

Drawing Euler Diagrams for Information Visualization

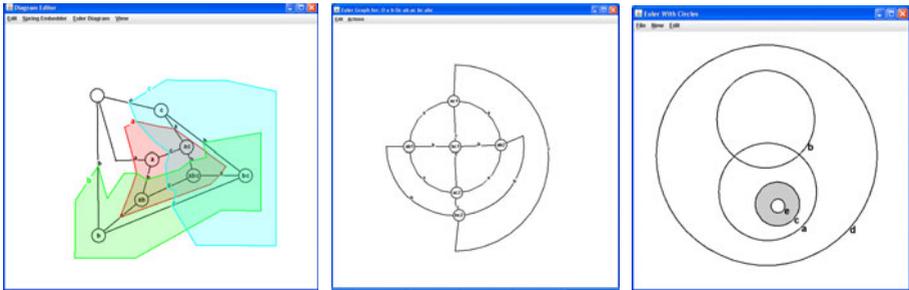
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Euler diagrams have numerous applications in information visualization as well as logical reasoning. They are typically used for displaying relationships between sets, such as whether one set is a subset of another. In addition, they can represent information about the relative cardinalities of the visualized sets by making the areas of the regions in the diagrams proportional to the set cardinalities. Using visualizations can allow the user to readily make interpretations that are not immediately apparent from the raw data set.

As with other diagram types, the ability to automatically produce an Euler diagram from the raw data would be advantageous. Indeed, the automated generation and layout of diagrams can play a key role in the usability of visual languages. There have been a number of techniques devised for the automated drawing of Euler diagrams, each of which has its own advantages and disadvantages. The techniques can be broadly classified into three categories: dual graph based methods, inductive methods, and methods that use particular geometric shapes. The respective three categories give rise to the diagrams shown below:



Participants will be presented with an overview of different Euler diagram drawing methods, including their strengths and weaknesses. Freely available software tools to support their use will be demonstrated. The tutorial will also discuss their use in information visualization, highlighting a range of areas in which they are helpful. Thus, the tutorial should make attendees more aware of the scope for Euler diagram application and the state-of-the-art tools available for their automated generation.

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