



CS 319 Object-Oriented Software Engineering

Deliverable 2

Mockups/State/Activity/Class/Sequence Diagrams

S2T8

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1. User Interface Mock-ups

CampusConnect

E-mail

john.doe@bilkent.edu.tr

Password

[Forgot Password?](#)

[Login](#)

Don't have an account?

[Sign Up](#)

Login Page

CampusConnect

Your name

John Doe

Your nickname

john_doe123

Bilkent ID

123456

Bilkent E-Mail

john.doe@bilkent.edu.tr

Password

Correct password

[Sign Up](#)

Sign Up Page

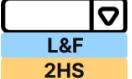
Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages



What's happening?

L&F
 2HS
 Donations
 Borrowing



Filter By:
L&F
2HS
Donations
Borrowing

Post



bilgineroral10

L&F
Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023





anonymous

I hope u find it mate!



alp_kara1

I found it and left it to the securities in A building.

Main Page (Homepage)

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

Notifications



zeynep56 commented on your post: I am interested in buyi... trash



zeynep56 liked your post: I'm selling my iPad. Message me... trash



alp_kara1 liked your post: I think I've lost my earphones @ M... trash



alp_kara1 commented on your post: I found it and left it to th... trash

Delete All Notifications

View All Notifications

Notifications Page

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

 **Search**

Search results are shown here:

 **zeynep56**  

Zeynep Öztürk


Search Page (for users)

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

Profile of alp_kara1



alp_kara1
Alp Kara

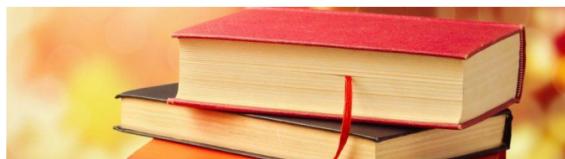
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum ut bibendum metus. Morbi at ipsum porta, consectetur nibh ac, pharetra nisi. Ris eu egestas ante, ut ornare nisi. Donec ante turpis, accumsan nec tempus vehicula, gravida sed odio.

Posts


alp_kara1
2HS
Ongoing
...

I'm selling my HUM111 books. Anyone interested?

Auctions are enabled for this post! Ending at 12/11/2023.
 Base price: 100 ₺.
 Highest bid: 350 ₺ by alp_kara1. Your previous bid to this auction was 325₺.
 Make new bid.



Profile Page of Another User

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages



You are blocked by **eren_kkas**. You are not able to view any content on, or details about, their account.

Profile Page of Another User When Blocked

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

My Profile



Edit Profile
Sign Out

bilgineroral10

Bilginer Oral

I'm a third year CS student, and I am highly motivated in making Bilkent a better place for everyone. That's why I strive to build CampusConnect. My interests are coding, music and just hanging around! Message me if you feel like we share stuff in common!

Posts

...



bilgineroral10

L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023



My Profile Page

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

Edit Profile



bilgineroral10

Bilginer Oral

I'm a third year CS student, and I am highly motivated in making Bilkent a better place for everyone. That's why I strive to build CampusConnect. My interests are coding, music and just hanging around! Message me if you feel like we share stuff in common!

[Upload new photo](#)

[Change nickname](#)

[Change name](#)

[Change bio](#)

[Change password](#)

Show e-mail in profile

Edit Profile Page

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

Messages



zeynep56 sent a live chat request to you but you were offline. 

alp_kara1 sent a live chat request to you but you were offline. 

anilkoyuncu rejected your live chat request. 

 Requests sent to you

No chat requests currently

 Start new live chat

 **zeynep56**

Zeynep Öztürk 

Messages Page

You are messaging with  zeynep56. Remember to be kind to others.

Leave chat

 bilgineroral10
Hey, I heard you're selling the DDCA book. Is it really 400 ₺?

 zeynep56
Yeah, but I can do 375 ₺. It's in great shape.

 bilgineroral10
Can you go down to 325 ₺? That's my budget.

 zeynep56
Let's meet in the middle at 350 ₺. Deal?

 bilgineroral10
Deal! Thanks, that works for me.

bilgineroral10 ended this chat.

 Report User  Block User  End Chat Say hello to zeynep56! 

Real-time Messaging Between Users

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

Settings

Use Dark Theme 

Filter Timeline By:

- L&F
- 2HS
- Donations
- Borrowing

Show **Resolved** posts in timeline: 

Enable Private Mode: 

Private mode enables you to like, comment or even post without exposing your credentials to other users.

Go to your blocklist

Settings Page

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages

My Blocklist

	trolluser1	Unblock
Troll User		
	trolluser2	Unblock
Troll User		
	trolluser3	Unblock
Troll User		

Blocklist Page

Campus Connect

-  Home
-  Notifications
-  Search
-  Profile
-  Messages



What's happening?

Lost/Found date
DD/MM/YYYY








Filter By: L&F 2HS Donations



bilgineroral10
L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023



...



anonymous
I hope u find it mate!

...



alp_kara1
I found it and left it to the securities in A building.

...

Making New L&F (Lost and Found) Post

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

Base price
 Allow bids
 Auction deadline DD/MM/YYYY 31

Post

Filter By: L&F 2HS Donations

bilgineroral10 L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023



anonymous I hope u find it mate!

alp_kara1 I found it and left it to the securities in A building.

Making New 2HS (2nd Hand Sales) Post

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

Donation aim
 Minimum donation

Post

Filter By: L&F 2HS Donations

bilgineroral10 L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023



anonymous I hope u find it mate!

alp_kara1 I found it and left it to the securities in A building.

Making New Donations Post

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

Post

Filter By: L&F 2HS Donations

bilgineroral10 L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023

anonymous I hope u find it mate!

alp_kara1 I found it and left it to the securities in A building.

Making New Borrowing Post

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

Post

Filter By: L&F 2HS Donations Borrowing

bilgineroral10 L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023

anonymous I hope u find it mate!

alp_kara1 I found it and left it to the securities in A building.

L&F Post Shown in Timeline

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

L&F
2HS
Donations
Borrowing

Post

Filter By: L&F 2HS Donations

alp_kara1 2HS Ongoing

I'm selling my HUM111 books. Anyone interested?
Auctions are enabled for this post! Ending at 12/11/2023.
Base price: 100 ₺.
Highest bid: 350 ₺ by alp_kara1. Your previous bid to this auction was 325₺.
Make new bid.

bilgineroral10 I really want these!

2HS Post Shown in Timeline

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

L&F
2HS
Donations
Borrowing

Post

Filter By: L&F 2HS Donations

anilkoyuncu Donations Ongoing

I'm collecting donations for a student to provide scholarship. Send donations to: TR76 0009 9012 3456
Target Donation: 10000₺
Minimum Donation: 200₺

anonymous I've donated 500 ₺! Hope you can collect the necessary amount.

alp_kara1 I hope we can collect 10000₺!

bilgineroral10 L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.
Date: 19/10/2023

Donation Post Shown in Timeline

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

What's happening?

L&F
2HS
Donations
Borrowing

Post

Filter By: L&F 2HS Donations

bilgineroral10
Borrowing Ongoing

Can anyone borrow me his/her DDCA book? I need it immediately for the midterm. Thanks in advance!

alp_kara1
Of course! I can give my DDCA book, message me.

Borrowing Post Shown in Timeline

Campus Connect

- Home
- Notifications
- Search
- Profile
- Messages

Edit Post

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Update **Resolve**

If you think this post no more needs attention, you can resolve it.

Edit Post Page (when clicked the button on a post)

Campus Connect

-  Home
-  Search
-  Reports

Logged in as **admin036**.

[Enable Dark Theme](#) 



bilgineroral10 Ban
L&F Ongoing

I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023

...





anonymous
I hope u find it mate!

...



alp_kara1
I found it and left it to the securities in A building.

...



alp_kara1 Ban
2HS Resolved

I'm selling my HUM111 books. Anyone interested?

Auctions are disabled for this post.

...

Admin Main Page

Campus Connect

-  Home
-  Search
-  Reports

 **Search**

22103163

Search results are shown here:



bilgineroral10
Bilginer Oral

Admin Search page (admins can search by Bilkent ID too)

Campus Connect

- Home
- Search
- Reports

! Reports

zeynep56 reported **bilgineroral10**.

Reason: "He's posting harmful content!!!"

alp_kara1 reported the following comment, on this [post](#).

Reason: "Hate speech"

anonymous (cem_cakir22)

I hate you!!!

anilkoyuncu reported this [post](#).

Reason: "This posts contains misinformation."

Reports Page of an Admin

Campus Connect

- Home
- Search
- Reports

bilgineroral10
Ban User

bilginer.oral@ug.bilkent.edu.tr
22103163

Bilginer Oral

I'm a third year CS student, and I am highly motivated in making Bilkent a better place for everyone. That's why I strive to build CampusConnect. My interests are coding, music and just hanging around! Message me if you feel like we share stuff in common!

Posts

bilgineroral10
Ban
L&F
Ongoing

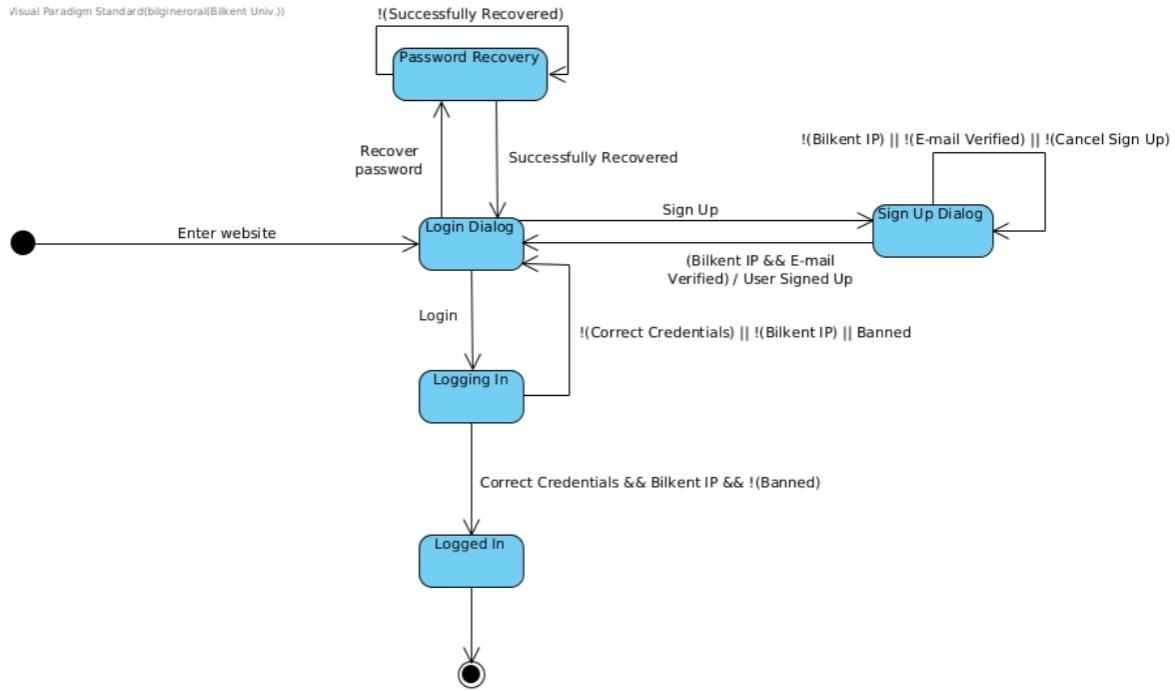
I think I've lost my earphones @ Mayfest area. I'll be glad if anyone could help.

Date: 19/10/2023

Admin View of a user Profile

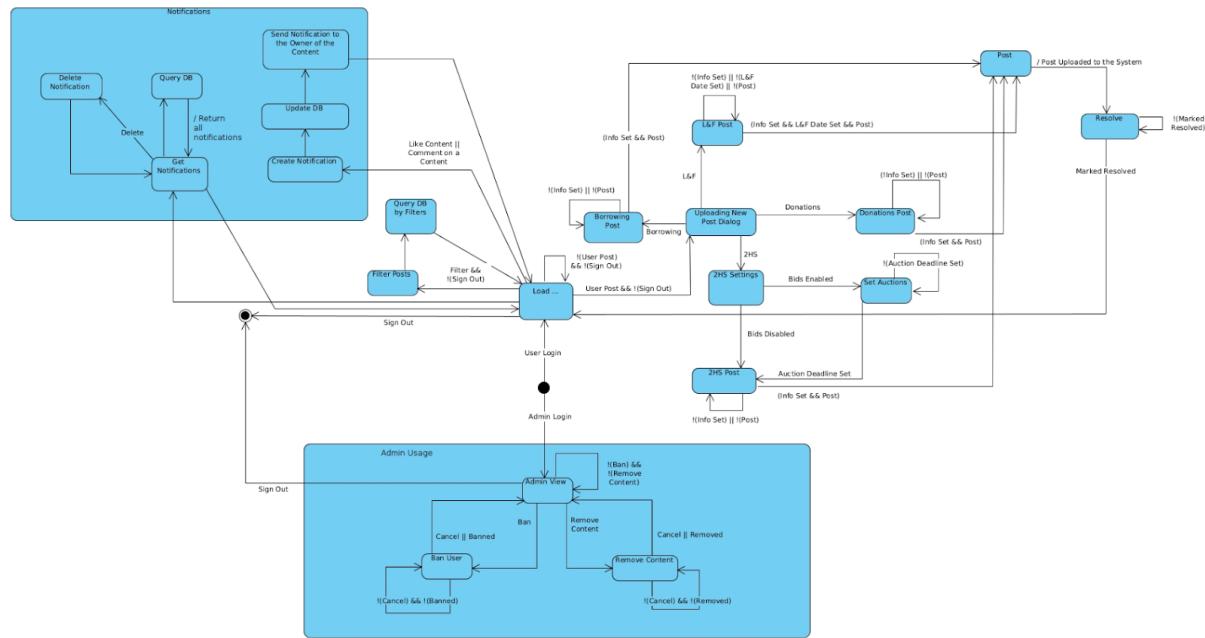
2. State Diagrams

Login State Diagram



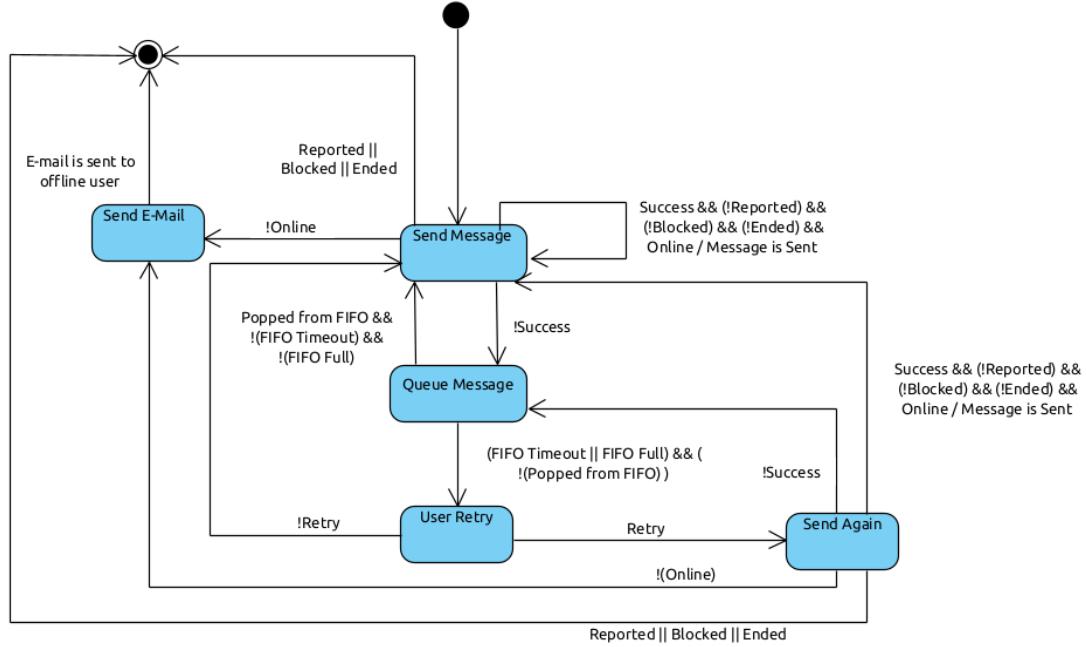
This state diagram sketches different states of the initial page of the application. When a user enters the site, the login page will be seen. From there, the user can enter the correct credentials and login if they are not banned or outside the Bilkent network. If the user enters the wrong credentials, or is banned, or is outside the Bilkent network, the login screen will be refreshed again for proper login. If the user has yet to sign up, they are required to sign up. Users can create a new account from the sign up page, provided they are within the Bilkent network. Finally, if the user has an account on the application but forgot their password, they can recover their password through the password recovery system.

State Diagram for Homepage



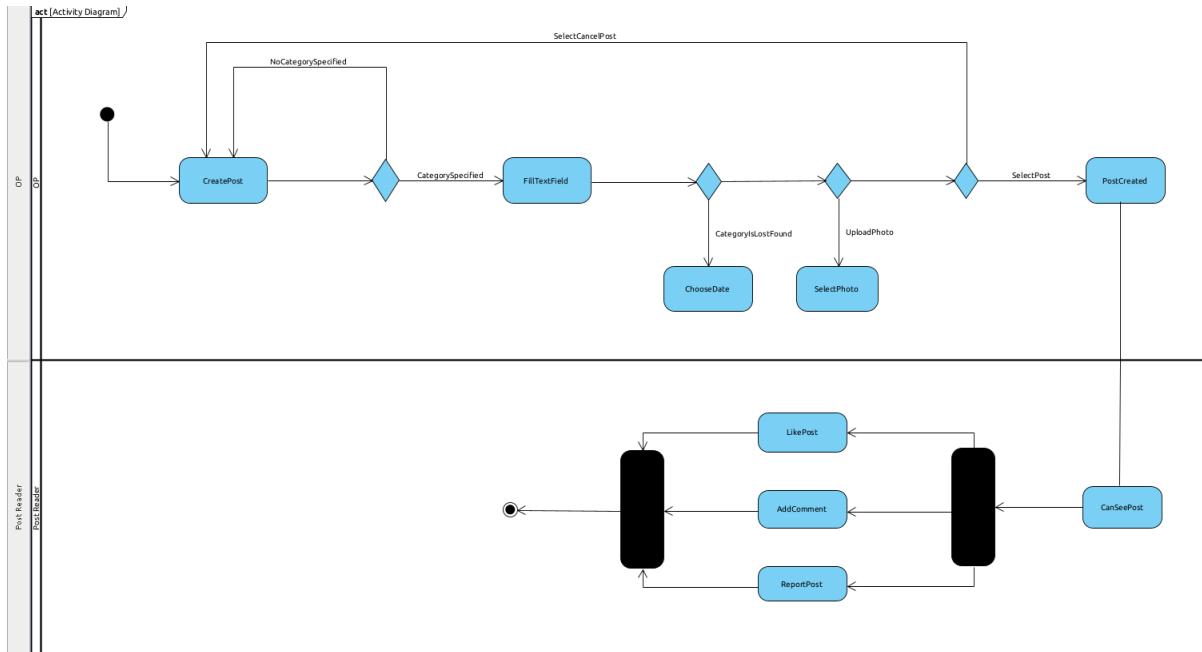
This state diagram displays the possible state transitions after login. In this diagram, "Admin Usage" and "Notifications" are shown as composite states. After a user logs in, they will be presented with their timeline. They can use the available filters to see more relevant posts in their timeline. If a user wants to post, they will have to pick a category from the "uploading new post" dialog. After entering the necessary post information, the user can upload their post to the system. This flow differs for 2nd Hand Sales posts slightly, where the users also enable/disable bids; and if they enable bids, they will also have to set an auction deadline. After uploading a post, users can mark their posts as resolved when appropriate. Admins have different states than users. After an admin logs in, they will have the ability to ban users or remove content that is considered inappropriate or harmful.

State Diagram for Messaging

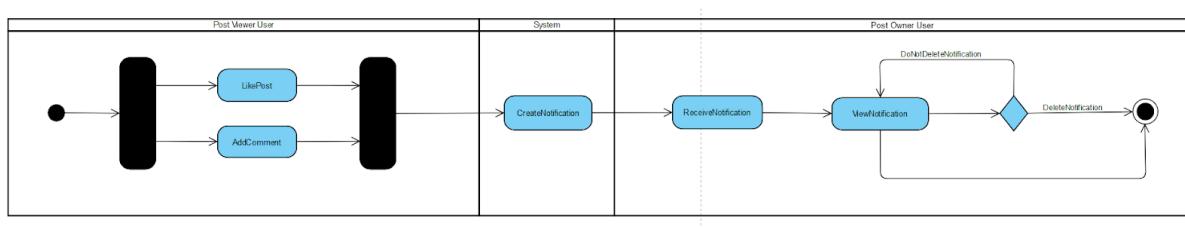


This diagram sketches the states during messaging. If a user decides to send a message and no problem occurs, the user can send another message again. If the message cannot be sent for some reason, first it is queued in a FIFO, and a timer is started. If the FIFO is full (i.e. no more messages can be queued), or the message cannot be popped from the FIFO (popped messages are sent to the receiver), or the timer times out, the user is prompted with a “Retry” option. If the user chooses to retry sending the message, then the same flow is repeated. On the other hand, if the user does not choose to retry, the system returns to the beginning state, which is the “Send Message State”. Finally, if there is no problem on behalf of the sender but the receiver is offline, then the system sends an email, notifying the offline user that there was a live chat request.

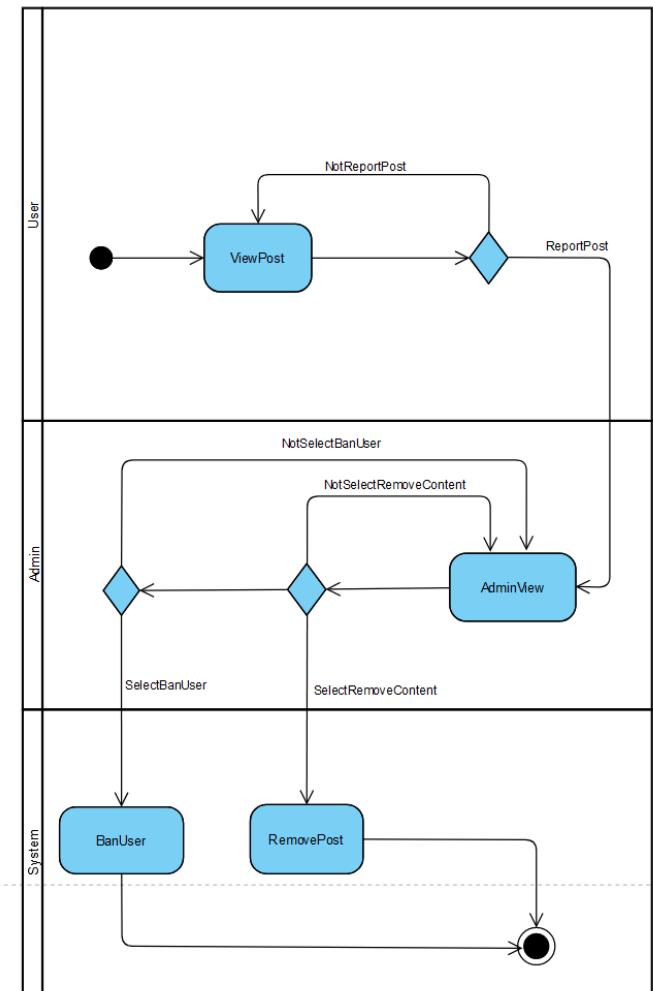
3. Activity Diagram



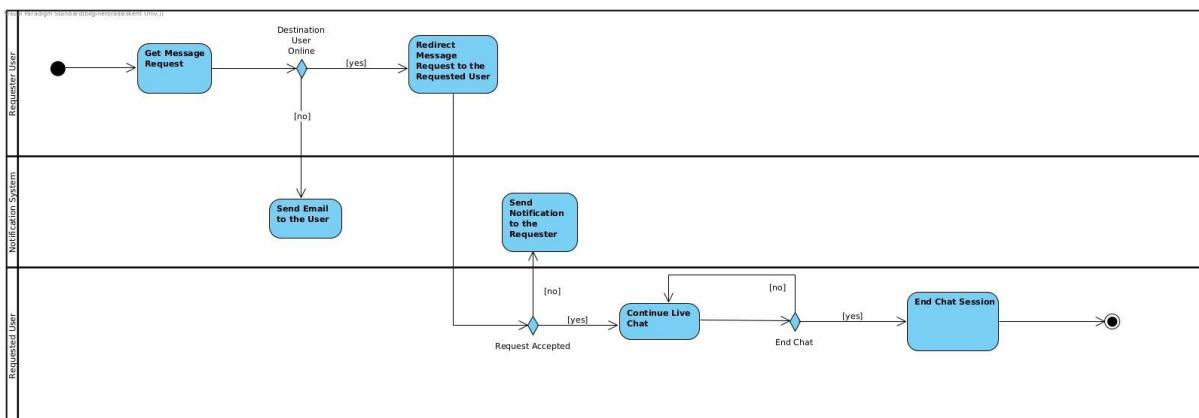
This activity diagram shows the activities related to creating a post. To create the post, the user first needs to select a category. After selecting the category type, the user can write in the text field. If the category type is "Lost & Found", the user can also enter the date they lost/found the item. Additionally, the user can also upload a photo alongside their text message. After filling out these fields, the post can be created if the user decides to post. After the post is created, a post reader will be able to see it in their timeline. After seeing the post, the post reader can like the post, report it, or add a comment.



This activity diagram shows the activities related to users receiving and deleting notifications. Firstly, the user who views a post can like the post or add a comment. After the post viewer user interacts with the post, the system creates a notification to alert the post owner. The post owner user will then receive the notification. After receiving the notification, the post owner user can choose to delete or keep it.



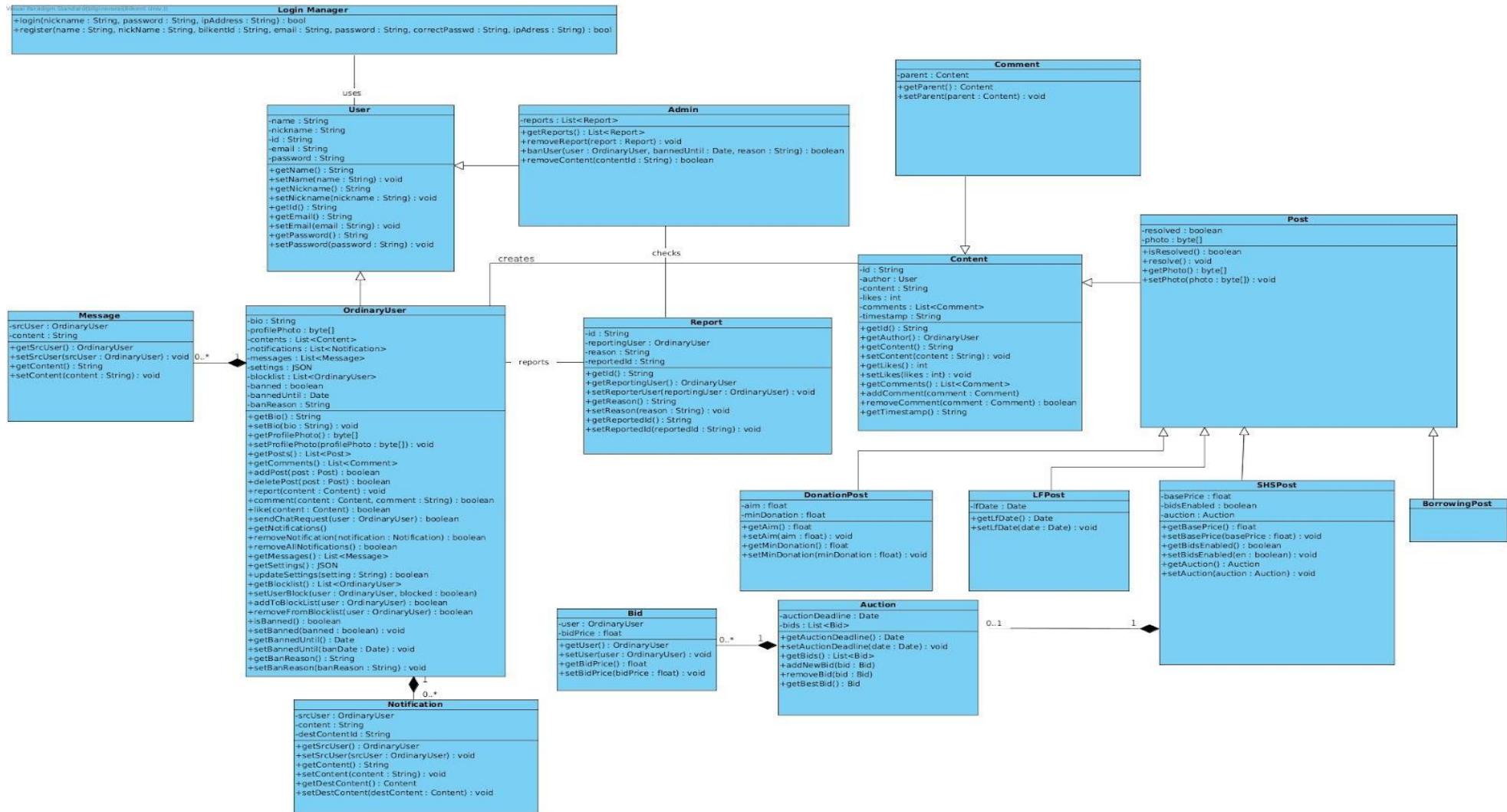
This activity diagram shows the activities related to admin usage. After a user views a post and selects to report it, an admin can see the post in their admin view. Then, the admin can remove the content or outright ban the poster if they deem it necessary.



This last activity diagram shows how the system handles the messaging feature. First, a user makes a live chat request to another user. This request is accepted by the system and sent to the other user. If the other user is offline, the system sends an email notification. If the user accepts the request, they can continue the live chat or end the session. Both paths lead to a final completion state.

at that time, an email is sent to notify that there was a request to him/her. If he/she is online, a decision is made whether or not the request is accepted. If not accepted, a notification is sent to the requester user notifying that the request was declined. Otherwise, the users start a live chat and this live chat continues until one of them ends the chat.

4. Class Diagram



Textual Descriptions of Classes

User: This class is the general class of users. It has credentials like name, nickname, email and password. It is the parent class of OrdUser and Admin.

OrdinaryUser: Ordinary User is depicted in this class. The instances of this can create messages, posts and comments; respond to notifications, read comments and posts. Ordinary users might get banned by admins, therefore including the properties banned, bannedUntil and banReason are required.

Admin: Admin class is for the users who have administrative roles in the application. They can read reports and ban users with inappropriate behaviors.

LoginManager: This class controls login and sign up activity. For example, it checks whether the user is banned, or the user is trying to log in from outside Bilkent Network.

Message: Message class used for live chat use case. The Message objects consists of messages indicating the status of the live chat requests.

Comment: Child class of the content class. Since comments can also be made to comments (note that the Content class has a property comment), the Comment and Post classes are derived from the same super class to achieve code reusability.

Content: The Content class encompasses nearly all the viewable aspects in the system. The Comment and Post class are derived from this class. A content (even a comment) may have comments made on it, therefore a private property comments : List<Comment> is included within the Content class.

Post: Post is a base class for various post types, including Donation, L&F, 2nd Hand Sales, and Borrowing posts. A nice feature of the CampusConnect system is that users can resolve posts after they believe that the issue is resolved (e.g. a second hand sales post, thus the private property “resolved”).

Notification: Notification class represents the general notification of the user from another user. The ID of the sender, receiver and the content of the notification are the main variables of the class.

Report: Reports which admins review and take actions accordingly. reportingUserId is the id of the user who issued the report, and the reportedId is the ID of the content or user being reported.

DonationPost: Child class of Post class. It represents the donation use case for ordinary users. Using this class users can aim for a specific amount. They can set a specific lowest amount for the donations.

LFFPost: Child class of Post class. Using this class, users can report items that are found and lost.

SHSPost: Child class of Post class. Using this class, users can sell/buy their items or put up for an auction.

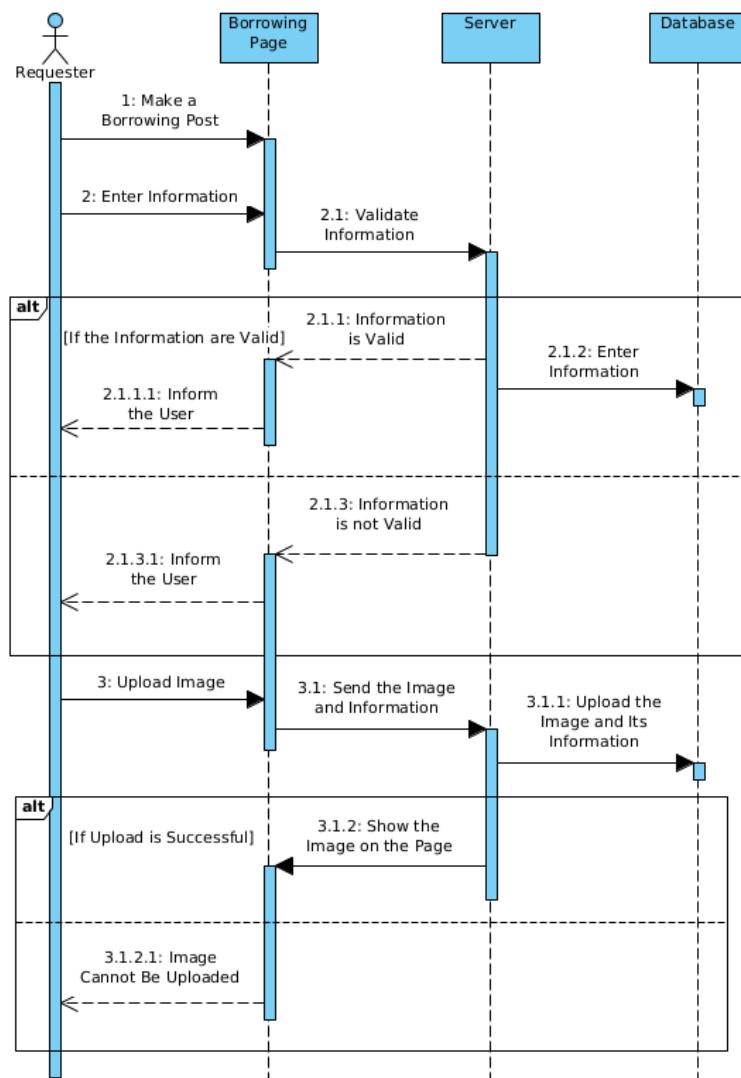
BorrowingPost: Child class of Post Class. Using this class, users can create posts for borrowing or lending their items.

Auction: Auction class mainly used in SHSPost class for organizing auctions for selected items.

Bid: This class represents the bidding in the auctions.

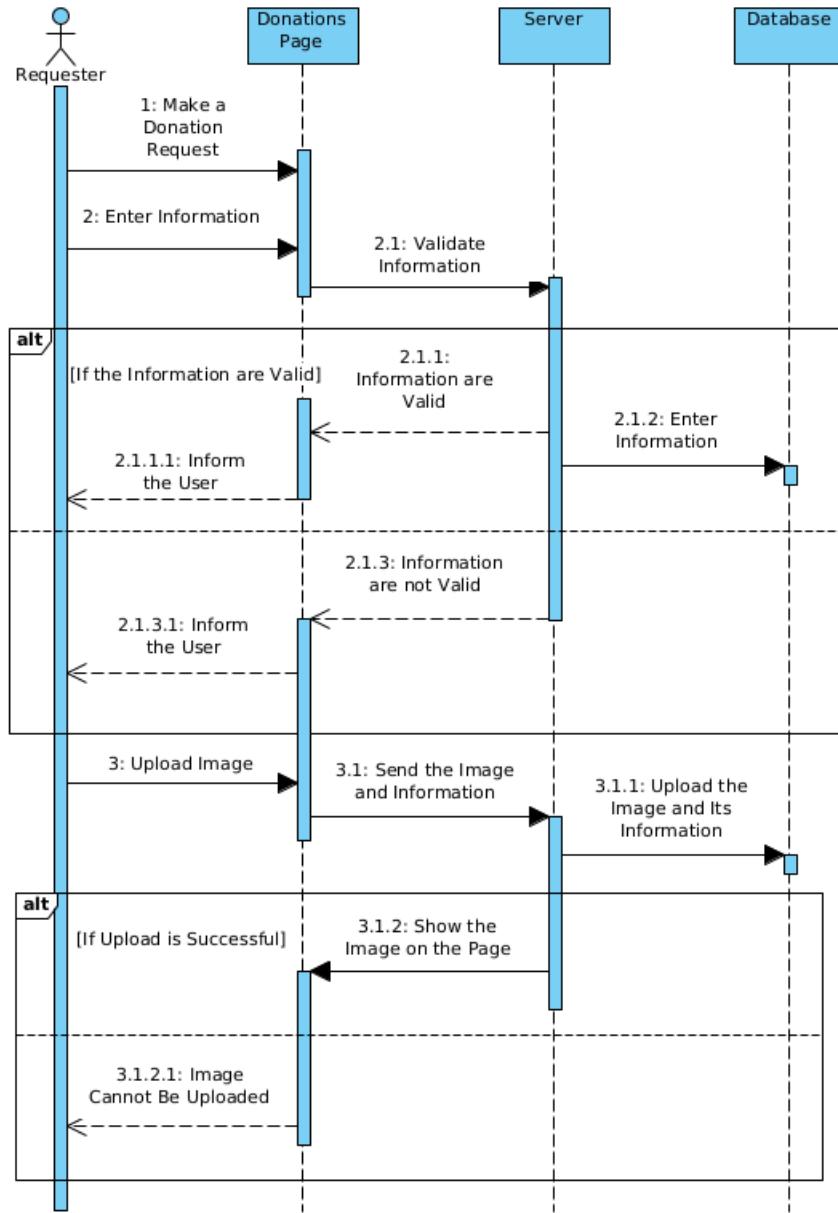
5. Sequence Diagrams

Scenario 1: Creating a Borrowing Post



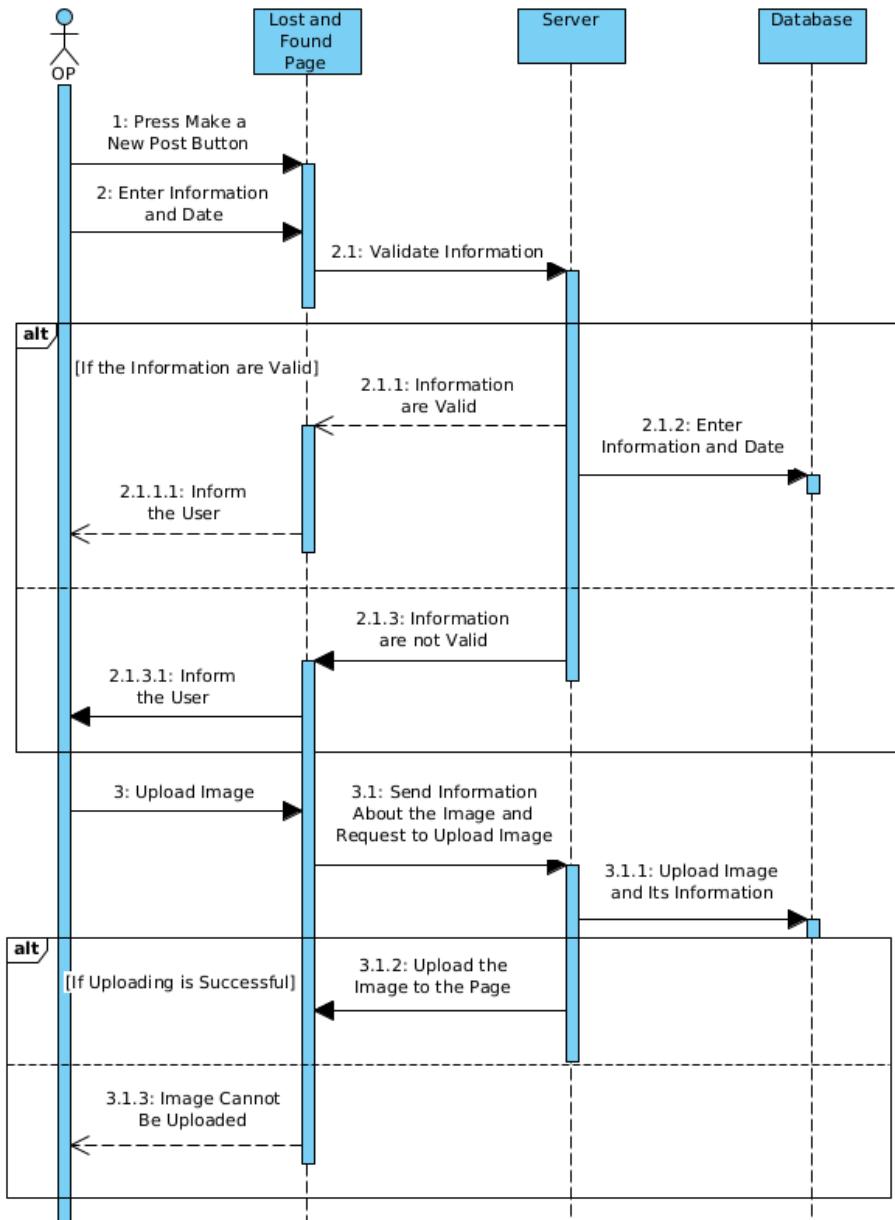
A requester creates a post for lending stuff. Creating a post includes entering the information about the stuff that is being lent. The program validates the information in itself. If the information is valid, the information and the post are saved to the database. At the end, the lender is informed that the posting is successful. However, if the information is not valid, nothing is saved to the database, and the lender is informed that the posting is unsuccessful. After that, the lender can upload an image of the stuff that is being lent. The program takes the relevant information about the image itself and saves it to the database. Then, the program tries to upload the image on the page. If uploading is successful, the image is displayed on the page, but if not, then the lender is informed that the uploading image is unsuccessful.

Scenario 2: Creating a Donation Post



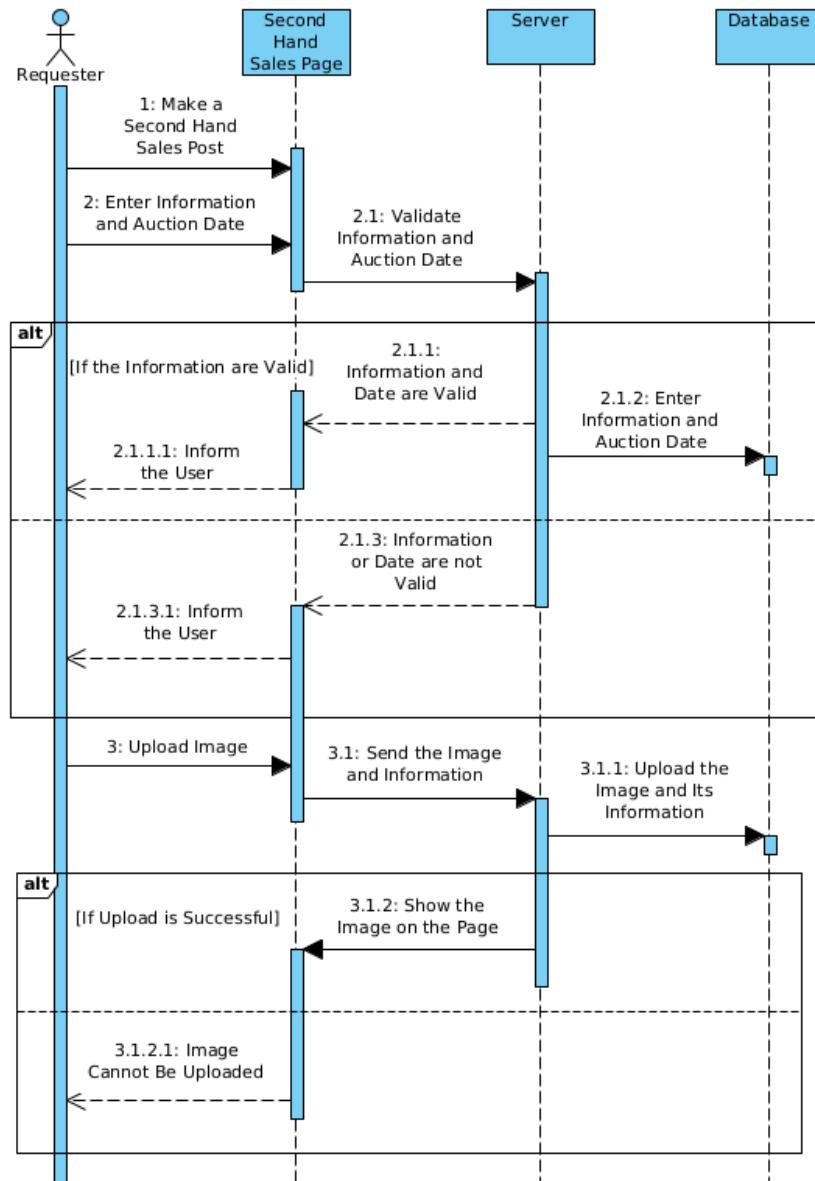
A requester creates a post for a donation campaign. Creating a post includes entering the information about the donation campaign. The program validates the information in itself. If the information is valid, the information and the post are saved to the database. At the end, the requester is informed that the posting is successful. However, if the information is not valid, nothing is saved to the database, and the requester is informed that the posting is unsuccessful. After that, the requester can upload an image of the donation campaign. The program takes the relevant information about the image itself and saves it to the database. Then, the program tries to upload the image on the page. If uploading is successful, the image is displayed on the page, but if not, then the requester is informed that the uploading image is unsuccessful.

Scenario 3: Creating a “Lost and Found” Post



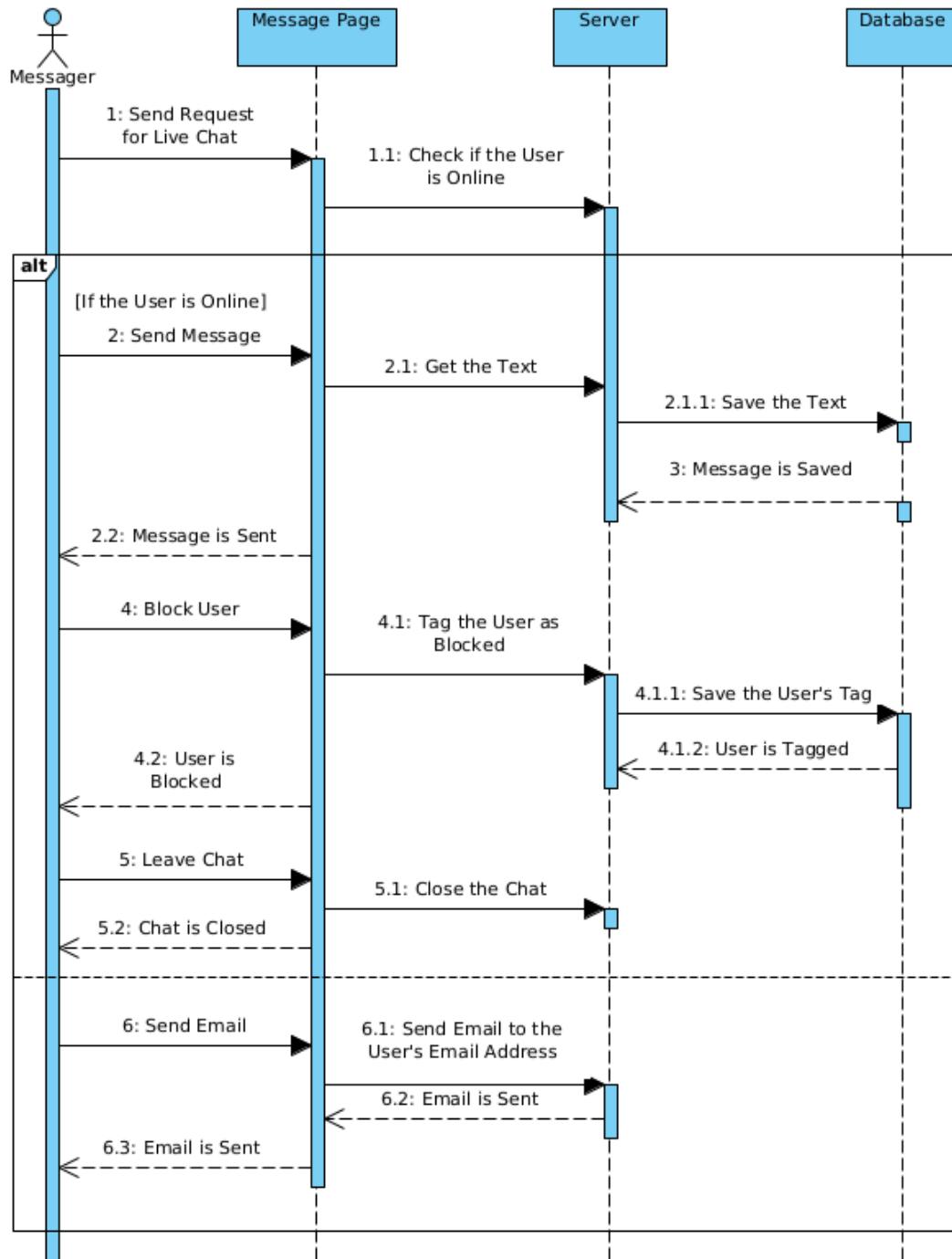
A requester creates a post to inform them that they found a lost item. Creating a post includes entering the information and the date it is found. The program validates the information and date in itself. If the information and date are valid, the information, date, and the post are saved to the database. At the end, the requester is informed that the posting is successful. However, if the information and date are not valid, nothing is saved to the database, and the requester is informed that the posting is unsuccessful. After that, the requester can upload an image of the stuff that was lost and is found. The program takes the relevant information about the image itself and saves it to the database. Then, the program tries to upload the image on the page. If uploading is successful, the image is displayed on the page, but if not, then the requester is informed that the uploading image is unsuccessful.

Scenario 4: Creating a “Second Hand Sales” Post



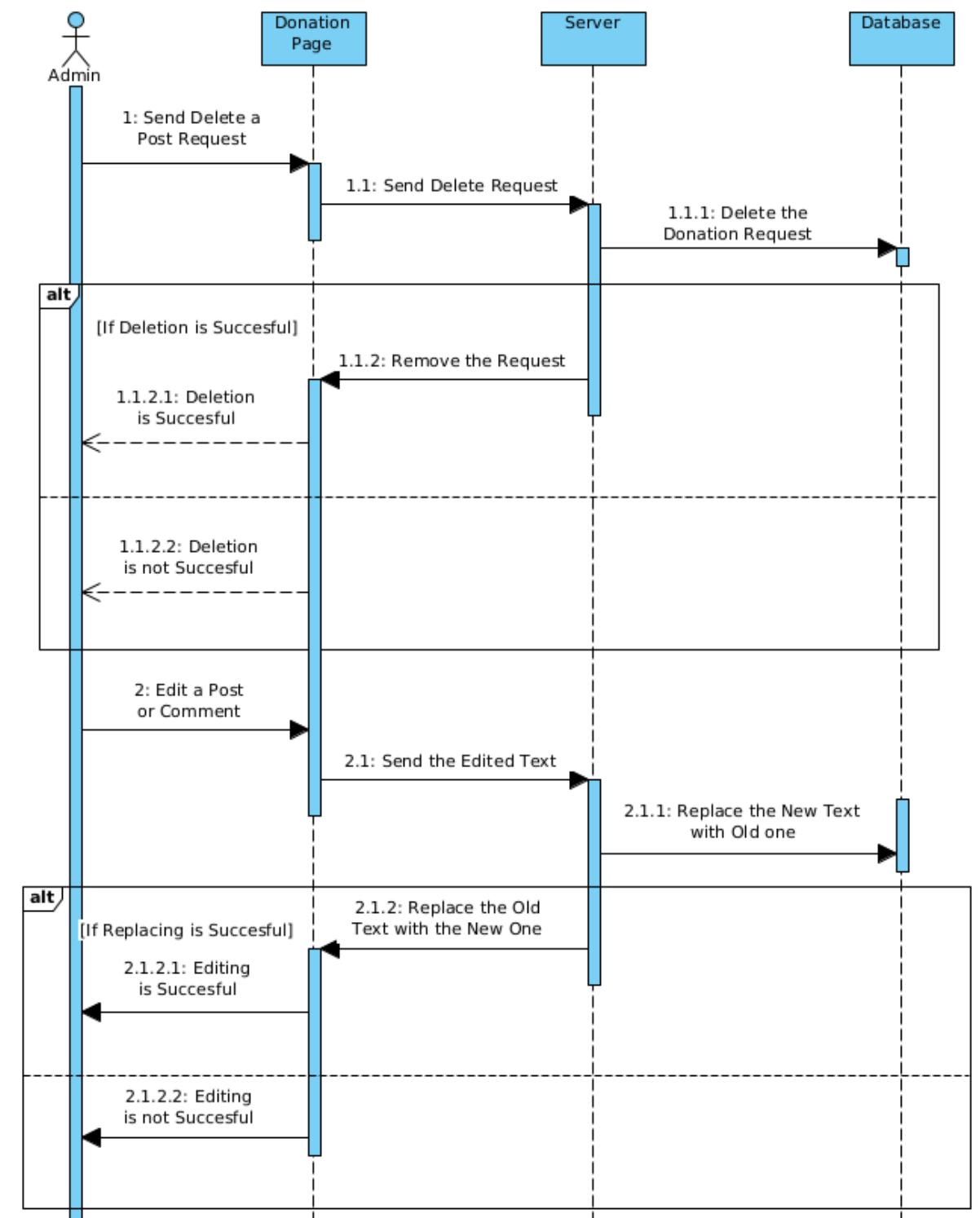
A requester creates a post for selling second-hand stuff. Creating a post includes entering the information about the stuff and the auction date. The program validates the information and auction date in itself. If the information and the date are valid, the information and the post are saved to the database. At the end, the requester is informed that the posting is successful. However, if the information or date is not valid, nothing is saved to the database, and the requester is informed that the posting is unsuccessful. After that, the requester can upload an image of the stuff that is being sold. The program takes the relevant information about the image itself and saves it to the database. Then, the program tries to upload the image on the page. If uploading is successful, the image is displayed on the page, but if not, then the requester is informed that the uploading image is unsuccessful.

Scenario 5: Live Chatting with Another User



If someone wants to chat with another user, they have to send a request for live chat. If the user is online, they can send the message to that user. Users also can block another user. If a user is blocked, the blocked user is tagged as blocked, and from now on, the blocked user cannot reach this user. There will also be a leave chat button, which makes users leave the chat as they press that button. If the receiver user is offline, the messenger can send an email to the receiver user's email address.

Scenario 6: Deleting and Editing Posts and Comments



An admin can delete or edit the posts and comments on the program. Both editing and deleting require sending a request from the admin, and then the deleting or editing is done. After that, the new form of the pages is displayed to the user.