

ABSTRACT

Twitter is a social media networking that quite demand by the public. The connection between the user interactions in social networks, can be represent in the form of a weighted graph. Each node represents the user of twitter and side of the graph represents a user interaction in the form of reply to, mention, based on the relationship of being followed. The user and the interaction can be represented in a weighted graph.

In this final Project, analysis and implementation of Clique Partition method will be conducted for analyzing twitter social networking. The algorithms that used in this Clique Partition method is branch and bound algorithm. The direction of this study was to test the branch and bound algorithm in the formation of Clique Partition and ranking it using betweenness centrality and subgraph centrality in the case of twitter social networking. Performace phase of this study includes preprocessing, the process of forming Clique Partition, betweenness centrality measurement, subgraph centrality measurement and visualization process. Furthermore, the results will be shown how the user grouping on the twitter social networking.

The experiments were conducted in 3 scenarios. The first scenario is aimed to test the branch and bound algorithm, uses several type of graph that represent some interaction, with the proximity percentage is 90.9%. The second scenario saw the effect of a large number of side based on the density of the time search and CP, the experimental results showed that the density influence sufficiently on the search time and the density inversely proportional to the amount of CP. While the third scenario is aimed to see the effects of weights changing on the members of Clique Partition, and this led to the change in the value of betweenness centrality, subgraph centrality and between the graph nodes. From the results that have been obtained, it can be concluded that the changing interaction of mention, reply to, are influence sufficiently to change CP members and indirectly affect the ranking. The data in the second scenario are obtained by NodeXL using search words of ittelkom, with the number of user are 540. While the testing data with the amount of 847 user dataset is downloaded from NodeXLgraphgallery.org.

Keywords: Clique Partition, branch and bound algorithm, social network analysis, betweenness centrality, subgraph centrality.