Rapid Graph

Created by team RandM

Web-Based Visual Graph Analyzer

Project Description

The mathematical graph analyzers that exist today generally require installation and/or use of unintuitive, complicated mathematics software.

RapidGraph is a web-based graph analyzer that is easily accessible to anyone with a modern web-browser.

It is easy to rapidly create graphs with a visually-appealing and intuitive user interface, and efficiently analyze them with an modular, plugin-based, extendable back-end.

Features

Rapidly Accessible - It's web-based which means it will work in any modern browser without needing to install any additional software.

Rapidly Createable - An intuitive, consistent, and easy-to-use interface encourages fast and accurate graph creation.

Rapidly Portable - RapidGraph is built with standard, open languages ensuring maximum portability both server-side and client-side.

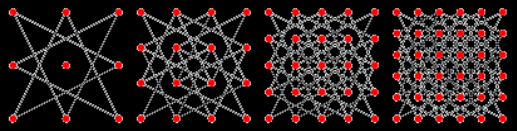
Rapidly Modular - A plugin system allows for fast and consistent functional extendibility.

Applications

There are many base applications bundled with RapidGraph, including:

Analyzing graph type - simple, planar, bipartite, complete, clique, n-cubes, and different flavors of trees.

Real-world applications – The "knight's tour" problem, peer-to-peer networking, the "travelling salesman" problem, the "instant insanity" puzzle, and map-coloring.



"Knight's Tour" graphs for different sized boards

Credits

Michael Anderson
(andermic@engr.oregonstate.edu)
Back-end and plugin developer

Rob McGuire-Dale
(mcguirer@engr.oregonstate.edu)
Project manager/Front-end developer

Christine Wallace
(wallach@eecs.oregonstate.edu)
Project Sponsor

Technical Details

RapidGraph is mostly written in Javascript with the jQuery and Raphaël libraries. The UI uses standard CSS, and HTML, and the <canvas> tag.

The server runs Apache and Django, which handles server-side tasks and the plugin system. Python and C++ is used with plugins requiring high algorithmic performance.

Git was used for code versioning, and Trac was used for project management. You can find out more at trac.osuosl.org/rapidgraph

Conclusion

We learned that... (will fill when finished)

- Placeholder
- Placeholder
- Placeholder
- Placeholder