Project 4.1

Submit Assignment

Due Nov 26 by 11:59pm **Points** 100 **Submitting** a file upload
Available Oct 30 at 5pm - Dec 13 at 11:59pm about 1 month

The goal of this (and the next project) is to implement a Twitter-like engine and (in part 2) pair up with Web Sockets to provide full functionality.

Specific things you have to do are:

In part I, implement the following functionalities:

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

The project is not limited to these functionalities. If you want to implement other functionalities, you can do that as well.

Other considerations:

The client part (send/receive tweets) and the engine (distribute tweets) have to be in separate processes. Preferably, you use multiple independent client processes that simulate thousands of clients and a single-engine process.

1. You need to measure various aspects of your simulator and report performance.
2. Write test cases using the elixir's built-in ExUnit test framework verifying the correctness for each task. Specifically, you need to write unit tests and functional tests (simple scenarios in which a tweet is sent, the user is mentioned or re-tweets).

When you submit the project, make sure you include a README that explains what functionality is implemented, how to run the tests, etc. You need to submit a report with performance analysis.

More details will be posted (or told in lectures) as the project progresses.