Abstract

In synthesis of "natural" speech, incorporating dialectical features play an important role. In this project work we have explored dialectical features of Assamese language and with the help of that dialectical features we synthesize speech.For identifying dialectical variations in Assamese dialects we have explored prosody features of speech. We have taken three prominent Assamese dialects.They are Uzani(উজনি),kAmrUpI (কামৰূপী) and gowAlaparIyA(গোৱালপৰীয়া).There are several prosody features but we have concentrated only in two prosody features namely pitch and formant.For extracting pitch and formant we have used Praat.

From the study of dialectical variations in Assamese dialects,we saw that many variations occur because of vowel change. So we record Assamese vowel sounds with the help of Praat. We extract pitch and formant values of these vowels. We record vowels speak by male as well as female and also we read five formant values and pitch values for each vowel.

With the pitch and formant values, we try to synthesize and also identify the dialectical variations using KlattGrid synthesizer. After this experiment we got the synthetic sounds of vowels. For example অ(a)will be produce when F1(first formant) value will set to 700 Hz and f2(second formant) value will set to 1100 Hz,আ(A) will be produce when F1 set to 800 Hz and F2 set to 1350 Hz. Similarly we go through this experiment to produce other Assamese vowels.In this experiment we take 44100 Hz as a sampling frequency,voicing amplitude set to 90 Hz, pitch value set to 100Hz, b1(first formant bandwidth) set to 80 Hz also b2 set to 80 Hz.Also if we increase pitch value up to 200 Hz then it will generate female voice.

After producing vowel sounds using KlattGrid, we try to produce some Assamese consonant sounds. With the help of Praat we produce some Assamese consonant sounds. After concatenating vowels and consonants we are now able to create some Assamese words. We could create Assamese sentences as well as words and also we are able to produce the dialectical variations in them.

Keywords: Assamese Dialect, KlattGrid, Formant, Pitch, Praat.