

## **ABSTRACT**

*Through the voice of someone will get the needed information and knowing who is talking. But today, the sound is not be a parameter in terms of communicating the safety factor because the number of fraud over the phone which utilizes only the caller's voice without knowing his identity. Sound detection is one of the security methods distinguish the human voice to communicate with the young, adults and the elderly. With sound detection, can narrow the identification of a person.*

*This final project will be to design a system that can detect the level of youth, adults and elderly. Younger age levels are in the range of 17-30 years, the rate of adults 31-50 years of age and older age level 51 years or older. Phase committed to designing these systems is data acquisition, pre-processing, feature extraction and classification of the input signal in the form of speech signals. For feature extraction, the method used is the Mel-Frequency cepstral coefficient (MFCC). Having obtained the characteristics of the speech signal, the classification method will be done to match the characteristics of the speech signal which has been obtained by using Fuzzy Logic. The amount of training data used in this final project is as much as 84 and 84 data for testing data.*

*Final results of this final project are the values obtained with an accuracy of 94.05% for 1.59 seconds of computing time. As for the fastest computing time is for 0.49 seconds with an accuracy of 76.19% value.*

*Keywords: speech recognition, mel-frequency cepstral coefficient, fuzzy logic*