TWITTER SIMULATOR
PROJECT 4 - PART I

Team Members:

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Running Instructions:

We need two terminals - one to run the twitter engine and the other to run the simulator.

1. First run mix.escript.build in both the terminals.
2. On Twitter engine/server, give the following command
   escript project4 engine
3. On Twitter Simulator give the below command
   escript project4 client <IP_ADDR_OF_ENGINE> <NO_OF_USERS>
   Example: escript project4 client 192.168.1.220 1000

What is working:

The client connects to the server at the IP provided.

1. Setup Phase

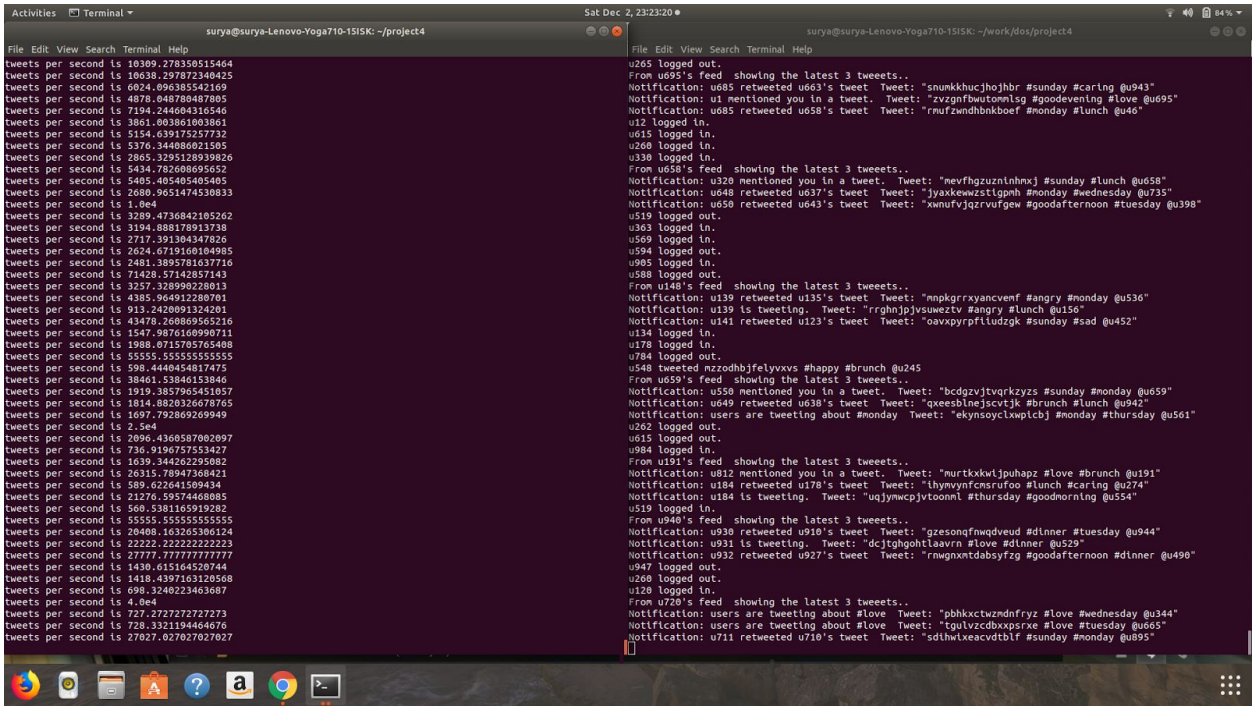
The simulator sends the request for registration or signup of the users. Once that is done simulator saves fixed number of hashtags and randomly assigns users to the hashtags. After that using Zipf distribution users are subscribed to other users. We have taken s value in the Zipf distribution equal to 2.

2. Running phase

Once the setup is done each user sends tweets to the server. Server keeps track of the tweets and retweets that the simulator sends. Based on the count in the server server output's a rate of tweets per sec. Also, each process runs random amount of time, and logouts. When logout happens processes are killed, and simulator schedule the logged

out users to login after a random amount of time. While the user is logged out the tweets, mentions etc that the user is supposed to read are collected as feed in the server. Once the user is logged the feed is send to the user.

Screenshot of the simulation in action:



Performance Metrics:

Users	Avg tweets
30	125.37
100	1723.24
1000	4850.02
5000	9146.73
10000	8562.55

In a single machine increasing the number of users created flooding of processes so the rate is decreased.

Maximum rate of tweets that is generated is 1.25 million tweets per second.