

AN APPROACH FOR GRAPHEME TO PHONEME ALIGNMENT FOR SANSKRIT TTS

CHANDRA SEKHARAM BONDU¹ & RAMAKRISHNA S R²

¹System Analyst, Department of Computer Science, Rashtriya Sanskrit Vidyapeetha, Tirupati, Andhra Pradesh, India

²Professor, Department of Computer Science, Sri Venkateswara University, Tirupati, Andhra Pradesh, India

ABSTRACT

Text to Speech Synthesis system requires an important module which will convert graphemes to phonemes. Grapheme to Phoneme Conversion module takes sequence of sentences as input and map to corresponding phonetic signal. These phonetic signals also known as utterances are stored as 'wav' files on the machine. There are various methods of associating or aligning these wave files with graphemes. This paper discusses important issues relating to Grapheme to Phoneme alignment for Sanskrit text written in Dēvanāgarī script. Rule based syllable clustering/segmentation was found suitable for the task. Rule base was created using Regular Expression Builder and was hand crafted. Further, an approach for associating this Linguistic Syllable Unit with manually segmented utterance units was experimented. Linguistic Syllable Units were segmented using Rule Base from Sanskrit Texts. Further, These Linguistic Syllable units were re-segmented to be aligned with phonetic utterances i.e phonemes, for integrating with Text to Speech Synthesis System for Sanskrit.

KEYWORDS: Phonetic Rules, Linguistic Syllable Unit, Grapheme, Virāma, Mātra, Halant, Svāra, Rule Based Syllable Segment