ABSTRACT

Social network has developed to be social source, politics, and commucation and marketing medium. As example from social network is social media such as Twitter, Facebook, Blog, Wikipedia, and Youtube. Relationship in social network consist of connection between user that can be described in Graph and than, from this relation graph we can make a community. Researcher has proposed several algorithm to make a community, but common problem that faced was the method cannot given the objective result about how much community should be grouped into network. Girvan and newman (GN) has purposed for solve the lack of method with calculate the quality measurement of network establishment. The quality of network establishment that ussualy use is *Modularity*. *Modularity* constitute property that using in the network and have purpose to devide network into several community. And than, the other quality measurement, if we want to produce the appropriate community, we must calculate similarity atribute from data such as mention similarity, reply similarity, and follow similarity for each user relationship.

In this final assignment, I had implemented and analyzed about utilization GN algorithm on social network Twitter, similarity influence into community establishment, and I had visualized the community that establish from Twitter. And from the result of my research, we know that all attribute of similarity have ability to influence establishing community because shifting from similarity value can be impact to betweenness value, which betweenness is main value at GN algorithm.

Key word : Community detection, Twitter, Girvan and Newman, Similarity, and *Modularity*.