

Forum for Everyone!

<https://github.com/MiCENzz/OOP-Final-Project>

Group# 3
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(Please write x in the boxes to mention what each student achieved in this project)

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System Analysis

Project Description

General Description, Goals, and Benefits

The forum project is designed as an inclusive forum platform. In this forum, everyone can sign up as an user, and users can post anything and view everyone else's post. In addition, users will have full control over their ideas: they can view and delete their post as they wish. Meanwhile, moderators (the administrator of the forum) will have the capability to manage all the posts: they can view and delete any post on the forum. The main goals of this project are to facilitate community engagement, allow users to share information and ideas, and enable moderators to maintain the quality and appropriateness of the content. The project aims to create a user-friendly, efficient, and secure environment for users. Users can share any of their thoughts and ideas on the forum; meanwhile, any post deemed unfit for the community could be promptly removed from the forum by the moderator.

System Inputs and Outputs

Inputs:

- User Information (Username, Password) for Signup and Login
- User Posts Text Content
- Post Deletion
- Selection Input

Outputs:

- Confirmation of Successful Signup and Login
- List of All Posts (For Users and Moderators)
- List of a User's Own Posts
- Confirmation of Post Creation
- Confirmation of Post Deletion

Special Requirements:

- Performance:
 - The system should be capable of supporting a large number of users and posts without significant degradation in response time when viewing and deleting post.
- Interfaces:
 - The project uses text based interface.
- Constraints:
 - No data will be saved when the user closes the application.
 - All posts are text based and the system does not support posts containing images or videos.
 - There is no support for concurrent posting and deleting of multiple users, since the project is entirely local and has no database.
- Reliability:
 - The project was generally reliable against various inputs and requirements. We generally did some extensive testing to make sure that the system would not be broken easily with incorrect inputs. However, since this is still a relatively primitive project, there could still exist a lot more bugs that we haven't recognized. For instance, since there is no filtering system for password format during sign-up stage, some malicious inputs could potentially break the system.

There are some default accounts that can be used without signup.

One may only use a default moderator account . Moderator accounts cannot be signed up since they are pre-designated.

❖ Moderator:

➤ moderator 1:

- username: moderator1
- Password: 1234

➤ moderator 2:

- username: moderator2
- Password: 1234

❖ User:

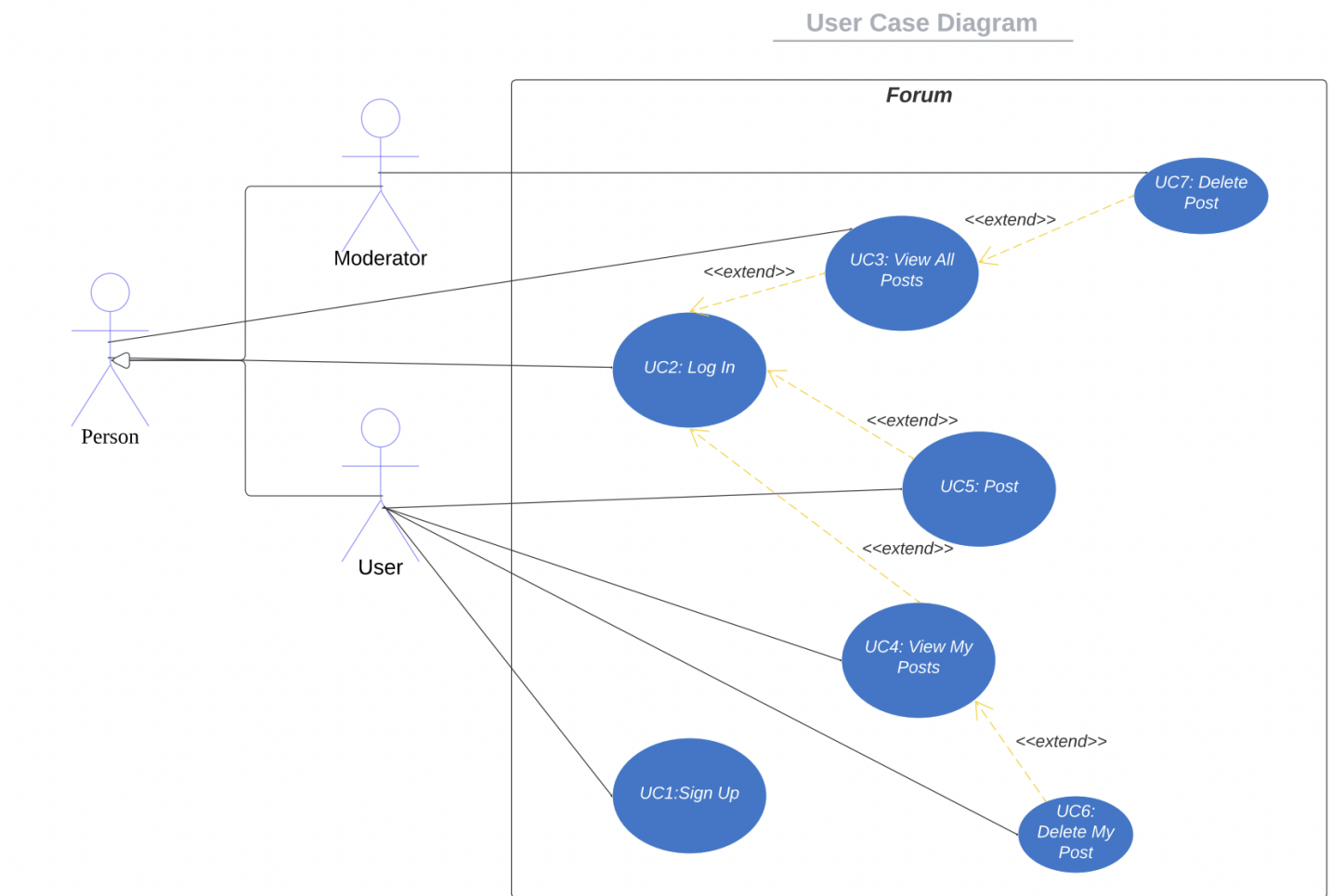
➤ user 1:

- username: user1
- Password: 1234

➤ user 2:

- username: user2
- Password: 1234

Use case Diagram



Use Case Description

Use Case 1	UC1: Sign Up
Description	In this use case, a new user signs up for an account in the forum system. The user provides necessary information: username and password, to create an account. Once the information is submitted and validated, a new user account is registered in the system.
Related use cases	None
Actors	User

Use Case 2	UC2: Log in
Description	This use case allows a person (either a user or a moderator) to log in to their account by providing valid credentials (username and password). After successful authentication, the main menu of the forum is displayed to the person, allowing further interactions based on their role (User or Moderator).
Related use cases	UC3,UC4,UC5
Actors	User/Moderator

Use Case 3	UC3: View All Posts
Description	In this use case, a person (either a user or a moderator) who has already logged in chooses to view all the posts available in the forum. The system retrieves and displays a list of all posts, including their content, posts' id and their posters.
Related use cases	UC2,UC7
Actors	User/Moderator

Use Case 4	UC4: View My Posts
Description	In this use case, a logged-in user selects the option to view all of their own posts. The system retrieves and displays a list of all posts that were created by this specific user, showing the content and other details of each post.
Related use cases	UC2,UC6
Actors	User

Use Case 5	UC5: Post
Description	This use case is initiated when a logged-in user decides to create a new post. The user is prompted to enter the content for the new post. And the system creates a new post associated with that user.
Related use cases	UC2
Actors	User

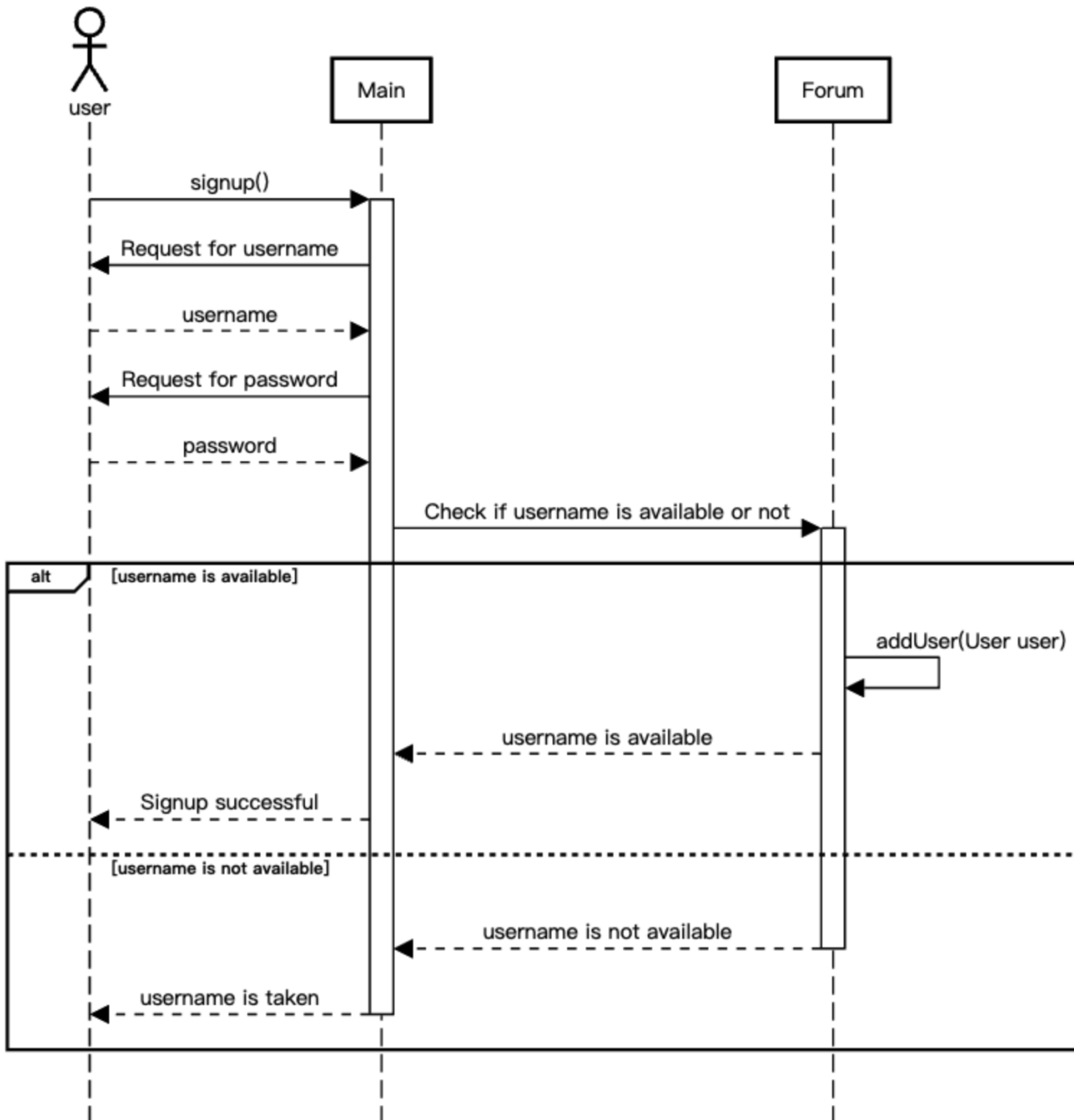
Use Case 6	UC6:Delete My Post
Description	In this use case, a logged-in user chooses to delete one of their own posts. After viewing a list of their posts (as in UC4), the user selects a specific post by its ID or some other identifier. The system then deletes the selected post and confirms the action to the user.
Related use cases	UC4
Actors	User

Use Case 7	UC7: Delete Posts
Description	This use case is initiated when a logged-in moderator decides to delete a post from the forum. After viewing a list of all posts (as in UC3), the moderator selects a specific post by its ID or another identifier. The system then deletes the selected post and confirms the action to the moderator.
Related use cases	UC3
Actors	Moderator

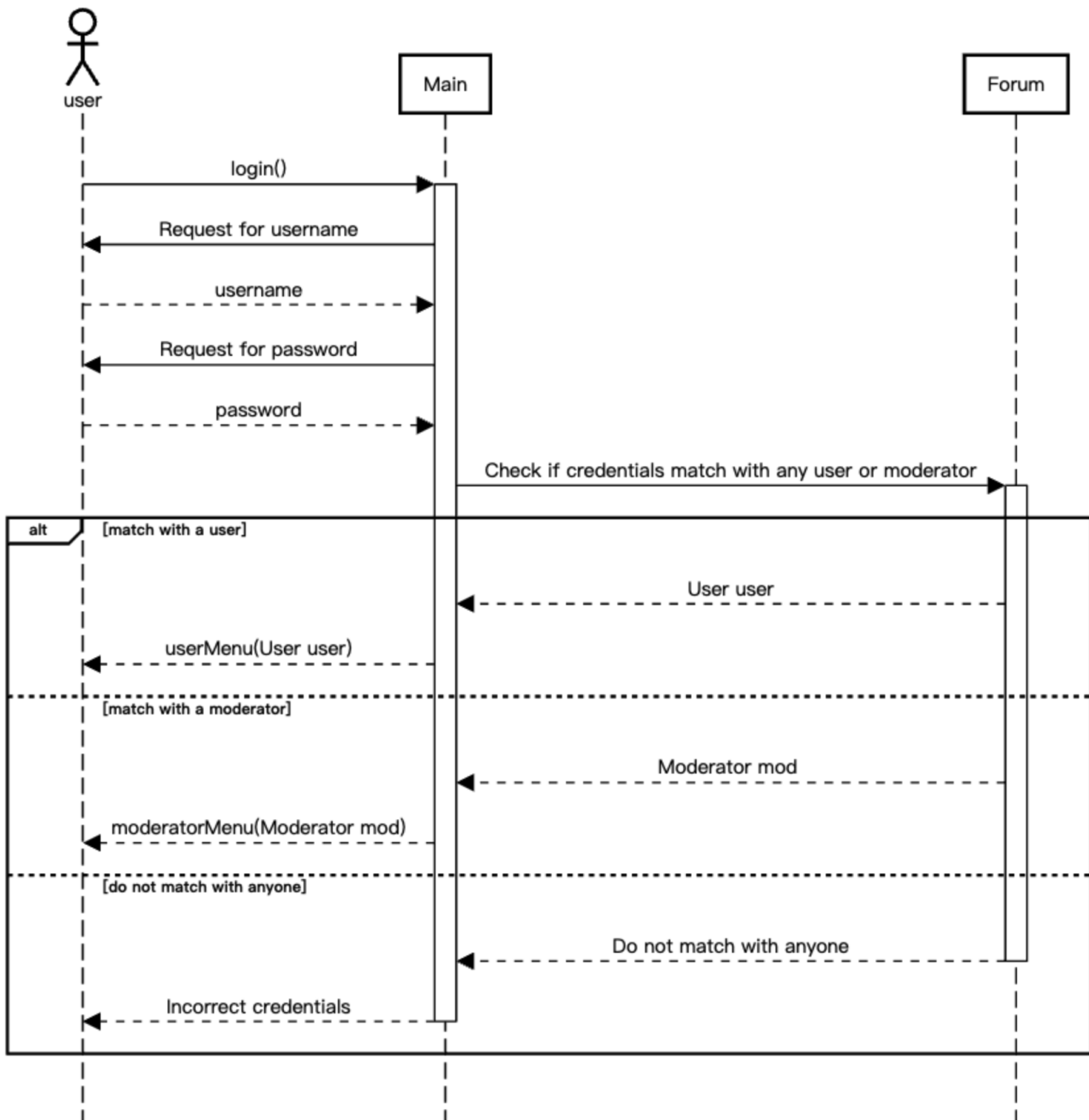
System Design:

Sequence Diagram

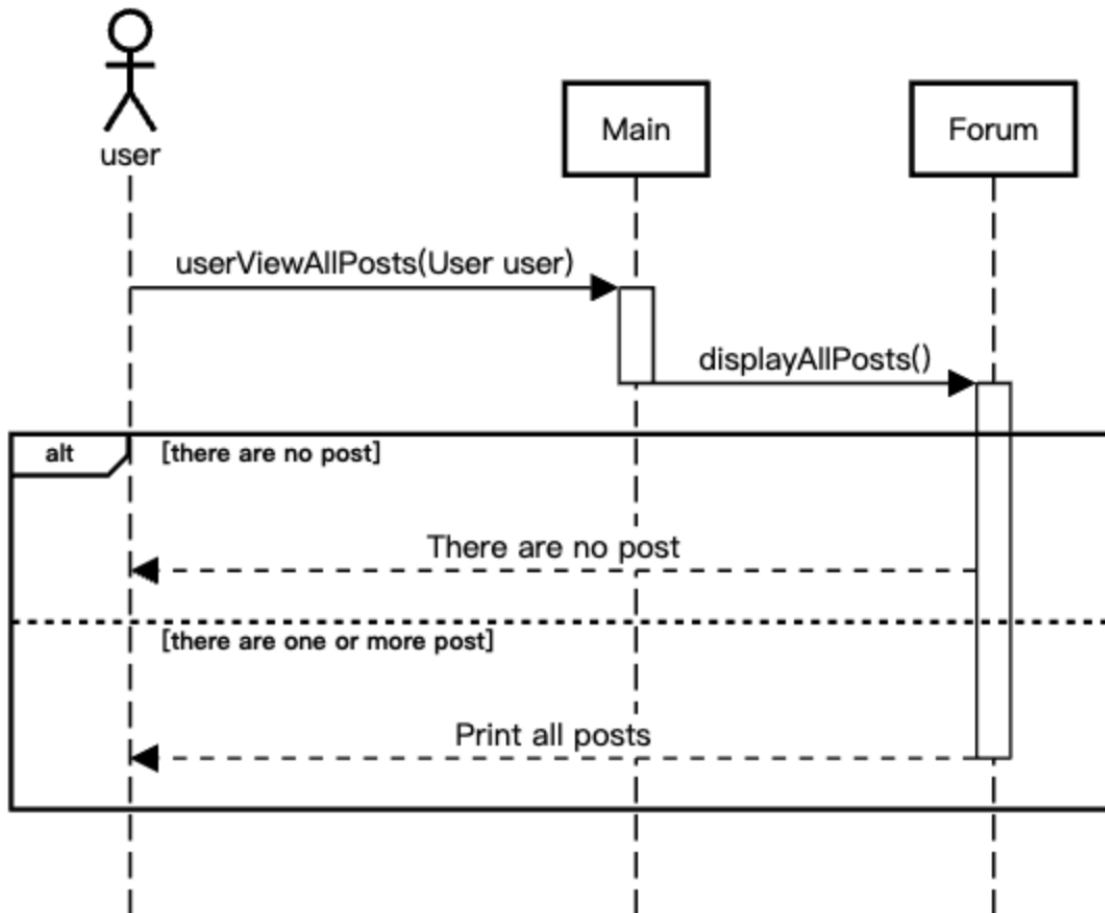
UC1: Signup



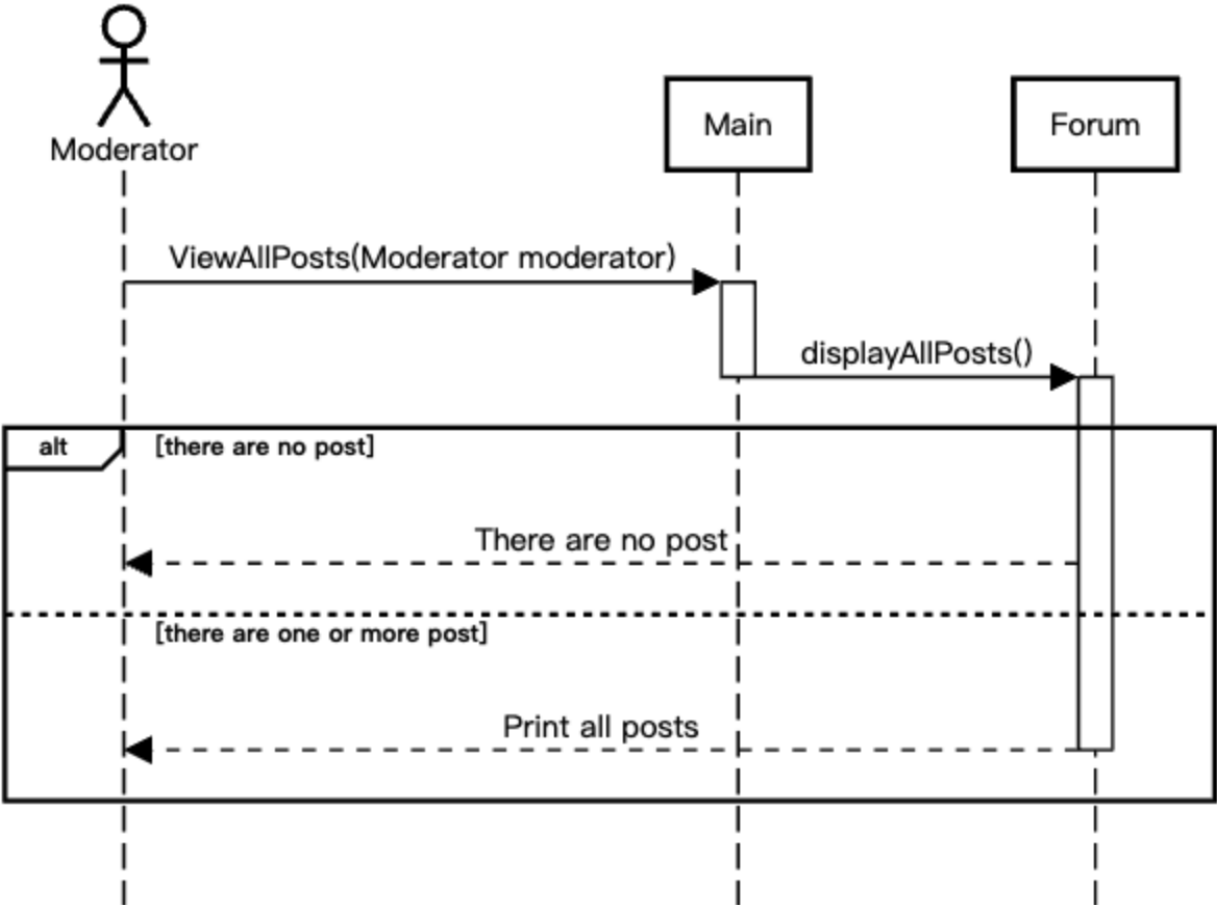
UC2: Login



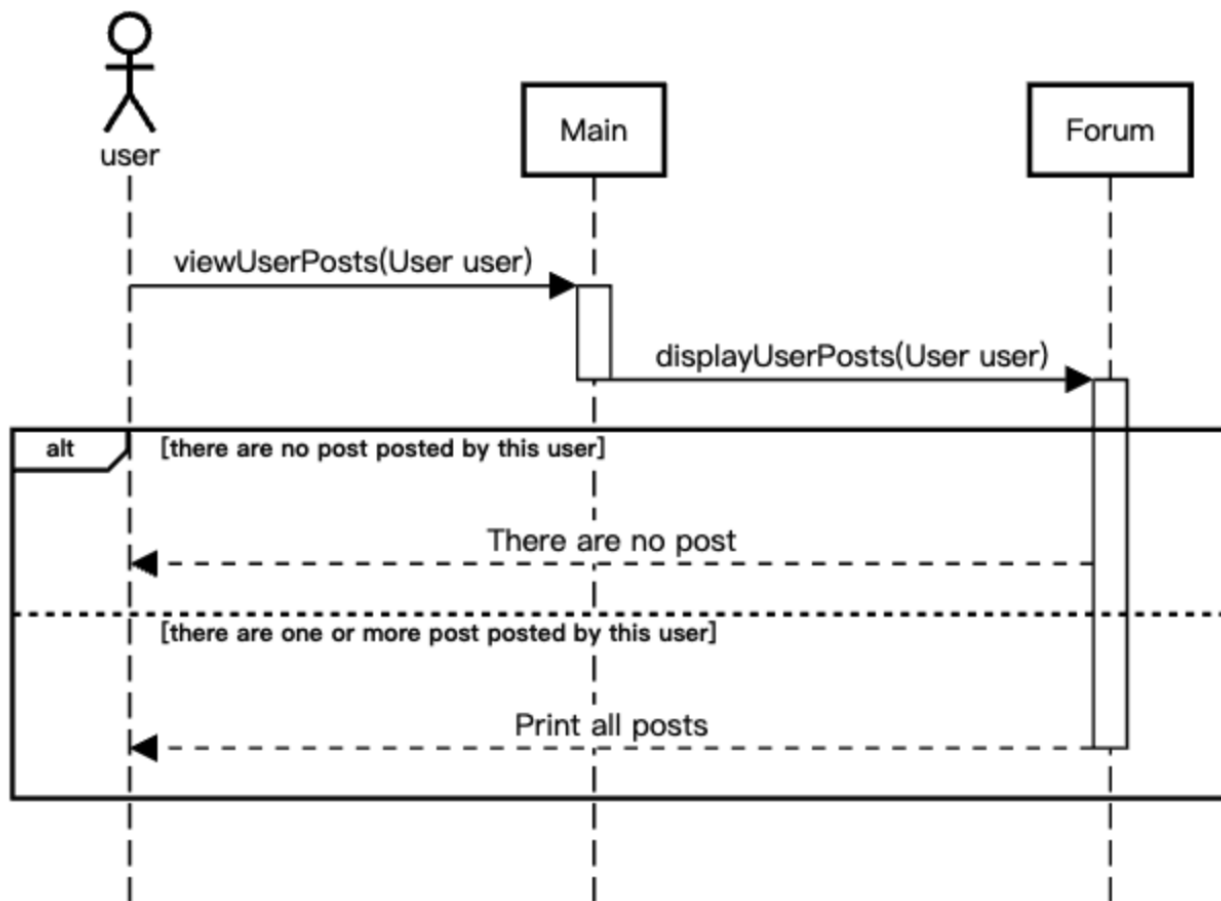
UC3: View All Posts (User)



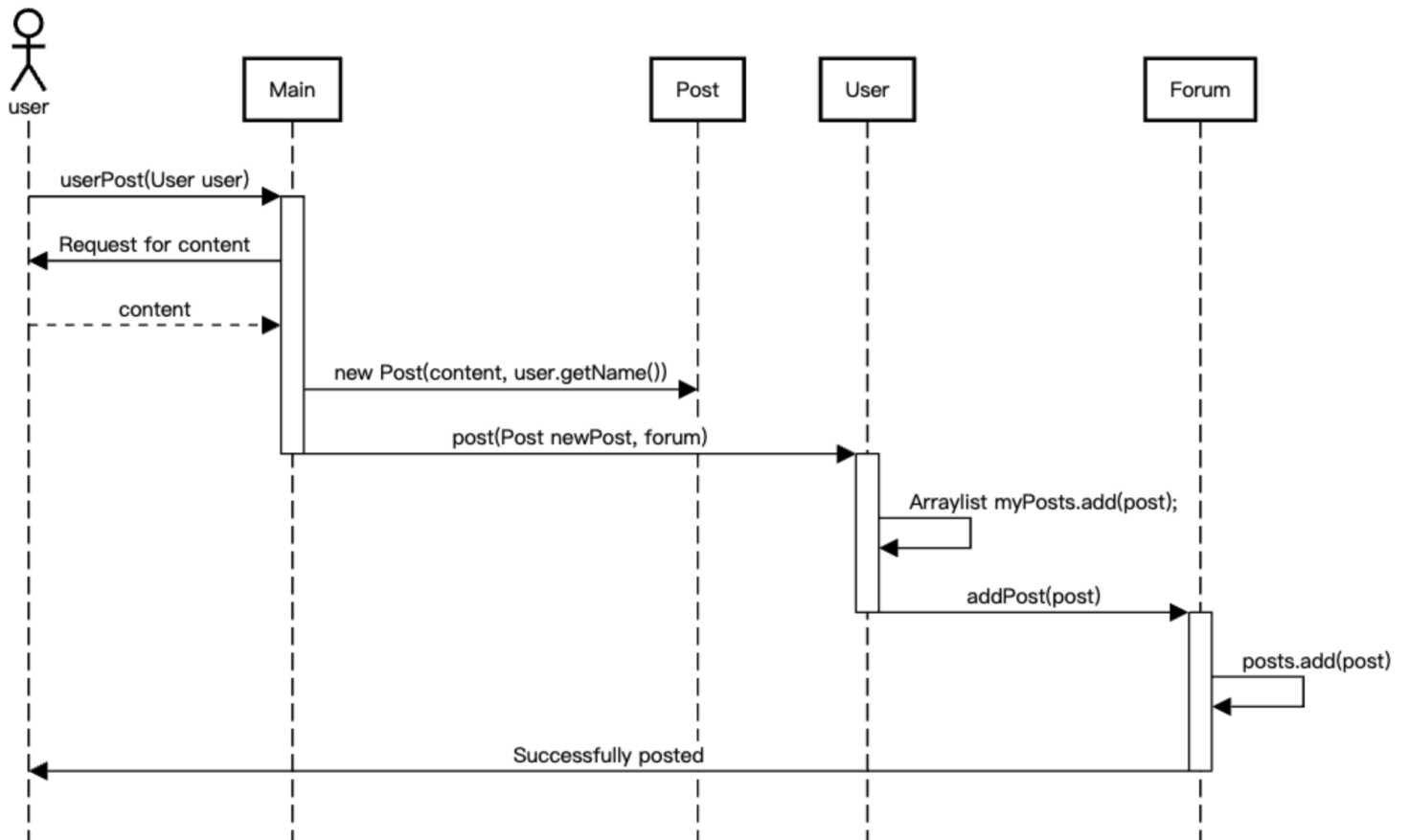
UC3: View All Posts (Moderator)



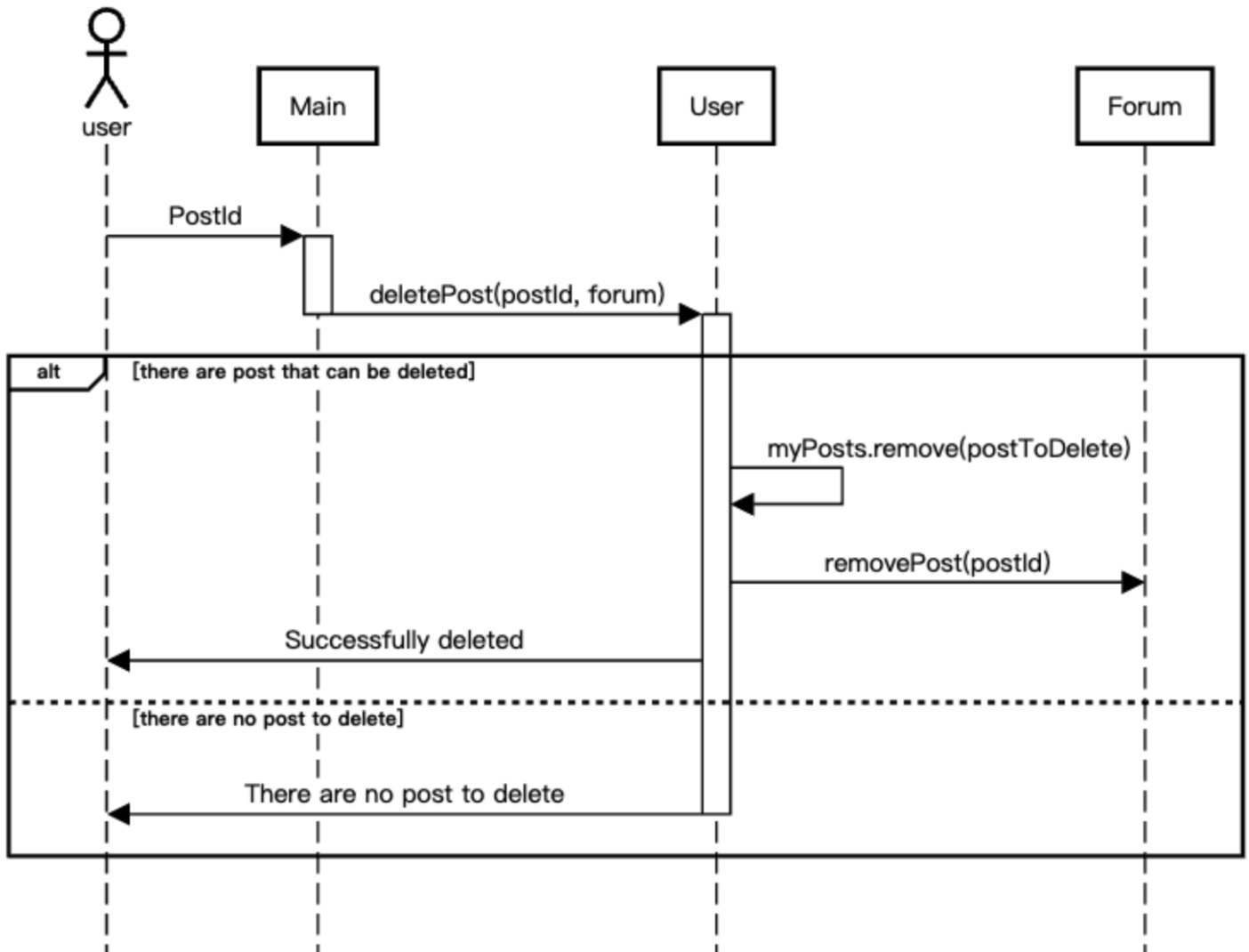
UC4: View My Posts



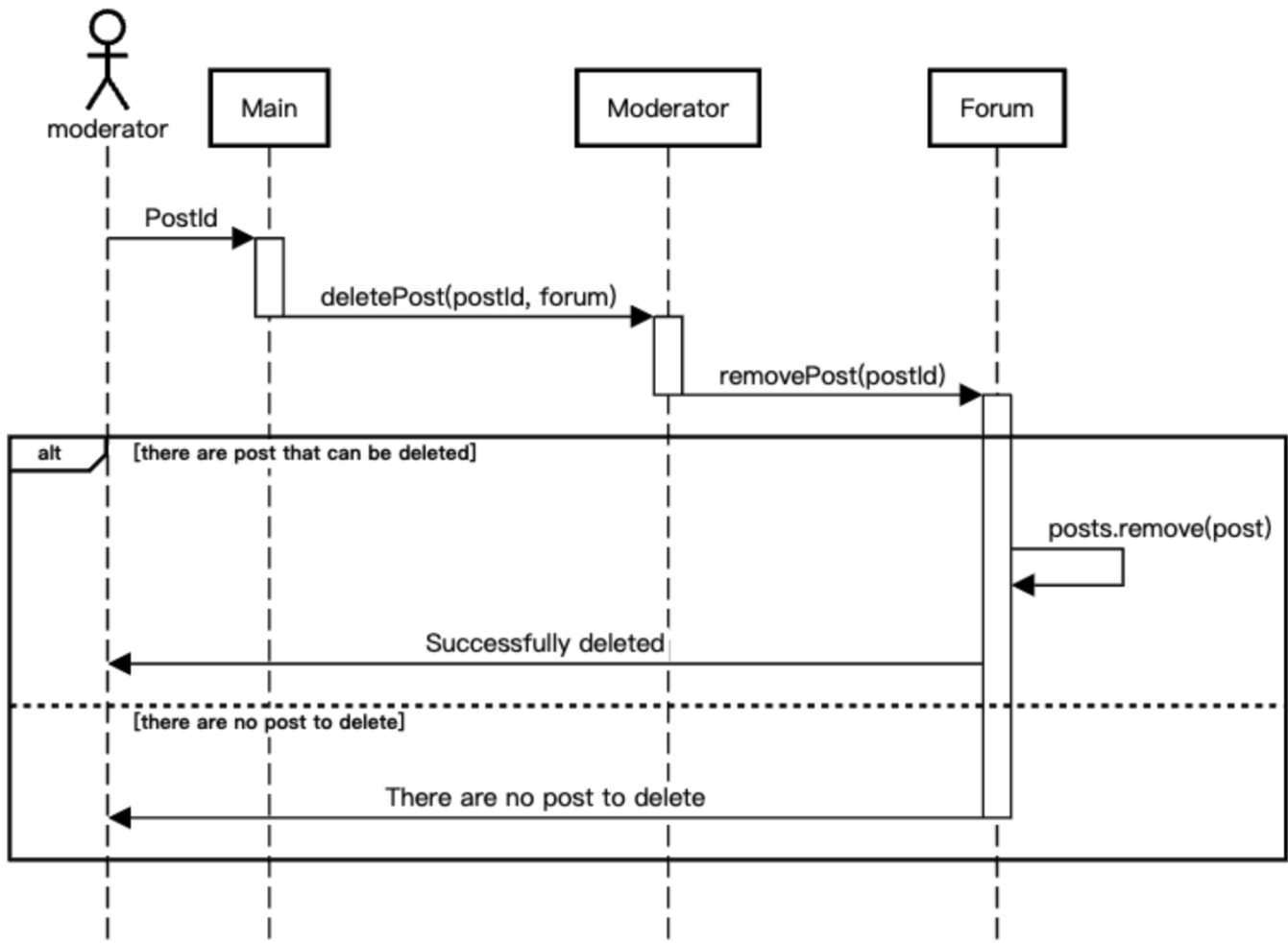
UC5: Post



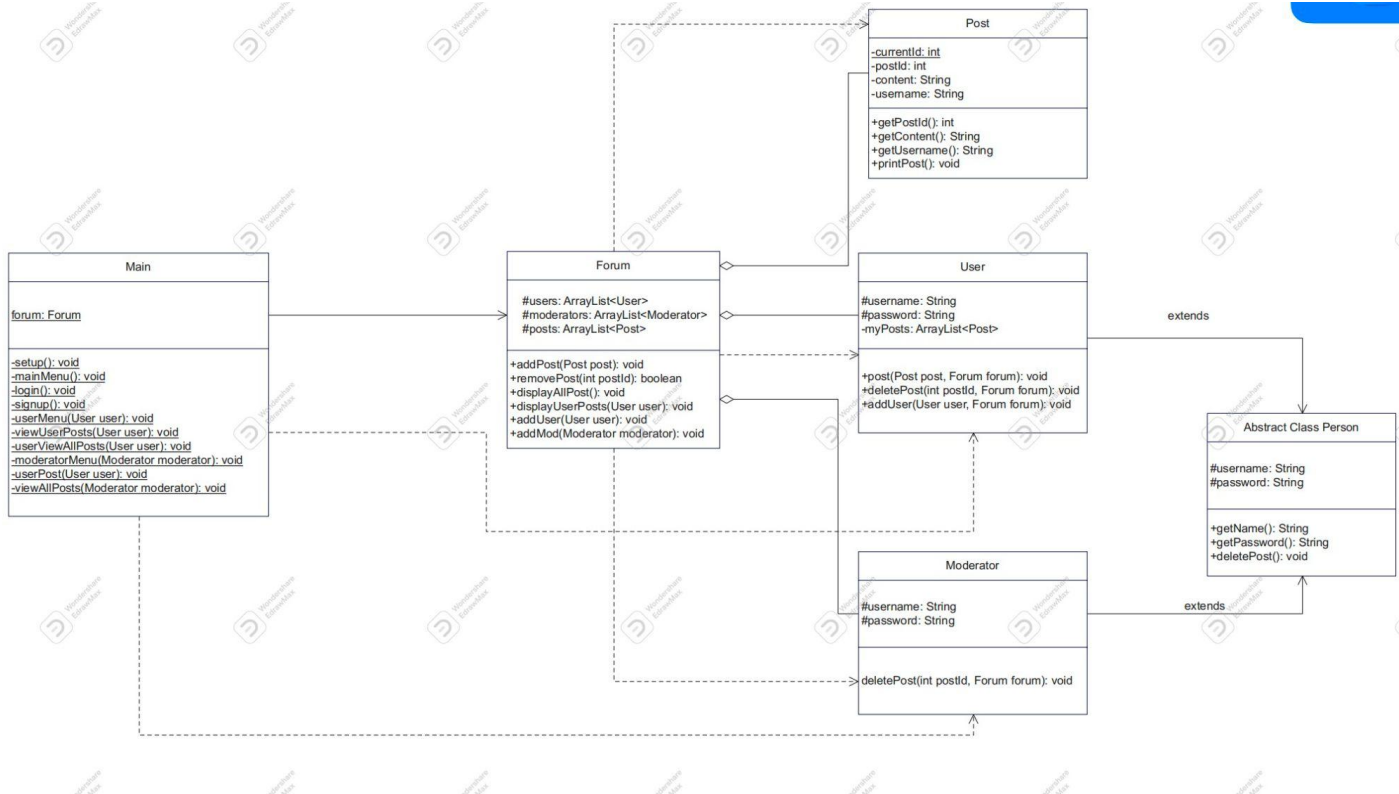
UC6: Delete My Post (User)



UC7: Delete Post (Moderator)



Class Diagram



Conclusion

This is the first CS project we have done that is based on a UML procedure. This time, instead of heading directly for coding, we have done extensive discussion over the Zoom on what function we should have in our program, and essentially drew the UC diagram and a sequence diagram draft before we have even started. After writing our part of the first draft of the program, we then spend extensive time refining the forum and making sure every part of our program is optimized in both structure and reliability. During this process, we found that UML is actually a very useful tool in cooperating and collaborating with teammates asynchronously. We haven't talked a lot about our project due to the remote nature of this class, but rather followed our part of the project rigidly. The outcome turned out to be a lot better than we anticipated, and we believe that the use and understanding of UML diagrams is one the most important factors in this project.