

Title: Implementation of a Separator Algorithm for Planar Graphs

Abstract: Efficient algorithms exist on planar graphs to find what are known as "separators" – relatively small pieces of the graph that, when removed, break the remainder of graph up into smaller pieces of relatively equal size. Separators have many applications; namely, many divide-and-conquer algorithms that solve problems efficiently on planar graphs use separators to divide their input, and some polynomial-time approximation schemes for NP-complete problems on planar graphs also use separators to break up the input graph into feasible pieces. My capstone project is a C++ implementation of one such efficient algorithm to find a separator in a planar graph; this work will hopefully simplify the future implementation of a variety of practical planar graph algorithms.

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