Improving LRTA*(k)

We identify some weak points of the LRTA*(k) algorithm in the propagation of heuristic changes. To solve them, we present a new algorithm, LRTA*LS(k), that is based on the selection and updating of the interior states of a local space around the current state. It keeps the good theoretical properties of LRTA*(k), while improving substantially its performance. It is related with a lookahead depth greater than 1. We provide experimental evidence of the benefits of the new algorithm on real-time benchmarks with respect to existing approaches.

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