Computer Assisted Graph Navigation for the Visually Impaired

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Combinatorial Graph Creation and Navigation for the Functionally Impaired

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Research Question

• How can combinatorial graphs (node-link) diagrams be created, represented, navigated, and used in a variety of computer applications in a standard way that is universally accessible?
Gathering Data in Support of Research Question

• Research navigation and usage in existing accessible graph-based applications:
  – Deep View, Kekulé, PLUMB, TeDUB

• Continue to develop and improve upon accessible graph-based applications at NC State and SAS Institute:
  – ProofChecker, GDR, SAS® Enterprise Miner

• Create an Accessible Graph API / Package for use by developers.
Data Analysis

• Analyze the usability of graph-based applications by functionally impaired and unimpaired users by comparing the results of user surveys and timing data for various tasks.

• Analyze the Graph API / Package by studying the results of developer surveys.