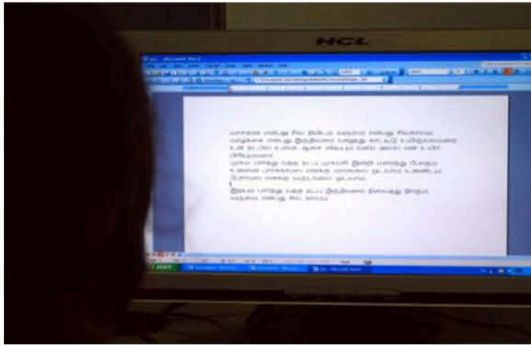


Visually Challenged student typing using the Tamil Screen Reader.



#### Applications developed and implemented will :

- Remove the need for scribes and readers for visually challenged students
- Enable development of different Interactive Voice Response systems in Indian languages.

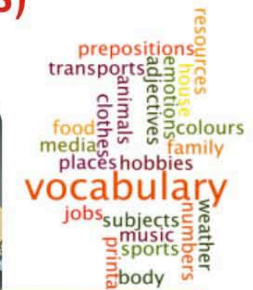
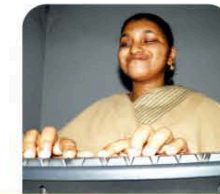


#### Future Directions

- Multilingual speech synthesis.
- Integration with a number of disability aids: i) Aid for visually challenged, ii) Aid for persons with cerebral palsy.
- Crop and weather advisory.
- Development of aids for education (online examinations for the visually challenged without a scribe).
- Converting SMSes to voice SMSes.
- Web-based plugin for TTS. Education on desktop combined with mobile learning(m-learning).



## TEXT TO SPEECH SYNTHESIS (TTS)



Text to Speech synthesis is the process of converting input text to speech

## Text to Speech Synthesis (TTS)

Text to Speech synthesis is the process of converting input text to speech.

The goal of a TTS system is to synthesise natural sounding speech.



### Goals of TTS Consortium, DIT, India :

- i) Vocabulary independent text to speech synthesis in Indian languages.
- ii) Six Indian languages: Bengali, Hindi, Malayalam, Marathi, Tamil and Telugu.
- iii) Integration with screen readers.

### Consortium Members :

IIT Madras (Lead)  
IIIT Hyderabad  
IIT Kharagpur  
CDAC, Mumbai  
CDAC, Trivandrum

### DIT Champions :

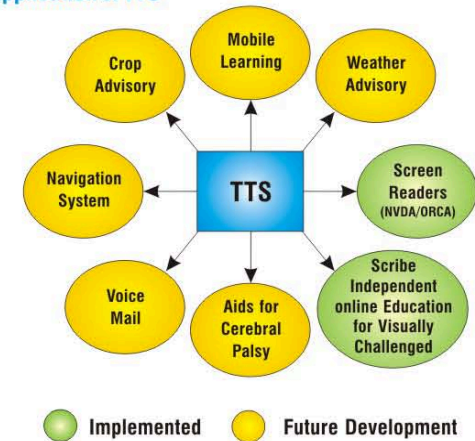
Dr. Somnath Chandra, Ms. Swaran Lata.

### Features:

- The design of the text-to-speech synthesis is based on the Model View Controller paradigm.
- Syllable-based unit selection synthesis for Indian languages using Festival speech Engine
- 10hrs of studio recorded data available for six languages.
- Semi-automatic segmentation of continuous speech into syllable-like units.
- Seamless fallback to small sound units (diphones, phones).
- UTF-8 pronunciation dictionary containing 100,000 words.
- Frequently used English words (2000) to enable navigation on a desktop.
- Vocabulary Independent synthesis.
- Seamless integration of applications.
- Mean Opinion Score (average 3 for all 6 Languages) and
- Screen Reader Usability Score (Likert Scale) 0.75.
- Screen Reader design based on participatory design.



### Application of TTS



Active discussion amongst visually challenged persons from different states of India, during discussion on design of screen reader.

