Graph Visualization API Library for Application Builders

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1   Short Description

Founded in 1991, Tom Sawyer Software produces quality graph-based architectures for application developers. These technologies include graph management, graph layout, graph diagramming, and graph visualization technologies. This software is growing in scope both architecturally and functionally and is packaged as flexible and well-documented library technology that enables universities, governments, and companies to produce graph drawing applications very quickly and with high quality.

2   Areas of Application

Tom Sawyer component technology is used in a large number of different application domains. Our customers build applications for bioinformatics, telecommunications, enterprise software and electronic commerce, IT infrastructure, software engineering, knowledge management, engineering design, and financial analysis.

3   Layout Algorithms and Layout Features

Tom Sawyer Software provides five different layout styles: Hierarchical layout, Orthogonal layout, Circular layout and Symmetric layout (1). Each of this style emphasizes a particular property in the graph to be displayed. Each style is highly customizable with a large set of options such as spacing between nodes, edge routing styles, specific support of undirected graphs and clustering, placement constraints. Tom Sawyer provides also some advanced complexity management features such as hiding, folding and nesting of graphs. Different layout styles can be combined in the same drawing.

4   Architecture and Interfaces

Tom Sawyer Software produces the Graph Editor Toolkit in specific versions for Pure Java and for Microsoft Windows MFC and ActiveX. The Graph Editor Toolkit acts as a graph window presentation system for an application with customizable graph sources, customizable user interface, and customizable graphics. The Graph Editor Toolkit is designed to become an integrated part of a customer application.

Tom Sawyer Software produces the Graph Layout Toolkit in specific versions for C, C++, JNI Java, and ActiveX with a C++-based kernel, and the company is introducing a new Graph Layout Toolkit for Pure Java. The Graph Layout Toolkit, with its graph model management, serves as a very solid infrastructure for the Graph Editor Toolkit

Our portable architectures include API versions that are entirely portable without graphics and versions that include comprehensive API layers with graphics.
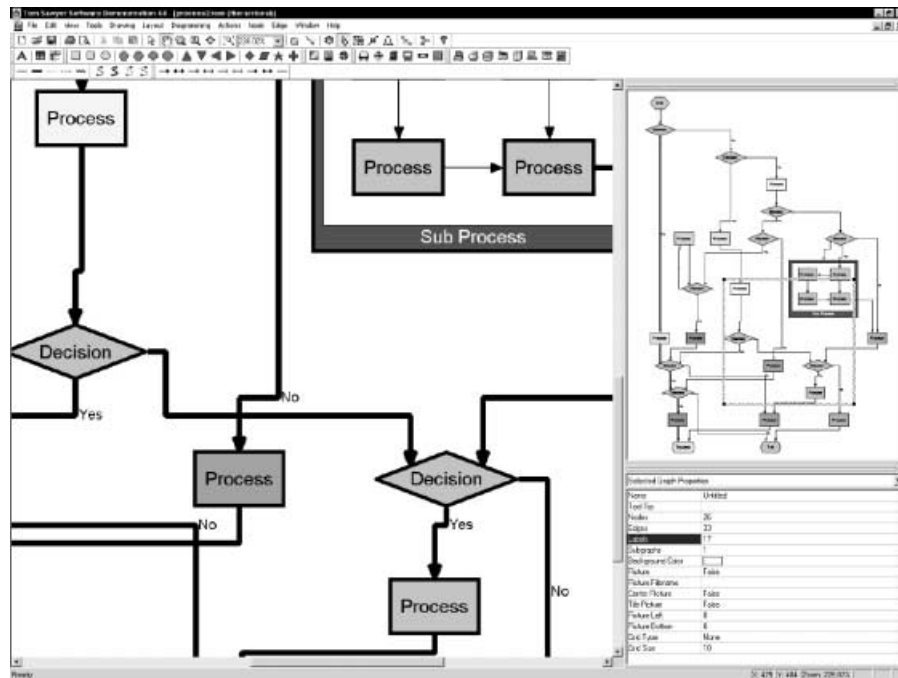

Fig. 1. Drawings with the symmetric and circular layout styles obtained using the Windows Graph Editor.