

ABSTRACT

In Indonesia, there's still many its people has physical disability such as paralysis that make them cant move by them self. For example on 2009 amount of physical disability in 9 Provinces is 299.203 soul and 10.5% (31.327 soul) disiability severe who has limitation of Undergo daily activity (Ministry of Social Affairs RI).

Automatic Wheelchair is technology machine for lighten up burden of hand or feet paralysis who cant drive the wheelchair manually. Principal work of this machine is using sound wave of human/user as information input for determine direction drive of wheelchair automatically. Sound wave of human has been processed in Raspberry pi and extracted using MFCC method, the result of the extraction compared with extraction data which has been exist before by using KNN method. This KNN method work by counting nearest distance the new signal with the signal which has been identification before. Amount of signal compared, depends on value of K as input. And for calculate distance between signals, KNN using Euclidean distance methode. The result of comparing extration by using KNN methode obtained several signal which exist on database has similar new signal input. So after compared, got result decision or command according to the database that drive the motor from the wheelchair.

Research in this final project has succeed to make speech recognition system with accuracy 100 % in quiet condition and the distance of microphone from source is 10 cm with the decision time is 4.64 second.

Keywords: *Wheel chair Robot, MFCC, KNN, Euclidean distance*