ABSTRACT

Speech is the fundamental mode of communication for humans to interact among themselves. And today in this modern era, usage of computers has become inevitable almost in every field. Hence there exists a need for speech based communication between human and computers for exchange of information. This can be achieved by developing a speech recognition system which converts spoken words by human in-to form which can be recognized by computer and can respond accordingly.

India, being the second most populated country in the world is developing fast in the field of information technology. People who are both computer literate and conversant with written English are very few in India. Thus the expectation of a common man with computer literacy is a speech interface with computer which can recognize native speech and speak back in his native language. Tamil is the official language of Indian state Tamilnadu and also a language spoken by 74 million people spread across the world. Since recognition of Tamil speech may serve many purposes for Tamil speaking people, it has become inevitable to carry out research in the area of Tamil speech recognition.

The speech recognition process starts with converting human voice in to digital form using Analog to Digital (A/D) converters. The digitized speech sample is processed for extraction of features using Mel frequency cepstral Co-efficient (MFCC). Finally, the feature coefficients are compared with stored patterns (Templates) in the database using Dynamic Time Warping (DTW) in order to find the exact spoken word. The concepts of MFCC and DTW are implemented using MATLAB.