

Jordan University of Science and Technology

A Spatial Index Structure Using Dynamic Recursive Space Partitioning

Authors: Amer Al-Badarneh and Abdullah Al-Alaj

Abstract: Generally, one spatial index structure (called Single Big Index SBI) is built for the whole data space; therefore most of the index nodes are prone to be checked during query execution. In this paper, we proposed a technique to partition the space into groups and construct a set of small indices (called Multi Small-Index MSI), one for each group. Such that we can quickly access query-relevant objects through their corresponding small index in the MSI and ignore irrelevant ones. Experimental results showed that, for small query regions, MSI structure outperforms the SBI structure.