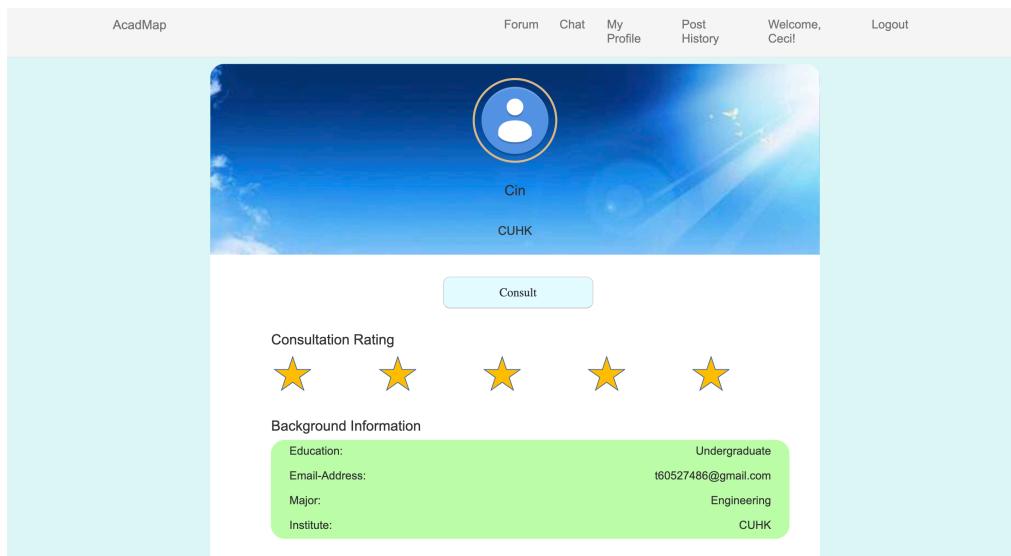


Figure 34: Edit profile information

4.2.4 Consultation

4.2.4.1 Find consultors

There are two ways to find a consultor. The first is to click “match to consult” in their own profile, which will direct to a page for users to input their preferences about the consultors, as shown in following Figure 35, 36, 37 and 38.

The screenshot shows a web page titled "Share your experience" under the "AcadMap" header. The header also includes links for Forum, Chat, My Profile, Post History, Welcome, Cin!, and Logout. The main content area has a light gray background with several input fields for user preferences:

- "Your Desired Weighting:" followed by a dropdown menu labeled "Preference".
- "Preference for education level:" followed by a dropdown menu labeled "Preference".
- "Preference for major:" followed by a dropdown menu labeled "Preference".
- "Preference for consultation score:" followed by a dropdown menu labeled "Preference".
- "Desire Faculty and Education Level of Your Consultor"

 - "Faculty" dropdown menu labeled "Faculty".
 - "Education" dropdown menu labeled "Education".

A blue "Submit" button is located at the bottom center of the form.

Figure 35: Matching

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

Share your experience

Your Desired Weighting:

Preference for education level:

Preference

Preference for major:

Preference

Preference for consultation score:

Preference

Desire Faculty and Education Level of Your Consultor

Arts
Business
Education
Engineering
Law
Medicine
Science
Social Science

Figure 36: Matching preference 1

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

Share your experience

Your Desired Weighting:

Preference for education level:

Preference

Preference for major:

Preference

Preference for consultation score:

Preference

Desire Faculty and Education Level of Your Consultor

Education

High School
Undergraduate
Master
Post Graduate

Figure 37: Matching preference 2

The screenshot shows a user interface for entering preferences. At the top, there is a navigation bar with links: AcadMap, Forum, Chat, My Profile, Post History, Welcome, Cin!, and Logout. Below the navigation bar, the main content area has a title "Share your experience".
The first section is titled "Your Desired Weighting:" and contains a dropdown menu with three options: 1, 2, and 3. The option "1" is selected and has a checkmark next to it.
The second section is titled "Preference for education level:" and contains a dropdown menu labeled "Preference".
The third section is titled "Preference for major:" and contains a dropdown menu labeled "Preference".
The fourth section is titled "Preference for consultation score:" and contains a dropdown menu labeled "Preference".
The fifth section is titled "Desire Faculty and Education Level of Your Consultor" and contains two dropdown menus: one labeled "Faculty" and another labeled "Education".
At the bottom of the form is a blue "Submit" button.

Figure 38: Matching preference 3

After they have inputted their preferences, the system will help users to find a suitable consultor. Alternatively, users can approach a consultor directly by visiting their profile and click “consult” to request a consultation.

4.2.4.2 General chat

Before formal consultation, consultees and consultants can chat with each other first to see whether the consultation will be worthwhile, as shown in Figure 39.

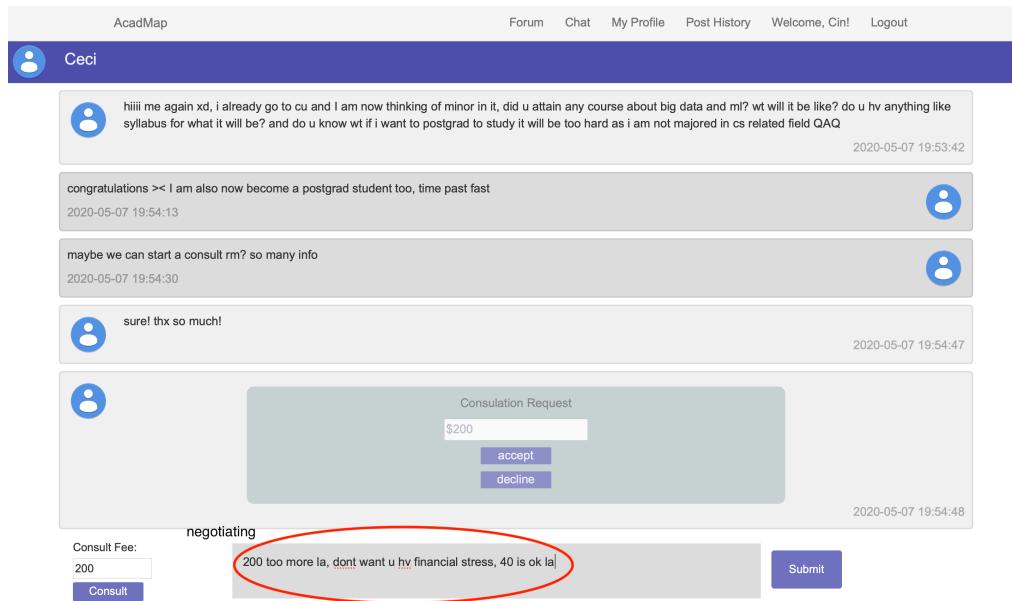


Figure 39: General chatroom

4.2.4.3 Negotiate consultation fee

If the consultee decide to start formal consultation, they can offer a consultation fee and click “Consult” button. Consultors can decline the price (Figure 40) and users need to offer another price.

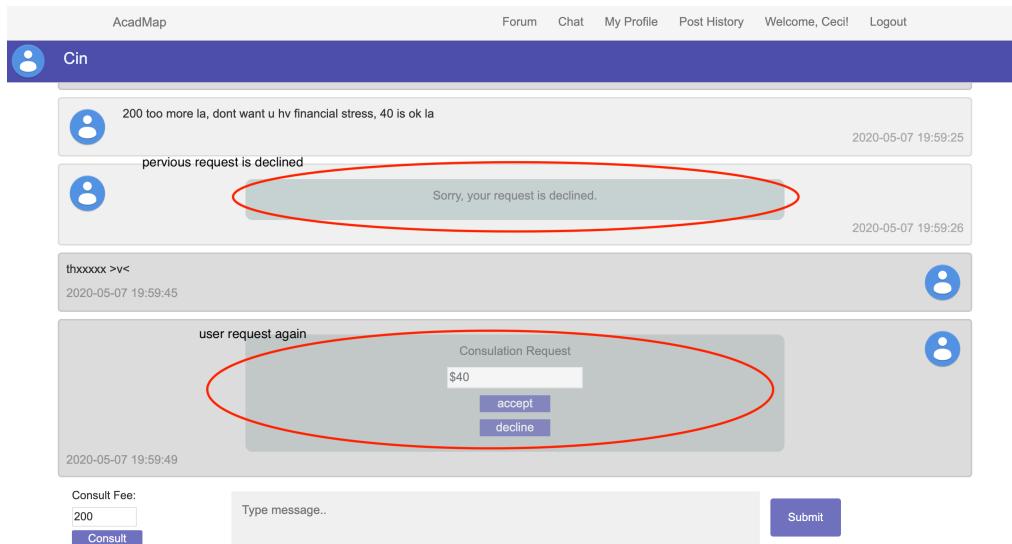


Figure 40: Declining an offer

On the other hand, if the consultors choose to accept the offer. the consultation will start. See Figure 41.

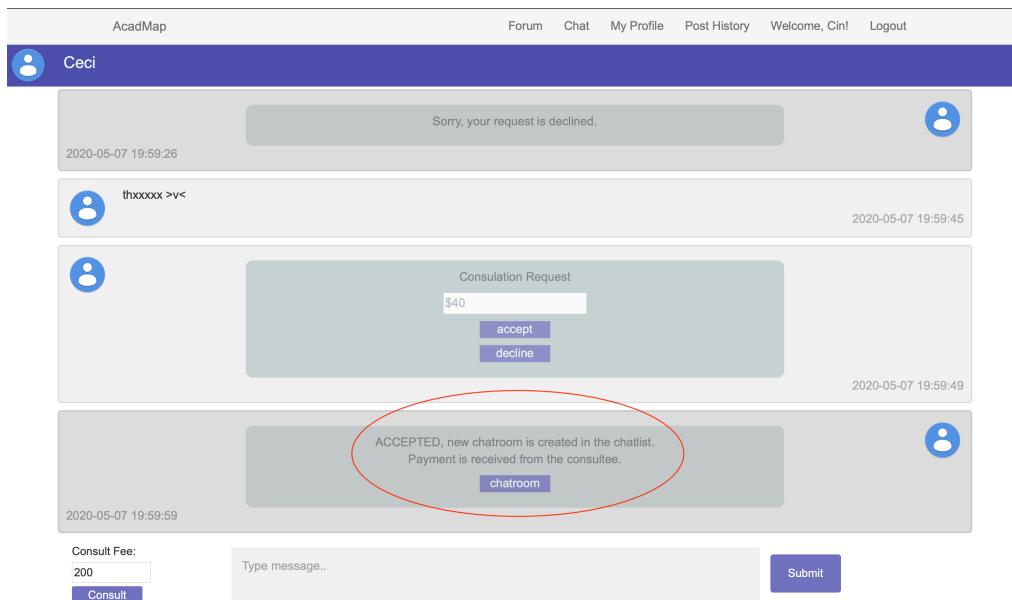
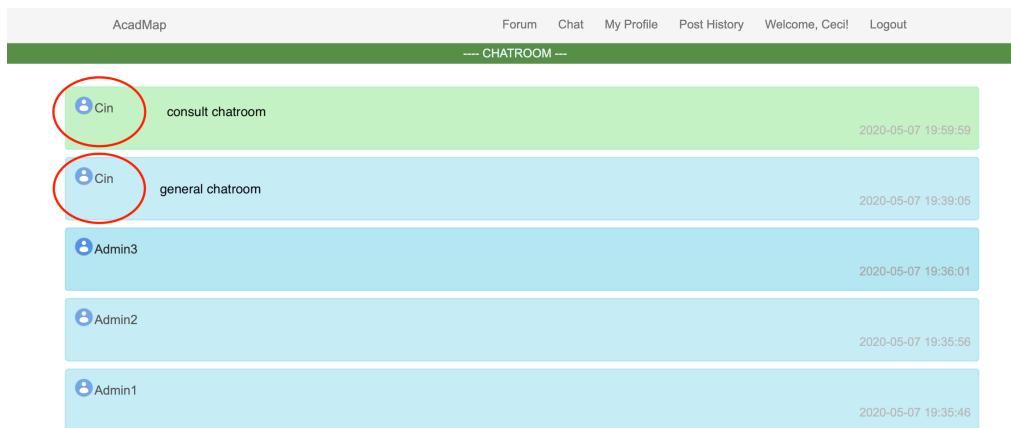


Figure 41: Accept an offer

4.2.4.4 Payment

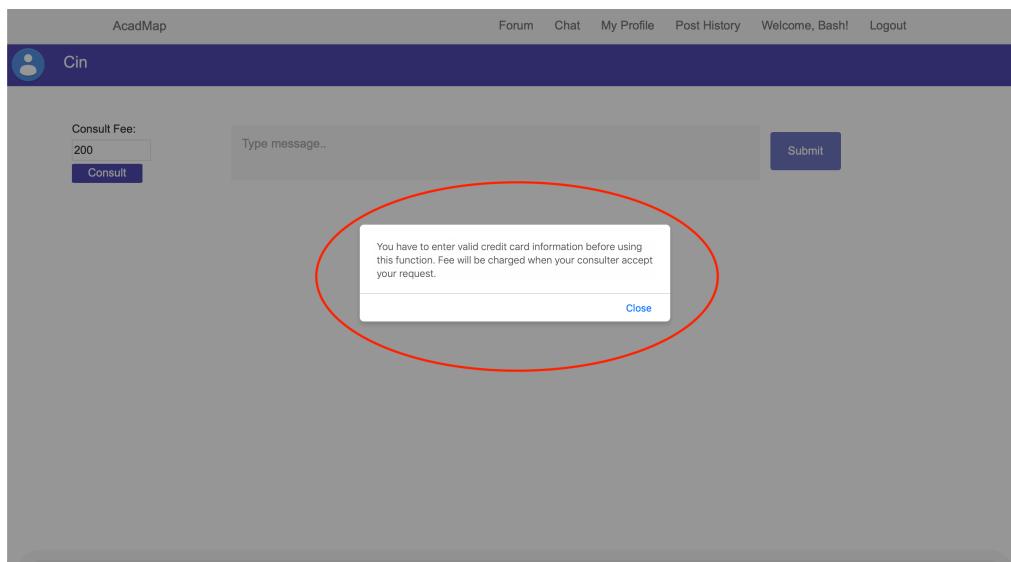
After both sides reach the agreement, users will make payment. If the user makes payment successfully, he/she will go to the chatroom list to choose for the consultation room. (Figure 42). Otherwise, an error message will be shown. (Figure 43)



The screenshot shows a web-based application interface titled "AcadMap". At the top, there is a navigation bar with links: Forum, Chat, My Profile, Post History, Welcome, Cecil, and Logout. Below the navigation bar, a green header bar displays the text "CHATROOM". The main content area lists several chatroom entries in a table format:

User	Chatroom Name	Date
Cin	consult chatroom	2020-05-07 19:59:59
Cin	general chatroom	2020-05-07 19:39:05
Admin3		2020-05-07 19:36:01
Admin2		2020-05-07 19:35:56
Admin1		2020-05-07 19:35:46

Figure 42: List of chatroom including the consultation chatroom



The screenshot shows a user profile page for "Cin". The top navigation bar includes links: Forum, Chat, My Profile, Post History, Welcome, Bash!, and Logout. On the left, there is a sidebar with a user icon and the name "Cin". The main content area has sections for "Consult Fee:" (set to 200) and a "Consult" button. To the right, there is a text input field labeled "Type message.." and a "Submit" button. A modal dialog box is displayed in the center, containing the following message:
You have to enter valid credit card information before using
this function. Fee will be charged when your consulter accept
your request.

A red oval highlights this message.

Figure 43: Failed transaction

4.2.4.5 Formal consultation

After the successful transaction, they can start formal consultation. Consultees and consultors can type messages in the box and click “submit” to send the messages. (Figure 44)

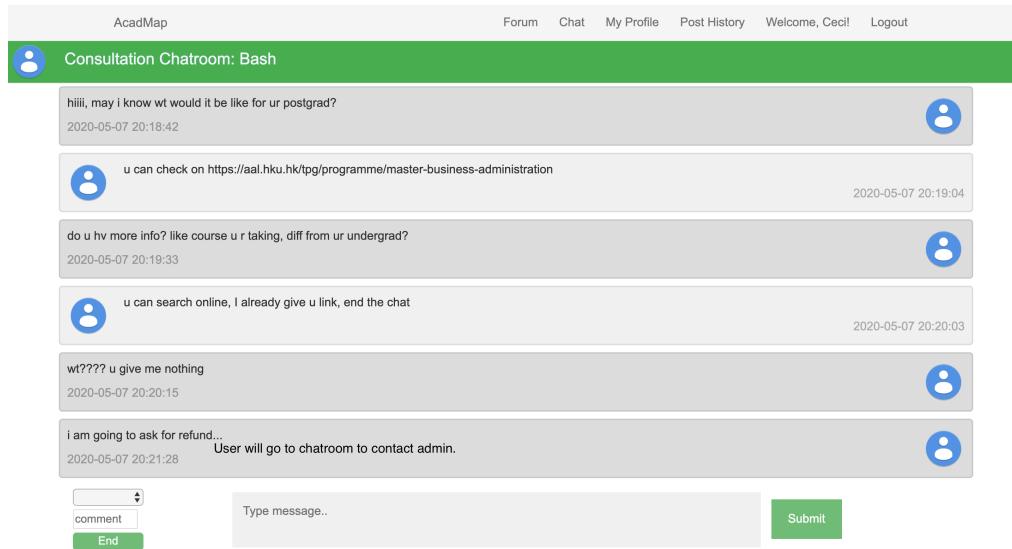


Figure 44: Consultation chatroom

4.2.4.6 End consultation and provide comment and rate

After the consultation is over, consultees can rate the consultor, provide comments and end the consultation as shown in Figure 45

The screenshot shows a web-based chatroom interface titled "Consultation Chatroom: Cin". The top navigation bar includes links for AcadMap, Forum, Chat, My Profile, Post History, Welcome, Cecil!, and Logout. The main area displays a conversation between two users. The messages are as follows:

- User 1: no grad job target but i just feel like minor in it learn too few, i want more and more advance knowledge and application
2020-05-07 20:07:06
- User 2: so do u hv any recommend course for this field
2020-05-07 20:07:30
- User 1: yupppp I am jot some notes during my undergrad for planning on studying, and also some thought on diff course that I attended and also brief intro in syllabus maybe I can send u the google doc that I wrote before https://docs.google.com/document/d/1EOUB1p9pocPc52YgkkE41ATBCIAO_RSd5NQXjqKTrGI/edit#
2020-05-07 20:09:00
- User 2: omg thx so much!!! u r so great!
2020-05-07 20:09:19
- User 1: I think u finish? so maybe end this chatrm?
2020-05-07 20:09:57
- User 2: ohh sure!! i forgot to end sorry xd
2020-05-07 20:10:11

In the bottom left corner, there is a rating interface with a dropdown menu set to "5", a message input field containing "!! Excellent!", and a green "End" button. A red circle highlights the "End" button.

Figure 45: Ending a consultation

5 Test

5.1 Overview and plan

Acadmap is composed of three components, namely personal account system, Forum and post system, and consultation system. All components will be tested separately with various sets of test cases, which will cover all circumstances encountered by users.

5.2 Personal Account System

5.2.1 Purpose

This part of testing is to test the correctness of user authentication, visitor registration and user profile components. We will test these three parts separately because they are mutually exclusive to each other. We will test each component by three goals, pass, fail, and also boundary cases.

5.2.2 Test cases and results

5.2.2.1 Login Page

These cases should be able to expose possible problems in the login page. Users can only log in with a correct pair of username and password. The system will give a warning message if the user does not fill in both username and password field or the input information is not correct, i.e., not match the information stored in the database.

Test case 1	Username	Password
User Input:	Cindy	123456
Database record:	Cindy	123457
Result: username/password incorrect		

The screenshot shows the AcadMap login interface. At the top, there are links for 'Forum' and 'Login'. Below that, the AcadMap logo is displayed. The login form has two text input fields: 'Username' containing 'Cindy' and 'Password' containing '.....'. Below the inputs are two buttons: 'CONFIRM' and 'Forget'. A red oval highlights the text 'username/password is incorrect' which is displayed below the buttons. To the right of the form, there is a link 'REGISTER HERE!' and a 'REGISTER' button.

Test case 2	Username	Password
User Input:	<i>empty</i>	456789
Result: Username is required		

The screenshot shows the AcadMap login interface. At the top left is the AcadMap logo. Below it are two input fields: 'Type username' and '.....'. To the right of these fields is a message: 'Not yet our member? REGISTER HERE!' with a 'REGISTER' button. Below the inputs are two buttons: 'CONFIRM' and 'Forget'. A red oval highlights the error message 'Username is required' and 'username/password is incorrect'.

Test case 3	Username	Password
User Input:	Austin	<i>empty</i>
Result: Password is required		

The screenshot shows the AcadMap login interface. It is identical to the previous one, but the error message 'username/password is incorrect' has been removed. Only the 'Username is required' message remains, which is also highlighted with a red oval.

5.2.2.2 Registration Page

These cases should be able to expose possible problems in the registration page. Visitors can register only with valid and correct input. The system will give warning messages if the visitor does not fill in all fields or the input information is not valid. The test results are shown in the following.

Case 1: Empty input

The screenshot shows a registration form titled "Start Your Bright Future". The form includes fields for First Name, Last Name, and Cin, which are currently empty. Below these are fields for password, confirm password, and Email Address, also currently empty. A text area for Personal Description is present but empty. At the bottom, there are dropdown menus for Faculty (set to Faculty) and Education (set to Education), and a "submit" button. A red oval highlights the error message area below the "submit" button, which contains the following text:

Email is required
Confirm password is required
Password is required
Email must be in format 123@example.com
email already exists

Case 2: Wrong email format

The screenshot shows a registration form titled "Start Your Bright Future". The form includes fields for First Name, Last Name, and Cin, which are filled with "kk", "Lee", and "Pat" respectively. Below these are fields for password, confirm password, and Email Address, which are filled with "****", "****", and "Pat", respectively. A text area for Personal Description is present but empty. At the bottom, there are dropdown menus for Faculty (set to Faculty) and Education (set to Education), and a "submit" button. A red oval highlights the error message area below the "submit" button, which contains the following text:

Email must be in format 123@example.com

Case 3: Password does not match

The screenshot shows a registration form titled "Start Your Bright Future". The form includes fields for three-letter initials (secsec, secs, cescece), a password (*****), and an email address (seccscsc@kk.com). Below the email field is a placeholder "Personal Description: characteristics, habits...". Under "Education", the dropdown is set to "Faculty". The "submit" button is highlighted with a blue oval. A red oval highlights the error message "Password not matched" located below the submit button.

Case 4: Duplicate username

The screenshot shows a registration form titled "Start Your Bright Future". The form includes fields for three-letter initials (Tsz Ting, Chung, Cin), a password, and a confirm password. The email address is listed as t60527486@gmail.com. Below the email field is a placeholder "Personal Description: characteristics, habits...". Under "Education", the dropdown is set to "Faculty". The "submit" button is highlighted with a blue oval. A red oval highlights a group of four error messages: "Confirm password is required", "Password is required", "Username already exists", and "email already exists".

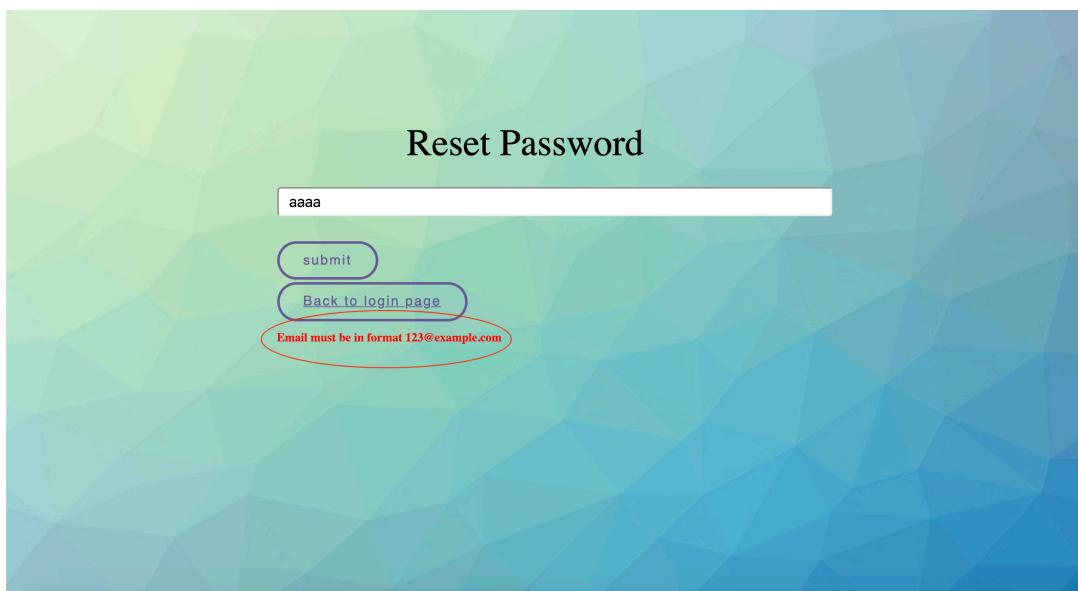
5.2.2.3 Verification Page

These cases should be able to expose possible problems in the verification page. Users need to input a valid email address to verify their identity.

Case 1: Success



Case 2: Wrong email format



5.2.2.4 Reset Page

These cases should be able to expose possible problems in the reset page. To reset their account password, users need to input a new password and confirm the new password.

Case 1: Empty input

The screenshot shows a password reset interface. At the top center is a yellow "Reset" button. Below it are two input fields: "New Password" and "Confirm Password", both with placeholder text "New Password" and "Confirm Password" respectively. Underneath these fields is a blue "submit" button. Below the "submit" button, there are two red error messages: "password is required" above "Confirm password needed".

5.3 Forum and Post system

5.3.1 Purpose

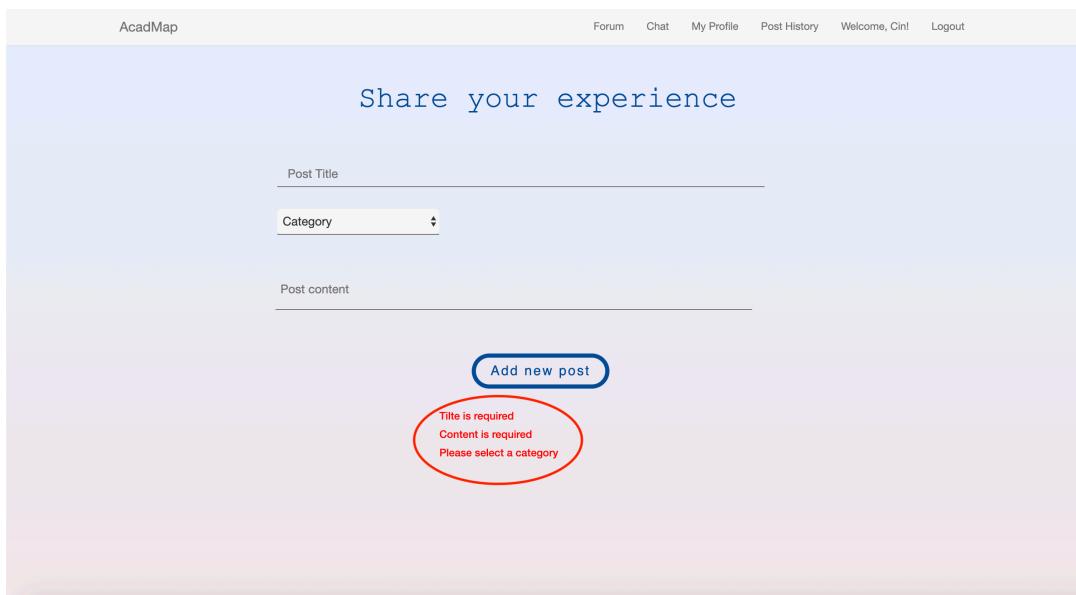
Forum and Post system mainly contains posts and post-related operations. Testing in this part is to ensure each function could work well as required. The expected scenario is that posts can be well filtered, added, edited, commented and liked. Each function will be tested separately in the following parts.

5.3.2 Add post

5.3.2.1 Test cases and results

To test post adding function, three cases simulate several users creating new posts.

Case 1: Empty input



Case 2: Input only title

The screenshot shows the AcadMap interface with the title "Share your experience". The "Post Title" field contains "hey i wanna say". The "Category" dropdown is empty. The "Post content" field is empty. A blue button labeled "Add new post" is visible. Below it, a red circle highlights an error message: "Content is required" and "Please select a category".

Case 3: Input only Content

The screenshot shows the AcadMap interface with the title "Share your experience". The "Post Title" field is empty. The "Category" dropdown is empty. The "Post content" field contains "hey i wanna say". A blue button labeled "Add new post" is visible. Below it, a red circle highlights an error message: "Title is required" and "Please select a category".

Case 4: Input Content and Category

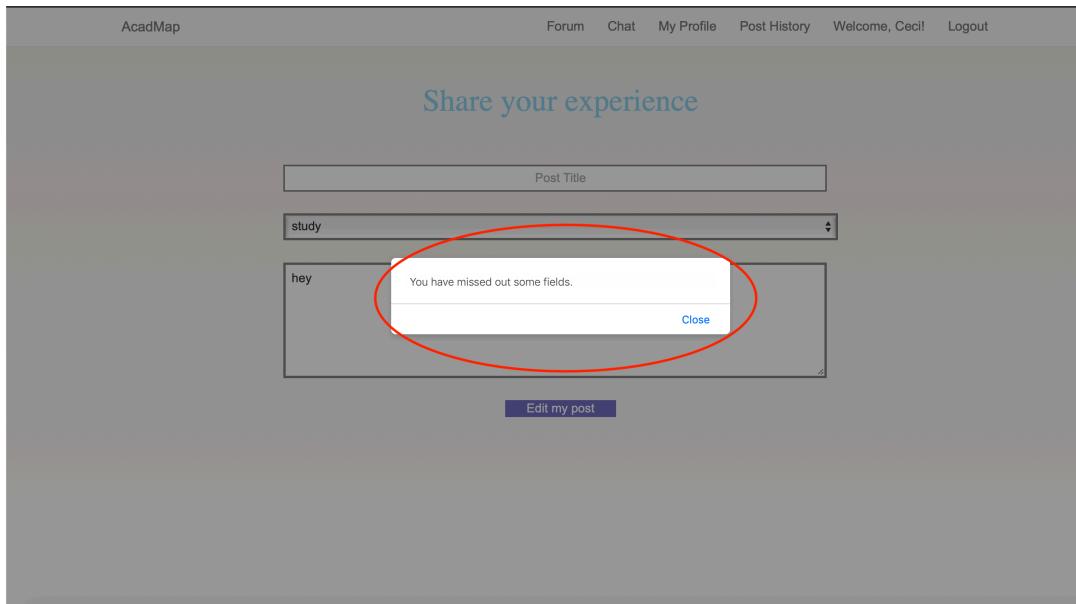
The screenshot shows the AcadMap interface with the title "Share your experience". The "Post Title" field contains "hey i wanna say". The "Category" dropdown is set to "ulife". The "Post content" field is empty. A blue button labeled "Add new post" is visible. Below it, a red circle highlights an error message: "Content is required".

5.3.3 Edit post

5.3.3.1 Test cases and results

To test post editing function, we simulate users editing new posts.

Case 1: Missing fields



Case 2: Successful edit

Before:

The screenshot shows a digital communication interface with a header bar containing 'AcadMap' and links for 'Forum', 'Chat', 'My Profile', 'Post History', 'Welcome, Cin!', and 'Logout'. Below the header are five message bubbles. The first message is from 'Cin' with the text 'future? I don't really know...' and 'confused'. The second message is from 'Ceci' with the text 'what u you confusing'. The third message is from 'Cin' with the text 'i am graduating soon, but cannot find a grad job cry out loud'. The fourth message is from 'Ceci' with the text 'maybe u can take this time to explore more on your life for a gap year? or learnt more to equip urself more xd'. The fifth message is from 'Ceci' (partially visible). The timestamp for the first message is 2020-04-23 17:00:05, and for the second message is 2020-05-14 17:58:55.

Cin
future? I don't really know...
confused

Ceci
what u you confusing

Cin
i am graduating soon, but cannot find a grad job cry out loud

Ceci
maybe u can take this time to explore more on your life for a gap year? or learnt more to equip urself more xd

Ceci

After:

The screenshot shows the same digital communication interface after editing. It now displays only three messages. The first message from 'Cin' has been updated to include an edit note: '(edit: thx to Ceci for suggestion on the post and also in private chat! I am great and will utilize my time to explore more! It should be a great chance for me instead of an obstacle in life!)'. The timestamp for this edited message is 2020-04-23 17:00:05. The other two messages from 'Ceci' and 'Cin' remain unchanged.

Cin
future? I don't really know...
confused (edit: thx to Ceci for suggestion on the post and also in private chat! I am great and will utilize my time to explore more! It should be a great chance for me instead of an obstacle in life!)

Ceci
what u you confusing

Cin
i am graduating soon, but cannot find a grad job cry out loud

5.3.4 Comment

5.3.4.1 Test cases and results

To test post editing function, we simulate users leaving comment in a post.
Before:

The screenshot shows a user interface for a platform called AcadMap. At the top, there is a navigation bar with links: Forum, Chat, My Profile, Post History, Welcome, Ceci!, and Logout. Below the navigation bar, there is a teal-colored comment card. The card displays a comment from a user named 'Cin' with the message: "career? I also don't really know arrr...". The timestamp for this comment is 2020-04-23 17:00:58. Below the comment card, there is a light blue input field labeled 'Comment:' containing the text: "same... no idea to work in what field thus planning postgrad xd". At the bottom of the input field, there are two buttons: 'Submit' (green) and 'Like' (blue).

After:

The screenshot shows the same AcadMap interface after a modification. The navigation bar remains the same. The original comment from 'Cin' is still present. Below it, a new comment has been added by a user named 'Ceci' with the message: "same... no idea to work in what field thus planning postgrad xd". The timestamp for this comment is 2020-05-14 18:10:52. The input field below the comments now contains the placeholder text: "Type comment..". The 'Submit' and 'Like' buttons are still at the bottom.

5.3.5 Like

5.3.5.1 Test cases and results

To test the like function, we simulate users to give a like to the post “future? I don’t really know...”.

Before:

The screenshot shows a feed of five posts from a user named 'Cin'. Each post is contained within a light blue rectangular box. The posts are as follows:

- study problem**
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#)
- future? I don't really know...**
By Cin at 2020-04-23 17:00:05 Like : 0
[Read More](#)
- Ulfe is so great!**
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#)
- study is so hard**
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#)
- cooooo?**
By Cin at 2020-04-23 17:00:41 Like : 0
[Read More](#)

After:

The screenshot displays two views of the AcadMap application interface. The top view shows a timeline of posts from users Ceci and Cin. Ceci's post "what u you confusing" has a red oval highlighting a modal window that says "You have liked this post. Thank you!" with a "Close" button. The bottom view shows a feed of posts by user Cin, including "study problem", "future? I don't really know...", "Ulife is so great!", "study is so hard", and "soccer? I also don't really know...". Each post includes a "Read More" button.

AcadMap

Forum Chat My Profile Post History Welcome, Cecil Logout

Ceci
what u you confusing

2020-05-14 17:58:55

Cin
i am graduating soon, but cannot find a grad job cry out loud

2020-05-14 17:59:19

Ceci
maybe u can take this time to explore more on your life

You have liked this post. Thank you!

Close

2020-05-14 18:00:21

Ceci
cheer up!

2020-05-14 18:01:55

Comment:
Type comment...

Submit Like

AcadMap

Forum Chat My Profile Post History Welcome, Cecil Logout

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
Read More

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
Read More

Ulife is so great!
By Cin at 2020-04-23 17:00:23 Like : 0
Read More

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
Read More

soccer? I also don't really know...

5.3.6 Filter

5.3.6.1 Test cases and results

To test the filter, we simulate users to filter the post by posting date, category and likes. Before filtering:

The screenshot shows the AcadMap application interface. At the top, there is a navigation bar with links: Forum, Chat, My Profile, Post History, Welcome, Cecil, and Logout. Below the navigation bar, there is a green 'Add A New Post' button and an orange 'Filter' button. The main content area displays five posts in a vertical list:

- ulife1**
By Admin1 at 2020-04-23 16:58:12 Like : 1
[Read More](#)
- study problem**
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#)
- future? I don't really know...**
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#)
- Ulife is so great!**
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#)
- study is so hard**
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#)

After filtering:

This screenshot shows a forum interface with several posts listed on the left and a filter sidebar on the right.

- Post 1:** "ulife1" by Admin1 at 2020-04-23 16:58:12 Like : 1
- Post 2:** "Ulife is so great!" by Cin at 2020-04-23 17:00:23 Like : 0
- Post 3:** "Ulife is so great and so tough and I am graduating soon..." by Cin at 2020-04-23 17:01:29 Like : 2
- Post 4:** "Anything need to prepare before joining ocamp?" by Ceci at 2020-05-07 17:30:21 Like : 0
- Post 5:** "hev i wanna say" by Cin at 2020-04-23 16:59:47 Like : 0

Filter Sidebar (Right):

- Categories:** ALL category (radio button), University life (radio button), **University study** (radio button, circled in red), Future career (radio button)
- Post date:** default (radio button), Oldest (radio button), Newest (radio button)
- Sort by:** default (radio button), Least likes (radio button), Most likes (radio button)
- Find:** (button)

This screenshot shows a forum interface with several posts listed on the left and a filter sidebar on the right.

- Post 1:** "study problem" by Cin at 2020-04-23 16:59:47 Like : 0
- Post 2:** "future? I don't really know..." by Cin at 2020-04-23 17:00:05 Like : 1
- Post 3:** "study is so hard" by Cin at 2020-04-23 17:00:37 Like : 0

Filter Sidebar (Right):

- Categories:** ALL category (radio button), University life (radio button), **University study** (radio button, circled in red), Future career (radio button)
- Post date:** default (radio button), Oldest (radio button), Newest (radio button)
- Sort by:** default (radio button), Least likes (radio button), Most likes (radio button)

This screenshot shows a forum interface with several posts listed on the left and a filter sidebar on the right.

- Post 1:** "career? I also don't really know" by Cin at 2020-04-23 17:00:58 Like : 0

Filter Sidebar (Right):

- Categories:** ALL category (radio button), University life (radio button), University study (radio button), **Future career** (radio button, circled in red)
- Post date:** default (radio button), Oldest (radio button), Newest (radio button)
- Sort by:** default (radio button), Least likes (radio button), Most likes (radio button)

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#) [Edit](#)

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#) [Edit](#)

Ulife is so great!
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#) [Edit](#)

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#) [Edit](#)

hey i wanna say
By Cin at 2020-05-14 15:10:34 Like : 0
[Read More](#) [Edit](#)

Ulife is so great and so tough and I am graduating soon...
By Cin at 2020-04-23 17:01:29 Like : 2
[Read More](#) [Edit](#)

career? I also don't really know
By Cin at 2020-04-23 17:00:58 Like : 0
[Read More](#) [Edit](#)

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#) [Edit](#)

Ulife is so great and so tough and I am graduating soon...
By Cin at 2020-04-23 17:01:29 Like : 2
[Read More](#) [Edit](#)

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#) [Edit](#)

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#) [Edit](#)

Ulife is so great!
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#) [Edit](#)

Filter

Categorie:
 ALL category
 University life
 University study
 Future career

Post date:
 default
 Oldest
 Newest

Sort by:
 default
 Least likes
 Most likes

[find](#)

AcadMap Forum Chat My Profile Post History Welcome, Cecil! Logout Add A New Post

future? I don't really know...
By Cin at 2020-04-23 17:00:05 Like : 1
[Read More](#)

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#)

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#)

Filter

Categroies:

- ALL category
- University life
- University study
- Future career

Post date:

- default
- Oldest
- Newest

Sort by:

- default
- Least likes
- Most likes

[find](#)

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

study problem
By Cin at 2020-04-23 16:59:47 Like : 0
[Read More](#) [Edit](#)

Ulife is so great!
By Cin at 2020-04-23 17:00:23 Like : 0
[Read More](#) [Edit](#)

study is so hard
By Cin at 2020-04-23 17:00:37 Like : 0
[Read More](#) [Edit](#)

career? I also don't really know
By Cin at 2020-04-23 17:00:58 Like : 0
[Read More](#) [Edit](#)

Filter

Categroies:

- ALL category
- University life
- University study
- Future career

Post date:

- default
- Oldest
- Newest

Sort by:

- default
- Least likes
- Most likes

[find](#)

5.4 Consultation system

5.4.1 Purpose

Consultation system enables consultees to find consultors, chat and consult. Testing in this part is to ensure each function could work and cooperate well as required. Each function will be tested separately in the following parts.

5.4.2 Match to find a consultor

5.4.2.1 Test cases and results

As empty input and having input in any field of this form is valid input in which empty input also shown the preference of the user (i.e. no inclination for characteristic of the consultant), so only the detail of choice of filling in the form is shown.

The image contains two screenshots of a web application interface. Both screenshots show a header with 'AcadMap' and navigation links: Forum, Chat, My Profile, Post History, Welcome, Cin!, and Logout. Below the header is a section titled 'Share your experience'.

Screenshot 1 (Top):

- Label: Your Desired Weighting: (empty dropdown)
- Label: Preference for education level: (empty dropdown)
- Label: Preference for major: (empty dropdown)
- Label: Preference for consultation score: (empty dropdown)
- Label: Desire Faculty and Education Level of Your Consultor
- Dropdown: Faculty (empty dropdown)
- Dropdown: Education (empty dropdown)
- Submit button

Screenshot 2 (Bottom):

- Label: Your Desired Weighting: (empty dropdown)
- Label: Preference for education level: (empty dropdown)
- Label: Preference for major: (empty dropdown)
- Label: Preference for consultation score: (empty dropdown)
- Label: Desire Faculty and Education Level of Your Consultor
- Dropdown: Faculty (empty dropdown)
- Dropdown: Education (list open, showing options: Arts, Business, Education, Engineering, Law, Medicine, Science, Social Science. The 'Arts' option is highlighted with a blue border).
- Submit button

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

Share your experience

Your Desired Weighting:

Preference for education level:

Preference

Preference for major:

Preference

Preference for consultation score:

Preference

Desire Faculty and Education Level of Your Consultor

Education

✓ High School
Undergraduate
Master
Post Graduate

AcadMap Forum Chat My Profile Post History Welcome, Cin! Logout

Share your experience

Your Desired Weighting:

Preference for education level:

✓ 1
2
3

Preference for major:

Preference

Preference for consultation score:

Preference

Desire Faculty and Education Level of Your Consultor

Faculty

Education

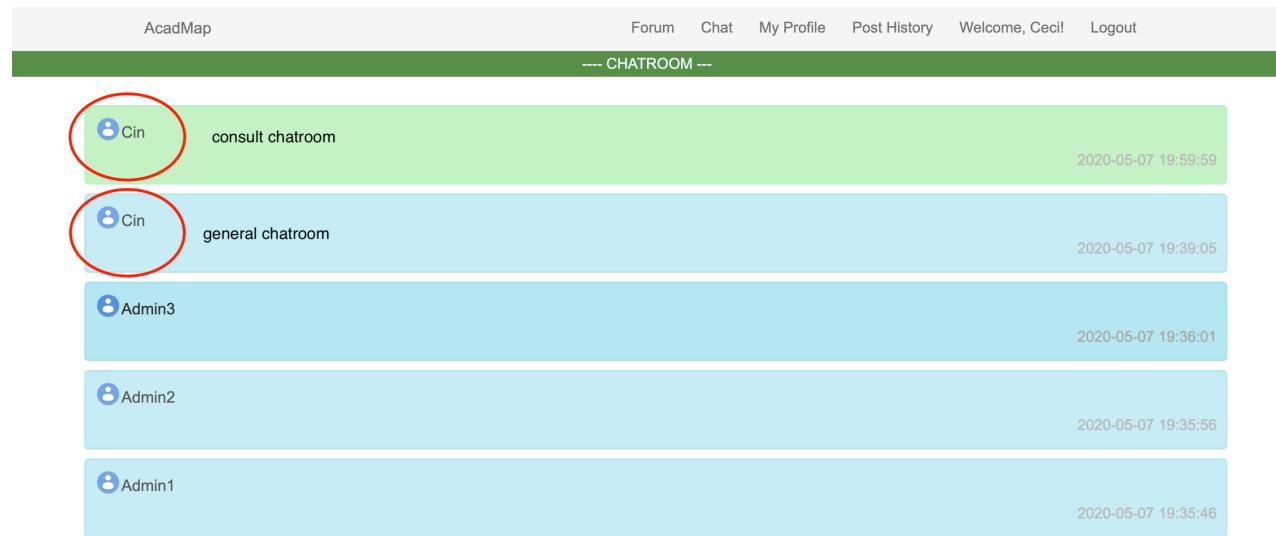
Submit

5.4.3 Directly approach a consultor

This part is to test the function of directly visiting a professional's profile and request to consult.

5.4.3.1 Test cases and results

After clicking consult button, users should be directed to a chatroom list, where they can choose the chatroom for general chatting with the professional.



The screenshot shows a user interface for managing chatrooms. At the top, there is a navigation bar with links: AcadMap, Forum, Chat, My Profile, Post History, Welcome, Cecil!, and Logout. Below the navigation bar, a green header bar displays the text "---- CHATROOM ----". The main content area contains a list of chatrooms, each represented by a horizontal card. The first card, labeled "consult chatroom" and timestamped "2020-05-07 19:59:59", has a blue user icon and the name "Cin". The second card, labeled "general chatroom" and timestamped "2020-05-07 19:39:05", also has a blue user icon and the name "Cin". Both of these first two cards are circled in red. Subsequent cards in the list belong to other users: "Admin3" (timestamp: 2020-05-07 19:36:01), "Admin2" (timestamp: 2020-05-07 19:35:56), and "Admin1" (timestamp: 2020-05-07 19:35:46).

User	Chatroom Type	Timestamp
Cin	consult chatroom	2020-05-07 19:59:59
Cin	general chatroom	2020-05-07 19:39:05
Admin3		2020-05-07 19:36:01
Admin2		2020-05-07 19:35:56
Admin1		2020-05-07 19:35:46

5.4.4 General chat

5.4.4.1 Test cases and results

As the chatroom is functioned like other chatroom, there is no need to show a testcase.

5.4.5 Price negotiation

5.4.5.1 Test cases and results

The image contains two screenshots of the AcadMap application interface, illustrating price negotiation test cases.

Screenshot 1 (Top): This screenshot shows a conversation between two users. User 1 (blue icon) sends a message: "hiii me again xd, i already go to cu and i am now thinking of minor in it, did u attain any course about big data and ml? wt will it be like? do u hv anything like syllabus for what it will be? and do u know wt if i want to postgrad to study it will be too hard as i am not majored in cs related field QAQ". User 2 (blue icon) responds: "congratulations >< I am also now become a postgrad student too, time past fast". User 1 then sends: "maybe we can start a consult rm? so many info". User 2 replies: "sure! thx so much!". Below this, a "Consultation Request" modal is shown for a fee of \$200, with "accept" and "decline" buttons. A red oval highlights the message "200 too more la, dont want u hv financial stress, 40 is ok la!" sent by User 1, which is declined.

Screenshot 2 (Bottom): This screenshot shows the continuation of the conversation. User 1 (blue icon) sends: "thxxxxx >v<". User 2 (blue icon) declines the request with the message: "Sorry, your request is declined.". Below this, another "Consultation Request" modal is shown for a fee of \$40, with "accept" and "decline" buttons. A red oval highlights the message "ACCEPTED, new chatroom is created in the chatlist. Payment is received from the consultee." sent by User 2, indicating acceptance of the revised fee.

5.4.6 Consultation

5.4.6.1 Test cases and results

This part is to test whether the function of sending message and receiving messages in consultation can work smoothly.

The image contains two screenshots of the AcadMap application interface, specifically focusing on consultation chatrooms.

Screenshot 1: Consultation Chatroom (Cin)

- Header:** AcadMap, Forum, Chat, My Profile, Post History, Welcome, Ceci!, Logout.
- User:** Cin (represented by a blue profile icon).
- Message Log:**
 - 2020-05-07 19:41:43: hill can I ask you sth? as I also interest in cs a lot, saw that u are in cs major
 - 2020-05-07 19:42:48: I am actually going into gbus of cuhk, and I saw cs is one of the bussssy-est sbj in cu, will it be too chur to minor cs?
 - 2020-05-07 19:43:30: hi
 - 2020-05-07 19:44:37: no la
 - 2020-05-07 19:46:13: i dont think it will busy as minor only take few course and some are different from what real cs major student rly gonna take, minor student will be catered, no worry
 - 2020-05-07 19:48:05: wow! thx so much!
- Form Fields:**
 - Consult Fee:
 - Type message..
 - Submit button
 - Consult button

Screenshot 2: Consultation Chatroom: Cin

- Header:** AcadMap, Forum, Chat, My Profile, Post History, Welcome, Ceci!, Logout.
- User:** Consultation Chatroom: Cin (represented by a green profile icon).
- Message Log:**
 - 2020-05-07 20:07:06: no grad job target but I just feel like minor in it learn too few, I want more and more advance knowledge and application
 - 2020-05-07 20:07:30: so do u hv any recommend course for this field
 - 2020-05-07 20:09:00: yuppp I am jot some notes during my undergrad for planning on studying, and also some thought on diff course that I attended and also brief intro in syllabus maybe I can send u the google doc that I wrote before https://docs.google.com/document/d/1EOUB1p9pocPc52YgkxE41ATBCIAO_RSd5NQXjqKTrGI/edit#
 - 2020-05-07 20:09:19: omg thx so much!!! u r so great!
 - 2020-05-07 20:09:57: I think u finish? so maybe end this chatrm?
 - 2020-05-07 20:10:11: ohh sure!! i forgot to end sorry xd
- Form Fields:**
 - Rating dropdown: 5 (highlighted with a red circle)
 - Comment input: !!! Excellent!
 - End button
 - Type message..
 - Submit button

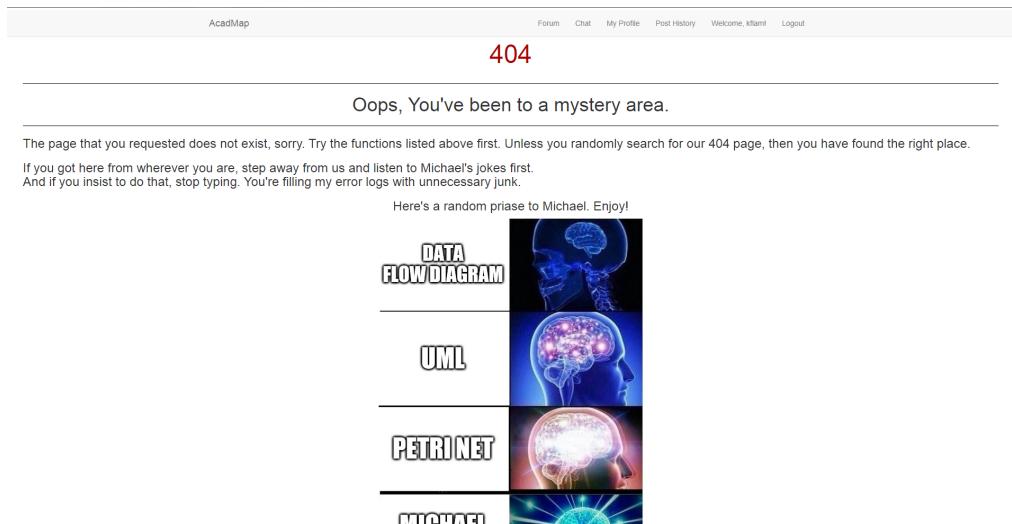
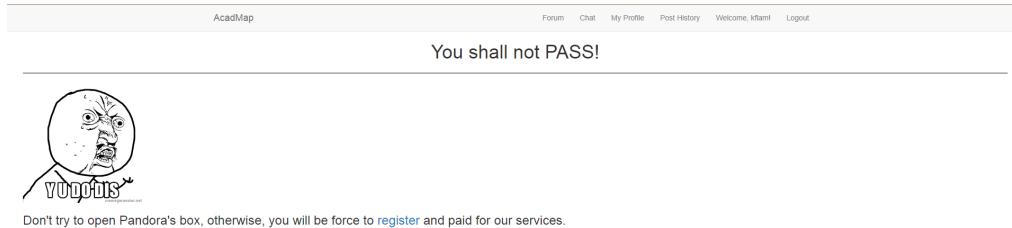
5.4.7 Consultation

5.4.7.1 Test cases and results

As users are allowed to leave empty comment and rating, no testcases are available for comment and rate.

5.5 Miscellaneous

To avoid user navigating to unwanted pages, we have created a 403 and 404 page to deal with that.



6 Improvement after Demo

After receiving the suggestion from professor and tutors, we redo some front-end programming to beautify some of our User Interfaces including login page, reset password page, register page, password verification page , add new post page and 404 page and index page. Moreover, on the backend side, the matching system is further improved to allow users improve their desired properties instead of randomly matching a potential consulter. Apart from that, an edit button for amending the post content is also added as suggested by the professor and users can go to the post history page to amend the content.

7 Lesson Learned

In this project, we followed the waterfall model strictly. However, we have encountered multiple difficulties when following the waterfall model during development. The waterfall model is a rigid model with strict deadlines and expected quality of each phase and delay of each component will cause much problem to later stages.

First, we have encountered problem in quality control in coding stage. Although git and github is a great tool to manage software development, but we did not use its potential to its fullest by implementing branch protection to master branch, or maybe even a protected beta branch for testing. Therefore, in coding phase, we encountered problems such as low quality commit, and unwanted reversion of file versions that is forced-pushed to the master branch which should allow only stable and enhanced commits to enter. We should have implemented branch protection in coding stage and requires peer review for pull requests from personal branches into protected branches so that code quality can be maintained and specification will be followed.

Second, instead of waterfall model, that assigns tasks to every individuals, kanban model should be implemented so that jobs can be assigned dynamically. This way, when low quality task results is committed, we can reassign the job to someone that is free. And as the task progress is clearer than waterfall model, this should adapt better to this project with tight deadlines and a high expected qualities. Moreover, kanban model allows great adaptability as it is a kind of extreme programming. Therefore we will expect some tasks might be finished without following the specification. And with the expectation, we can handle each task with greater adaptability and foreseeing changes to integrate each components.

Third, even when waterfall model is applied, schedules of each tasks should be set to an earlier date so that when tasks cannot be done on time and with an acceptable quality, a buffer will still be available such that the others can handle and redo the task for a better result.

If we can redo the project, depending from which part we can restart, we may consider select groupmates more seriously. And test the knowledge of possible groupmates on the basics of software development taught on this course so that we can ensure our groupmates is more likely to follow the specification as they are more likely to understand the importance of it in software development. If we have to redo it after initial planning, than we would handout tasks in a different way and we may not adopt waterfall software development model and may adopt agile or extreme programming model for greater adaptability during development. Moreover, we will apply branch protection on github from the very start of the development. So that the master branch will and must be a stable edition of our project. And there will be another beta branch which is also protected where commits from others enter by pull request so that only commits with enhancements or bugs removed can enter after review. If we were given the precious chance to redo the project this way, the quality of the project will be better with much less chaos during the process of development.

8 Conclusion

AcadMap aims to provide users to communicate and seek advice on future paths in their academic careers and allow sharing of the experience in their current studies through providing them a formal communication channel by the ensemble of forum, chatroom and consultation service. Our project follows the procedure of software development based on waterfall model, including the documentation of UML design, architecture design, User Interface design, implementation of code, black box and white box testing for ensuring the reliability and portability for the software application.

9 References

- [1] “大專生選科與升學資訊調查”, Upload.breakthrough.org.hk, 2020. [Online]. Available: https://upload.breakthrough.org.hk/ir/Research/45_Further_study_information/. [Accessed: 12 - Mar - 2020].