HIERARCHICAL BLOOM FILTER UNTUK EFISIENSI PENYIMPANAN DATA AKUN *(USERNAME DAN PASSWORD)*

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Abstract

Password and username are important and sensitive information of users. Most user databases, store usernames and passwords. Therefore, there is a need for information storage methods that require less storage, faster query processing, and protect the information that has been stored. One of the current methods of storing accounts and passwords is to use the SHA-1 hash function. Which is an algorithm that functions to convert text into a series of random characters that have the same number of characters in length. However, one of the drawbacks of the SHA-1 hash is that as the number of users increases, the storage usage will also increase. Therefore, a Hierarchical Bloom Filter is needed to be able to perform efficiency on account data storage so that there is no increase in account data storage if the number of users also increases. To overcome this problem, the author proposes a Hierarchical Bloom Filter (HBF) based framework. HBF has been introduced to address the problem of sub-string matching. In this study, the authors observed 10,000 data entered into the HBF with a program built with the python programming language. Once implemented, the authors get the results of data compression above 70% with insert and query times that are linear to the size of the data.

Keywords: : hierarchical bloom filter, data compression, password storage, account storage