Identifying and Manipulating the Aging of Social Networks Project Proposal

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1. Overview of the Project

As one of the most important carriers of information transmission, social media community plays a crucial role in social propaganda and controls the direction of public opinions. Through this platform, a kind of organized group called troll farm start to generate online traffic aimed at affecting public opinion. There are various types of trolls like political trolls, sexist trolls, and racist tolls that disseminate disrespectful opinions or attack on other people on social network platform like Facebook, Twitter, and Reddit[1]. So it is very essential and urgent to come up with a certain mechanism to effectively manage and control the troll activities to guarantee a secure Internet environment.

One efficient way to start with is to observe the life cycle of the social media community through network properties and to study what are the key factors that fasten or slow down the process of the growth, maturity, and death of an online terrorists network.

2. Objectives and Deliverables

The main objective for the project is to study the network properties of the life cycle of a social media community by devising and deploying the trolls that alter the aging behaviors of Reddit discussion. In this project, compared with Facebook and Twitter, Reddit uses subreddits to organize content, which is clearer to construct virtual network. So it was chosen as the social network platform to study the behavioral changes in surrounding users based on network properties. The deliverable result should include a virtualization of the construction of dynamic networks from Reddit data for different subreddits, devising the methods to alter life span by injecting, removing, or modifying upvotes, subscribers, posts, comments into a subreddit, and study result of the behavioral changes in surrounding users and social media network as a whole. If time permitts, a more complicated dynamic network analytics which may involve actual online operations can be performed. But in current scope, the network should be constructed based on previous Reddit data and simulate agents or trolls behaviors by inserting or removing nodes offline.

3. Tasks and timeline

Task 1: Data Fetching, Studying, and Preprocessing (Due 2019/09/24) Should extract meaningful features, and prepare adequate Reddit data for network construction. Chenxi would be in charge of the coding primarily while Pengying would provide support and assistance.

Task 2: Network Construction (Due 2019/10/04) Should construct the network based on preprocessed data by abstracting the Reddit votes, comments, accounts into network nodes. Should decide the network properties that the project is interested in and do simple analytics. Chenxi and Pengying would be evenly responsible to the coding for this part.

Task 3: Manipulating the Aging of the Network (Due 2019/10/24) Should have preliminary conclusion of how the aging behaviors of the social media network changes and make a demonstration for illustration. Chenxi and Pengying would be evenly responsible to the coding for this part.

Task 4: Visualization of the Network Aging Process (Due 2019/11/15) Should have a solid final conclusion and a lucid, vivid demonstration of the network aging process to better illustrate the project result. Pengying would be in charge of the coding primarily while Chenxi would provide support and assistance.

Task 5: Finalizing the Project Deliverable Results (Due 2019/11/30) Should finalize all of the project deliverable results like code, report, presentation slides and posters.

4. Conclusion and References

The project result should have guiding significance for controlling and managing the trolls behaviors and providing a safer Internet environment in the future to some extent.

[1] What is a troll, Reddit Trolls, available at ¡https://sites.google.com/site/reddittrolls/what-is-a-troll¿