Bangla-English Bilingual Text to Speech Synthesis (TTS) System in ICT Service
An Initiative in the Field of Agriculture and Rural Development

Aim:

Text-to-Speech software (TTS) is a process of converting text into natural sounding speech for disbursement of information. Text-to-Speech" software (TTS) is primarily aimed for the visually challenged people of the society, but now it proves to be helpful for the barely literate people of the society also. A large population of farmers and rural population mostly belong to this category. Most of their problems can be solved by digital means reading aloud information which is in text form. Here requires the need of TTS software.

Applications:

The important applications of TTS system in the field of Agriculture and Rural Development are as follows:

- Healthcare informatics for spreading awareness among common mass
- E-learning solutions by generating audio books for school children
- E-governance for reaching the benefits to the grass root level
- Public announcement system
- Social Media for listening the post written in local language
- Farmer query system where the solution is send in form of voice SMS over the mobile phone

Our Initiative:

C-DAC, Kolkata has developed the Bilingual TTS system which has been successfully deployed for the 'Matir Katha' application. 'Matir Katha' is an ambitious ICT based service initiated by Govt. of West Bengal for providing experts' advice to farmers at the grass root level. This service was started with an aim to empower farmers with knowledge of scientific production, market price info, on-demand crop protection solutions etc. Already around 5, 50,000 farmers have been registered and through the 'Matir Katha' application got the experts' advice in form of synthesized voice SMS over the mobile phone.

Features:

- ✓ It can handle both English and Bangla text simultaneously.
- ✓ Tonal quality of the synthesized voice remains same across the language.
- ✓ It can be easily customized for other Indian languages.
- ✓ Currently available in form of web service.
- ✓ Can be available in form of plugin.

Likely End User:

- ➢ Government Institution
- ➢ Agriculture Sector
- ➢ Healthcare Industry
- ➢ Electronic and Social Media
- ➢ Communication Industry
- ➢ Transport Industry

Farmer takes the photograph of the disease affected crop on their mobile and sends it to "Matir Katha" application.

"Matir Katha" application sends it to the agriculture expert for the solution.

Expert provides solution in form of bi-lingual text through "Matir Katha" portal.

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Solution - আক্রান্ত গাছ ঝলসে নষ্ট হয়ে যায় বিকল্পে HEXACONAZOLE 4% + ZINEB 68% রাসায়নিক, 2 গ্রাম প্রতি 1 লিটার জল গুলে প্রয়োগ করুন। সতর্কতা 400 গ্রাম রাসায়নিক, ৫ 200 লিটার জল প্রয়োজন।

Bi-lingual text has been sent to TTS server for converting it into speech.

The solution in form of synthesized speech is sent as voice SMS to the farmer's mobile.