CSC2001F Report

Christopher Blignaut

BLGCHR003

Object Oriented Design

I used an object oriented design when coding this project to allow for the reusability of code. In doing so I created the following classes:

Post:

This class contained the data of each post made by an account. This included:

- The title of the post
- The video format of the post
- The number of likes that the post had received

This class was created as it allowed for the data of each post to be easily organised into its own separate entity, allowing for much easier manipulation than storing the data in multiple arrays.

Account:

This class contained the data for each account which included:

- The username of the account
- The description of the account
- A list of all the posts made by that account

This class was created as it allowed for the reusability of code in the form of methods as well as ensuring that all data that was related to each account was stored in one entity. It also made the code of the TokTik class more robust – as account manipulation occurred quite commonly there – as well as allowed for the account to be easily stored in a binary tree structure.

TokTik:

This class contained the main method of the program which:

- Printed out the main menu
- Created the BinarySearchTree of type Account
- Retrieved data from the BinarySearchTree
- Inserted and deleted accounts from the BinarySearchTree
- Loaded a file of actions into the BinarySearchTree

I also used the classes provided by Hussein to create a BinarySearchTree of type Account to store all the accounts and also access said accounts.

By using an OO design, my code was much more robust as it was reused and easy to follow. The code for this project would be much larger if I did not use an OO design as I would have repeated code and had to store data in parallel arrays which would have become quite problematic and memory intensive when more posts were to be added into an account.

Testing

Case 1:

Function being tested – Creating a new account and listing all accounts in the tree

Input:

3 - For option
CrispyBacon - For Username
The crispy-est of all bacons - For Description

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:          I
```

Screen Post Input:

```
The account CrispyBacon The crispy-est of all bacons has just been created


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
```

Case 2:

Function being tested – Listing all accounts in the tree with the text file loaded in

Input:

2 - To list the accounts in the tree

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:          I
```

Screen Post Input:

```
Seiko's generic theocratic who has 15 posts and 81493 likes
ZayneCarrick8
misbehaved unleash muckrakers who has 11 posts and 65545 likes
ZayneCarrick9
trickery's covered lenders who has 0 posts and 0 likes
Zuckuss0
deformation's slyer finesse's who has 7 posts and 30746 likes
Zuckuss1
adjustors adapt Eichmann who has 13 posts and 63998 likes
Zuckuss2
opposite's actor's romper's who has 9 posts and 55622 likes
Zuckuss3
demographics's dedication camshaft who has 9 posts and 33804 likes
Zuckuss4
Osceola Calexico Hawthorne who has 14 posts and 77844 likes
Zuckuss5
too crofts rustiest who has 2 posts and 16372 likes
Zuckuss6
elicit overbite clarioning who has 5 posts and 16859 likes
Zuckuss7
Mahavira theocratic gadget who has 9 posts and 48058 likes
Zuckuss8
Kim's Sheridan's puzzle who has 12 posts and 48547 likes
Zuckuss9
goldsmith's grape's locomotive's who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: █
```

Case 3:

Function being tested – Loading in a file that does not exist

Input:
7 - For option
Skippy.abc - For the incorrect file name

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:          I
```

Screen Post Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 7
Enter the name of the file and its extention e.g: FileName.txt
skippy.abc
File not found

Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Case 4:

Function being tested – Loading in the same file twice

Input:

7 - For option
dataset.txt - For file name
7 - For option
dataset.txt - For file name
2- For listing accounts

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:         I
```

Screen Post Input:

```
Seiko's generic theocratic who has 15 posts and 81493 likes
ZayneCarrick8
misbehaved unleash muckrakers who has 11 posts and 65545 likes
ZayneCarrick9
trickery's covered lenders who has 0 posts and 0 likes
Zuckuss0
deformation's slyer finesse's who has 7 posts and 30746 likes
Zuckuss1
adjustors adapt Eichmann who has 13 posts and 63998 likes
Zuckuss2
opposite's actor's romper's who has 9 posts and 55622 likes
Zuckuss3
demographics's dedication camshaft who has 9 posts and 33804 likes
Zuckuss4
Osceola Calexico Hawthorne who has 14 posts and 77844 likes
Zuckuss5
too crofts rustiest who has 2 posts and 16372 likes
Zuckuss6
elicit overbite clarioning who has 5 posts and 16859 likes
Zuckuss7
Mahavira theocratic gadget who has 9 posts and 48058 likes
Zuckuss8
Kim's Sheridan's puzzle who has 12 posts and 48547 likes
Zuckuss9
goldsmith's grape's locomotive's who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: █
```

Case 5:

Function being tested – Deleting an account

Input:
4 - For option
CrispyBacon - For account to be deleted
Yes - For confirmation

2 - To list the remaining accounts in the tree

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Enter your choice: 4
Enter the name of the account which you would like to delete:
CrispyBacon
Are you sure you wish to delete CrispyBacon?
Yes or no
Yes
Deleted the account with the name: CrispyBacon

Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Case 6:

Function being tested – Revert choice on deleting an account

Input:

4 - For option
CrispyBacon - For account to be deleted
No - For reverting
2 - To list the remaining accounts in the tree

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Enter your choice: 4
Enter the name of the account which you would like to delete:
CrispyBacon
Are you sure you wish to delete CrispyBacon?
Yes or no
No

Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes

Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

7

Case 7:

Function being tested – Trying to delete an account that doesn't exist

Input:

4 - For option
CrispyBacon123 - For account to be deleted
Yes - To re-enter the name
CrispyBacon123 - For account to be deleted
No - To exit the function

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Enter your choice: 4
Enter the name of the account which you would like to delete:
CrispyBacon123
There is no account with that name
Want to try again?
Yes or No
Yes
Enter the name of the account which you would like to delete:
CrispyBacon123
There is no account with that name
Want to try again?
Yes or No
No
                               I
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: █
```

Case 8:

Function being tested – Finding the description of an account that doesn't exist

Input:

1 - For option
CrispyBacon123 - For account description to be found
Yes - To re-enter the name
CrispyBacon - For the account description to be found

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Enter your choice: 1
Enter the account name: CrispyBacon123
Account not found
Want to try again?
Yes or No
Yes
Enter the account name: CrispyBacon

The profile description is: The crispyest of bacons


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Case 9:

Function being tested – Adding a new post for an account

Input:

6 - For option
CrispyBacon - For account to add a post to
The Anarchist's cookbook Part 1 - For the title of the post
video 797.mpg - For the video format
456 - For the number of likes
5 - For option
CrispyBacon - For account that the list of posts should come from

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Enter your choice: 6
To which account do you want to add a post?
CrispyBacon
Enter the title of the video:
The Anarchist's cookbook Part 1
Enter the video format:
video797.mpg
Enter the number of likes that the video has:
456

Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 5
Enter the account name: CrispyBacon


Title: The Anarchist's cookbook Part 1
Video: video797.mpg
Number of likes: 456



Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Case 9:

Function being tested – Adding a non-whole number of likes for a post

Input:

6 - For option
CrispyBacon - For account to add a post to
The Anarchist's cookbook Part 1 - For the title of the post
video 797.mpg - For the video format
456.5 - For the number of likes

Screen Pre Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 2


CrispierBacon
Even crisbier than CrispyBacon who has 0 posts and 0 likes
CrispyBacon
The crispyest of bacons who has 0 posts and 0 likes


Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice:
```

Screen Post Input:

```
Choose an action from the menu:
1. Find the profile description for a given account
2. List all accounts
3. Create an account
4. Delete an account
5. Display all posts for a single account
6. Add a new post for an account
7. Load a file of actions from disk and process this
8. Quit
Enter your choice: 6
To which account do you want to add a post?
CrispyBacon
Enter the title of the video:
The Anarchist's cookbook Part 1
Enter the video format:
video 797.mpg
Enter the number of likes that the video has:
456.5
Error, number entered is not a whole number
To which account do you want to add a post?
```

Creativity

The creativity for this project primarily came in the form of data validation such as:

- Try catch statements that ensured that the user would not input a value that would cause the program to crash, but rather crash 'gracefully'.
- A nested while loop that made sure that the user entered the right data for each of the functions.

The application also has a message instructing the user to "Have a nice day :)" when the program is terminated.

Git Usage Log

0: commit 3449dad3c70d5360c4114158b361fd2709a51e30

1: Author: Christopher Blignaut <\u00a8chriss3rd@gmail.com\u00a8>

2: Date: Tue Apr 18 08:58:12 2023 +0000

3:

4: Made application more user friendly

5:

6: commit 9aeb008755933d443a5a828a4c189003585e2a4d

7: Author: Christopher Blignaut <\u00a8chriss3rd@gmail.com\u00a8>

8: Date: Mon Apr 17 21:10:53 2023 +0000

9:

…

37: Author: Christopher Blignaut <\u00a8chriss3rd@gmail.com\u00a8>

38: Date: Thu Apr 13 19:35:22 2023 +0000

39:

40: Gave functionality to main application class

41:

42: commit 4d9335940b82a947fafbc229e83c4aa8a78cea64

43: Author: Christopher Blignaut <\u00a8chriss3rd@gmail.com\u00a8>

44: Date: Wed Apr 12 17:33:28 2023 +0000

45:

46: Added files