

## **ABSTRACT**

Humans are able to distinguish the identity of someone they know, just from his voice. This process is known as speaker recognition. Speaker recognition or speaker recognition consists of two types, namely speaker verification and speaker identification. Voice verification to determine whether the voice is heard is the voice of someone who he claims. While the identification process of trying to determine the specific identity of the speaker.

Sound signals are complex signals. At the sound signal there are many parameters, ranging from the subjective parameters such as accent, dialect until the parameters that can be measured acoustically as formant, pitch and spectral energy. The problem that arises is how to extract the features of complex sound signals so that the data generated a new, more modest but still maintaining the distinctive character of the sound signal.

In the Final Project will be designed and realized a system that can identify the human voice, to be known from a man or a woman and then determined his age. Voice identification system consists of feature extraction and classification of sounds.

Research conducted using the acoustic parameters that are more objective, using the method of feature extraction Mel-Frequency Cepstral Coefficient (MFCC) and Linear Predictive Coding (LPC), and the results of these extraction characteristics will be amplified by the method of PCA (Principal Coefficient Analysis). Classification method used is SOM (Self Organizing Map) and the performance based on the level of accuracy.

In a system using ANN-SOM method is obtained an accuracy of 100% when testing using training data as test data, while when the noise test data is given there is some accuracy results. So it can be concluded that the ANN-SOM method can be used as one method of classifying human voice because it's a pretty good performance.

Key words : Mel-Frequency Cepstral Coefficient (MFCC), Linear Predictive Coding (LPC), SOM (Self Organizing Map)