DESIGN AND DEVELOPMENT OF MIDDLEWARE FOR SPAM MESSAGE DETECTION ON TWITTER

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Abstract
Since the number of social media networks users has been highly increasing, it makes social media become one of the target of committing a crime in cyberspace.

A middleware application for detecting spam tweets that sent to users has been built for this final project. This application consists of a communication module that using HTTP to access the Twitter server, the communication between client and server using TCP, analysing process of message behavior, analysing tweet using K-means clustering method, and decision-making process using decision tree classification method.

The system has been successfully implemented and carried out a series of test functionality, system, and performance. Functionality testing is done by giving inputs and see the outputs. Then system testing was done by testing the number of word that used in every shingle to check the text similarity, determine the value of k in K-means, and determine the model to make a decision using one a classification method decision tree. Lastly, the performance testing is done by giving the time required for the process that occured between the client and the server in processing the data.

From the test results we can see the comparison of the accuracies on the tested models. Model with best results was used, thus we could get appropriate result. Moreover, from the results of
functionality and performance testing, the system could give good results.

Keywords: decision tree, K-Means, spam detector, Twitter, W-Shingling Resemblance