

Call for Participation  
Graph Drawing Contest '10  
September 21 - 24, 2010, Konstanz, Germany  
<http://www.graphdrawing.de/contest2010/>

The 17th Annual Graph Drawing Contest shall be held in conjunction with the 18th International Symposium on Graph Drawing (GD 2010). Except for the challenge competition, which takes place during the conference, all submissions are due by September 19, 2010.

This year, the contest has three topics: edge routings, the mystery graph, and the graph drawing challenge. Details can be found at the contest web site: <http://www.graphdrawing.de/contest2010/>

### **Edge routing**

The topic of last year's contest was partial graph layout, that is to produce a layout from data with some fixed node positions and some nodes that were free to be moved. This year's contest is a variant: All nodes are fixed, that is, all nodes have specified coordinates. The task is to produce a suitable routing for all edges, by using bends or splines, or any other way to display edges nicely. Note that no node should be moved at all.

We provide two data sets that will be judged separately. The task is to create edge routings suitable for the corresponding application domain. Any representation for edges is allowed. Manual routing adjustments are allowed, but fully automatic routings are preferred. For each data set, a separate winner will be determined.

- **Author Collaboration Graph**

The data represents the collaborations of authors of Graph Drawing papers. The nodes represent the authors, and an edge is between two nodes if the corresponding authors published a paper together. The data was obtained from a selection of papers of the years 2004-2010 through GDEA.

- **Circuit Diagram**

The data represents the circuit of the Video controller of the Apple 2 computer (with some small simplifications). It contains multiple edges between node pairs. The edges are directed. The node positions are approximately the same as in the original circuit diagram.

## Mystery graph

The mystery graph is this year's traditional layout problem, to simply find the best layout and to determine the meaning of the graph. It consists of 17 nodes and 49 edges. The node names are slightly obfuscated. The first task is to create a visualization of the graph. Nodes must be placed and edges must be routed. There is no requirement concerning edge shapes or layout style. Manual layout adjustments are allowed, but fully automatic layouts are preferred. As an additional task, the contestants should determine what this graph depicts.

## Submissions

Submissions for the mystery graph and the edge routing tasks must be received by midnight September 19 (Central European Time) and should include the following information:

- names and email addresses of the contributors,
- a picture illustrating the graph, and
- **a brief description on how the layout was produced.**

Electronic submissions are strongly encouraged. However, if your drawing requires special printing because of size, resolution, or color constraints, you are encouraged to submit via hard-copy. Acceptable electronic formats include PDF and PostScript for images.

All contest submissions should be sent to:

Georg Sander  
Wilhelm Flögel Ring 52  
60437 Frankfurt, Germany  
contest@graphdrawing.de

## Graph Drawing Challenge

The challenge will be held during the conference in a format similar to a typical programming contest, where teams are presented with a collection of challenge graphs and have approximately one hour to submit their highest scoring drawings. This year the challenge shall focus on minimizing the length of the longest edge in a planar orthogonal layout. The longest edge can be a bottleneck for many applications, hence minimizing its length is important. The challenge graphs will be planar and 4-ary (maximally 4 incident edges per node). Nodes have no dimension, they can essentially be considered as points. Nodes and edge bends must be placed on integer coordinates, so that the edge routing is orthogonal and the layout contains no crossings or overlaps. The layout with the smallest length for the longest edge wins.

The Graph Drawing Challenge has 2 categories:

- Automatic - This category is for teams using their own tool. Since we assume that the tool contains special algorithms to solve the challenge automatically, these teams will receive larger challenge graphs. Manual fine-tuning is allowed.
- Manual - This category is for teams using the provided graph editor. The graph editor does not contain any specific algorithm to solve the challenge. It allows only to move nodes and to re-route edges. This category is for creating manual solutions without help of an automatic algorithm. Teams in this category will receive smaller challenge graphs.

## **Contest Committee**

- Lev Nachmanson, Microsoft
- Christian A. Duncan, Louisiana Tech University
- Carsten Gutwenger, Dortmund University of Technology
- Georg Sander, (Chair), IBM