**Project 4 Report**

# 1. Team members

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**2. Basic Requirements: Finished**

**3. Compile**

Input command line “dotnet run” first

1. Test

For test part, input command line “test”. At the very beginning, you need to choose to register or login the account.

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We have already had 4 accounts which are test1, test2, test3, and test4. You can login using one of these four usernames without registering a new account. Once you login, you can see all the information you have including your tweets, your subscriters’ tweets and so on.

A picture containing table

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Graphical user interface, text

Description automatically generated with medium confidence

Graphical user interface, text

Description automatically generated

In addition, you can create a new account. And then, login your account. Since you just created your account, there is no tweets or subscription showing up.

Table

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Table

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After logging in your account, you can choose one of eight functions to do.

* Tweet

Text, table

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* My subscription

Rectangle

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* Hashtag query

A picture containing graphical user interface

Description automatically generated

* Mention me

Table

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* Subscribe

Text

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* Unsubscribe

Graphical user interface, text

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Then, check your subscriptions. Test2 is removed.

Text

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* Retweet

Graphical user interface, text, application

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Text, table

Description automatically generated with medium confidence

* Logout

Graphical user interface, text, email

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Once you log out, the program exists and your information will not be saved.

1. Simulate

For simulate part, input command line “simulate”.

Once starting simulating, the program will simulate tweeting and retweeting process of the system.

The simulation is done by giving periods of live connection and disconnection for random number of users each time and simulated a normal distribution for number of subscribers. In the simulation, users can subscribe, retweet, use hashtags and mentions.

An example of simulation results is shown below. It gives the number of total users (specified in the code), number of online and offline users currently, number of tweets made by all online users, subscribers of all users, and number of hashtags and mentions made by all users. It also gives the runtime of the simulation.

One \*\*important\*\* note is that when first testing the simulation, it needs to be run at least one or twice for it to show the full results like the one in the example below. And because of concurrent processes by the program, the runtime results would be displayed in the wrong places. For example, in the results below, the total runtime is 16176.630900 ms, number of users is 2000, and all other results are displayed correctly. The results of the simulation are correct, it’s just that the placement of runtime result is off.

Text, letter

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