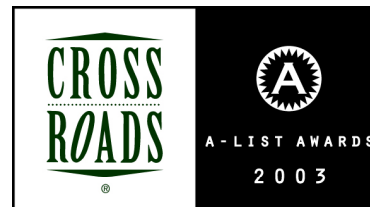


## Tom Sawyer Software

Oakland, CA

### Graph Editor Toolkit for Java

➤ Java Graph Visualization for Life Sciences Applications



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#### CUSTOMERS AT WORK

A drug-discovery company, a hospital-affiliated academic research center, and bioinformatics software vendors were among the reference customers.

Common strategic objectives included:

- Developing Java-based software for exploring interactions among molecular components and chemical reagents
- Leveraging limited resources

#### WHY TOM SAWYER SOFTWARE?

Tom Sawyer Software produces component software that reveals associations hidden in large data sets. The Graph Editor Toolkit for Java is high-speed software for visualizing relationships in databases, networks, and complex systems. It enhances applications with sophisticated graph display technology presented in an intuitive user interface. Developers can batch-populate graph displays from relational data sources. Automatic layout assists with rapid production of high-quality diagrams, helping scientists and technical end users visualize models, networks, processes, flows, dependencies, and pathways. Developers can edit graph displays with sophisticated diagramming technologies and customize the visual appearance of objects and their behaviors. The software can be used in applets or cross-platform applications.

#### COMPANY INFO

Tom Sawyer Software is a private company with 60 employees.

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[www.tomsawyer.com](http://www.tomsawyer.com)

#### BUSINESS IMPACT

*Near-term value:* The biological machine is a combinatorial explosion based on 30,000 genes, 100,000 proteins, and  $10^{12}$  cells, each containing  $10^9$  molecules. Tom Sawyer Software is enabling reference customers to more quickly build applications for scientists exploring the myriad complex relationships among these numerous entities. Graph Editor Toolkit for Java enables developers to easily create complicated entity relationship visualizations (also called node-and-link diagrams) laid out in ways conducive to interpretation and analysis. Its powerful, flexible layout technology offers the navigation and nesting capabilities and programmatic interfaces required to visualize and explore large networks. Graph Editor Toolkit also delivers the performance required to visualize tens of thousands of links to thousands of objects in a protein network.

*Enterprise innovation:* Graph Editor Toolkit enables the biological network to be visualized in several different ways. Some reference customers favor the orthogonal layout style because it most closely resembles the canonical view scientists learned in school. Other reference customers say that new visual metaphors are required because the data set being contemplated is so vast. Their applications enable scientists to experiment by visualizing the same information with circular, hierarchical, or a symmetric layout in addition to the more conventional view.

*Technology gains:* Tom Sawyer enables development shops to add value to their chosen scientific disciplines rather than wasting time reinventing the wheel.

#### SUCCESS FACTORS

*Project strategy:* Plan to begin loading and testing data early in the cycle. Data entry errors pop right out of the visualizations.

*Skills:* Research biochemists with some Java skills have been able to pick up the Tom Sawyer tool and use it for small projects where each node points to a Web page. Competent Java programmers are required to develop larger and more elaborate applications, for example, where each node in the layout represents a dynamic program object that can be explored.

*Resources:* Reference customers report that collaboration between scientists and IT staff yields the best applications.

*Fit:* Graph Editor Toolkit has won acceptance in life sciences, moving beyond its established market in network visualization.

*Published:* January 2003

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#### ABOUT THE CROSSROADS A-LIST AWARDS

The Crossroads A-List identifies the best newly proven products and services transforming business today. Winners are determined after an analysis of the vendor's strategy followed by confidential, in-depth interviews with early adopters.