Construction of Semantic Map of Homophones for Achieving Desired Performance for Searching Homophones for a Given English Word from a Large Database of English Words

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Abstract

Semantic map is a complex network of words or phrases which are related in some way. To search related words or phrases for a given English word from a large vocabulary of English language is a time consuming process for a computer. Each time to search related set of words or phrases requires massive processing of comparison and if the entire database is large enough it is required to implement some mechanism that makes searching efficient and fully utilizing the computing power. The words and phrases which are related may be synonyms, antonyms or homophones meaning having similar pronunciation with different spellings and different meanings. The researcher has made an effort to prepare such a network of homophones so that when a search for homophones is required for a given English word, the fast retrieval of result in form of set of homophones can be possible. To determine about the words whether they are homophones or not we require phonetic algorithms for phonetic similarity between words. Similar to indexing a mechanism is derived using an algorithm that is one time processing to prepare a semantic map and then to retrieve set of homophones from this semantic map of homophones. This one time processing for constructing a semantic map is
also somehow time consuming processing but once it is constructed searching becomes more efficient.

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Index Terms

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Keywords
