DISTRIBUTED OPERATING SYSTEM

PROJECT-4 : Twitter Clone

**Group Members:**

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**Implementation Details:**

The goal of this project is to implement a Twitter clone & a client simulator. The problem statement is to implement an engine that (in part II) will be paired up with Web Sockets to provide full functionality.

The client part (send/receive tweets) & the engine (distribute tweets) were simulated in separate OS processes.

Multiple independent client processes that represented simulated clients were spawned during an iteration and handled by a single server process.

The Twitter engine (Server) has been implemented with the following functionality:

* Register account
* Send tweet. Tweets can have hashtags (e.g. #COP5615isgreat) and mentions (@bestuser)
* Subscribe to user's tweets
* Re-tweets (so that your subscribers get an interesting tweet you got by other means)
* Allow querying tweets subscribed to, tweets with specific hashtags, tweets in which the user is mentioned (my mentions)
* If the user is connected, deliver the above types of tweets live (without querying)

**Instructions to run the project :**

Go inside the project directory and execute the following commands.

**Step 1:** run mix deps.get

**Step 2:** run mix escript.build , if you don’t do the step one first, then it might throw an error and then you will have to run & then do mix escript.build again.

**Step 3:** To start the server,

./twitter server

**Step 4:** In a new window, here you have two options:

* To run as interactive client
* To run as simulator.

**To run the interactive client, do the following:**

./twitter client 127.0.0.1 username

You can run as many clients as you want in separate windows.

**To run the simulator, do the following:**

mix run proj4\_1.exs a b

* a is the number of users to be registered.
* b is the number of tweet that each user has to make.

**Note:** To not overkill the processes, please enter at most 50 users and 20 tweets.

**Interactive Client:**

Upon choosing the interactive mode, the following screens will be shown.

**Client Screen:**

Shashanks-MacBook-Pro:twitter sbantakal$ ./twitter client 127.0.0.1 santhosh

22:11:26.091 [info] User :@santhosh

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice:

**Server Screen:**

22:23:04.761 [info] @santhosh has been registered successfully

22:23:04.800 [info]

Twitter Server Stats

Total Tweets => 0

Tweets(per sec) => 0.0

Total Users => 1

Online Users => 1

Offline Users => 0

**Register Again:**

Shashanks-MacBook-Pro:twitter sbantakal$ ./twitter client 127.0.0.1 santhosh

22:27:08.681 [info] username already alloted, try something else!

**Subscribe to a user:**

22:29:09.764 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 4

Enter the username you want to follow(without @ in begining): santhosh

**Tweet & Live Feed**

22:11:26.091 [info] User :@santhosh

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: Hey There, this is my #first tweet !

22:29:31.612 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice:

22:32:49.125 [info] @santhosh |>| Hey There, this is my #first tweet !

**Retweet:**

Enter your choice: Want to retweet(y/n)?

22:34:18.671 [info] @santhosh |>| Hey There, this is my #first tweet !

Want to retweet(y/n)?y

**Mention:**

22:39:23.621 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: hi @santhosh how are you ?

Options:

22:39:28.219 [info] User :@santhosh

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice:

22:39:46.586 [info] @sbantakal |>| hi @santhosh how are you ?

**#Hashtag Query:**

22:46:45.933 [info] User :@santhosh

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: this is my #first tweet

22:39:47.571 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: #first tweet today

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice:

22:46:58.227 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 2

Enter hashtag to query for: #first

22:47:04.372 [info] Hash Tweet |>| #first tweet today

22:47:04.416 [info] Hash Tweet |>| this is my #first tweet

**#Mention Query:**

23:06:31.010 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: @santhosh how are you?

23:06:46.886 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 3

Enter the username(add @ in begining) to look for: @santhosh

23:08:03.616 [info] Mention Tweet |>|@santhosh how are you?

**Feed On Loggin Back:**

05:49:31.590 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 4

Enter the username you want to follow(without @ in begining): milind

Enter your choice: 4

Enter the username you want to follow(without @ in begining): Santhosh

User @sbantakal then logs off:

05:49:52.111 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 7

People he subscribes to tweet:

05:49:35.319 [info] User :@santhosh

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: Santhosh's first tweet

Enter tweet: Santhosh's second tweet

05:49:39.202 [info] User :@milind

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 1

Enter tweet: Milinds first tweet

Enter tweet: Milind's second tweet

User @sbantakal then logs in:

05:49:58.181 [info] User :@sbantakal

Options:

1. Tweet

2. Hashtag query

3. Mention query

4. Subscribe

5. Unsubscribe

6. Login

7. Logout

Enter your choice: 6

05:50:53.457 [info] Feed |>| Santhosh's first tweet

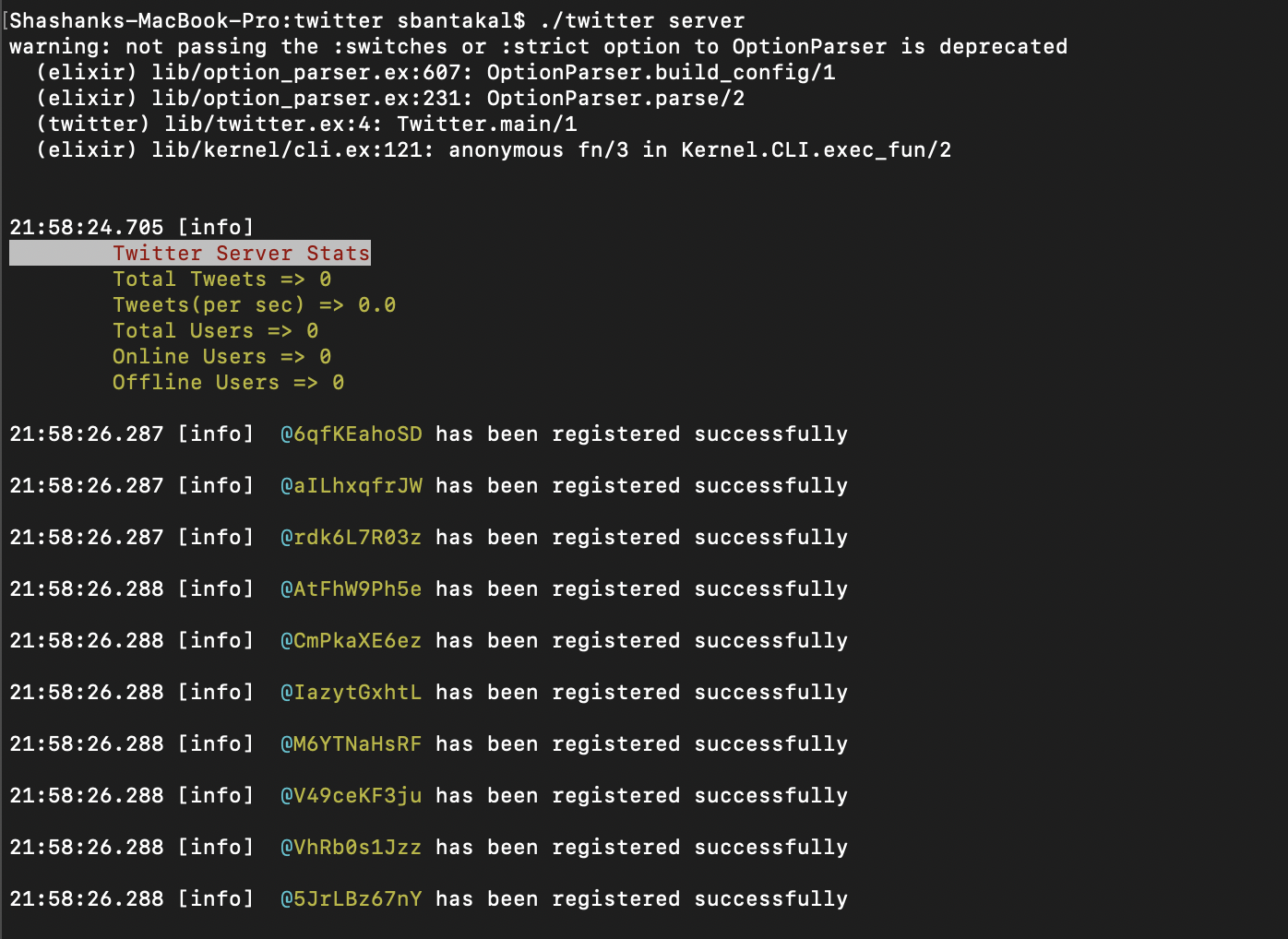
05:50:53.507 [info] Feed |>| Santhosh's second tweet

05:50:53.558 [info] Feed |>| Milinds first tweet

05:50:53.609 [info] Feed |>| Milind's second tweet

Options:

**Simulation Mode:**

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