Evaluating Alternative Structures for Prefix Trees

Authors : Feras Hanandeh, Izzat Alsmadi, Muhammad M. Kwafha

Abstract : Prefix trees or tries are data structures that are used to store data or index of data. The goal is to be able to store and retrieve data by executing queries in quick and reliable manners. In principle, the structure of the trie depends on having letters in nodes at the different levels to point to the actual words in the leafs. However, the exact structure of the trie may vary based on several aspects. In this paper, we evaluated different structures for building tries. Using datasets of words of different sizes, we evaluated the different forms of trie structures. Results showed that some characteristics may impact significantly, positively or negatively, the size and the performance of the trie. We investigated different forms and structures for the trie. Results showed that using an array of pointers in each level to represent the different alphabet letters is the best choice.

Keywords : data structures, indexing, tree structure, trie, information retrieval
Conference Title : ICCCNMC 2014 : International Conference on Computer Communications, Networks and Mobile Computing
Conference Location : Paris, France
Conference Dates : August 28-29, 2014