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Self-Customized BSP Trees: A Case-Study

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Abstract

The ability to perform efficient collision detection is essential in virtual reality environments and their applications, such as walkthroughs. In this paper we re-explore a classical structure used for collision detection – the binary space partitioning tree. Unlike the common approach, which attributes equal likelihood to each possible query, we assume events that happened in the past are more likely to happen again in the future. This leads us to the definition of self-customized data structures. We report encouraging results obtained while experimenting with this concept in the context of self-customized BSP trees.