

ABSTRACT

The Grapheme to Grapheme and Phoneme to Phoneme Conversion plays an important role in speech synthesis. By speech synthesis we mean the process of generating spoken language by machine on the basis of written input.

My project entitled "**Phoneme to Phoneme & Grapheme to Grapheme Conversion techniques for Bangla**" deals with taking the input file from the user in either one of the form i.e. Phoneme or Grapheme and the resulted output will be in another form of Phoneme or Grapheme as given in the input. This project will mainly give the different conversion forms of Phoneme to Phoneme and Grapheme to Grapheme.

By phoneme we mean the smallest sound unit in a language that is capable of conveying a distinct meaning, such as the '**s**' of *sing* and the '**r**' of *ring*. The basic unit of written language is the letter. The name grapheme is given to the letter or combination of letters that represents a phoneme. It is the smallest semantically distinguishing unit in a written language, analogous to the phonemes of spoken languages.

This project mainly deals with the conversion from one grapheme to another grapheme forms namely Bangla, ESNOLA, ITrans and HTS i.e. (1) Bangla to ESNOLA grapheme and vice versa (2) Bangla to ITrans grapheme and vice versa (3) Bangla to HTS grapheme and vice versa (4) ITrans Grapheme to ESNOLA Grapheme and vice versa (5) ITrans Grapheme to HTS Grapheme and vice versa (6) HTS Grapheme to ESNOLA Grapheme and vice versa.

It also deals with the conversion of one phoneme to another five forms namely ESNOLA, ITrans, HTS, ASR and Annotation i.e. (1) ESNOLA Phoneme to ITrans phoneme (2) ESNOLA Phoneme to ASR phoneme (3) ESNOLA Phoneme to HTS phoneme (4) ESNOLA Phoneme to Annotation phoneme (5) ITrans Phoneme to ESNOLA phoneme (6) ITrans Phoneme to ASR phoneme (7) ITrans Phoneme to HTS phoneme (8) ITrans Phoneme to Annotation phoneme (9) ASR Phoneme to ESNOLA phoneme (10) ASR Phoneme to ITrans phoneme (11) ASR Phoneme to HTS phoneme (12) ASR Phoneme to Annotation phoneme (13) HTS Phoneme to ESNOLA phoneme (14) HTS Phoneme to ITrans phoneme (15) HTS Phoneme to ASR phoneme (16) HTS Phoneme to Annotation phoneme (17) Annotation Phoneme to ESNOLA phoneme (18) Annotation Phoneme to ITrans phoneme (19) Annotation Phoneme to HTS phoneme (20) Annotation Phoneme to ASR phoneme.