Pedagogical Aid: Delaunay Triangles

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Description

A website to help visualize the process of the Delaunay triangulation algorithm. The focus will be on 2D triangulation, with a stretch goal of implementing 3D triangulation.

Resources and References

- Mark De Berg, et al. Computational Geometry : Algorithms and Applications. Berlin, Heidelberg, Springer Berlin Heidelberg, 2008.
- https://ianthehenry.com/posts/delaunay/
- http://paperjs.org/about/
- https://highlightjs.org/
- https://threejs.org/ (If 3D triangulation is implemented.)

Timeline

Week	Goal
Week 5	Research and learn the algorithms.
Week 6	Implement the 2D algorithm in JavaScript or TypeScript.
Week 7	Learn PaperJS and research 2D web graphics.
Week 8	Create a visual output for the algorithm.
Week 9	Add buttons to step through the algorithm one action at a time.
Week 10	Make pseudocode that follows along with the algorithm.
Week 11	Write background information and relevent paragraphs.
Week 12	Refine project and thoroughly test.
Week 13	If time remains, add a 3D implementation.
Week 14	Make presentation and practice it.

Distributing the Work

Pair program whenever possible, plan which functions need to be written and by whom, and maintain clear communication through Discord.