
New Algorithm for Convex Grid Drawings of 3-connected Planar Graph

Ahmed A. A. Radwan, Mohamed A. El-Sayed

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Abstract: Given a 3-connected plane graph G , we wish to find a drawing of G in the plane such that the vertices of G are represented as grid points, the edges are represented as straight-line segments between their endpoints without any edge-intersection and faces are convex polygons. Such drawings are called Convex drawings of G . An additional objective is to minimize the area of the rectangular grid in which G is drawn. In this paper we introduce a new linear-time algorithm that finds an embedding of G . This new algorithm gives convex drawing in a rectangular grid with

area $(f-1) \times (f-1)$, where f is the faces of G .