ABSTRACT

The newborn humans or as we know as "infants" do not understand about the language. They communicate with other people through crying. Those cries clearly have a meaning. Research shows that all infants whose age within range of two until six months cry with the uniform initial and frequency of crying for each condition they are perceived. Many parents misunderstand the intent of the cries so that the baby can not be provided by an appropriate care.

This Final Project builds an infant's cries detection which been able to know what the baby's condition through their cries. The system built in this Final Project utilizing the features of Audio Record on Android as a voice recorder. Results of the recording of the voice characteristics will be extracted using feature extraction method Mel-Frequency Cepstral Coefficient (MFCC). Furthermore, the sound characteristics matrix of the input data will be compared with the sound characteristic matrix in the database that was created earlier. The classification algorithms which used is Euclidean distance formula to calculating the difference in in distance between the two matrixes. Seek the nearest value for every cry to determining the analysis of the conditions.

Only three conditions that analyzed, which is hungry, sleepy and discomfort. Total training data is 45 crying consis of 15 cries per condition and a total testing data as many as 15 crying consis of 5 cries per condition. The system which been built has not been quite able to detect the cries pretty well and has an accuracy rate of 66.67 %. While based on beta testing, application performance in general are said to be good enough with the value of eligibility (MOS) is above 3.5 on a scale of 1 to 5. Therefore, the system can not be said to be good because the Euclidean distance classification methods are not accurate enough to determine the outcome of the assessment.

Keywords: infant's cry, MFCC, Euclidean distance, Android.