Partha Talukdar

HP Labs, India
partha.talukdar@hp.com

Grapheme to Phoneme Conversion System v 1.0

Keywords: *Festival, Speech Synthesis, G2P*

Contents

1. Usage 3

2. Description 3

1. Usage

To compile run:

$ make

To use the system, run the following command:

$ g2p <language_code> <processing_mode> <rule_file> <mapping_file> <lexicon_file> <input_file> <output_file>

language_code: H -> Hindi, T -> Tamil, U -> Unknown

proessing_mode: This is slightly tricky.

Y -> Say three contexts are A B C. (A B) and (B C) form the condition part of valid rules. In this mode, the rule processing engine will first trigger (A B) and then (B C) rules. This type of processing is needed in case of Tamil.

N -> Say, A B forms the condition part of a valid rule and the input data has the context A B C. The rule processing engine will first trigger the rule for (A B) and then start matching other rules with C and B. This type of processing is used for the Hindi G2P.

rule_file: File containing the rules.

mapping_file: The file containing character to phoneme mappning.

lexicon_file: The file containing phonetic representation of words which are not covered by the rules.

input_file: File containing input text.

output_file: File containing the phonetized input text.

2. Description

The program uses trie like structures for storing and matching the rules. The best rule fitting the given data is triggered. The core rule processing has been kept language independent. The formats for the language specific information part is shown below.

Format for the rule file:

<Cond1> <Cond2> ... <Condm> { <ACT1> <ACT2> .... <ACTn> }

Format for the mapping file:

<Character> <Type> <Class> <Phoneme>

Format for the lexicon file:

<Word_1> <Phonetic_Transcription_1>
.. ..
.. ..

<Word_n> <Phonetic_Transcription_n>

Samples of these files are present in the Hindi and Tamil directories.

The program has been tested on a Compaq Evo machine running RHL 2.4.18-14.

REFERENCES

[1] Dhvani Speech Synthesis System.