

Project 4 Report

Members:

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Objective: The goal of this project is to implement a Twitter Clone and a client tester/simulator which handles tweeting, re-tweeting, registering a new user, session information etc.

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

- Account registration
- Availing login and logout for users
- Subscribing to another user's tweets
- Making new tweets
- Making tweets with hashtags (e.g. #COP5615isgreat) and mentions (@bestuser)
- Re-tweeting
- Enable querying of hashtags

The Client Simulator will simulate large number of clients and handles all client related queries and functions like:

- Implementing a tester/simulator for calling the functionalities mentioned above
- Simulating the number of users which given by the user as input
- Simulation of Connections and Disconnections
- Emulate a Zipf distribution

Execution:

The project has 2 files:

1. client.fsx
 2. server.fsx
- First run the server by giving the following command:
dotnet fsi --langversion:preview server.fsx
 - Once "Server started" message is visible, run the client in a new terminal with any number instead of numofClients in the following command:
dotnet fsi --langversion:preview client.fsx numofClients

Performance numbers: The table data is in milliseconds

<u>No.of Clients</u>	<u>Time for registration</u>	<u>Time for login</u>	<u>Time for subscribe</u>	<u>Time for tweet</u>	<u>Time for retweets</u>	<u>Time to extract tweets by hashtags</u>
<u>100</u>	<u>15261</u>	<u>15258</u>	<u>15340</u>	<u>15276</u>	<u>15300</u>	<u>16200</u>
<u>500</u>	<u>46472</u>	<u>46167</u>	<u>48953</u>	<u>47276</u>	<u>47561</u>	<u>49402</u>
<u>1000</u>	<u>83781</u>	<u>82961</u>	<u>83764</u>	<u>83289</u>	<u>83982</u>	<u>85742</u>