Abstract

B-tree and R-tree are two basic index structures; many different variants of them are proposed after them. Different variants are used in specific application for the performance optimization. In this paper different variants of B-tree and R-tree are discussed and compared. Index structures are different in terms of structure, query support, data type support and application. Index structure’s structures are discussed first. B-tree and its variants are discussed and them R-tree and its variants are discussed. Some structures example is also shown for the more clear idea. Then comparison is made between all structure with respect to complexity, query type support, data type support and application.

References

- Hung-Yi Lin, "A Compact Index Structure with High Data Retrieval Efficiency", 
Comparison of Advance Tree Data Structures

- Stefan Berchtold, D. A. Keim, Hans-Peter Kriegel, &quot;The X-Tree: An Index Structure for High-Dimensional Data&quot;, Proc. 22th International Conference on Very Large Data Bases, pp. 28–39, 1996.
- Tei-Wei Kuo, Chih-Hung Wei, Kam-Yiu Lam &quot;Real-Time Data Access Control on B-Tree Index Structures Data Engineering&quot;, Proc. 15th International Conference on Data Engineering, pp. 458 – 467, 1999.

Index Terms

Computer Science  Data Structures
**Keywords**
Index Structures  B-tree  R-tree  Variants  Query Type  Complexity