CS709a: Algorithms and Complexity

Focus: Spatial Data Structures and Algorithms

Instructor: Dan Coming
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Thursdays 4:00-6:45pm
Office hours after class
(or by appointment)

Today

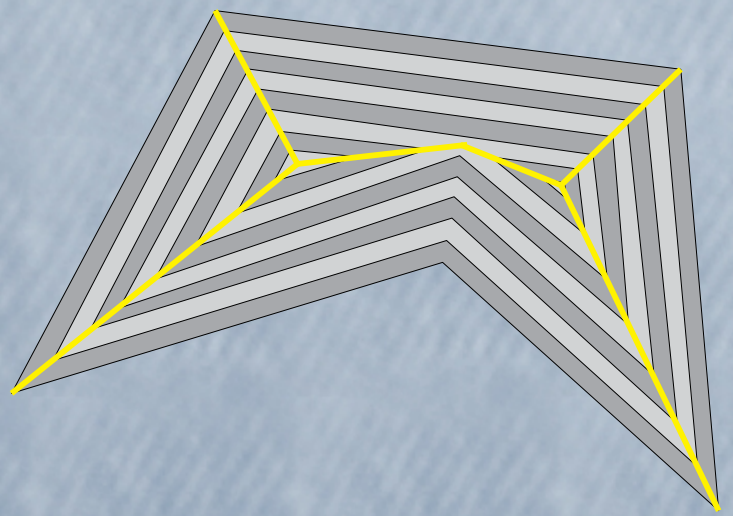
- Project 2 Initial Details
- Project 1 Presentations
- Paper presentation by Matt
  - "Instant Ray Tracing: The Bounding Interval Hierarchy" by Carsten Wächter and Alexander Keller

Tentative Calendar

- 2/12 – Paper selection due
- 2/19 – Paper Presenter: Joe
- 2/26 – Paper Presenter: Matt
  - Present Project 1 in class (Project 1 Due 2/25)
- 3/5 – Paper Presenter: Ray
- 3/12 – Paper Presenter: Mark
- 3/14-22 Spring Break
- 3/26 – Paper Presenter: Scott
  - **Present Project 2 in class (Project 2 Due 3/25),**
- 4/2 – Paper Presenter: Cody
- 4/9 – Midterm
- 4/16 – Paper Presenter: Steve
  - Project 3 Due 4/15, present in class 4/16
- 4/23 – Paper Presenter: Roger
- 4/30
- 5/7-13 Finals Week
  - Final Projects and Presentations Due

Correction: Medial Axis

- Find topological skeleton of this object
- Use distance from boundary to get equidistant topological lines (like a topo map)
- Connect vertices of adjacent topological lines in gradient direction



Project 2 Details

- Adopt another team's Project 1 code and extend it
  - Insert and remove
  - Ray cast
  - Nearest neighbor

Project 2 Groups

- BVH – Joe
- KD/BSP – Mark&Scott
- Grids - Cody&Matt
- Range Tree
- Octree - Steve&Roger