GraphSpace

www.graphspace.org

Stimulating interdisciplinary collaborations in network biology

Aditya Bharadwaj, Divit P. Singh, Anna Ritz, Allison N. Tegge, Christopher L. Poirel, Pavel Kraikivski, Neil Adames, Kurt Luther, Shiv D. Kale, Jean Peccoud, John J. Tyson, and T. M. Murali

Collaboration among

Virginia Tech — Invent the Future; Colorado State University; Reed College

BACKGROUND

Despite the existence of several software systems and interfaces to analyze and view networks, interdisciplinary research teams in network biology find it challenging to share, explore, and interpret computed networks in their collaborations.

GraphSpace is a web-based platform that fosters team science by allowing collaborators to easily store, share, interact with, and lay out networks.

GRAPHSPACE FEATURES

STORE — Save your networks online and access them anytime, anywhere, and on any device

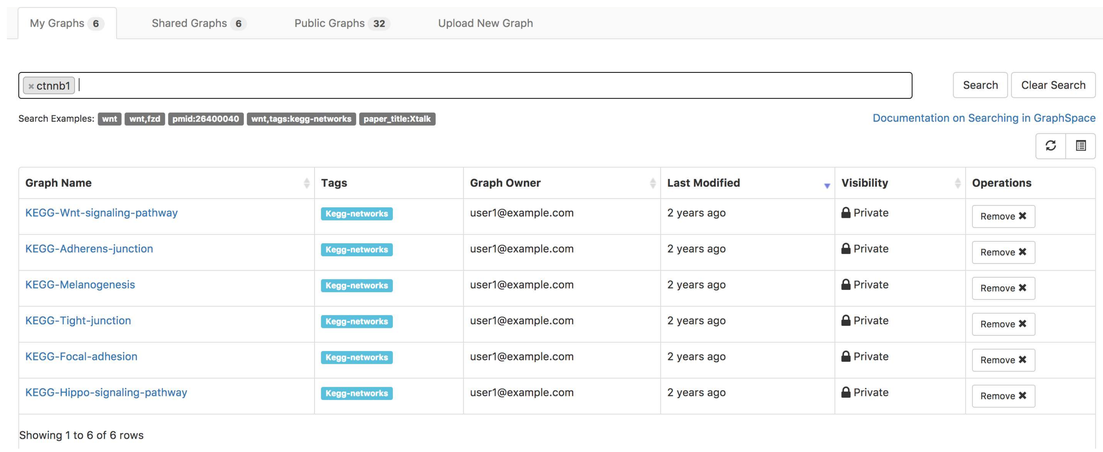
SEARCH — Search for networks with a given property or that contain a specific node or collection of nodes

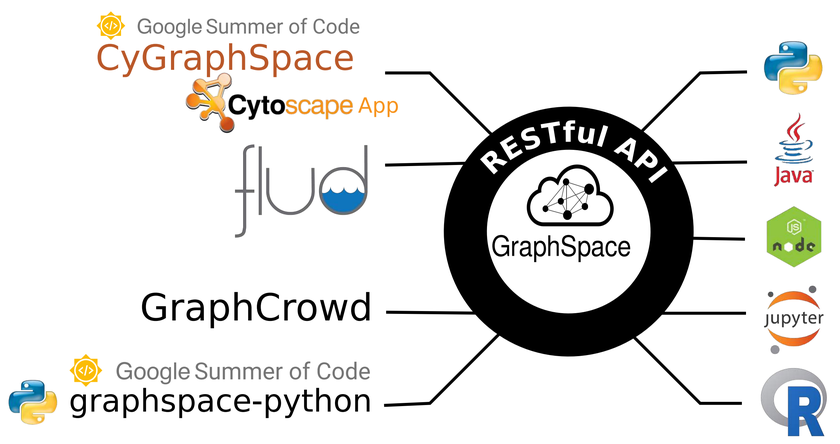
SERVICE — GraphSpace exposes its functionality via easy-to-use RESTful APIs

21,000+ **Graphs**

300+ **Users**

90+ **Groups**

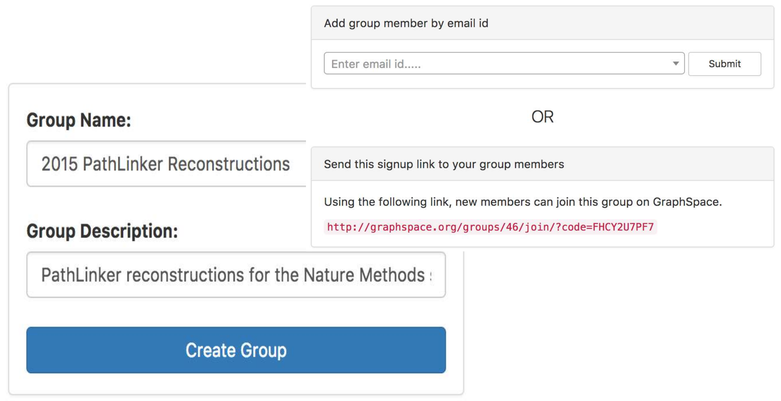


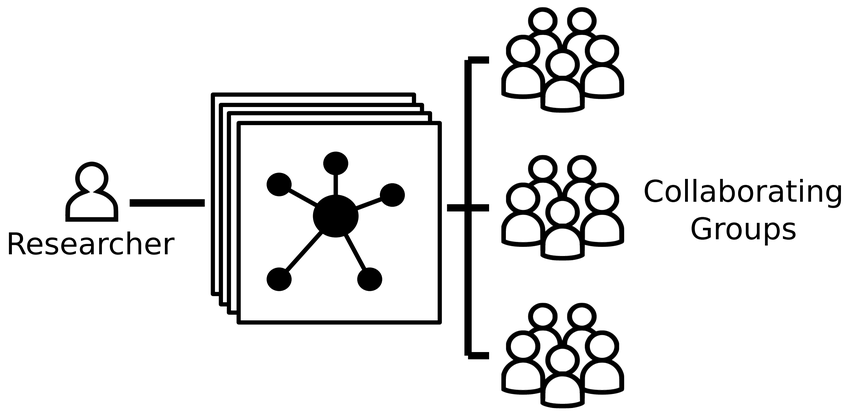


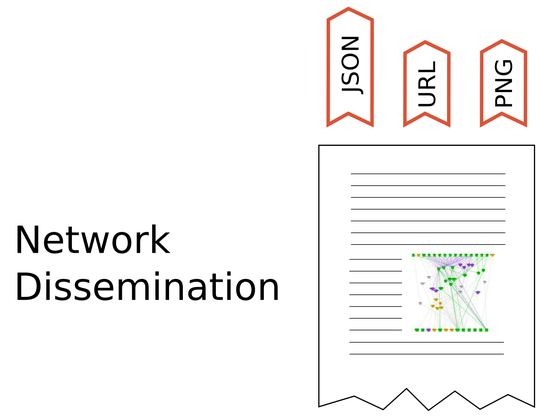
GROUPS — Create groups and add/invite your collaborators

SHARE — Share your networks and layouts with one or more groups

PUBLISH — Share your networks with the scientific community



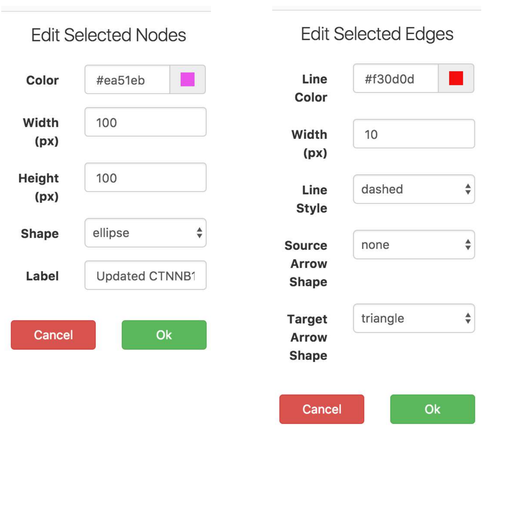


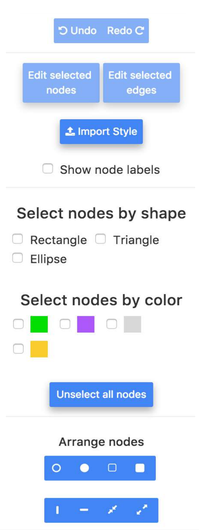


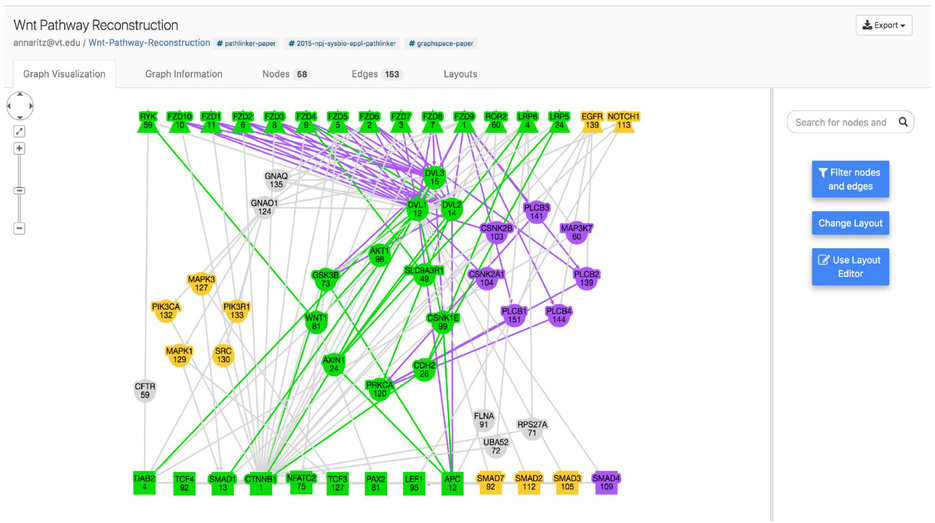
LAYOUT — Use a powerful layout editor to move nodes, edit network styles, and save new layouts

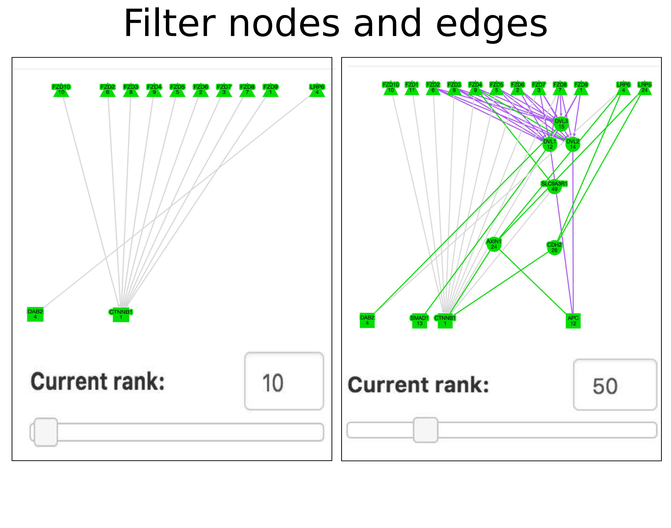
VISUALIZE — Visually explore your network

INTERACT — Sequentially step through subgraphs of the entire network









FUTURE DIRECTIONS

- **Plug and play algorithms** providing a single platform for algorithm development.
- **Automated personalized layouts** generated by learning user preferences from previous layouts.
- **Crowdsourced layouts** generated by citizen scientist via integration with plaforms like Zooniverse and MTurk.

FUNDING

NSF DBI 1062380

National Institutes of Health R01 GM095955, UH2CA203768

GET INVOLVED

- Web: http://bioinformatics.cs.vt.edu/ murali/
- Email: murali@cs.vt.edu
- Github: https://github.com/Murali-group/GraphSpace/

ACKNOWLEDGEMENTS

We would like to thank **NRNB** and **Google Summer of Code**.

Google Summer of Code

NRNB