**Distributed Operating Systems Project-IV**

Twitter Engine Part I using Elixir

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Features Implemented

* Registering account
* Sending tweets.
* Subscribe to user's tweets
* Re-tweets
* Allow querying tweets subscribed to, tweets with specific hashtags, tweets in which the user is mentioned
* If the user is connected, delivering the tweets live

Instructions:

* Command to run the program:

run mix escript.build

* To start the server and client simulator :

escript twitter <num\_user> <num\_password>

* Implementation Details:

The application would comprise of multiple genservers. These genservers would account for following:  
  
1. A genserver to perform load balancing of request from clients and redirecting the requests to the least occupied server process(also a genserver).  
  
2. The processing servers (multiple genservers) would have the entire control logic to process the requests  
  
3. Data Stores:  
3.1. Do we need to use persistent storage or the data is in-memory? If yes, could you provide some resource for the same.  
3.2. If the data is in memory, are we expected to shard the same in multiple genserveres?  
  
4. Do we need to manage sessions for users or each request has to carry userid and password along with the data  
  
In genserver the call is blocking and only a single request is served as a time. Cast makes requests asyncronous. Sicne we want to support multiple parallel requests to engine we have proposed multiple processing server and a load balancer. Is there any way we can execute multiple call in parallel in genserver so as to get rid of the requirement for multiple servers and load balancer.

* Performance:

|  |  |
| --- | --- |
| No of server | Time |
| 1 | 162 |
| 2 | 150 |
| 4 | 128 |
| 64 | 94 |

The performance increases with increase in the number of cores at the server end.

* Example:

Screenshot of all the relevant screens with outputs printed for clients receiving messages:



