

Carl-Johan Jorgensen, Fabrice Lamarche (2014). Semantically consistent hierarchical decomposition of virtual urban environments. Smart Graphics 2014.

Abstract. When planning a path in their environment, humans reason on a hierarchical representation of this environment. They first plan a path through coarse zones, then refine this path during navigation, as relevant information is perceived. In this article, we propose a method that automatically generates a semantically consistent hierarchical decomposition of an urban environment. We also present a path planning process that takes advantage of this representation to delay some decisions and propose path options that enable a smart path adaptation when unexpected events occur.