**ABSTRACT**

SMS (Short Message Service) is still the primary choice as a communication medium even though nowadays mobile phone is growing with a variety of communication media messenger applications. However, nowadays along with the SMS tariff reduction leads to the increase of SMS spam, as used by some people as an alternative to advertise and fraud. Therefore, it becomes an important issue as it can bug and harm the users and one of its solutions is with automatic SMS spam filtering. One of most challenging in SMS spam filtering is its accuracy. In this research we proposed to enhance SMS spam filtering performance by combining two of data mining task association and classification. FP-growth in association is utilized for mining frequent pattern on SMS and Naive Bayes Classifier is used to classify whether SMS is spam or ham. Training data was using SMS spam collection from previous research. The result of using Collaboration of Naive Bayes and FP-Growth performs the highest average accuracy of 90%.FP-Growth for dataset SMS Spam Collection and improves the precision score; thus, the classification result is more accurate.