



SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

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GMCS 418

James Bible

Site Relocation Using Voronoi Tessellations

Abstract

This is a preliminary study of adapting a Voronoi Diagram algorithms using non-uniform euclidian distance calculation in the form of weights that may or may not be overlapping. The aim of this study is to address issues that arise when sites (taking into account their given weights) are close enough together to overlap, thus, having a double-weighted area. This would imply that whatever resources these weights represent, are being wasted due to over saturation. This paper's objective is to research and develop a model for a voronoi calculation to incorporate a method of reduction of these areas with double, triple, or more intersecting weighted areas. A modified Power Diagram algorithm will propagate through the map and determine these weighted distances. Then, during tessellation, it will call on a method to re-locate sites of overlapping weights, and re-calculate the Voronoi diagram. This system will iterate as continuously until there are no overlapping weights.

Thesis Committee

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