FREQUENCY ANALYSIS OF SPEECH SIGNALS FOR DEVANAGARI SCRIPT USING FFT

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ABSTRACT

This paper aims to discuss the implementation of an isolated word Automatic Speech Recognition system (ASR) for an Indian regional language Devnagari script (HINDI). Devnagari vowels are playing the vital role in pronunciation of any word . Each vowel is classified as starting, middle and end according to the duration of occurrences in the word. The Devnagari script having 12-vowels and 34-consonants are used in some Indian language like Hindi. Sound samples from multiple speakers were utilized to extract different features. Initial processing of data, i.e., normalizing and time-slicing was done using a combination of Simulink and MATLAB. Afterwards, the same tools were used for calculation of Fourier descriptions and correlations. The correlation allowed comparison of the same words.

So the frequency has been calculated in statistical manner and generates a table between amplitude and frequencies. Mean and standard deviation such a system can be potentially utilized in implementation of a voice-driven help setup at call centres of commercial organizations operating in India and other foreign region. The implementation, experiments and result discussions are also existence. The paper also describes the role of each HTK tool, used in various phases of system development, by presenting a detailed architecture of an ASR system developed using HTK library modules and tools

KEYWORDS: Correlation, Feature Extraction, Fourier Descriptors and Spoken Hindi Words