

Graph Drawing Contest '04
September 29 - October 2, 2004
New York, NY

Introduction

The eleventh annual graph drawing contest will be held in conjunction with the 12th International Symposium on Graph Drawing (GD 2004). This year's contest shall be split into two parts, a graph drawing challenge competition and a free-style drawing contest. The challenge competition will take place during the conference while submissions to the free-style drawing contest are due by September 15, 2004. The anticipated funding for the contest is US\$1,000.

Graph Drawing Challenge

In a style similar to the typical programming contest, we shall have a graph drawing challenge at the conference. At the start of the challenge teams of contestants will receive the collection of challenge-graphs. After one hour, the teams will submit their final drawings and the team with the highest cumulative score wins.

Teams will be allowed to use any combination of software and human interaction systems to produce the best drawings. To accommodate both teams wishing to prepare for the challenge and teams wishing simply to participate, with no preparation, we will be providing, a small set of graph visualization tools. These tools are not necessarily meant to solve the problems at hand but are there to help the teams interactively draw and manipulate the graphs. To further the development of new tools and to help promote tools already in existence, teams are also welcome and highly encouraged to create and bring their own software packages.

As this is the first time the graph drawing contest will have this format, the challenge is simple and straight-forward: *straight-line crossing minimization*. That is, the graphs produced should be straight-line drawings with the smallest number of crossings. While such drawings are not necessarily the best drawings, crossing minimization is an important aesthetic criterion, that is well-known and difficult to compute. Moreover this challenge offers an objective way to qualitatively evaluate a given drawing.

Overview of the Rules of the Challenge

The official rules, sample graphs, and other more precise details to the challenge shall be presented in a later posting closer to the time of the contest. However, to ensure understanding of the challenge and to encourage contestants to start gathering and developing tools now, we present a brief overview of the unofficial rules.

- The challenge will take place during the Graph Drawing Symposium.
- Teams may consist of one to three participants each.
- Each team may bring their own computers and/or software tools to the challenge. However, each team may use at most one computer during the challenge. In the interest of fairness, teams are restricted from using outside resources, e.g., remote machines for computational power.

- Lab space, computers and software tools will be provided for each team with time available prior to the challenge to set-up and practice with the system.
- At the start of the challenge, contestants will receive a collection of five to ten graphs.
- The graphs will be undirected simple graphs with twenty to one hundred vertices.
- Teams will have one hour to submit their solutions.
- For each graph, the drawing with the fewest crossings will receive the highest score. Scores for other submissions of the same graph will be weighed with respect to this value.
- The team with the highest total score over all graphs wins.

Free-Style Contest

The free-style contest is an opportunity for participants to present their best graph visualizations. All types of graph drawings can be submitted to this contest.

Submissions must be received by midnight September 15 and should include the following information:

- Names and email addresses of the contributors,
- A picture illustrating the graph,
- A brief description of the graph, how it was generated, and its relevance to the graph drawing community.

Besides hard-copy submissions, acceptable electronic formats include PDF and PostScript. All contest submissions should be sent to

Stephen Kobourov
Department of Computer Science
University of Arizona
1040 E 4th Street
Tucson, AZ 85721-0077
kobourov@cs.arizona.edu

If your drawing requires special printing because of size, resolution, or color constraints, you are encouraged to submit via hard-copy.

Graph Drawing Contest Committee

Franz J. Brandenburg, Universität Passau
Christian A. Duncan, University of Miami
Emden Gansner, AT&T Labs - Research
Stephen G. Kobourov (Chair), University of Arizona

Questions or comments should be sent to Stephen G. Kobourov, kobourov@cs.arizona.edu.