CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1. Conclusion

The main focus in this study is to automatically classify music genre. In order to achieve it, a methodology is proposed which uses combination of Dual Tree Complex Wavelet Transform for feature extraction and Support Vector Machine for classification.

Experiment is done with two types of data sets, .au and .wav data sets to classify music into four genres of pop, classical, jazz, and rock. The proposed methodology is tested and obtained result of 88.33% accuracy using combination of statistical attributes (mean, standard deviation, and variance) with DTCWT features-based as result from 2 level of decomposition with "one-against-one" Multi Class SVM which uses Polynomial Kernel with kernel option value 2.

Experiments showed that DTCWT with combination of mean, standard deviation, and variance generated better results than DWT and several other researches in classifying music which could only obtained up to 86.4% accuracy using the same data sets, GTZAN Genre Collection Data Sets and SVM as classifier.

5.2. Recommendation

Previous research in image classification, as what inspired the methodology in this study, suggests that no particular type of features is optimal in wide variety of tasks. Experiment in the study showed that by combining multiple features,

better results could be obtained. It is also promising, to test the features used in image classification in doing music recognition. Moreover, better result could probably be obtained by combining these features with conventional audio features such as MFCC, although it is at the expense of higher computational cost. It should be seen if the results are worth the sacrifice.

Other than the use of features combination, the result will be much more reliable if the research can be done using another data source other than GTZAN Genre Collection Data Set, because this data set were created more than a decade ago. Moreover the use of just one data set can lead to subjective result. Result from the use of new data set can later be used as accuracy comparison to emphasize the accuracy of this method.

In addition, types of music genre to be classified should also be added in order to keep along with the development of music industry.