

GTU Department of Computer Engineering

CSE 222/505 - Spring 2023

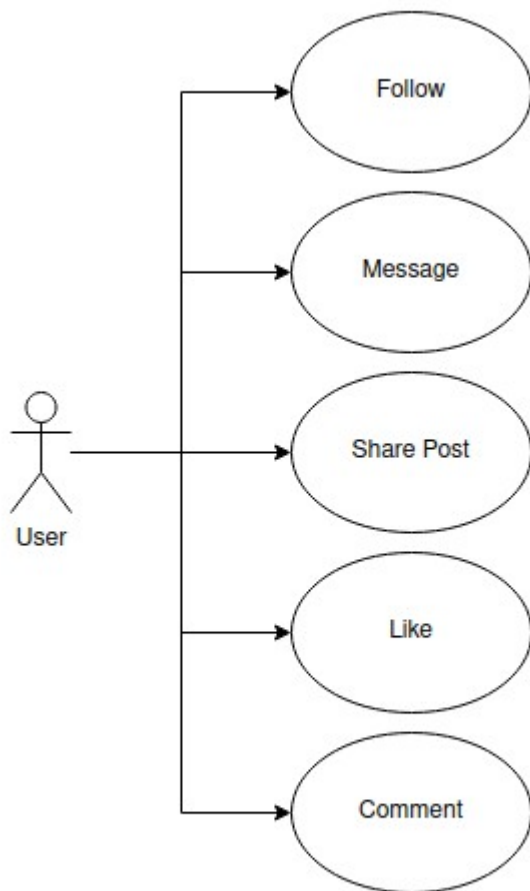
Homework 1 Report

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Detailed System Requirements:

1. The system should provide an Account class that can create a new user account and manage the user's posts, messages, and interactions.
2. Each account should have a unique username, email address, and password.
3. The system should be able to create new posts, view posts.
4. The system should be able to add comments to posts and like posts.
5. The system should be able to send and receive messages between users.
6. Each post, comment, and like should have a unique ID.
7. The system should be able to maintain a list of all users who are currently logged in.
8. The system should not allow multiple users to log in to the system at the same time.
9. The system should be able to log users out of the system.
10. The system should be able to handle errors and exceptions gracefully.
11. The system should be implemented in Java and should use object-oriented programming principles.
12. The system should use simple arrays to store posts, comments, likes, and messages.
13. The system should be well-documented and should have clear and concise comments throughout the code.
14. The system should be tested thoroughly to ensure that it meets all requirements and works as expected.
15. The system is tested on Ubuntu Linux 22.04.

The Project use case diagram:



Problem solutions approach:

First I tried to understand the requirements of the system. Then I read the attributes and their behaviours. After that I tried to understand the relationships between classes and their interactions.

Secondly based on the requirements, I defined the classes and their attributes and behaviors. And I identify the relationships between the classes and their interactions.

After the first two parts I implemented the classes in my environment. And I made sure that classes are syntactically correct.

In the fourth part, I tested the classes as explained in the assignment sheet. And I wanted to get the same output as in the homework document describing the assignment.

In the sixth part, I made some tests and made sure that the overall system is working as expected.

In the last part I documented the code that I wrote. Prepared Javadoc files and wrote this report.

Running command and results:

TestClass1 Outputs:

```
erkut@erkut: ~/Desktop/DSA Homeworks/homework1
erkut@erkut:~/Desktop/DSA Homeworks/homework1$ java homework1.TestClass1
... Creating 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.
Logging into an account (username:sibelgulmez)...
Sharing two posts...
Following gizemsungu and gokhankaya...
Logging out from account (username:sibelgulmez)...
Logging into an account (username:gokhankaya)...
Viewing sibelgulmez's profile...
User ID: 2
Username: sibelgulmez
Location: Ankara
Birth Date: 14.01.1994
sibelgulmez is following 2 account(s) and has 0 follower(s).
The followers of sibelgulmez are:
sibelgulmez is following: gizemsungu,gokhankaya,
sibelgulmez has 2 posts.
Viewing sibelgulmez posts...
(PostID: 1) sibelgulmez: I like Java...
(PostID: 2) sibelgulmez: Java the coffee...
Liking a post of sibelgulmez...
Adding a comment on a post of sibelgulmez...
Following sibelgulmez and gizemsungu...
Sending a message to gizemsungu...
Logging out from account (username:gokhankaya)...
Logging into an account (username:gizemsungu)...
Checking outbox...
There is/are 0 message(s) in the outbox.
Checking inbox...
There is/are 1 message(s) in the inbox.
Viewing inbox...
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!

Viewing sibelgulmez's profile...
User ID: 2
Username: sibelgulmez
Location: Ankara
Birth Date: 14.01.1994
sibelgulmez is following 2 account(s) and has 1 follower(s).
The followers of sibelgulmez are: gokhankaya,
sibelgulmez is following: gizemsungu,gokhankaya,
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts...
```

```
erkut@erkut: ~/Desktop/DSA Homeworks/homework1
Liking a post of sibelgulmez...
Adding a comment on a post of sibelgulmez...
Following sibelgulmez and gizemsungu...
Sending a message to gizemsungu...
Logging out from account (username:gokhankaya)...
Logging into an account (username:gizemsungu)...
Checking outbox...
There is/are 0 message(s) in the outbox.
Checking inbox...
There is/are 1 message(s) in the inbox.
Viewing inbox...
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!

Viewing sibelgulmez's profile...
User ID: 2
Username: sibelgulmez
Location: Ankara
Birth Date: 14.01.1994
sibelgulmez is following 2 account(s) and has 1 follower(s).
The followers of sibelgulmez are: gokhankaya,
sibelgulmez is following: gizemsungu,gokhankaya,
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts...
(PostID: 1) sibelgulmez: I like Java...
(PostID: 2) sibelgulmez: Java the coffee...
.....
Viewing sibelgulmez's posts' interactions...
(PostID: 1): I like Java...
The post was liked by the following account(s): gokhankaya,
The post has 1 comment(s)...
Comment 1: 'gokhankaya' said 'me too!'
(PostID: 2): Java the coffee...
The post was liked by the following account(s):
The post has 0 comment(s)...

Liking sibelgulmez's posts...
.....
Viewing sibelgulmez's posts' interactions...
(PostID: 1): I like Java...
The post was liked by the following account(s): gokhankaya,gizemsungu,
The post has 1 comment(s)...
Comment 1: 'gokhankaya' said 'me too!'
(PostID: 2): Java the coffee...
The post was liked by the following account(s): gizemsungu,
The post has 0 comment(s)...
```

TestClass2 Outputs:

```
erkut@erkut: ~/Desktop/DSA Homeworks/homework1
Logging into an account (username:gizemsungu)...
Logging out from account (username:gizemsungu)...
Logging into an account (username:sibelgulmez)...
User ID: 1
Username: gizemsungu
Location: Istanbul
Birth Date: 13.01.1993
gizemsungu is following 0 account(s) and has 2 follower(s).
The followers of gizemsungu are: sibelgulmez,gokhankaya,
gizemsungu is following:
gizemsungu has 2 posts.
Logging out from account (username:sibelgulmez)...
Logging into an account (username:gokhankaya)...
User ID: 1
Username: gizemsungu
Location: Istanbul
Birth Date: 13.01.1993
gizemsungu is following 0 account(s) and has 2 follower(s).
The followers of gizemsungu are: sibelgulmez,gokhankaya,
gizemsungu is following:
gizemsungu has 2 posts.
Logging out from account (username:gokhankaya)...
Logging into an account (username:gizemsungu)...
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!

Message ID: 1
From: gokhankaya
To: gizemsungu
Message: Hello!

erkut@erkut:~/Desktop/DSA Homeworks/homework1$
```