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.

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, the "traveling salesman" problem, the "instant insanity" puzzle, map-coloring, and more!

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.

Conclusions

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

Placeholder

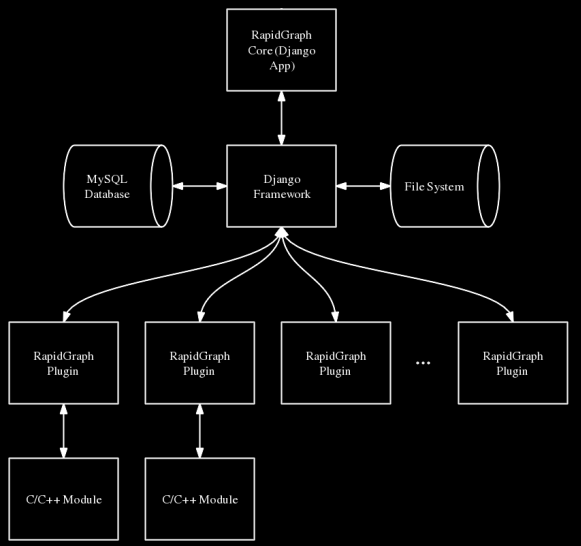
Placeholder

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.

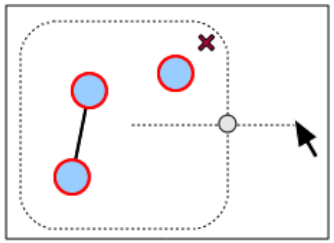
Git was used for code versioning, and Trac was used for project management. You can find out more at trac.osuosl.org/rapidgraph



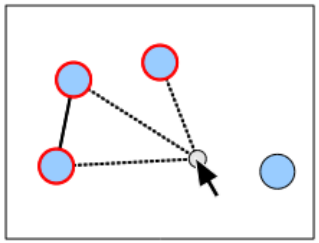
Block diagram demonstrating component interaction

Creating Edges

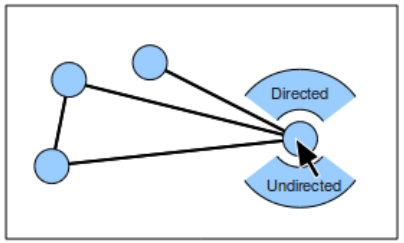
A “handle” orbits around selected



Prospective edges created



Context menu appears when created



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