Optimizing and Enhancing Performance of MVC Architecture based on Data Clustering Technique

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Abstract

The frequent use of web based application plays a vital role in our everyday life. MVC (Model View Controller) architecture is used as programmed architectural pattern in order to implement user interfaces. Application software developers utilize MVC (Model View Controller) Architecture for developing web based application. The sizes of databases are increasing day by day in relation with time. Therefore, if we take into account the concept of huge centralized database systems, it has become one of the most challenging criterions for accessing data in acceptable time. Basically, in centralized databases, the records can be classified into two categories considering the access frequency of data. Those records that are being accessed frequently are known as Level 1 data, on the contrary, those accessed in lesser frequency is considered as Level 2 Data. In this paper, we will try to enhance and optimize the performance of MVC architecture based on two parameters namely response time and throughput. The response time and throughput is improved based on the proposed database search algorithm using B+ tree. If the database search engine is idle, the database search engine will look
forward to discover whether the intended data is in level 1, otherwise it will search for level 2
data. The level 2 data will be included as level 1 data inside the database or vice versa, for
insertion and update operation. However, whether the data is level 1 or level 2 data will be
depended upon user choice. Thus, the overall response time as well as throughput will be
optimally increased.

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Index Terms

Computer Science Information Sciences

Keywords

MVC, Large Database, Database Engine, Access Frequency, Level 1 Data, Level 2 Data.