words is found to be rare.

## E1-21: Text-to-seech synthesis system for Sinhala language

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The text-to-speech synthesis systems need to create high quality, natural sounding synthesised speech. Although a number of high quality text-to-speech synthesis systems exist today, it is clear from the literature that a lot of attention has been paid to Western languages, especially English. Such applications for Sinhala Language are rare and existing implementation is rather primitive.

This project implements a high quality Sinhala text-to-speech synthesis system using the diphone concatenation method. The system consists of a Text-to-Phoneme Converter, a Phoneme-to-Diphone Converter and an Acoustic module. The text-to-phoneme converter is responsible for converting a typed Sinhala text into its phonetic transcriptions. This acts as a pre-processor to the system. The conversion occurs using an algorithm on state transition network,

which is widely used in natural language parsing. This module merely uses a text-to-phoneme rule base and a phoneme dictionary. The phoneme-to-diphone converter transforms the converted phonemes to diphone sets and the acoustic module concatenates the diphones extracted from the diphone database according to the diphones of the given text. The diphone database contains all the digitized diphone wave data as a single file.

All the modules in the system have been tested for limited test data sets to measure the suitability and effectiveness. Its performance was satisfactory for the test cases.