Intelligent Zoom, a Method for Navigating and Controlling Large Networks

The Intelligent Zoom (IZ) is an interface method for viewing, navigating and interacting with large hierarchical networks. Its novel method of allocating display space allows viewing both detailed information and surrounding context in such a network, thereby avoiding the so-called “lost-in-space” problem. As the user interactively changes the displayed size of any portion of the network, other parts change automatically to accommodate the user’s request; these size changes are dynamic, continuous and smooth. Leaf node data visualization is also aided through a dynamic, adaptive set of representations. The IZ makes possible the representation of system data in multiple ways (live video, trend graph, text, icon representations, etc.) according to which method is currently most appropriate.

Applications

The IZ may be of benefit in any application requiring viewing, navigating, understanding and modeling of relationships. Applications already investigated include telecommunications net- work management and power transmission systems. Other non-real time applications may be in the area of databases, group technology or con- figuration management.

Advantages

The IZ combines an advanced geometry-man- agement algorithm with a set of intelligent agents to choose the best among several alternative rep- resentation methods. The IZ supports manage- ment of limited screen space and hardware con- straints, and human cognitive resources.

Development Stage

A series of prototypes have been designed, implemented, and demonstrated to users in the power and telecommunication industries. The Intelligent Graphic Interface Research Team is interested in working with a vendor and/or user organization to implement the IZ as an interface method for a network management system.

Intellectual Property Status

Inventor

Dr. John Dill, SFU School of Engineering Science.

Business Opportunity

The Intelligent Graphic Interface Research Team is interested in working with a vendor and/or user organization to implement the IZ as an interface method for a network management, database or configuration management system.

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