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# **SnapTweet**

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**Mini Twitter**

**Software Design Report**

**For CSC 32200**

**Version 1.0**

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Date	Version	Description	Author
11/21	1.0	Completed the software design report for MiniTwitter	Group H

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

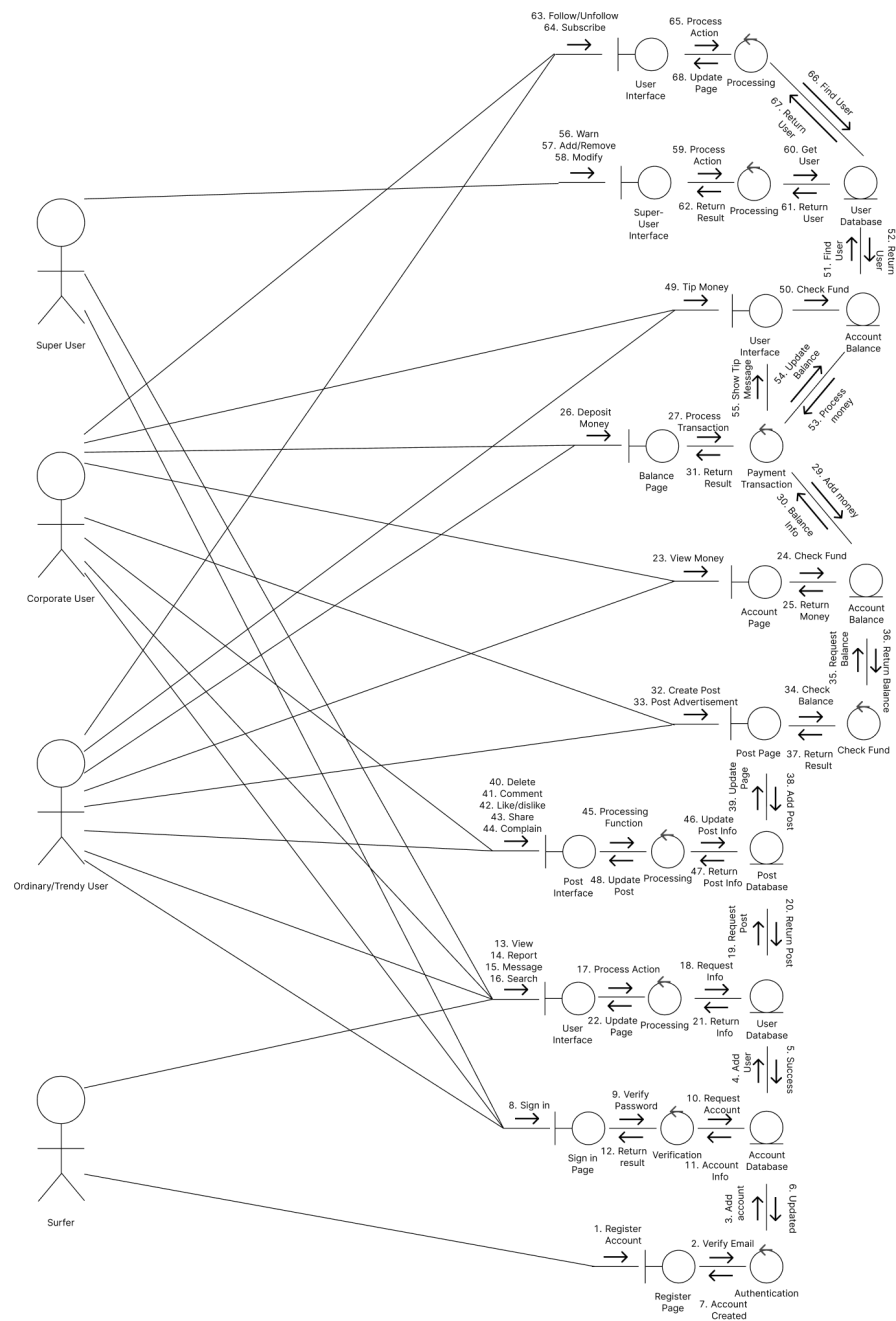
## Table of Contents

Mini Twitter	1
Software Design Report	4
Introduction	4
All Use Case	5
E-R diagram	12
Detailed Design	13
System Screens	22
Memos	26
Address	27

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

# Software Design Report

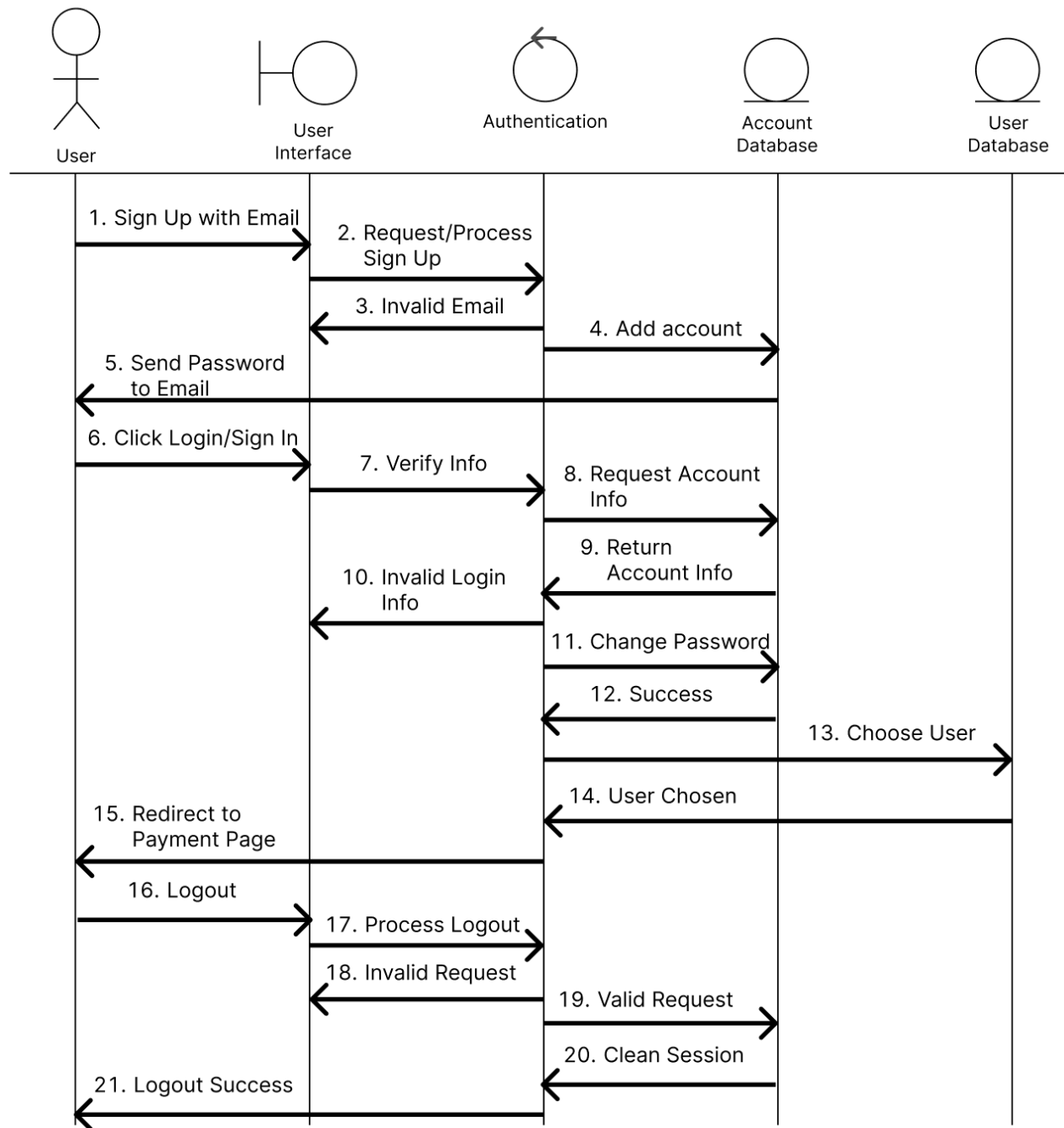
## Introduction



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

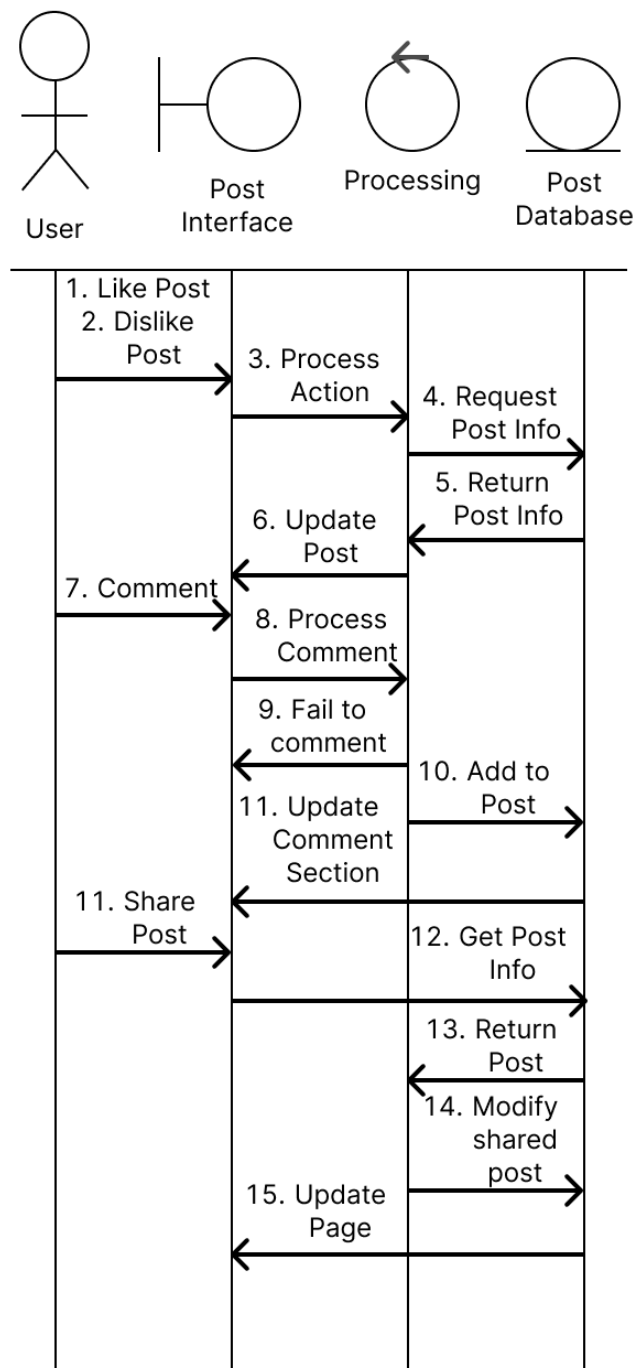
## All Use Case

Sequence Class Diagram for Sign up, login, and logout of a system:



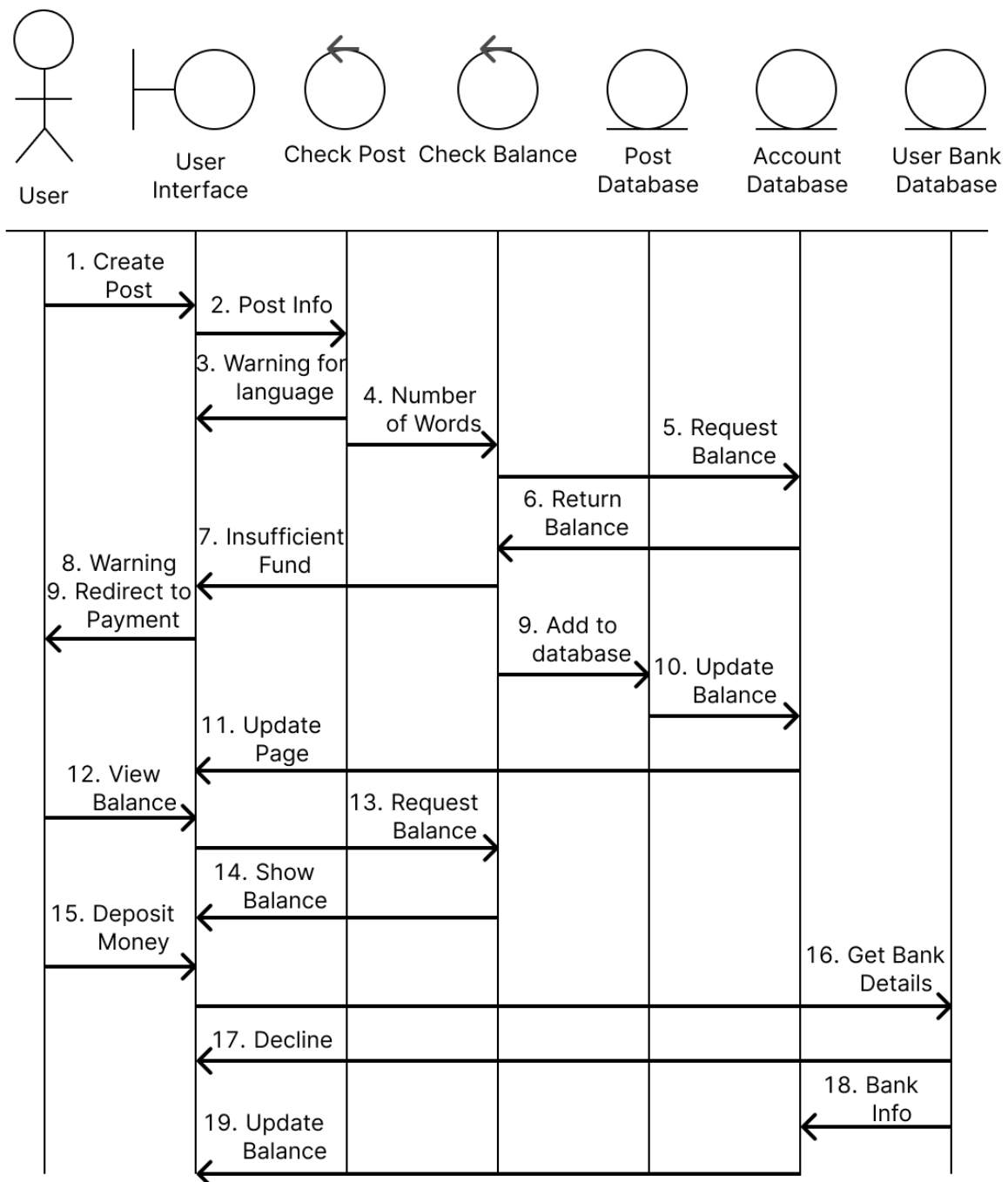
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Sequence Class Diagram for like/dislike, comment, and share on a post:



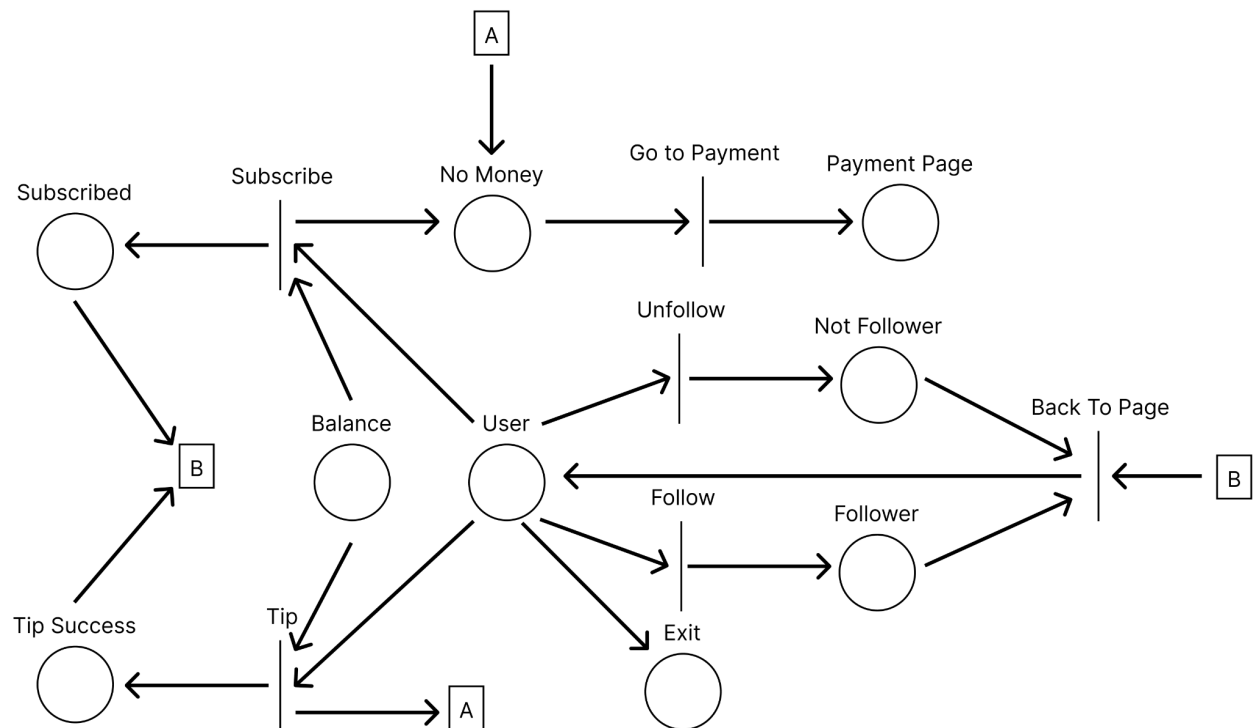
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Sequence Class diagram for post, view balance, and deposit money:



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

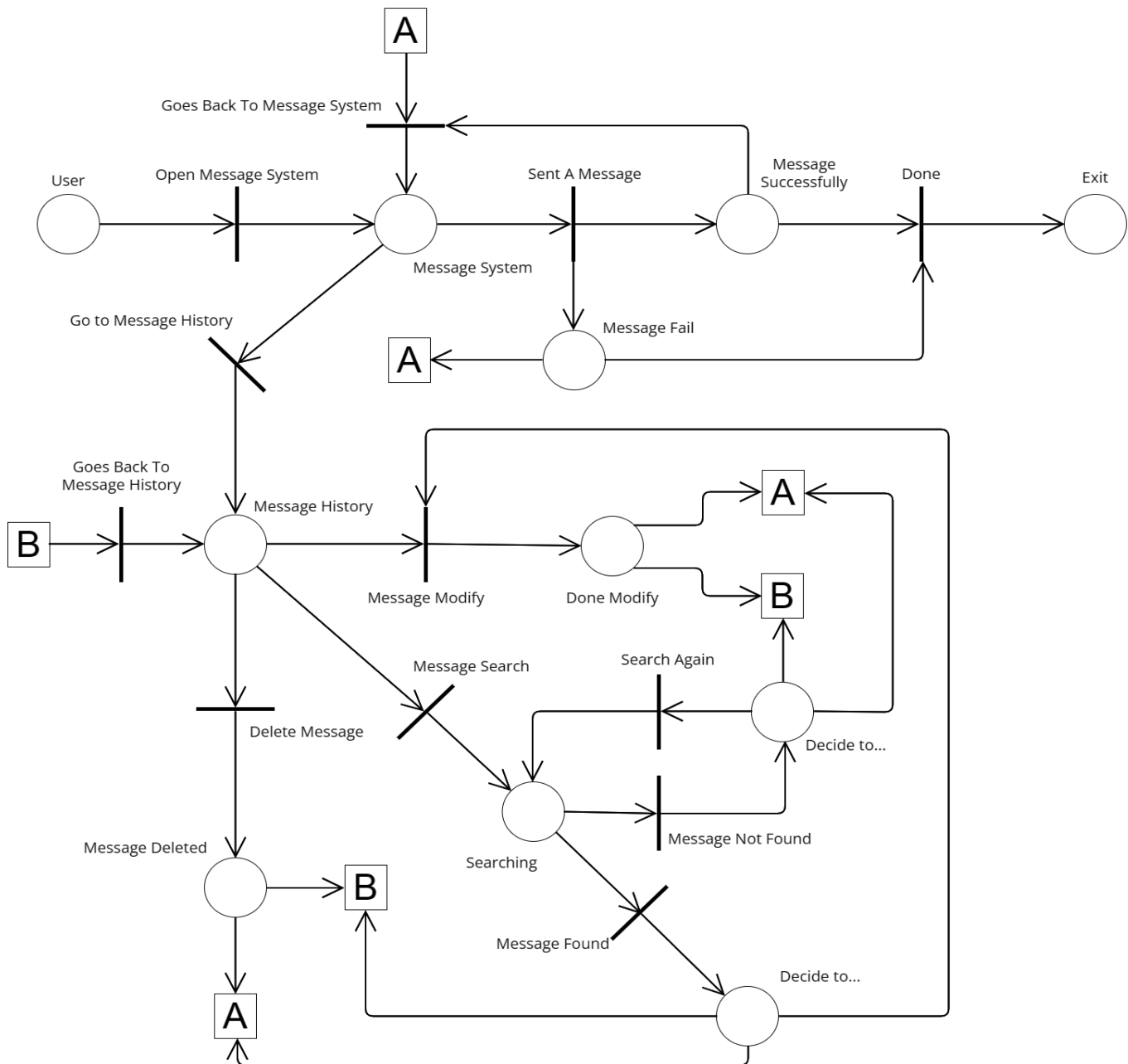
Petri-net for follow/unfollow, subscribe, and tip to user:





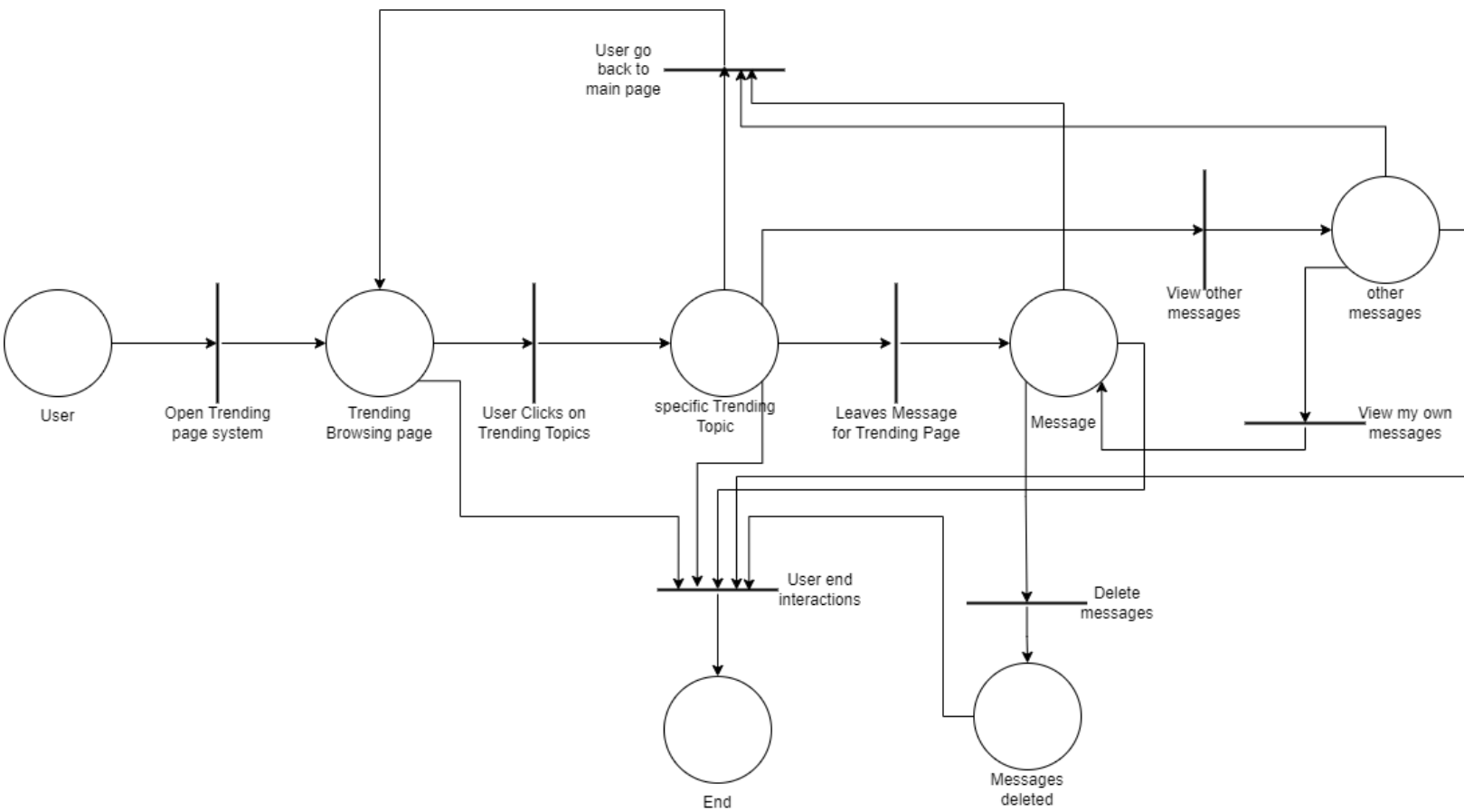
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Petri-net for open, send, see, modify, search, and delete messages:



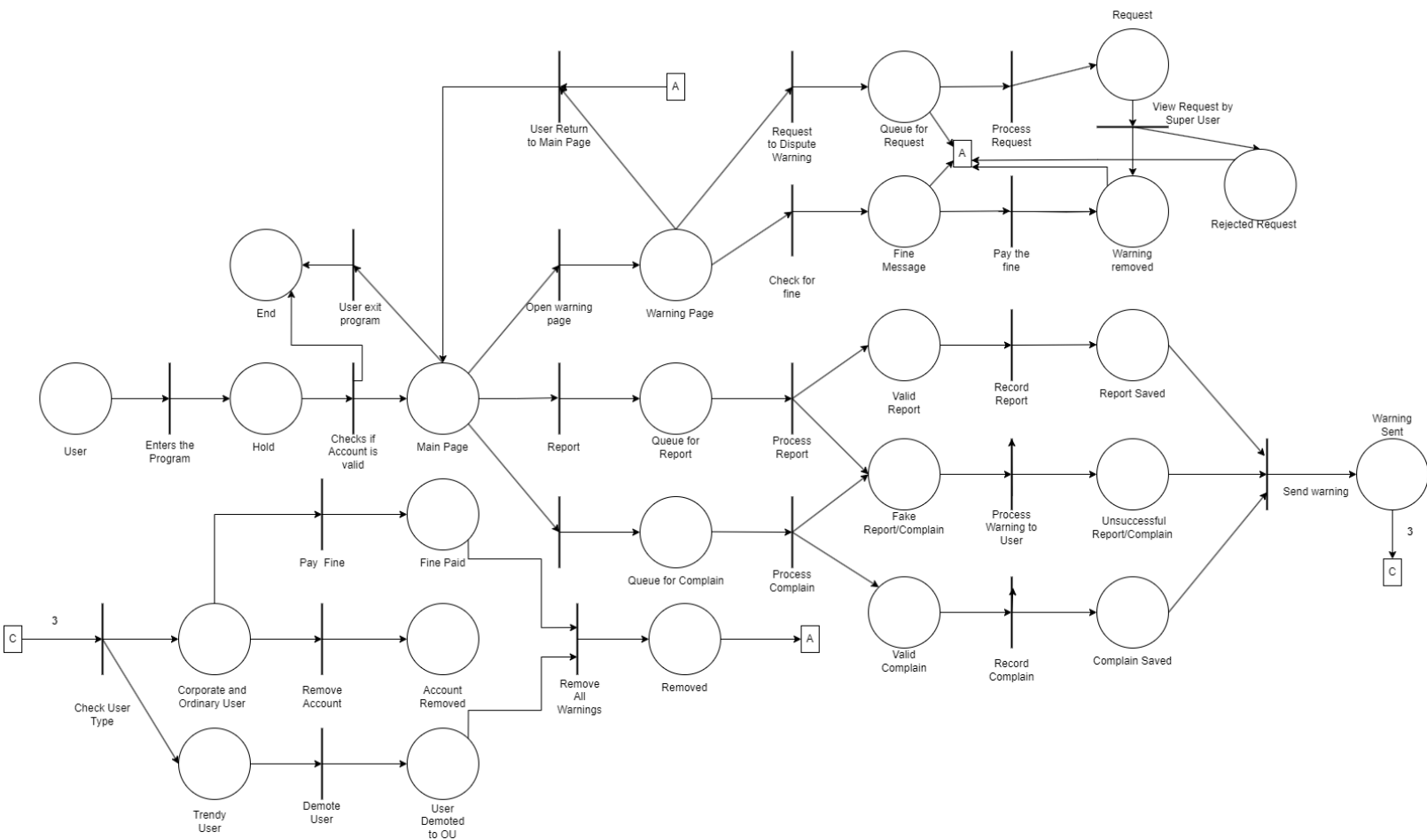
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Petri-net for open, comment, view users, and posts on trending page and create messages, deleting message, and viewing message on trending page:



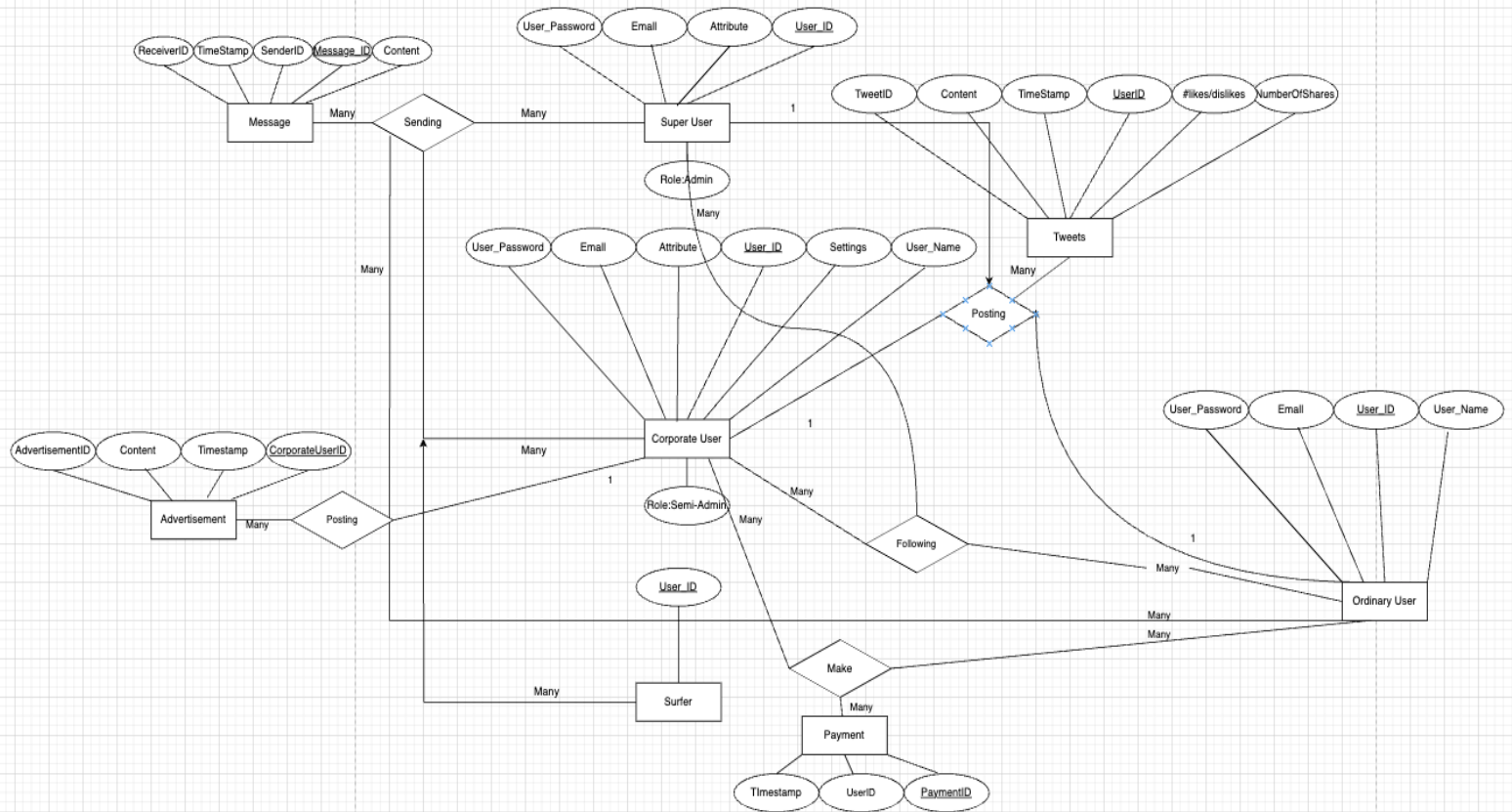
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Petri-net for complains, warnings, and reports on users:



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## E-R diagram



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## Detailed Design

### 1. Account Creation and signin/signout

Function: Register(userName, userEmail)

Set registrationStatus to "Registration Failed: Invalid Input"

if (validateInput(userName, userEmail))

if (isUniqueUser(userName, userEmail))

createUserAccount(userName, userEmail)

sendConfirmationEmail(userEmail)

changePassword()

redirectPaymentPage()

Set registrationStatus to "Registration Successful"

Else

set registrationStatus to "Registration Failed: User Already Exists"

Else

set registrationStatus to "Registration Failed: Invalid Input"

Return registrationStatus

Function: validateInput(userName, userEmail)

Return true if input is valid/in the right form, false otherwise

Function: isUniqueUser(userName, userEmail)

Return true if the username and email is unique, false otherwise

Function: createUserAccount(userName, userEmail)

Include error handling for any issues in account creation

Set the user information into the account database

Return none

Function: sendConfirmationEmail(userEmail)

Generate random password

Send a email with the temporary password generated

Return none

Function: changePassword()

Enter new password

Set password to the new password

Return none

Function redirectPaymentPage()

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Change UI to the payment page  
Return None

Function: Signin(userEmail, userPassword)  
 Set signinStatus to "Sign in failed: Invalid Email or Password"  
 status = False  
 if(checkUserEmail(userEmail) and checkUserPassword(userPassword) and  
 status)  
     Set signinStatus to "Sign in Complete"  
     setUserStatus(userEmail)  
 Return signinStatus

Function: setUserStatus(userEmail)  
 Obtain user from user database  
 Set status to logged in  
 Return none

Function: checkUserEmail(userEmail)  
 Check with user database  
 Return true if success else false

Function: checkUserPassword(userPassword)  
 Check with user database  
 Return true if success else false

Function Signout()  
 Clear current session  
 print("User signed out successfully")  
 Return none

## 2. Payment System

Function: addFunds(userEmail, amount)  
 bankInfo = retrieveBankInfo(userEmail)  
 if bankInfo:  
     balance = bankInfo.get('balance')  
     if balance > amount:  
         updateBalance(userEmail, balance - amount)  
         status = takeMoney(amount)  
         print(f"Transaction Status: {status}")

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

```

        else:
            print("Insufficient balance to add funds.")
    else:
        print("Failed to retrieve bank information.")

```

```

Function: retrieveBankInfo(userEmail)
    Retrieve bank information through an API
    Balance = userEmail.getBalance()
    return balance

```

```

Function: updateBalance(userEmail, newBalance)
    userBalance = newBalance
    Return none

```

```

Function: giveWarning(message)
    Add warning to list
    print(f"Warning: {message}")
    Return none

```

```

Function: takeMoney(amount)
    print(f"Taking {amount} from the user's account")
    Take money using an API
    return True if success

```

### 3. Post Tweets/Post Advertisements

```

Function: postTweets(post, user)
    words = countwords(post)
    amount = calculateMoney(words, user)
    takemoney(amount)
    add post to database

```

```

Function: countwords(post)
    Word = 1
    Video = 15
    Image = 10
    Return sum of words, videos, images

```

```

Function: calculateMoney(words, user)
    If user is CU

```

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

```

        Return $1 * words
    Else
        If words > 20
            Return $0.1 * (words - 20)
        Else
            Return 0

```

```

Function: postAdvertisement(ad, user)
    If user is CU
        Add ad to database
        Update Page
    else
        GiveWarning(message)
        takeMoney(10)
    Return true if success, else false

```

```

Function: ClickAd(ad)
    Add one to total click
    Ad's user pay SU $0.1
    Return none

```

```

Function: ClickPost(post)
    Enlarge post
    Increment click count
    Return none

```

#### 4. Like/dislike/share/comment Post

```

Function: Like(post)
    If post.getLikedStatus() == true
        removeLike(post)
    else
        addLike(post)

```

```

Function: RemoveLike(post)
    Decrement total like
    Update post

```

```

Function: Addlike(post)
    Increment total like

```



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Update post

Function: Dislike(post)

```

    If post.getDislikedStatus() == true
        removeDislike(post)
    else
        addDislike(post)

```

Function: RemoveDislike(post)

```

    Decrement total dislike
    Update post

```

Function: AddDislike(post)

```

    Increment total dislike
    Update post

```

Function: SharePost(post, user)

```

    postTweets(post, user)
    addComment(comment, post)

```

Function: addComment(post)

```

    Enter comment
    Add comment to post
    Return True if success, else false

```

## 5. View/send/delete/edit Messages

Function: viewMessages(user, otherUser)

```

    Open message of party one and party two
    displayMessages()
    Return none

```

Function: displayMessages()

```

    Open message UI
    Return none

```

Function: sendMessages(user, other user)

```

    Enter message
    Send message to other user
    Update UI

```

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

Return true if message is delivered, else false

Function: editMessage(message)

Message becomes edible

Complete edit

Return true if edit is complete, else false

Function: deleteMessage()

Message = messages.getMessage()

Delete messages[message]

## 6. Get/View User Profile

Function: ViewProfile(user)

Show profile screen

Return None

Function: getUserProfile(userID)

if (isUserExist(userID))

    userProfile = getUser(userID)

else

    set userProfile to "User Profile Not Found"

return userProfile

Function: isUserExist(userID)

Return True if userID in database, else false

Function: getUser(userID)

Return User[userID]

## 7. Add/resolve/remove warning

Function: addWarning(userID)

userID.warnings += 1

Function: removeWarning(userID)

userID.warnings -= 1

Function: payTheFine(userID)

Fine = userID.warnings\*FineConstant

If retrieveBankInfo(userEmail) == True

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

```

        While userID.warnings > 0
            removeWarning(userID)
            Print ("Success")
    Else
        Print ("Insufficient balance")
    Print "Failed to remove warnings")

Function: checkWarnings(userID)
    If userID.warnings > 3
        DemoteUser(userID)
    Else
        Return 0

Function: removeAccount(userID)
    Remove userID
    Printf("account removed")

Function: DemoteUser(userID)
    If userID.type == OrdinaryUser
        removeAccount(userID)
        Return Success
    Else
        userID.type = OrdinaryUser
        While userID.warnings > 0
            removeWarning(userID)
        Return Success

Function: resolveWarning(userID, decision)
    If Decision == true
        removeWarning(userID)
    Else
        Return false

Function: reportComplainHandler(userID, targetUserID, reportResult, complainResult)
    If reportResult or complainResult == true
        addWarning(targetUserID)
    Else
        addWarning(userID)

```

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## 8. Follow/Subscribe/Tip User

Function: FollowUser(user, userToFollow)

if userExist(userToFollow):

Open Following UI

Add userToFollow into the Followed list

print("You Are Now Following")

else

print("User Not Found")

Return False

Function: Subscribe(user, subscribing, balance)

Open Subscription UI

Status = "Failed to subscribe

balance = user.bankInfo.get('balance')

if balance > \$10:

update(balance - 10)

Subscribing.subscriber += 1

Status = "Subscribed"

Return Status

Function: tipUser(user, userToTip, balance)

Open Tip UI

ShowBalanceInTotal(balance)

if balance > \$0.01

ProceedToTip(user, userToTip)

else

print("Balance Insufficient")

## 9. Complain/report Post or User

Function: reportPostOrUser(postOrUser)

get(postOrUser)

clickOn(reportButton)

selectIssue(issueType)

Enter details

submitReport()

Return True if success, else false

Function: DisputeWarning(warning)

clickDispute(disputeButton)

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

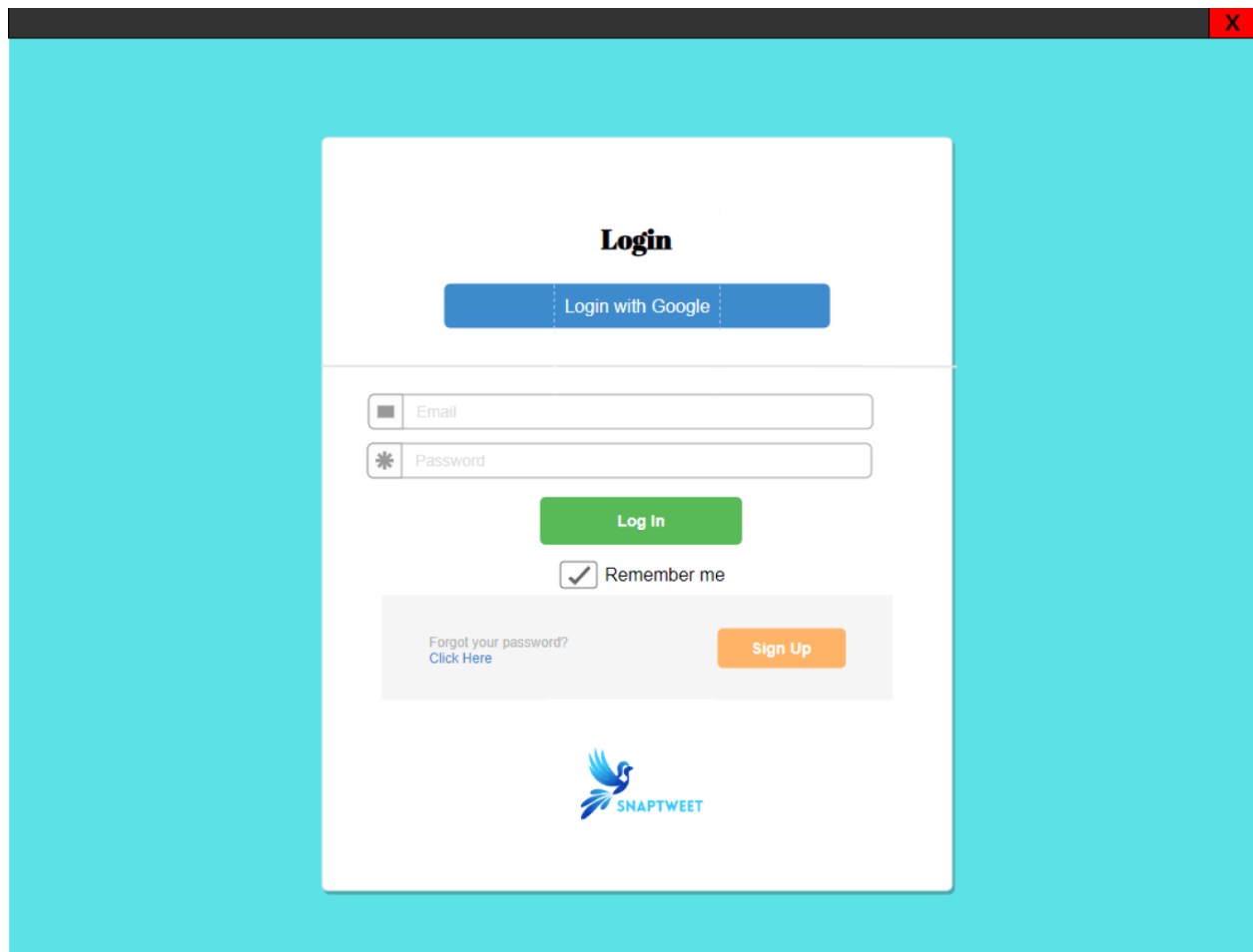
Provide Information  
submitDispute()  
Return True if submitted, else false

#### 10. Toggle Dark Mode

Function: toggleDarkMode(isDarkModeOn: boolean)  
if (isDarkModeOn)  
    setTheme('light')  
else  
    setTheme('dark')  
Return none

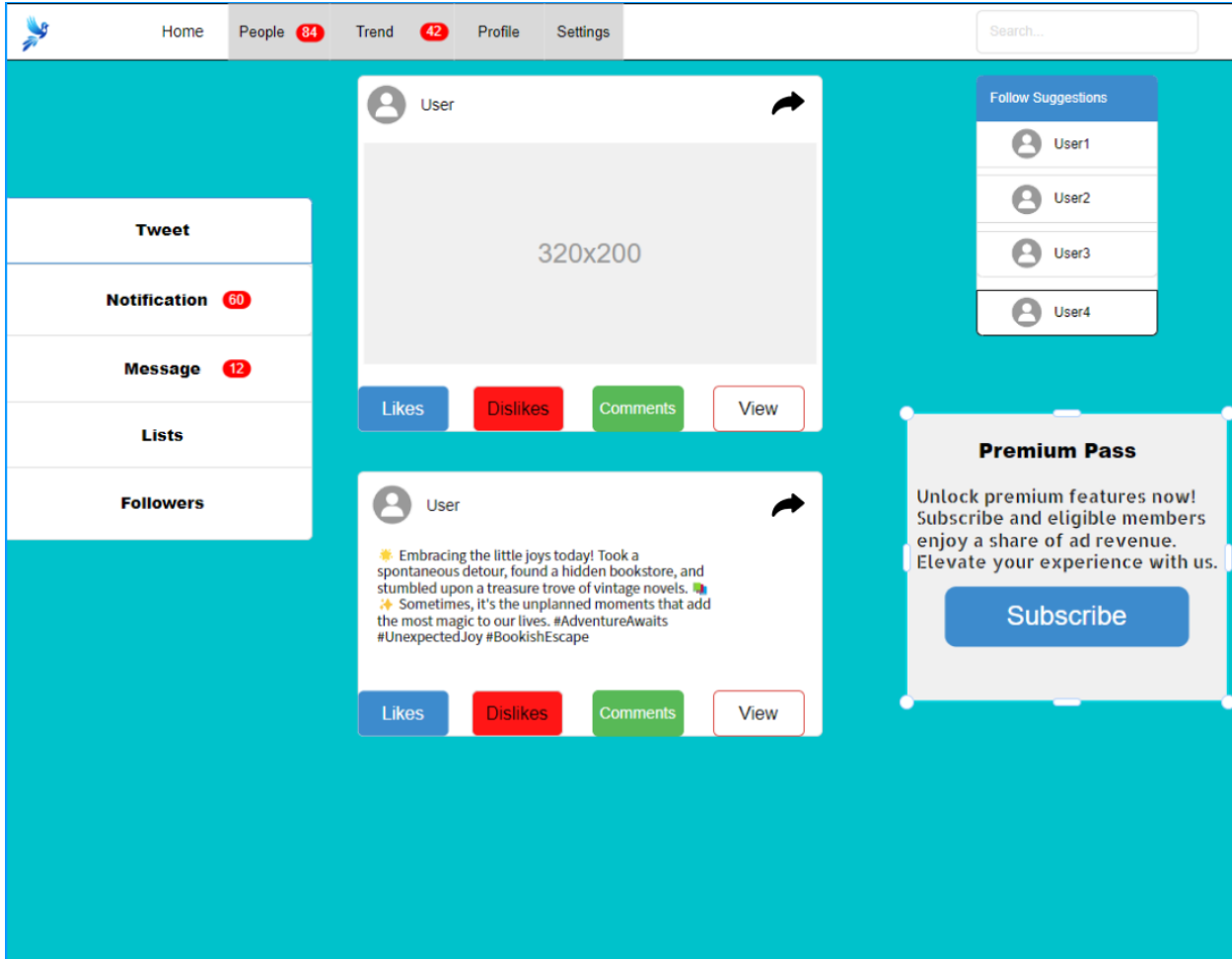
Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## System Screens

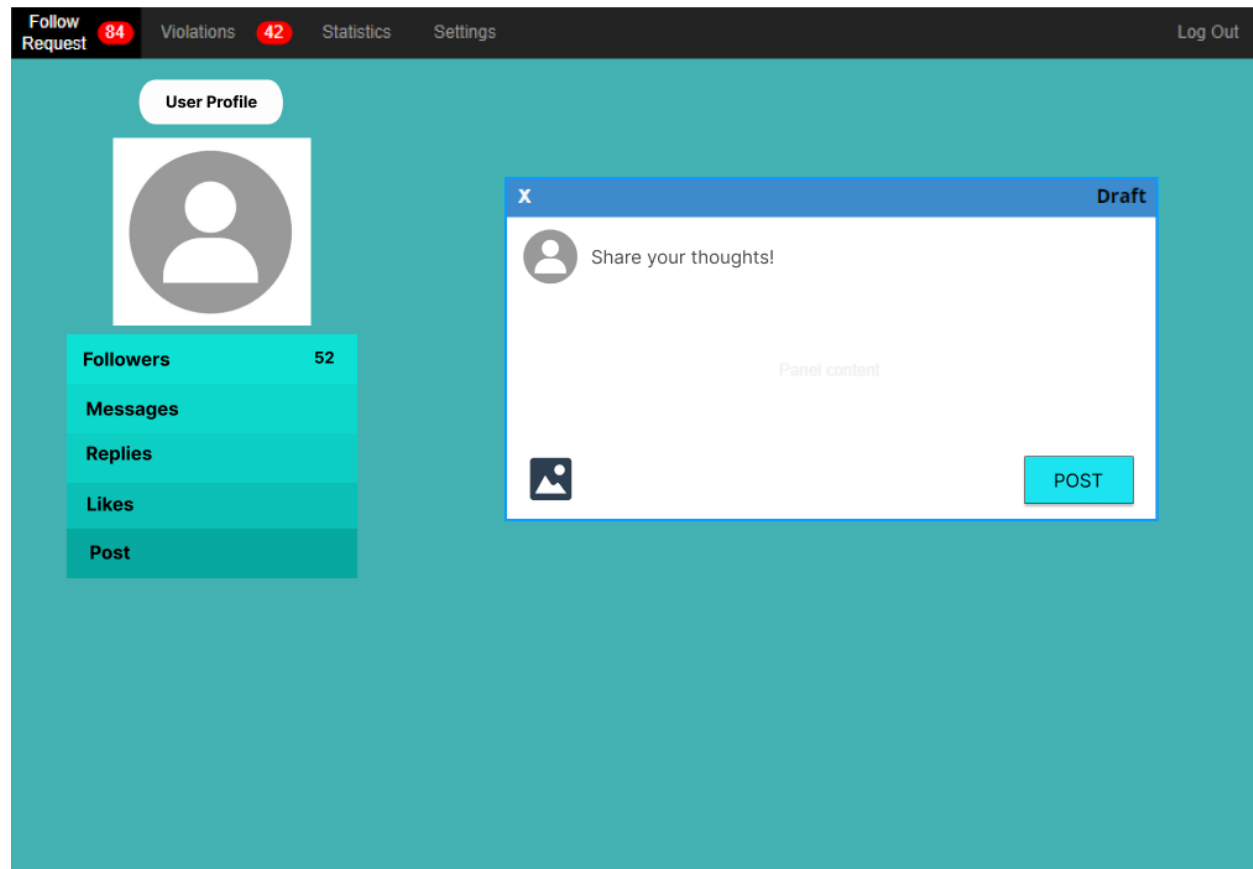


The screenshot shows a web browser window with a red 'X' icon in the top right corner. The background is a solid light blue. In the center is a white rectangular login form. At the top of the form, the word "Login" is centered in bold black text. Below it is a blue button with the text "Login with Google". A horizontal line separates this from the input fields. There are two input fields: "Email" with a small square icon on the left, and "Password" with a small asterisk icon on the left. Below the input fields is a green button labeled "Log In". Underneath the "Log In" button is a checkbox that is checked, followed by the text "Remember me". At the bottom of the form, there is a light gray rectangular area. On the left side of this area, it says "Forgot your password?" followed by a blue link "Click Here". On the right side of this area is an orange button labeled "Sign Up". At the very bottom of the white form, centered, is the SnapTweet logo, which consists of a blue bird icon and the text "SNAPTWEET" in blue capital letters.

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

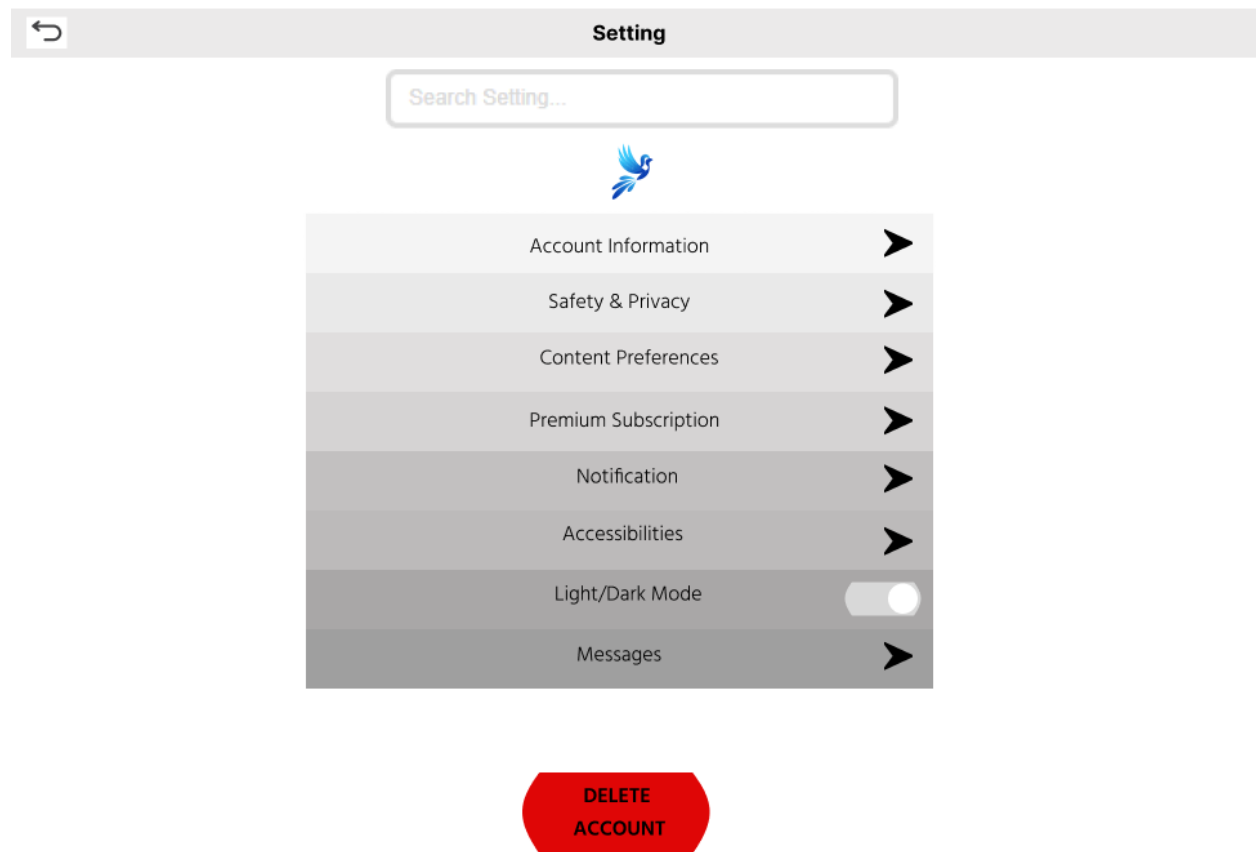


Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	





Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	



Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## Memos

Group Meeting: November 18th, 2023, 3PM - 5PM, All Attended

Finished Work:

- "All Use Case" most parts
- "E-R diagram"
- "Detailed Design"

November 20th, 2023

- Modification with the diagrams
- Added "System Screens"

November 21th, 2023

- Some modification with the diagram
- Added more parts in "Detailed Design"
- Complete "Detailed Design"

Possible Concerns: None

Mini Twitter	Version: 1.0
Software Design Report	Date: 11/21/23
Document Identifier: 10	

## Address

[https://github.com/WeCanPretend0903/Mini\\_Twitter](https://github.com/WeCanPretend0903/Mini_Twitter)