

# IT-3 Transliteration

A Anand Arokia Raj  
M Nageshwara Rao



# Introduction

- ITRANS – Indian Transliteration Scheme
- 7-bit ASCII values (English alphabets) are used to represent Indian Language Characters
- Each and every Indian Languages has its own ITRANS mapping table
- We follow IT-3 as internal / phonogramic representation

# Nature of Input to TTS

- Input comes to Text-to-Speech system either through typing in or from some other application
- Sometime input may not be processed/formatted (say if it comes from a search engine)
- So The notation should be same across applications for further processing

# Issues in IT-3 Notations

- Some representations have variants
- Special symbols mixed
- More key combinations for representations
- Many letters for a representation
- Computational complexity
- Readability
- Clear and distinguished representations across languages

**Missing Orthographic representations**



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# Variants of Representations

- Most of the representations have its variants like aa/A, ii/I, ei/ae, v/w, etc
  - Increases computational complexity
  - Confusing the users

# Special Symbols mixed

- Some representations use special symbols like: ng~, R^, t:, d- etc
  - Ambiguity between the actual punctuation mark and letter combinations
  - Creating problem while processing (some symbols are reserved under some framework like Festival)

# More key combinations

- Minimum key combinations (one or two keys) will be efficient while typing the input
  - Avoid capital letters (Dh = shift + key + etc)
  - Avoid special characters (t:h = shift + key + etc)



# Many letter combinations

- Minimum letter combinations would be efficient like: 'x' instead of 'kshh'
  - Reduces computational complexity
  - Reduces typing effort

# Computational complexity

- In the 'Phonification/Syllabification' process, each and every letter has to be processed. So minimum letter combinations will reduce the computational complexity
  - For huge data conversion it will take a lot of system time
  - Process speed decreases

# Readability

- Representation in lower case give more readability than upper case mixed

Ex: neitraalayaa                      vs                      nEtrAlayA

# Clear and Distinguished Representations

- Representations should be clear and understandable even for a naive user
  - ng, nj, nd, n (clear)
  - N, n, n~, .n (not clear)
  - p, ph, b, bh (clear)
  - t', t'h, d', d'h (not clear)

**Thank You!!**

