GTU Department of Computer Engineering

CSE 222/505 - Spring 2023

Homework 1 Report

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1-) System Requirements

User Accounts: The system should allow users to create accounts with username, birthdate, location, posts (if exists), follower accounts (if exists) and following accounts (if exists).

```
Account gizemsungu = new Account(1,"gizemsungu", "13.01.2000", "Istanbul");
```

Login: The system should allow users to log in to their accounts. Only authenticated users should be able to perform following another account, viewing the profile of another account, sharing a post, liking and commenting with a post which belongs to another account and sending a message to another account (if followed).

Profile: Each user should have a profile page that displays their details, including their username, birth date, location, posts (if exists), follower accounts (if exists), and following accounts (if exists).

Following/Followers: Users should be able to follow other users, and other users should be able to follow them. The number of following/follower accounts can vary from zero to many.

Posts: Users should be able to create posts. Each post should contain post id, account id, content, like information and comments information.

```
Post post4 = new Post(4, "This is my Korea trip!");

sibelgulmez.addPost(post3);
```

Interactions: Users should be able to interact with posts created by other users. The following interactions should be supported:
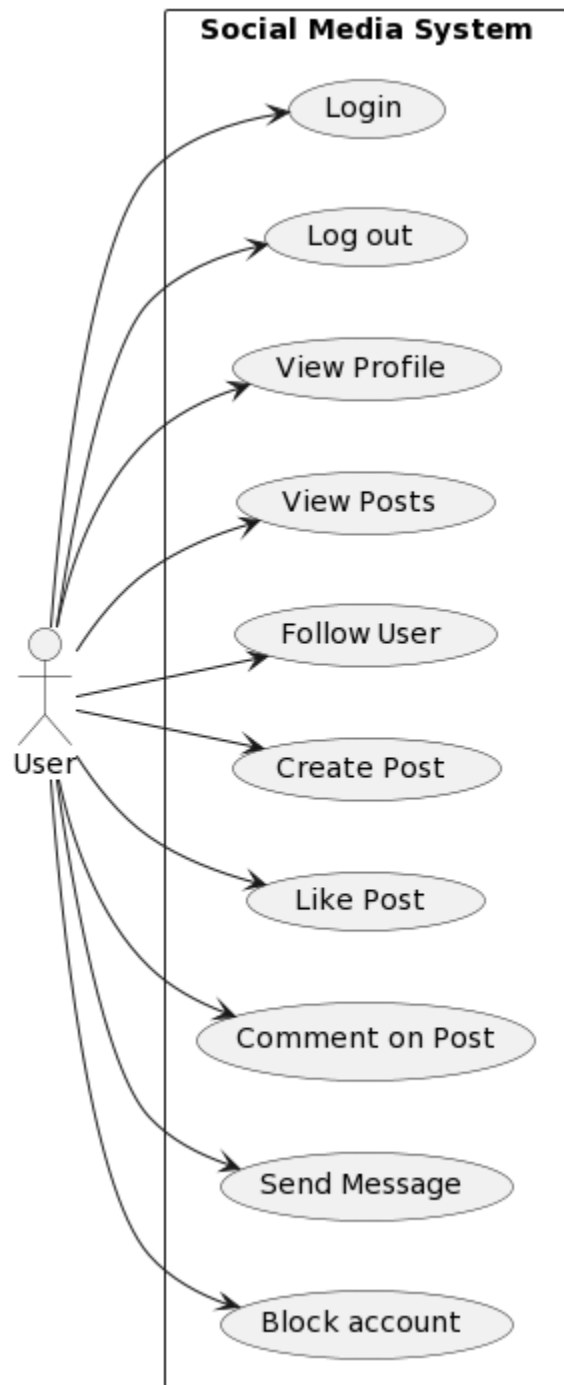
Like: Users can like a post.

Comment: Users can leave a comment on a post.

Messaging: Users should be able to send messages to other users they follow. Only users who are followed can receive messages. Messages should be private and not visible to other users.

```
Message message1 = new Message(1, "Hello, how are you?");

gokhankaya.sendMessage(gizemsungu, message1);
```

Blocking: Users should be able to block other users. The blocked user cannot send a message to the blocked user, cannot follow the user, cannot visit their profile, cannot like the posts or comment on the posts.

2-) Use Case Diagram

3-) Test Cases

Creating new accounts:

```java
Account gizemsungu = new Account(1,"gizemsungu", "13.01.2000", "Istanbul");
Account sibelgulmez = new Account(2,"sibelgulmez", "01.01.2000", "Tokyo");
Account gokhankaya = new Account(3, "gokhankaya", "02.02.2000", "Seoul");
```

Logging into an account:

```java
sibelgulmez.login();
```

Logging out from an account:

```java
sibelgulmez.logout();
```

Following an account:

```java
sibelgulmez.followAccount(gokhankaya);
sibelgulmez.followAccount(gizemsungu);
```

Creating a new Post:

```java
Post post1 = new Post(1, "Tokyo is a great city!");
Post post2 = new Post(2, "Tokyo is capital of Japan!");
```

Sharing post:

```
sibelgulmez.addPost(post1);
sibelgulmez.addPost(post2);
```

Creating Like object and liking a post:

```
Like like = new Like(interactionId, this.accountId, post.getPostId(), this.username);
for(int i = 0; i < post.getLikes() length; i++) {
```

```
gokhankaya.likePost(post1, 1, sibelgulmez);
```

Creating Comment object and leaving comment on a post:

```
Comment comment = new Comment(interactionId, this.accountId, post.getPostId(), this.username, content);
```

```
gokhankaya.commentPost(post1, 1, sibelgulmez, "Yes, I love Tokyo too!")
```

Creating Message object and sending a message to an account:

```
Message message1 = new Message(1, "Hello, how are you?");

gokhankaya.sendMessage(gizemsungu, message1);
```

Viewing profile, posts, interactions of an another account:

```
gizemsungu.viewProfile(sibelgulmez);
gizemsungu.viewPosts(sibelgulmez);
gizemsungu.viewInteractions(sibelgulmez);
```

Checking and viewing messages of a user:

```
gizemsungu.checkOutbox();
gizemsungu.checkInbox();

gizemsungu.viewInbox();
gizemsungu.viewOutbox();
```

Blocking an account:

```
gizemsungu.block(sibelgulmez);
```

4-) Problem Solution Approach

While doing this assignment, I firstly created a mother class. So I would have an array of accounts and I could control everything from this main class. Login, logout checks, registered name checks, etc.

It was difficult to keep track of them due to the later banning of the master class. That's why I didn't make the account array and did all my operations in the account class.

5-) Running Command and Results

Create new accounts:

```
An account with username gizemsungu has been created.

An account with username sibelgulmez has been created.

An account with username gokhankaya has been created.
```

Login account:

```
--------------------------------
Logging into an account: gizemsungu
--------------------------------
```

```
You are already logged in. (gizemsungu)
```

The general error for other activities so I didn't show this error each time:

```
You can't add a post without logging in, sibelgulmez.

You can't follow an account without logging in, sibelgulmez.
```

Log out from an account:

```
Logging out from account: gokhankaya
```

```
You are already logged out. (sibelgulmez)
```

Add post:

```
sibelgulmez added a new post.
```

Follow account:

```
sibelgulmez is now following gokhankaya.
```

```
You cannot follow yourself.
```

```
You are already following gizemsungu.
```

Send message:

```
Sending a message to sibelgulmez...
```

```
You can't send a message without following sibelgulmez, gizemsungu.
```

View profile:

```
Viewing sibelgulmez's profile...
------------------------------------
UserId: 2
Username: sibelgulmez
Location: Tokyo
Birthdate: 01.01.2000
sibelgulmez is following 2 accounts and has 0 followers.
sibelgulmez is following: gokhankaya, gizemsungu,
sibelgulmez has 2 posts.
------------------------------------
```

```
Viewing gizemsungu's profile...
------------------------------------
UserId: 1
Username: gizemsungu
Location: Istanbul
Birthdate: 13.01.2000
gizemsungu is following 0 accounts and has 2 followers.
The followers of gizemsungu are: sibelgulmez, gokhankaya,
gizemsungu has 2 posts.
------------------------------------
```

View post:

```
Viewing sibelgulmez's posts...
------------------------------------
(PostID: 3) sibelgulmez: I went to Tokyo last year!
(PostID: 4) sibelgulmez: This is my Korea trip!
------------------------------------
```

```
You can't view posts without viewing profile, gokhankaya.
```

View interaction:

```
Viewing sibelgulmez's posts' interactions...
--------------------
(PostId: 3): I went to Tokyo last year!
The post was liked by the following account(s): gokhankaya,
The post has 1 comment(s).
Comment 1: 'gokhankaya' said 'Yes, I love Tokyo too!'.

(PostId: 4): This is my Korea trip!
The post has no likes.
The post has no comments.
--------------------
```

```
You can't wiew interactions without viewing posts, gizemsungu.
--------------------
```

Like post:

```
Liking a post of sibelgulmez...
```

Comment on a post:

```
Adding a comment on a post of sibelgulmez...
```

Check inbox and outbox:

```
Checking outbox...
There is/are 0 message(s) in the outbox.

Checking inbox...
There is/are 1 message(s) in the inbox.
```

View inbox and outbox:

```
Viewing inbox...
--------------------
MessageId: 1
From: gokhankaya
To: gizemsungu
Message: Hello, how are you?

MessageId: 2
From: gokhankaya
To: gizemsungu
Message: Hello!

Viewing outbox...
--------------------
MessageId: 4
From: gizemsungu
To: sibelgulmez
Message: I don't know.
```

Block account:

```
You cannot view this profile because you are blocked by gizemsungu.

You cannot send a message to this account because you are blocked by gizemsungu.
```