Parallel computation of 2D Voronoi diagrams on the GPU

Description:

Voronoi diagrams appear in a multitude of applications. Given some points in the plane, the plane is divided according to the nearest-neighbor rule: each point is associated with the region of the plane closest to it. In the proposed project we intend to explore a new parallel algorithm for the computation of Voronoi diagrams and implement it on the GPU.

References:

[1] Reem, Daniel. "On the possibility of simple parallel computing of Voronoi diagrams and Delaunay graphs".

Prerequisites:

Good programming skills in C/C++. Familiarity with CUDA is an advantage.

Platform:

Any platform with a GPU that supports CUDA 2.0 or higher.
Coding is done mainly in C/C++ and CUDA.

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Number of students:

2 are preferred, but also 1 or 3 are acceptable

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