

Bibliography

1. 3D Connection: SpaceBall, SpacePilot, and SpaceMouse, <http://www.3dconnexion.de> (2006)
2. 5DT (Fifth Dimension Technologies) Inc.: 5DT Data Glove 5 Ultra (2006)
3. Abello, J., Kobourov, S.G., Yusuf, R.: Visualizing Large Graphs with Compound-Fisheye Views and Treemaps. In: Proceedings of the 12th International Graph Drawing Symposium, pp. 431–441 (2004)
4. Abram, G., Treinish, L.: An Extended Data-Flow Architecture for Data Analysis and Visualization. In: VIS '95: Proceedings of the 6th conference on Visualization '95, p. 263. IEEE Computer Society Press, Los Alamitos (1995)
5. ABTIM: Braille displays, <http://www.abtim.de/> (2006)
6. Adai, A.T., Date, S.V., Wieland, S., Marcotte, E.M.: LGL: creating a map of protein function with an algorithm for visualizing very large biological networks. *Journal of Molecular Biology* 340(1), 179–190 (2004)
7. Ahlberg, C., Shneiderman, B.: Visual Information Seeking: Tight coupling of dynamic query filters with starfield displays. In: Summary of the ACM Conference on Human Factors in Computing Systems (CHI'94), pp. 313–317. ACM Press, New York (1994)
8. Ahlberg, C., Wistrand, E.: IVEE: an Information Visualization and Exploration Environment. In: Proceedings Information Visualization, pp. 66–73. IEEE Computer Society Press, Los Alamitos (1995)
9. Ahlborn, B.A., Thompson, D., Kreylos, O., Hamann, B., Staadt, O.G.: A practical system for laser pointer interaction on large displays. In: VRST: Proceedings of the ACM Symposium on Virtual Reality Software and Technology, pp. 106–109 (2005)
10. Ahmed, A., Dwyer, T., Forster, M., Fu, X., Ho, J., Hong, S.-H., Koschützki, D., Murray, C., Nikolov, N.S., Taib, R., Tarassov, A., Xu, K.: GEOMI: GEOMetry for Maximum Insight. In: Proceedings of the 13th International Symposium on Graph Drawing, pp. 468–479 (2005)
11. Aigner, W., Miksch, S.: Supporting Protocol-Based Care in Medicine via Multiple Coordinated Views. In: Proceedings of the Second International Conference on Coordinated and Multiple Views in Exploratory Visualization (CMV '04), pp. 118–129. IEEE Computer Society Press, Los Alamitos (2004)
12. Albinsson, P.-A., Zhai, S.: High precision touch screen interaction. In: CHI '03: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 105–112. ACM Press (2003)
13. Allendoerfer, K., Aluker, S., Panjwani, G., Proctor, J., Sturtz, D., Vukovic, M., Chen, C.: Adapting the Cognitive Walkthrough Method to Assess the Usability of a Knowledge Domain Visualization. In: IEEE Symposium on Information Visualization (InfoVis'05), IEEE Computer Society Press, Los Alamitos (2005)
14. Allwood, J.: Cooperation and Flexibility in Multimodal Communication. In: Cooperative Multimodal Communication, Second International Conference, CMC'98, Tilburg, The Netherlands, January 28-30, 1998, Revised Papers (1998)

15. Alonso, D., Rose, A., Plaisant, C., Norman, K.: Viewing Personal History Records: A Comparison of Tabular Format and Graphical Presentation Using LifeLines. *Behaviour and Information Technology* 17, 249–262 (1998)
16. Amar, R., Stasko, J.: A Knowledge Task-Based Framework for Design and Evaluation of Information Visualizations. In: *IEEE Symposium on Information Visualization (InfoVis'04)*, pp. 143–150. IEEE Computer Society Press, Los Alamitos, CA (2004)
17. Amenta, N., Klingner, J.: Case Study: Visualizing Sets of Evolutionary Trees. In: *IEEE Symposium on Information Visualization*, pp. 71–74 (2002)
18. André, E.: Natural language in multimedia/multimodal systems. In: *Handbook of Computational Linguistics*, pp. 650–669. Oxford University Press, Oxford (2003)
19. Andrews, D.: Plots of High Dimensional Data. *Biometrics* 28, 125–136 (1972)
20. Andrews, K., Heidegger, H.: Information Slices: Visualising and Exploring Large Hierarchies using Cascading, Semi-Circular Discs. In: *IEEE Symposium on Information Visualization, Late Breaking Hot Topic Proceedings*, pp. 9–12 (1998)
21. Andrienko, G., Andrienko, N.: Interactive Maps for Visual Data Exploration. *International Journal of Geographical Information Science* 13(4), 355–374 (1999)
22. Andrienko, G., Andrienko, N.: Geo-Visualization Support for Multidimensional Clustering. In: *Proceedings 12th International Conference on Geoinformatics*, pp. 329–335 (2004)
23. Andrienko, G., Andrienko, N.: Visual Exploration of the Spatial Distribution of Temporal Behaviors. In: *Proceedings of the Ninth International Conference on Information Visualisation (IV '05)*, pp. 799–806 (2005)
24. Andrienko, G., Andrienko, N., Voss, H.: GIS for Everyone: The CommonGIS Project and Beyond. In: Peterson, M. (ed.) *Maps and the Internet*, pp. 131–146. Elsevier, Amsterdam (2003)
25. Andrienko, N., Andrienko, G., Gatalsky, P.: Exploratory Spatio-Temporal Visualization: an Analytical Review. *Journal of Visual Languages and Computing* 14(6), 503–541 (2003)
26. Andrienko, N., Andrienko, G., Gatalsky, P.: Impact of Data and Task Characteristics on Design of Spatio-Temporal Data Visualization Tools. In: Dykes, J., MacEachren, A.M., Kraak, M.-J. (eds.) *Exploring Geovisualization*, pp. 201–222. Elsevier, Amsterdam (2005)
27. Andrienko, N., Andrienko, G., Voss, H., Bernardo, F., Hipolito, J., Kretschmer, U.: Testing the Usability of Interactive Maps in CommonGIS. *Cartography and Geographic Information Science* 29(4), 325–342 (2002)
28. Animazoo: GypsyGyro-18, Gypsy5, and Gypsy-Hybrid, <http://www.animazoo.com> (2006)
29. Anupam, V., Bajaj, C.L.: Collaborative multimedia scientific design in SHASTRA. In: *MULTIMEDIA '93: Proceedings of the first ACM international conference on Multimedia*, pp. 447–456. ACM Press, New York (1993)
30. Anupam, V., Bajaj, C.L., Schikore, D., Schikore, M.: Distributed and Collaborative Visualization. *IEEE Computer Society Press* 27(7), 37–43 (1994)
31. Apple Computer: Exposé, <http://www.apple.com/macosx/features/expose> (2006)
32. Applegate, L.M.: Technology Support for Cooperative Work: A Framework for Studying Introduction and Assimilation in Organizations. *Journal of Organizational Computing* 1, 11–39 (1991)
33. Archer, L.B.: *A View of the Nature of the Design Research. Design: Science: Methods*. Westbury House, Guildford, UK (1981)
34. Ascension: Various Interaction Devices, <http://www.ascension-tech.com> (2006)
35. AVS: AVS 5 and Express, <http://www.avs.com/> (2006)

36. Bachvarova, Y.: Survey on the knowledge representation formalisms underlying multimedia and multimodal presentations. Under review (2006)
37. Baecker, R.: Towards Animating Computer Programs: A First Progress Report. In: Proceedings of the Third NRC Man-Computer Communications Conference (1973)
38. Baecker, R.: Sorting Out Sorting (video). SIGGraph Video Review 7 (1981)
39. Baecker, R.: Sorting Out Sorting: A Case Study of Software Visualization for Teaching Computer Science. In: Stasko, J., Domingue, J., Brown, M.H., Price, B.A. (eds.) *Software Visualization: Programming as a Multimedia Experience*, pp. 369–381. MIT Press, Cambridge, MA (1998)
40. Bailey, R.W.: Performance vs. preference. In: Proceedings of the Human Factors and Ergonomics Society 37th Annual Meeting, pp. 282–285 (1993)
41. Baillie, L., Kunczier, H., Anegg, H.: Rolling, rotating and imagining in a virtual mobile world. In: *MobileHCI '05: Proceedings of the 7th international conference on Human computer interaction with mobile devices & services*, pp. 283–286. ACM Press, New York (2005)
42. Bajaj, C., Cutchin, S.: Web Based Collaborative Visualization Of Distributed And Parallel Simulation. In: Proceedings of the 1999 IEEE Parallel Visualization and Graphics Symposium (PVG'99), pp. 47–54. IEEE Computer Society Press, Los Alamitos (1999)
43. Balakrishnan, R., Hinckley, K.: The role of kinesthetic reference frames in two-handed input performance. In: *UIST '99: Proceedings of the 12th annual ACM symposium on User interface software and technology*, pp. 171–178. ACM Press, New York (1999)
44. Baldonado, M.Q.W., Woodruff, A., Kuchinsky, A.: Guidelines for Using Multiple Views in Information Visualization. In: Proceedings of the working conference on Advanced visual interfaces, pp. 110–119 (2000)
45. Ball, R., North, C.: Analysis of User Behavior on High-Resolution Tiled Displays. In: Costabile, M.F., Paternó, F. (eds.) *INTERACT 2005*. LNCS, vol. 3585, pp. 12–16. Springer, Berlin Heidelberg (2005)
46. Ball, R., North, C.: Effects of tiled high-resolution display on basic visualization and navigation tasks. In: *CHI '05: CHI '05 extended abstracts on Human factors in computing systems*, pp. 1196–1199. ACM Press, New York (2005)
47. Ballagas, R., Rohs, M., Sheridan, J., Borchers, J.: BYOD: Bring Your Own Device. In: *UBICOMP Workshop on Ubiquitous Display Environments* (September 2004)
48. Ballagas, R., Rohs, M., Sheridan, J., Borchers, J.: Sweep and Point & Shoot: Phocam-Based Interactions for Large Public Displays. In: *CHI '05: CHI '05 extended abstracts on Human factors in computing systems*, pp. 1200–1203. ACM Press, New York (2005)
49. Ballagas, R., Rohs, M., Sheridan, J., Borchers, J.: The Smart Phone: A Ubiquitous Input Device. In: *IEEE Pervasive Computing*, pp. 70–77 (2006)
50. Baloian, N., Breuer, H., Luther, W.: Algorithm visualization using concept keyboards. In: *SoftVis '05: Proceedings of the ACM symposium on Software visualization*, pp. 7–16. ACM Press, New York (2005)
51. Baloian, N., Luther, W., Sánchez, J.: Modeling educational software for people with disabilities: theory and practice. In: *Assets '02: Proceedings of the fifth international ACM conference on Assistive technologies*, pp. 111–118. ACM Press, New York (2002)
52. Bar-Joseph, Z., Gifford, D.K., Jaakkola, T.: Fast optimal leaf ordering for hierarchical clustering. In: *ISMB (Supplement of Bioinformatics)*, pp. 22–29 (2001)
53. Baratloo, A., Karaul, M., Karl, H., Kedem, Z.M.: *KnittingFactory: An Infrastructure for Distributed Web Applications*. Technical report, New York University (1997)

54. Barlow, T., Neville, P.: A Comparison of 2-D Visualizations of Hierarchies. In: Proceedings of the IEEE Symposium on Information Visualization (InfoVis'01), pp. 131–138. IEEE Computer Society Press, Los Alamitos (2001)
55. Bartlett, J.C., Topms, G.E.: Developing a protocol for bioinformatics analysis: an integrated information behavior and task analysis approach. *Journal of the American Society for Information Science and Technology* 56(5), 469–482 (2005)
56. Bartram, L., Ware, C., Calvert, T.: Moticons: Detection, distraction and task. *International Journal of Human-Computer Studies* 58(5), 515–545 (2003)
57. Battista, G.D., Eades, P., Tamassia, R., Tollis, I.G.: Algorithms for drawing graphs: an annotated bibliography. *Computational Geometry: Theory and Applications* 4(5), 235–282 (1994)
58. Battista, G.D., Garg, A., Liotta, G., Tamassia, R., Tassinari, E., Vargiu, F.: An experimental comparison of four graph drawing algorithms. *Computational Geometry: Theory and Applications* 7(5–6), 303–325 (1997)
59. Battista, G.D., Patrignani, M., Vargiu, F.: A Split and Push Approach to 3D Orthogonal Drawing. In: Whitesides, S.H. (ed.) GD 1998. LNCS, vol. 1547, pp. 87–101. Springer, Berlin Heidelberg (1999)
60. Battista, G.D., Tamassia, R.: Algorithms for plane representations of acyclic digraphs. *Theoretical Computer Science* 61(2-3), 175–198 (1988)
61. Baudisch, P., Cutrell, E., Hinckley, K., Gruen, R.: Mouse ether: Accelerating the acquisition of targets across multi-monitor displays. In: CHI '04: CHI '04 extended abstracts on Human factors in computing systems, pp. 1379–1382. ACM Press, New York (2004)
62. Baudisch, P., Cutrell, E., Robbins, D., Czerwinski, M., Tandler, P., Bederson, B., Zierlinger, A.: Drag-and-Pop and Drag-and-Pick: Techniques for Accessing Remote Screen Content on Touch- and Pen-Operated Systems. In: Proceedings of IFIP INTERACT'03: Human-Computer Interaction, vol. 2: UI design, p. 65 (2003)
63. Baudisch, P., Cutrell, E., Robertson, G.G.: High-Density Cursor: A Visualization Technique that Helps Users Keep Track of Fast-moving Mouse Cursors. In: Proceedings of IFIP INTERACT'03: Human-Computer Interaction, vol. 2: Display I/O, p. 236 (2003)
64. Baudisch, P., DeCarlo, D., Duchowski, A.T., Geisler, W.S.: Focusing on the essential: considering attention in display design. *Communications of the ACM* 46(3), 60–66 (2003)
65. Bavoil, L., Callahan, S.P., Crossno, P.J., Freire, J., Scheidegger, C.E., Silva, C.T., Vo, H.T.: VisTrails: Enabling Interactive Multiple-View Visualizations. In: Proceedings of the 16th IEEE Conference on Visualization (Vis '05), pp. 135–142 (2005)
66. Beard, D.B., Walker, J.Q.: Navigational Techniques to Improve the Display of Large Two-Dimensional Spaces. *Behaviour and Information Technology* 9(6), 451–466 (1990)
67. Beca, L., Cheng, G., Fox, G., Jurga, T., Olszewski, K., Podgorny, M., Sokolowski, P., Stachowiak, T., Walczak, K.: TANGO – A collaborative environment for the World Wide Web (1997)
68. Beca, L., Cheng, G., Fox, G., Jurga, T., Olszewski, K., Podgorny, M., Sokolowski, P., Walczak, K.: Web Technologies for Collaborative Visualization and Simulation (1997)
69. Becker, R., Eick, S., Wilks, A.: Visualizing network data. *IEEE Transactions on Visualization and Computer Graphics* 1, 16–28 (1995)
70. Bederson, B.B., Boltman, A.: Does Animation Help Users Build Mental Maps of Spatial Information? In: IEEE Symposium on Information Visualization (InfoVis 1999), pp. 28–35. IEEE Computer Society Press, Los Alamitos (1999)

71. Bederson, B.B., Clamage, A., Czerwinski, M.P., Robertson, G.G.: DateLens: A fisheye calendar interface for PDAs. *ACM Trans. Comput.-Hum. Interact.* 11(1), 90–119 (2004)
72. Bederson, B.B., Meyer, J., Good, L.: Jazz: An Extensible Zoomable User Interface Graphics Toolkit in Java. In: *Proceedings of the 13th Annual ACM Symposium on User Interface Software and Technology (UIST'00)*, pp. 171–180. ACM Press, New York (2000)
73. Bederson, B.B., Shneiderman, B., Wattenberg, M.: Ordered and quantum treemaps: Making effective use of 2D space to display hierarchies. *ACM Transactions on Graphics* 21(4), 833–854 (2002)
74. Bellik, Y.: Media integration in multimodal interfaces. In: *Multimedia Signal Processing*, pp. 31–36. IEEE, LIMSI, CNRS, Orsay, June 1997. ISBN 0-7803-3780-8 (1997)
75. Ben-Bassat Levy, R., Ben-Ari, M., Uronen, P.A.: The Jeliot 2000 program animation system. *Computers & Education* 40(1), 1–15 (2003)
76. Bendix, F., Kosara, R., Hauser, H.: Parallel Sets: Visual Analysis of Categorical Data. In: *Proceedings of the Symposium on Information Visualization (InfoVis 2005)*, pp. 133–140 (Oct. 2005)
77. Bennet, J.: Managing to meet usability requirements. In: Bennet, J., Case, D., Sandelin, J., Smith, M. (eds.) *Visual Display Terminals: Usability Issues and Health concerns*, Prentice-Hall, Englewood Cliffs (1984)
78. Benyon, D., Turner, P., Turner, S.: *Designing Interactive Systems: People, Activities, Contexts, Technologies*. Addison-Wesley, Reading, MA (2005)
79. Bergman, E.: *Information Appliances and Beyond*. Morgan Kaufmann, San Francisco, CA (2000)
80. Berkelman, P., Butler, Z., Hollis, R.: Design of a hemispherical magnetic levitation haptic interface device (1996)
81. Berkelman, P., Hollis, R.: Interacting with virtual environments using a magnetic levitation haptic interface. In: *IROS '95: Proceedings of the International Conference on Intelligent Robots and Systems*, vol. 1, IEEE Computer Society Press, Los Alamitos, CA (1995)
82. Bernsen, N.: *Multimodality in Language and Speech Systems - From Theory to Design Support Tool*. In: *Multimodality in Language and Speech Systems*, Kluwer, Dordrecht (2001)
83. Berry, B., Smith, J., Wahid, S.: *Visualizing Case Studies*. Technical Report TR-04-12, Virginia Tech (2003)
84. Bertin, J.: *Graphics and Graphic Information Processing*. Walter de Gruyter, Berlin New York (1981)
85. Bertin, J.: *Semiology of Graphics: Diagrams, Networks, Maps* (original French edition: (1967)). University of Wisconsin Press, Madison (1983)
86. Beyer, H.: *Contextual Design: Defining Customer-Centered Systems*. Morgan Kaufmann Publishers Inc., San Francisco (1997)
87. Bezdek, J., Hathaway, R.: VAT: A Tool for Visual Assessment of (Cluster) Tendency. In: *Proceedings of the International Joint Conference on Neural Networks (IJCNN)*, pp. 2225–2230. IEEE Computer Society Press, Los Alamitos, CA (2002)
88. Bezerianos, A., Balakrishnan, R.: The vacuum: facilitating the manipulation of distant objects. In: *CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 361–370. ACM Press, New York, NY (2005)
89. Bezerianos, A., Balakrishnan, R.: View and Space Management on Large Displays. *IEEE Computer Graphics and Applications* 25(4), 34–43 (2005)
90. Bingham, J., Sudarsanam, S.: Visualizing large hierarchical clusters in hyperbolic space. *Bioinformatics* 16(7), 660–661 (2000)

91. Binucci, C., Didimo, W., Liotta, G., Nonato, M.: Computing Labeled Orthogonal Drawings. In: Proceedings of the 10 International Symposium on Graph Drawing, pp. 139–153 (2002)
92. Bjork, S.: Flip Zooming. The Development of an Information Visualization Technique. PhD thesis, Goteborg University, Dept. of Informatics (2000)
93. Björk, S., Holmquist, L.E., Ljungstrand, P., Redström, J.: PowerView: Structured access to integrated information on small screens. In *CHI '00: CHI '00 extended abstracts on Human factors in computing systems*, pp. 265–266. ACM Press, New York, NY (2000)
94. Blanch, R., Guiard, Y., Beaudouin-Lafon, M.: Semantic pointing: Improving target acquisition with control-display ratio adaptation. In: CHI '04: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 519–526. ACM Press, New York, NY (2004)
95. Blinn, J.: SIGGRAPH 1998 Keynote Address (Transcribed by J. M. Fijii). *Computer Graphics* 33(1), 43–47 (1999)
96. Blythe, J., McGrath, C., Krackhardt, D.: The Effect of Graph Layout on Inference from Social Network Data. In: Brandenburg, F.J. (ed.) *GD 1995*. LNCS, vol. 1027, pp. 40–51. Springer, Berlin Heidelberg (1996)
97. Boehm, B.: A spiral model of software development and enhancement. *IEEE Computer* 21(5), 61–72 (1988)
98. Böhme, D., Sotoodeh, M.: Haptik, <http://www.informatik.uni-bremen.de/~nostrono/haptik/> (2006)
99. Bolt, R.A.: “Put-that-there”: Voice and gesture at the graphics interface. *SIGGRAPH Computer Graphics* 14(3), 262–270 (1980)
100. Bourguet, M.-L.: Towards a Taxonomy of Error Handling Strategies in Recognition-Based Multimodal Human-Computer Interfaces. *Signal Processing* (2006)
101. Bowman, D.A., Hodges, L.F.: User Interface Constraints for Immersive Virtual Environment Applications. Technical Report 95–26, Virginia Polytechnic Institute and State University (1995)
102. Bowman, D.A., Johnson, D.B., Hodges, L.F.: Testbed evaluation of virtual environment interaction techniques. In: *VRST '99: Proceedings of the ACM symposium on Virtual reality software and technology*, pp. 26–33. ACM Press, New York, NY (1999)
103. Bowman, D.A., Koller, D., Hodges, L.F.: Travel in Immersive Virtual Environments: An Evaluation of Viewpoint Motion Control Techniques. In: *VRAIS '97: Proceedings of the 1997 Virtual Reality Annual International Symposium (VRAIS '97)*, IEEE Computer Society Press, Los Alamitos, CA (1997)
104. Bowman, D.A., Kruijff, E., LaViola, J.J., Poupyrev, I.: *3D User Interfaces: Theory and Practice*. Addison-Wesley, Reading, MA (2004)
105. Brandenburg, F.J., Forster, M., Pick, A., Raitner, M., Schreiber, F.: BioPath – Exploration and Visualization of Biochemical Pathways. In: Jünger, M., Mutzel, P. (eds.) *Graph Drawing Software*, pp. 215–236. Springer, Berlin Heidelberg New York (2004)
106. Brandes, U., Corman, S.R.: Visual Unrolling of Network Evolution and the Analysis of Dynamic Discourse. In: Proceedings of the 2005 IEEE Symposium on Information Visualization, pp. 145–151. IEEE Computer Society Press, Los Alamitos, CA (2001)
107. Brandes, U., Dwyer, T., Schreiber, F.: Visualizing Related Metabolic Pathways in Two and a Half Dimensions. In: Proceedings of the International Symposium on Graph Drawing, pp. 111–122 (2003)
108. Brandes, U., Raab, J., Wagner, D.: Exploratory Network Visualization: Simultaneous Display of Actor Status and Connections. *Journal of Social Structure* 2 (2001)

109. Brandes, U., Wagner, D.: Contextual visualization of actor status in social networks. In: Proceedings of the 2nd Joint Eurographics and IEEE TCVG Symposium on Visualization, pp. 13–22 (2000)
110. Brandes, U., Wagner, D.: visone—Analysis and Visualization of Social Networks. In: Juenger, M., Mutzel, P. (eds.) Special Issue on Graph Drawing Software. Springer Series in Mathematics and Visualization, pp. 321–340. Springer, Berlin Heidelberg New York (2003)
111. Brandstein, M., Ward, D.: Microphone Arrays: Signal Processing Techniques and Applications (Digital Signal Processing), 1st edn. Springer, Berlin Heidelberg New York (2001)
112. Breitzkreutz, B.-J., Stark, C., Tyers, M.: Osprey: a network visualization system. *Genome Biology* 4, R22 (2003)
113. Brewer, C.A.: Color Use Guidelines for Mapping and Visualization. In: MacEachren, A.M., Taylor, D.F. (eds.) *Visualization in Modern Cartography*, pp. 123–147. Pergamon Press, Oxford (1994)
114. Brewer, I., MacEachren, A.M., Abdo, H., Gundrum, J., Otto, G.: Collaborative Geographic Visualization: Enabling Shared Understanding of Environmental Processes. In: IEEE Symposium on Information Visualization, 2000 (InfoVis 2000), pp. 137–141. IEEE Computer Society Press, Los Alamitos, CA (2000)
115. Bridgeman, S.S., Fanto, J., Garg, A., Tamassia, R., Vismara, L.: InteractiveGiotto: An Algorithm for Interactive Orthogonal Graph Drawing. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 303–308. Springer, Berlin Heidelberg (1997)
116. Bridgeman, S.S., Tamassia, R.: A User Study in Similarity Measures for Graph Drawing. In: Marks, J. (ed.) GD 2000. LNCS, vol. 1984, pp. 19–30. Springer, Berlin Heidelberg (2001)
117. Brodli, K.W.: Visualization over the World Wide Web. Dagstuhl, 00:23 (1997)
118. Brodli, K.W.: Models of Collaborative Visualization. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 463–475. Elsevier, Amsterdam (2005)
119. Brodli, K.W., Duce, D.A., Gallop, J.R., Walton, J.P.R.B., Wood, J.D.: Distributed and Collaborative Visualization. *Computer Graphics Forum* 23(2), 223–251 (2004)
120. Brodli, K.W., Duce, D.A., Gallop, J.R., Wood, J.D.: Distributed Cooperative Visualization. In: Eurographics'98: STAR State of The Art Report, pp. 27–50. Eurographics (1998)
121. Broisjuk, L., Hajirezaei, M.-R., Klukas, C., Rolletschek, H., Schreiber, F.: Integrating Data from Biological Experiments into Metabolic Networks with the DBE Information System. In: *Silico Biology* 5(0011), 2004. Special Issue: Dagstuhl Seminar "Integrative Bioinformatics"
122. Brønsted, T., Dalsgaard, P., Larsen, L.B., Manthey, M., Kevitt, P.M., Moeslund, T.B., Olesen, K.G.: The IntelliMedia WorkBench - An Environment for Building Multimodal Systems. In: *Cooperative Multimodal Communication, Second International Conference, CMC'98, Tilburg, The Netherlands, January 28-30, 1998, Revised Papers* (1998)
123. Brown, M.H.: Exploring Algorithms Using Balsa-II. *Computer* 21(5), 14–36 (1988)
124. Brown, M.H.: Perspectives on algorithm animation. In: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 33–38. ACM Press, New York, NY (1988)
125. BSIK. The Netherlands Bioinformatics Centre (NBIC) BioRange project 4.2.1, <http://www.nbic.nl/> (2006)
126. BSIK. Virtual Laboratory for e-Science, <http://www.vl-e.nl/> (2006)

127. Bui, T.D.: Creating Emotions and Facial Expressions for Embodied Agents. Phd thesis, University of Twente, July 2004. Publisher: Taaluitgeverij Neslia Paniculata, Publisher location: Enschede, ISSN: 1381-3617; No. 04-63 (CTIT Ph.D), ISBN: 90-75296-10-X
128. Buja, A., Cook, D., Swayne, D.F.: Interactive High-Dimensional Data Visualization. *Journal of Computational and Graphical Statistics* 5(1), 78–99 (1996)
129. Bundeswahlleiter, Statistisches Bundesamt, Wiesbaden: Wahlkreiskarte für die Wahl zum 16. Deutschen Bundestag. In: Wahl zum 16. Deutschen Bundestag am 18. September 2005, Heft 3: Endgültige Ergebnisse nach Wahlkreisen, p. 281. Statistisches Bundesamt, Quelle der Verwaltungsdaten: VG 1000, Bundesamt für Kartographie und Geodäsie (2005)
130. Bunt, H.: Issues in Multimodal Human-Computer Communication. In: *Multimodal Human-Computer Communication, Systems, Techniques, and Experiments*, pp. 1–12. Springer, Berlin Heidelberg New York (1998)
131. Bunt, H., Kipp, M., Maybury, M., Wahlster, W.: Fusion and coordination for multimodal interactive information presentation. In: *Algorithms in Ambient Intelligence*. Philips Research Book Series, vol. 2, pp. 21–53. Kluwer, Dordrecht (2003)
132. Burch, M., Weissgerber, P., Diehl, S.: EPOSee - A Tool for Visualizing Software Evolution. In: *Proc. of the 3rd IEEE Int. Workshop on Visualizing Software for Program Understanding and Analysis*, pp. 127–128. IEEE Computer Society Press, Los Alamitos, CA (2005)
133. Burdea, G.C.: Haptics Issues in Virtual Environments. In: *Computer Graphics International*, pp. 295–302 (2000)
134. Burdea, G.C.: Introduction to VR Technology. In: *VR*, p. 265. IEEE Computer Society Press, Los Alamitos, CA (2004)
135. Burigat, S., Chittaro, L.: Location-aware visualization of VRML models in GPS-based mobile guides. In: *Web3D '05: Proceedings of the tenth international conference on 3D Web technology*, pp. 57–64. ACM Press, New York, NY (2005)
136. Burtnyk, N., Khan, A., Fitzmaurice, G., Balakrishnan, R., Kurtenbach, G.: StyleCam: interactive stylized 3D navigation using integrated spatial & temporal controls. In: *UIST '02: Proceedings of the 15th annual ACM symposium on User interface software and technology*, pp. 101–110. ACM Press, New York, NY (2002)
137. Butler, D., Almond, J., Bergeron, R., Brodlie, K.W., Haber, R.: Panel: Visualization Reference Models. In: *Proceedings of 4th IEEE Visualization Conference*, pp. 337–342. IEEE Computer Society Press, Los Alamitos, CA (1993)
138. Bystrom, K.-E., Barfield, W., Hendrix, C.M.: A Conceptual Model of the Sense of Presence in Virtual Environments. *Presence* 8(2), 241–244 (1999)
139. Cabello, S., d. Berg, M., van Dijk, S., van Kreveld, M., Strijk, T.: Schematization of Road Networks. In: *Proc. 17th Annual Symposium on Computational Geometry (SoCG'01)*, pp. 33–39. ACM Press, New York, NY (2001)
140. Cabral, M.C., Morimoto, C.H., Zuffo, M.K.: On the usability of gesture interfaces in virtual reality environments. In: *CLIHC '05: Proceedings of the 2005 Latin American conference on Human-computer interaction*, pp. 100–108. ACM Press, New York, NY (2005)
141. Caldwell, D.G., Lawther, S., Wardle, A.: Tactile Perception and its Application to the Design of Multi-modal Cutaneous Feedback Systems. In: *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, pp. 3215–3221. IEEE Computer Society Press, Los Alamitos, CA (1996)
142. Cao, X., Balakrishnan, R.: VisionWand: Interaction techniques for large displays using a passive wand tracked in 3D. In: *Proceedings of the 16th annual ACM symposium on User interface software and technology*, pp. 173–182. ACM Press, New York, NY (2003)

143. Card, S.K., Hong, L., Mackinlay, J.D., Chi, E.H.: 3Book: a 3D electronic smart book. In: AVI '04: Proceedings of the working conference on Advanced visual interfaces, pp. 303–307. ACM Press, New York, NY (2004)
144. Card, S.K., Mackinlay, J.: The structure of the information visualization design space. In: IEEE Symposium on Information Visualization (InfoVis '97), pp. 92–100. IEEE Computer Society Press, Los Alamitos, CA (1997)
145. Card, S.K., MacKinlay, J.D., Shneiderman, B. (eds.): Readings in Information Visualization: Using Vision to Think. Morgan Kaufmann, San Francisco, CA (1999)
146. Carpendale, M., Montagnese, C.: A framework for unifying presentation space. In: Symposium on User Interface Software and Technology, pp. 61–70. ACM Press, New York, NY (2001)
147. Carranza, J., Theobalt, C., Magnor, M.A., Seidel, H.-P.: Free-viewpoint video of human actors. *ACM Trans. Graph.* 22(3), 569–577 (2003)
148. Carrizo, S.F.: Phylogenetic Trees: An Information Visualisation Perspective. In: CRPIT '04: Proceedings of the second conference on Asia-Pacific bioinformatics, pp. 315–320. Australian Computer Society, Inc (2004)
149. Carroll, J., Rosson, M.: Usability specifications as a tool in iterative development. *Advances in Human-Computer Interaction* 1, 1–28 (1985)
150. CEI. Collaborate with EnSight Gold, <http://www.ensight.com/products/collab.html> (2006)
151. Chabert, A., Grossman, E., Jackson, L.S., Pietrowiz, S.R., Seguin, C.: Java object-sharing in Habanero. *j-CACM* 41(6), 69–76 (1998)
152. Chen, C.: Empirical Studies of Information Visualization. In: Information Visualization: Beyond the Horizon, pp. 173–210. Springer, Berlin Heidelberg New York (2004)
153. Chen, C.: Information Visualization: Beyond the Horizon, 2nd edn. Springer, Berlin Heidelberg New York (2004)
154. Chen, C.: Top 10 Unsolved Information Visualization Problems. *IEEE Computer Graphics and Applications* 25(4), 12–16 (2005)
155. Chen, H., Sun, H.: Real-time haptic sculpting in virtual volume space. In: VRST '02: Proceedings of the ACM symposium on Virtual reality software and technology, pp. 81–88. ACM Press, New York, NY (2002)
156. Chernoff, H.: The Use of Facets to Represent Points in k-Dimensional Space Graphically. *Journal of the American Statistical Association* 68, 361–368 (1973)
157. Chewar, C.M., McCrickard, D.S., Ndiwalana, A., North, C., Pryor, J., Tessorf, D.: Secondary Task Display Attributes – Optimizing Visualizations for Cognitive Task Suitability and Interference Avoidance. In: Proceedings of the Joint Eurographics - IEEE TCVG Symposium on Visualization 2002 (Vis-Sym'02), pp. 165–171. IEEE Computer Society Press, Los Alamitos, CA (2002)
158. Chi, E.H.: A Taxonomy of Visualization Techniques using the Data State Reference Model. In: Proceedings of IEEE Symposium on Information Visualization (InfoVis'00), pp. 69–75. IEEE Computer Society Press, Los Alamitos, CA (2000)
159. Chi, E.H., Riedl, J., Barry, P., Konstan, J.A.: Principles For Information Visualization Spreadsheets. *IEEE Computer Graphics and Applications* 18(4), 30–38 (1998)
160. Chien, J.-T., Lai, J.-R.: Use of Microphone Array and Model Adaptation for Hands-Free Speech Acquisition and Recognition. *The Journal of VLSI Signal Processing, Special Issue on Real World Speech Processing* 36(2–3), 141–151 (2004)
161. Chittaro, L.: Information visualization and its application to medicine. *Artificial Intelligence in Medicine* 22(2), 81–88 (2001)
162. Choi, J.-H., Jung, H.-Y., Kim, H.-S., Cho, H.-G.: PhyloDraw: a phylogenetic tree drawing system. *Bioinformatics* 16(11), 1056–1058 (2000)

163. Christensen, J., Marks, J., Shieber, S.: An Empirical Study of Algorithms for Point-Feature Label Placement. *ACM Transactions on Graphics* 14(3), 203–232 (1995)
164. Clamp, M., Cuff, J., Searle, S.M., Barton, G.J.: The Jalview Java alignment editor. *Bioinformatics* 20(3), 426–427 (2004)
165. Cleveland, W.C., McGill, M.E.: *Dynamic Graphics for Statistics*. CRC Press, Inc., Boca Raton, FL, USA (1988)
166. CMC Cooperative: *Multimodal Communication*. In: Bunt, H., Beun, R.-J. (eds.) *CMC 1998. LNCS*, vol. 2155, pp. 28–30. Springer, Berlin Heidelberg (2001)
167. Cockburn, A., Firth, A.: Improving the Acquisition of Small Targets. In: *Proceedings of HCI 2003*, pp. 181–196 (2003)
168. Cockburn, A., McKenzie, B.: An Evaluation of Cone Trees. In: *People and Computers XIV: British Computer Society Conference on Human Computer Interaction*, pp. 425–436. Springer, Berlin Heidelberg New York (2000)
169. Cockburn, A., McKenzie, B.: 3D or not 3D?: evaluating the effect of the third dimension in a document management system. In: *Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 434–441. ACM Press, New York, NY (2001)
170. Cockburn, A., McKenzie, B.: Evaluating the Effectiveness of Spatial Memory in 2D and 3D Physical and Virtual Environments. In: *Proceedings of ACM CHI' Conference on Human Factors in Computing Systems*, pp. 203–210. ACM Press, New York, NY (2002)
171. Cohen, P.R., Cheyer, A., Wang, M., Baeg, S.C.: An open agent architecture. *Readings in agents*, pp. 197–204 (1998)
172. Cohen, P.R., Johnston, M., McGee, D., Oviatt, S.L., Pittman, J., Smith, I., Chen, L., Clow, J.: QuickSet: multimodal interaction for distributed applications. In: *MULTIMEDIA '97: Proceedings of the fifth ACM international conference on Multimedia*, pp. 31–40. ACM Press, New York, NY (1997)
173. Cohen, P.R., McGee, D., Oviatt, S.L., Wu, L., Clow, J., King, R., Julier, S., Rosenblum, L.: *Multimodal Interaction for 2D and 3D Environments*. *IEEE Computer Graphics and Applications* 19(4), 10–13 (1999)
174. Cohen, P.R., Oviatt, S.L.: The Role of Voice Input for Human-Machine Communication. *Proceedings of the National Academy of Sciences* 92(22), 9921–9927 (1995)
175. Collomb, M., Hascoet, M., Baudisch, P., Lee, B.: Improving drag-and-drop on wall-size displays. In: *GI '05: Proceedings of the 2005 conference on Graphics interface*, pp. 25–32. Canadian Human-Computer Communications Society (2005)
176. Constantine, L., Lockwood, L.: *Software for Use: A Practical Guide to the Models and Methods of Usage-Centred Design*. ACM Press, New York, NY (1999)
177. Cooper, A.: *The inmates are running the asylum*. Sams, 1 edn. (1999)
178. I. Corporation: *CyberGrasp(TM) Exoskeleton*, <http://www.immersion.com/> (2006)
179. Corradini, A., Cohen, P.R.: Multimodal speech-gesture interface for hands-free painting on virtual paper using partial recurrent neural networks for gesture recognition. In: *Proceedings of the International Joint Conference on Neural Networks*, vol. III, pp. 2293–2298 (2002)
180. COVISE: *COllaborative VISualization and Simulation Environment – Homepage*, <http://www.hlrs.de/organization/vis/covise/> (2006)
181. Crowley, J.L., Coutaz, J., Berard, F.: Things That See. *Communications of the ACM* 43(3), 54–64 (2000)

182. Cruz-Neira, C., Sandin, D.J., DeFanti, T.A.: Surround-screen projection-based virtual reality: The design and implementation of the CAVE. In: SIGGRAPH '93: Proceedings of the 20th annual conference on Computer graphics and interactive techniques, pp. 135–142. ACM Press, New York, NY (1993)
183. Cruz-Neira, C., Sandin, D.J., DeFanti, T.A., Kenyon, R.V., Hart, J.C.: The CAVE: audio visual experience automatic virtual environment. *Commun. ACM* 35(6), 64–72 (1992)
184. Cutting, J.E.: How the Eye Measures Reality and Virtual Reality. *Behavior Research Methods, Instrumentation, and Computers* 29, 29–36 (1997)
185. Newman, C.B.D.J., Hettich, S., Merz, C.: UCI Repository of machine learning databases (1998)
186. Dachsel, R., Ebert, J.: Collapsible Cylindrical Trees: A Fast Hierarchical Navigation Technique. In: Proceedings of the Symposium on Information Visualization (InfoVis 2001), pp. 79–86 (2001)
187. Dann, W., Cooper, S., Pausch, R.: *Learning to Program with Alice*. Prentice-Hall, Englewood Cliffs (2006)
188. Davis, J., Chen, X.: LumiPoint: Multi-User Laser-Based Interaction on Large Tiled Displays. *Displays* 23(5) (2002)
189. de Fraysseix, H., Pach, J., Pollack, R.: How to Draw a Planar Graph on a Grid. *Combinatorica* 10, 41–51 (1990)
190. de Jong, H., Rip, A.: The computer revolution in science: steps toward the realization of computer-supported discovery environments. *Artificial Intelligence* 91, 225–256 (1997)
191. DeCarlo, D., Santella, A.: Stylization and abstraction of photographs. In: SIGGRAPH '02: Proceedings of the 29th annual conference on Computer graphics and interactive techniques, pp. 769–776. ACM Press, New York, NY (2002)
192. Deng, L., Wang, Y., Wang, K., Acero, A., Hon, H., Droppo, J., Boulis, C., Mahajan, M., Huang, X.D.: Speech and Language Processing for Multimodal Human-Computer Interaction. *J. VLSI Signal Process. Syst.* 36(2-3), 161–187 (2004)
193. di Battista, G., Eades, P., Tamassia, R., Tollis, I.G.: *Graph Drawing: Algorithms for the Visualization of Graphs*. Prentice-Hall, Englewood Cliffs (1999)
194. Diamondbullet. Usability first: Usability Glossary, <http://www.usabilityfirst.com/glossary/> (2006)
195. DiBiase, D.: Visualization in the Earth Sciences. In: *Earth and Mineral Sciences, Bulletin of the College of Earth and Mineral Sciences*, vol. 59, pp. 13–18. Penn State University (1990)
196. DiBiase, D., MacEachren, A.M., Krygier, J.B., Reeves, C.: Animation and the Role of Map Design in Scientific Visualization. *Cartography and Geographic Information Systems* 19(4), 201–214 (1992)
197. Diehl, S. (ed.): *Software Visualization*. LNCS, vol. 2269. Springer, Berlin Heidelberg (2002)
198. Diehl, S., Görg, C., Kerren, A.: Animating Algorithms Live and Post Mortem. In: Diehl, S. (ed.) *Software Visualization*. LNCS, vol. 2269, pp. 46–57. Springer, Berlin Heidelberg (2002)
199. Dietz, P., Leigh, D.: DiamondTouch: A Multi-User Touch Technology. In: UIST '01: Proceedings of the 14th annual ACM symposium on User interface software and technology, pp. 219–226. ACM Press, New York, NY (2001)
200. Dietz, P., Raskar, R., Booth, S., v. Baar, J., Wittenburg, K., Knep, B.: Multi-projectors and implicit interaction in persuasive public displays. In: Working Conference on Advanced Visual Interfaces (AVI '04), pp. 209–217. ACM Press, New York, NY (2004)

201. Dinse, H.R., Kalisch, T., Ragert, P., Pleger, B., Schwenkreis, P., Tegenthoff, M.: Improving human haptic performance in normal and impaired human populations through unattended activation-based learning. *ACM Trans. Appl. Percept.* 2(2), 71–88 (2005)
202. Dodgson, N.A.: Autostereoscopic 3D Displays. *IEEE Computer Society Press* 38(8), 31–36 (2005)
203. Doleisch, H., Gasser, M., Hauser, H.: Interactive Feature Specification for Focus+Context Visualization of Complex Simulation Data. In: *Data Visualization, Proceedings of the 5th Joint IEEE TCVG–EUROGRAPHICS Symposium on Visualization (VisSym 2003)*, pp. 239–248 (2003)
204. Doleisch, H., Hauser, H.: Smooth Brushing For Focus and Context Visualization of Simulation Data in 3D. In: *WSCG 2002 Conference Proceedings*, pp. 147–151, (February 2002)
205. Doleisch, H., Mayer, M., Gasser, M., Priesching, P., Hauser, H.: Interactive Feature Specification for Simulation Data on Time-Varying Grids. In: *Conference on Simulation and Visualization 2005 (SimVis 2005)*, pp. 291–304 (2005)
206. Doleisch, H., Mayer, M., Gasser, M., Wanker, R., Hauser, H.: Case Study: Visual Analysis of Complex, Time-Dependent Simulation Results of a Diesel Exhaust System. In: *Data Visualization, Proceedings of the 6th Joint IEEE TCVG–EUROGRAPHICS Symposium on Visualization (VisSym 2004)*, pp. 91–96, (May 2004)
207. Donath, J., Karahalios, K., Viegas, F.: Visualizing Conversation. In: *Proceedings of the 32nd Hawaii International Conference on System Sciences*, IEEE Computer Society Press, Los Alamitos, CA (1999)
208. Donoho, A.W., Donoho, D.L., Gasko, M.: MacSpin: Dynamic Graphics on a Desktop Computer. *IEEE Computer Graphics and Applications* 08(4), 51–58 (1988)
209. Donoho, D., Ramos, E.: PRIMDATA: Data Sets for Use With PRIM-H. In: *American Statistical Association (ASA) Second Exposition of Statistical Graphics Technology* (1983)
210. Drabkin, H., Hollenbeck, C., Hill, D., Blake, J.: Ontological visualization of protein-protein interactions. *BMC Bioinformatics* 6, 29 (2005)
211. Drury, C.G., Clement, N.R.: The Effect of Area, Density, and Number of Background Characters on Visual Search. *Human Factors* 20, 597–603 (1979)
212. DSDM. Dynamic Systems Development Method, <http://www.dsdm.org> (2006)
213. Duce, D.A., Gallop, J.R., Johnson, I.J., Robinson, K., Seelig, C.D., Cooper, C.S.: Distributed Cooperative Visualization – The MANICORAL Approach. In: *Proceedings of the Eurographics Workshop on Visualization in Scientific Computing*, pp. 69–85 (March 1998)
214. Duce, D.A., Giorgetti, D., Cooper, C.S., Gallop, J.R., Johnson, I.J., Robinson, E., Seelig, C.D.: Reference Models for Distributed Cooperative Visualization. *Computer Graphics Forum* 17(4), 219–233 (1998)
215. Duchowski, A.T.: *Eye Tracking Methodology: Theory and Practice*. Springer, New York (2003)
216. Dumas, F.: *Joseph and C. Greenwood*, Westport, CT (1993)
217. Dunbar, K.: How scientists really reason: Scientific reasoning in real-world laboratories. In: Sternberg, R., Davidson, J. (eds.) *The nature of Insight*, pp. 365–395. MIT Press, Cambridge, MA (1995)
218. Dunbar, K.: How Scientists Think: On-Line Creativity and Conceptual Change in Science. In: *Creative Thought: An Investigation of Conceptual Structures and Processes* (2001)
219. Duskis, S.: JSamba, <http://www-static.cc.gatech.edu/gvu/softviz/algoanim/jsamba/> (2006)

220. Dykes, J.: cdv: A Flexible Approach to ESDA with Free Demonstration Software. In: Proceedings British Cartographic Society 34th Annual Symposium, pp. 100–107 (1997)
221. Dykes, J.: Facilitating Interaction for Geovisualization. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 265–291. Elsevier, Amsterdam (2005)
222. Dykes, J., MacEachren, A.M., Kraak, M.-J.: Advancing Geovisualization. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 693–703. Elsevier, Amsterdam (2005)
223. Dykes, J., MacEachren, A.M., Kraak, M.-J. (eds.): Exploring Geovisualization. Elsevier, Amsterdam (2005)
224. Eades, P.: A Heuristic for Graph Drawing. *Congressus Numerantium* 42, 149–160 (1984)
225. Eades, P.: Computational Morphology, chapter Symmetry finding algorithms, pp. 41–51. North-Holland, Amsterdam (1988)
226. Eades, P.: Drawing free trees. *Bulletin of the institute for Combinatorics and its Applications* 5, 10–36 (1992)
227. Eades, P., Feng, Q.-W.: Drawing Clustered Graphs on an Orthogonal Grid. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 146–157. Springer, Berlin Heidelberg (1997)
228. Eades, P., Feng, Q.-W.: Multilevel Visualization of Clustered Graphs. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 101–112. Springer, Berlin Heidelberg (1997)
229. Eades, P., Feng, Q.-W., Lin, X.: Straight-Line Drawing Algorithms for Hierarchical Graphs and Clustered Graphs. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 113–128. Springer, Berlin Heidelberg (1997)
230. Eades, P., Zhang, K. (eds.): Software Visualization. World Scientific Pub., Singapore (1996)
231. Ebert, D.S., Shaw, C.D., Zwa, A., Starr, C.: Two-handed interactive stereoscopic visualization. In: VIS '96: Proceedings of the 7th conference on Visualization '96, IEEE Computer Society Press, Los Alamitos, CA (1996)
232. Edsall, R.M., MacEachren, A.M., Pickle, L.: Case study: Design and Assessment of an Enhanced Geographic Information System for Exploration of Multivariate Health Statistics. In: Proceedings IEEE Symposium on Information Visualization (InfoVis), pp. 159–162. IEEE Computer Society Press, Los Alamitos, CA (2001)
233. Eick, S.G., Steffen, J.L., Sumner, E.E.: Seesoft-A Tool for Visualizing Line Oriented Software Statistics. *IEEE Transactions on Software Engineering* 18(11), 957–968 (1992)
234. Eiglsperger, M., Kaufmann, M., Siebenhaller, M.: A Topology-Shape-Metrics Approach for the Automatic Layout of UML Class Diagrams. In: Proceedings of ACM Symposium on Software Visualization, pp. 189–198. ACM Press, New York, NY (2003)
235. Einsfeld, K., Ebert, A., Agne, S., Klein, B.: DocuWorld - A 3-D User Interface to the Semantic Desktop. In: 1st Workshop on The Semantic Desktop - Next Generation Personal Information Management and Collaboration Infrastructure at the International Semantic Web Conference (2005)
236. Eisen, M.B., Spellman, P.T., Brown, P.O., Botstein, D.: Cluster analysis and display of genome-wide expression patterns. *Proc Natl Acad Sci. U. S. A.* 95(25), 14863–14868 (1998)
237. Elrod, S., Bruce, R., Gold, R., Goldberg, D., Halasz, F., Janssen, W., Lee, D., McCall, K., Pedersen, E., Pier, K., Tang, J., Welch, B.: Liveboard: A large interactive display supporting group meetings, presentations, and remote collaboration. In: CHI '92: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 599–607. ACM Press, New York, NY (1992)

238. Engel, K., Ertl, T.: Texture-based Volume Visualization for Multiple Users on the World Wide Web. In: Virtual Environments '99. Proceedings of the Eurographics Workshop, pp. 115–124 (1999)
239. Engel, K., Ertl, T.: Interactive High-Quality Volume Rendering with Flexible Consumer Graphics Hardware. In: Proceedings of Eurographics 2002, State of the Art Reports, (Sept 2002)
240. Eslambolchilar, P., Murray-Smith, R.: Tilt-Based Automatic Zooming and Scaling in Mobile Devices - A State-Space Implementation. In: Brewster, S., Dunlop, M.D. (eds.) Mobile Human-Computer Interaction – MobileHCI 2004. LNCS, vol. 3160, pp. 120–131. Springer, Berlin Heidelberg (2004)
241. Espinosa, O., Hendrickson, C., Garrett, J.: Domain Analysis: A Technique to Design a User-Centered Visualization Framework. In: INFOVIS '99: Proceedings of the 1999 IEEE Symposium on Information Visualization, IEEE Computer Society Press, Los Alamitos, CA (1999)
242. Essential Reality: P5 Glove, <http://www.essentialreality.com> (2006)
243. Fabrikant, S.I., Goldsberry, K.: Thematic Relevance and Perceptual Salience of Dynamic Geovisualization Displays. In: Proceedings, 22nd ICS/ACI International Cartographic Conference, (July 9–16 2005)
244. Fakespace Systems Inc.: Advanced Visualization Solutions, <http://www.fakespace.com> (2006)
245. Falkman, G.: Information Visualization in Clinical Odontology: Multidimensional Analysis and Data Exploration. Artificial Intelligence in Medicine 22, 133–158 (2001)
246. Falkman, G.: Issues in structured knowledge representation: A definitional approach with application to case-based reasoning and medical informatics. PhD thesis, Department of Computing Science, Chalmers University of Technology, Göteborg, Sweden (2003)
247. Fallman, D.: Design-orientend Human-Computer Interaction. In: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 225–232. ACM Press, New York, NY (2003)
248. Favalora, G.E.: Volumetric 3D Displays and Application Infrastructure. IEEE Computer Society Press 38(8), 37–44 (2005)
249. FCS Robotics: HapticMASTER, <http://www.fcs-cs.com> (2006)
250. Fekete, J.-D., Greinstein, G., Plaisant, C.: InfoVis Contest, 2004, <http://www.cs.umd.edu/hcil/iv04contest>. Retrieved 27-01-2006
251. Fekete, J.-D., Plaisant, C.: Information Visualization Benchmark Repository, 2004, <http://www.cs.umd.edu/hcil/InfovisRepository> Retrieved 27-01-2006
252. Felsenstein, J.: PHYLIP: Phylogeny Inference Package, <http://www.nih.go.jp/~jun/doc/phylip/main.html> (1995)
253. Ferber, J.: Multi-Agent Systems: An Introduction to Distributed Artificial Intelligence. Addison-Wesley Longman, Amsterdam (1999)
254. Fienberg, S.E.: Graphical Methods in Statistics. American Statisticians 33, 165–178 (1979)
255. Figueroa, P., Bischof, W.F., Boulanger, P., Hoover, H.J.: Efficient comparison of platform alternatives in interactive virtual reality applications. International Journal of Human-Computer Studies 62(1), 73–103 (2005)
256. Fikkert, W., Heylen, D., van Dijk, B., Nijholt, A.: Estimating the Gaze Point of a Student in a Driving Simulator. In: Sixth International Conference on Advanced Learning Technologies (ICALT) - Technologies for Life-Long Learning, pp. 497–501. IEEE Computer Society Press, Los Alamitos, CA (2006)
257. Fineman, B.: Computers as people: human interaction metaphors in human-computer interaction. Master's thesis, The School of Design - Carnegie Mellon University (2004)

258. Fisher, R.A.: The use of multiple measurements in taxonomic problems. *Annals of Eugenics* 7(2), 179–188 (1936)
259. Fitts, P.M.: The Information Capacity of the Human Motor System in Controlling Amplitude of Movement. *Journal of Experimental Psychology* 47, 381–391 (1954)
260. Fitzmaurice, G., Khan, A.A., Kurtenbach, A.G., Binks, A.G. et al.: Cinematic Meeting Facilities Using Large Displays. *IEEE Computer Graphics and Applications* 25(4), 17–21 (2005)
261. Fitzmaurice, G.W.: Situated information spaces and spatially aware palmtop computers. *Communications of the ACM* 36(7), 39–49 (1993)
262. Fitzmaurice, G.W., Zhai, S., Chignell, M.H.: Virtual reality for palmtop computers. *ACM Transactions on Information Systems* 11(3), 197–218 (1993)
263. Force Dimension. 6-DOF DELTA, 2006, <http://www.forcedimension.com>
264. Foster, M.E., White, M., Setzer, A., Catizone, R.: Multimodal Generation in the COMIC Dialogue System. In: *Proceedings of the ACL Interactive Poster and Demonstration Sessions*, pp. 45–48. Association for Computational Linguistics (June 2005)
265. Foulser, D.: IRIS Explorer: A Framework for Investigation. *SIGGRAPH Comput. Graph.* 29(2), 13–16 (1995)
266. Foxlin, E.: Motion tracking requirements and technologies. In: *Handbook of Virtual Environments – Design, Implementation, and Applications*. Human Factors and Ergonomics Series, pp. 163–210. Lawrence Erlbaum Associates, Mahwah, NJ (2002)
267. Frank, A., Timpf, S.: Multiple Representations for Cartographic Objects in a Multi-Scale Tree-An Intelligent Graphical Zoom. *Computers and Graphics* 18(6), 823–829 (1994)
268. Freeman, L.: Visualizing Social Networks. *Journal of Social Structure* 1(1) (2000)
269. Freeman, W.T., Anderson, D.B., Beardsley, P.A., Dodge, C.N., Roth, M., Weissman, C.D., Yerazunis, W.S., Kage, H., Kyuma, K., Miyake, Y., Tanaka, K.i.: Computer Vision for Interactive Computer Graphics. *IEEE Computer Graphics and Applications* 18(3), 42–53 (1998)
270. Freeman, W.T., Beardsley, P.A., Kage, H., Tanaka, K.-I., Kyuma, K., Weissman, C.D.: Computer vision for computer interaction. *Computer Graphics* 33(4), 65–68 (1999)
271. Friendly, M.: Corrgrams: Exploratory Displays for Correlation Matrices. In: *The American Statistician*, pp. 316–324 (2002)
272. Fröhlich, B., Plate, J., Wind, J., Wesche, G., Göbel, M.: Cubic-Mouse-Based Interaction in Virtual Environments. *IEEE Computer Graphics and Applications* 20(4), 12–15 (2000)
273. Frokjaer, E., Hertzum, M., Hornbaek, K.: Measuring Usability: Are Effectiveness, Efficiency, and Satisfaction Really Correlated? In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI'00)*, pp. 345–352. ACM Press, New York, NY (2000)
274. Fruchterman, T.M.J., Reingold, E.M.: Graph drawing by force-directed placement. *Software-Practice & Experience* 21(11), 1129–1164 (1991)
275. Fuhrmann, S., Ahonen-Rainio, P., Edsall, R.M., Fabrikant, S.I., Koua, E.L., Tobón, C., Ware, C., Wilson, S.: Making Useful and Usable Geovisualization: Design and Evaluation Issues. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 553–566. Elsevier, Amsterdam (2005)
276. Fuhrmann, S., MacEachren, A.M., Dou, J., Wang, K., Cox, A.: Gesture and Speech-Based Maps to Support Use of GIS for Crisis Management: A User Study. In: *Proceedings AutoCarto 2005* (2005)

277. Fung, J.: GPU Gems 2: Programming Techniques for High-Performance Graphics and General-Purpose Computation (Gpu Gems). Addison-Wesley, Reading, MA (2005)
278. Fung, J., Mann, S.: OpenVIDIA: parallel GPU computer vision. In: MULTIMEDIA '05: Proceedings of the 13th annual ACM international conference on Multimedia, pp. 849–852. ACM Press, New York, NY (2005)
279. Furnas, G.W.: Generalized Fisheye Views. In: Proceedings of the Conference on Human Factors in Computing Systems (CHI'86), pp. 16–23 (1986)
280. Furnas, G.W.: Effective view navigation. In: Conference Proceedings on Human Factors in Computing Systems (CHI'97), pp. 367–374. ACM SIGCHI, ACM Press, New York, NY (1997)
281. Furnas, G.W.: The FISHEYE View: A New Look at Structured Files. In: Card, S., Mackinlay, J., Shneiderman, B. (eds.) Information Visualization: Using Vision to Think, pp. 145–152. Morgan Kaufmann, San Francisco, CA (1999)
282. Furnas, G.W., Bederson, B.B.: Space-Scale Diagrams: Understanding Multi-scale Interfaces. In: Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI'95), pp. 234–241. ACM Press, New York, NY (1995)
283. Furnas, G.W., Zhang, X.: MuSE: a multiscale editor. In: Proceedings of the 11th Annual ACM Symposium on User Interface Software and Technology (UIST'98), pp. 107–116. ACM Press, New York, NY (1998)
284. Gahegan, M.: Beyond Tools: Visual Support for the Entire Process of GIScience. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 83–99. Elsevier, Amsterdam (2005)
285. Gaither, K., Ebert, D., Geisler, B., Laidlaw, D.: Panel: In the Eye of the Beholder: The Role of Perception in Scientific Visualization. In: Proceedings IEEE Visualization 2004, pp. 567–568. IEEE Computer Society Press, Los Alamitos, CA (2004)
286. Gajer, P., Goodrich, M.T., Kobourov, S.G.: A Multi-dimensional Approach to Force-Directed Layouts of Large Graphs. In: Marks, J. (ed.) GD 2000. LNCS, vol. 1984, pp. 211–221. Springer, Berlin Heidelberg (2001)
287. Gajer, P., Kobourov, S.G.: GRIP: Graph dRrawing with Intelligent Placement. In: Marks, J. (ed.) GD 2000. LNCS, vol. 1984, pp. 222–228. Springer, Berlin Heidelberg (2001)
288. Gansner, E., Koren, Y., North, S.: Topological Fisheye Views for Visualizing Large Graphs. In: Proceedings of the Symposium on Information Visualization (InfoVis 2004), pp. 175–182 (2004)
289. Garland, K.: Mr Beck's Underground Map. Capital Transport Publishing (1994)
290. Gaver, B., Dunne, T., Pacenti, E.: Design: Cultural probes. *Interactions* 6(1), 21–29 (1999)
291. Gaver, W., Beaver, J., Benford, S.: Ambiguity as a resource for design. In: SIGCHI conference on Human factors in computing systems, pp. 233–240. ACM Press, New York, NY (2003)
292. Gerald-Yamasaki, M.J.: Cooperative visualization of computational fluid dynamics. In: PDIS '91: Proceedings of the first international conference on Parallel and distributed information systems, p. 169. IEEE Computer Society Press, Los Alamitos, CA (1991)
293. Ghoniem, M., Fekete, J.-D., Castagliola, P.: A Comparison of the Readability of Graphs Using Node-Link and Matrix-Based Representations. In: IEEE Symposium on Information Visualization, pp. 17–24. IEEE Computer Society Press, Los Alamitos, CA (2004)
294. Gibbs, A., McIntyre, G.: The Diagram, a Method for Comparing Sequences. *Eur. J. Biochem* 16, 1–11 (1970)
295. Gilbert, E.W.: Pioneer Maps of Health and Disease in England. *Geographical Journal* 124(2), 172–183 (1958)

296. Globus, A., Raible, E.: Fourteen Ways to Say Nothing with Scientific Visualization. *IEEE Computer* (July 1994), 86–88 (1994)
297. Goble, J.C., Hinckley, K., Pausch, R., Snell, J.W., Kassell, N.F.: Two-Handed Spatial Interface Tools for Neurosurgical Planning. *Computer* 28(7), 20–26 (1995)
298. Goemann, A., Haubrock, M., Meyer, F., Kalinowski, J., Giegerich, R.: PathFinder: reconstruction and dynamic visualization of metabolic pathways. *Bioinformatics* 18, 124–129 (2002)
299. Gonzales, R.C., Woods, R.E.: *Digital Image Processing*. Prentice-Hall, Englewood Cliffs (2001)
300. Google Inc.: Google Earth. <http://earth.google.com> (2005)
301. Gould, J.D., Lewis, C.: Designing for usability: key principles and what designers think. *Commun. ACM* 28(3), 300–311 (1985)
302. Graham, M., Kennedy, J., Benyon, D.: Towards a methodology for developing visualizations. *International Journal of Human-Computer Studies* 53(5), 789–807 (2000)
303. Granitzer, M., Kienreich, W., Sabol, V., Andrews, K., Klieber, W.: Evaluating a System for Interactive Exploration of Large, Hierarchically Structured Document Repositories. In: *Proceedings of the Symposium on Information Visualization (InfoVis 2004)*, pp. 127–134 (2004)
304. Grave, M.: Shared Data Spaces for Distributed Computing and Parallelism in Scientific Visualization Systems. *CWI Quarterly* 7(2), 175–185 (1994)
305. Griffin, A.L.: Understanding How Scientists Use Data-Display Devices for Interactive Visual Computing with Geographical Models. PhD thesis, The Pennsylvania State University (2004)
306. Grinstein, G.G., Hoffman, P.E., Laskowski, S.J., Pickett, R.M.: Benchmark Development for the Evaluation of Visualization for Data Mining. In: Fayyad, U., Grinstein, G.G., Wierse, A. (eds.) *Information Visualization in Data Mining and Knowledge Discovery*, pp. 129–176. Academic Press, San Francisco (2002)
307. Grinstein, G.G., Kobsa, A., Plaisant, C., Shneiderman, B., Stasko, J.T.: Panel: The Future Visualization Platform. In: *Proceedings IEEE Visualization 2003*, pp. 605–606 (2003)
308. Grissom, S., McNally, M.F., Naps, T.L.: Algorithm visualization in CS education: comparing levels of student engagement. In: *SoftVis '03: Proceedings of the 2003 ACM symposium on Software visualization*, pp. 87–94. ACM Press, New York, NY (2003)
309. Grossman, T., Balakrishnan, R.: The bubble cursor: enhancing target acquisition by dynamic resizing of the cursor's activation area. In: *CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 281–290. ACM Press, New York, NY (2005)
310. Grossman, T., Balakrishnan, R., Kurtenbach, G., Fitzmaurice, G., Khan, A., Buxton, B.: Interaction Techniques for 3D Modeling on Large Displays. In: *SI3D '01: Proceedings of the 2001 symposium on Interactive 3D graphics*, pp. 17–23. ACM Press, New York, NY (2001)
311. Grossman, T., Wigdor, D., Balakrishnan, R.: Multi-finger gestural interaction with 3d volumetric displays. In: *UIST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology*, pp. 61–70. ACM Press, New York, NY (2004)
312. Grudin, J.: Partitioning digital worlds: focal and peripheral awareness in multiple monitor use. In: *CHI '01: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 458–465. ACM Press, New York, NY (2001)
313. Guibas, L.J., Sedgewick, R.: A dichromatic framework for balanced trees. In: *Proceedings of the 19th Annual IEEE Symposium on Foundations of Computer Science*, pp. 8–21. IEEE Computer Society Press, Los Alamitos, CA (1978)

314. Guimbretière, F., Stone, M.C., Winograd, T.: Fluid interaction with high-resolution wall-size displays. In: *UIST '01: Proceedings of the 14th annual ACM symposium on User interface software and technology*, pp. 21–30. ACM Press, New York, NY (2001)
315. Guo, D., Gahegan, M., MacEachren, A.M., Zhou, B.: Multivariate Analysis and Geovisualization with an Integrated Geographic Knowledge Discovery Approach. *Cartography and Geographic Information Science* 32(2), 113–132 (2005)
316. Guo, H., Zhang, W., Wu, J.: The Effect of Zooming Speed in a Zoomable User Interface. Report from Student HCI Online Research Experiments (SHORE), <http://otal.umd.edu/SHORE2000/zoom/>, 2006 (2000)
317. Haber, R., McNabb, D.: *Visualization Idioms: A Conceptual Model for Scientific Visualization Systems*, pp. 74–93. IEEE Computer Society Press, Los Alamitos, CA (1990)
318. Hachet, M., Guitton, P., Reuter, P.: The CAT for efficient 2D and 3D interaction as an alternative to mouse adaptations. In: *VRST '03: Proceedings of the ACM symposium on Virtual reality software and technology*, p. 225. ACM Press, New York, NY (2003)
319. Hachet, M., Pouderoux, J., Guitton, P.: A camera-based interface for interaction with mobile handheld computers. In: *SI3D '05: Proceedings of the 2005 symposium on Interactive 3D graphics and games*, pp. 65–72. ACM Press, New York, NY (2005)
320. Hachet, M., Pouderoux, J., Guitton, P., Gonzato, J.-C.: TangiMap: a tangible interface for visualization of large documents on handheld computers. In: *GI '05: Proceedings of the 2005 conference on Graphics interface*, pp. 9–15. Canadian Human-Computer Communications Society (2005)
321. Hachul, S., Jünger, M.: Drawing Large Graphs with a Potential-Field-Based Multilevel Algorithm. In: Pach, J. (ed.) *GD 2004*. LNCS, vol. 3383, pp. 285–295. Springer, Berlin Heidelberg (2005)
322. Hachul, S., Jünger, M.: An Experimental Comparison of Fast Algorithms for Drawing General Large Graphs. In: Healy, P., Nikolov, N.S. (eds.) *GD 2005*. LNCS, vol. 3843, pp. 235–250. Springer, Berlin Heidelberg (2006)
323. Haining, R.P.: *Spatial Data Analysis: Theory and Practice*. Cambridge University Press, Cambridge (2003)
324. Hakala, T., Lehtikoinen, J., Aaltonen, A.: Spatial interactive visualization on small screen. In: *MobileHCI '05: Proceedings of the 7th international conference on Human computer interaction with mobile devices & services*, pp. 137–144. ACM Press, New York, NY (2005)
325. Hall, E.T.: *The Hidden Dimension: Man's Use of Space in Public and Private*. Doubleday (1966)
326. Han, J.Y.: Low-cost multi-touch sensing through frustrated total internal reflection. In: *UIST '05: Proceedings of the 18th annual ACM symposium on User interface software and technology*, pp. 115–118. ACM Press, New York, NY (2005)
327. Hand, C.: *Survey of 3D Interaction Techniques*. Computer Graphics Forum (December 1997)
328. Hansen, D.: *Committing Eye Tracking*. PhD thesis, IT University of Copenhagen (July 2003)
329. Hardenberg, C., Brard, F.: Bare-Hand Human-Computer Interaction. In: *Proceedings of the ACM Workshop on Perceptive User Interfaces*, ACM Press, New York, NY (2001)
330. Hardison, R.C.: Comparative Genomics. *PLoS Biology* 1(2), 156–160 (2003)
331. Harel, D., Koren, Y.: A fast multi-scale method for drawing large graphs. In: *Proceedings of the working conference on Advanced visual interfaces*, pp. 282–285. ACM Press, New York, NY (2000)

332. Harel, D., Koren, Y.: Graph Drawing by High-Dimensional Embedding. In: Goodrich, M.T., Kobourov, S.G. (eds.) GD 2002. LNCS, vol. 2528, pp. 207–219. Springer, Berlin Heidelberg (2002)
333. Harrower, M.: Visualizing Change: Using Cartographic Animation to Explore Remotely-Sensed Data. *Cartographic Perspectives* 39, 30–42 (2002)
334. Harrower, M.: Tips for Designing Effective Animated Maps. *Cartographic Perspectives* 44, 63–65 (2003)
335. Harrower, M., MacEachren, A., Griffin, A.L.: Design, Implementation, and Assessment of Geographic Visualization Tools to Support Earth Science Education. *Cartography and Geographic Information Science* 27, 279–293 (2000)
336. Hartson, H., Hix, D.: Toward empirically derived methodologies and tools for human computer interface development. *International Journal of Man.-Machine Studies* 31, 477–494 (1989)
337. Hascoët, M.: Throwing Models for Large Displays. In: HCI 2003, vol. 2, pp. 73–77 (2003)
338. Hascoët, M., Sackx, F.: Exploring Interaction Strategies with Wall-Screen: A New Dual-Display Device for Managing Collections of Web Pages (2002)
339. Hasler, A.F., Palaniappan, K., Manyin, M.: A High Performance Interactive Image Spreadsheet (IISS). *Computers in Physics* 8, 325–342 (1994)
340. Hastie, T., Tibshirani, R., Friedman, J.: *The Elements of Statistical Learning*. Springer, Berlin Heidelberg New York (2001)
341. Hauser, H., Bremer, P., Theisel, H., Trener, M., Tricoche, X.: Panel: What are the most demanding and critical problems, and what are the most promising research directions in Topology-Based Flow Visualization. In: *Topology-Based Methods in Visualization Workshop*, September 2005. Held in Budmerice, Slovakia (2005)
342. Hauser, H., Ledermann, F., Doleisch, H.: Angular brushing for extended parallel coordinates. In: *Proceedings of the IEEE Symposium on Information Visualization*, pp. 127–130. IEEE Computer Society Press, Los Alamitos, CA (2002)
343. Hawkey, K., Kellar, M., Reilly, D., Whalen, T., Inkpen, K.M.: The proximity factor: Impact of distance on co-located collaboration. In: *GROUP '05: Proceedings of the 2005 international ACM SIGGROUP conference on Supporting group work*, pp. 31–40. ACM Press, New York, NY (2005)
344. Healey, C.G., Enns, J.T.: Large Datasets at a Glance: Combining Textures and Colors in Scientific Visualization. *IEEE Transactions on Visualization and Computer Graphics* 5(2), 145–167 (1999)
345. Herman, I., Delest, M., Melançon, G.: Tree Visualisation and Navigation Clues for Information Visualisation. *Computer Graphics Forum* 17(2), 153–165 (1998)
346. Herman, I., Melancon, G., Marshall, M.S.: Graph Visualization and Navigation in Information Visualization: A Survey. *IEEE Transactions on Visualization and Computer Graphics* 6(1), 24–43 (2000)
347. Hetzler, E., Turner, A.: Analysis experiences using information visualization. *IEEE Computer Graphics and Applications* 24(5), 22–26 (2005)
348. Hewagamage, K.P., Hirakawa, M., Ichikawa, T.: Interactive Visualization of Spatiotemporal Patterns Using Spirals on a Geographical Map. In: *Proceedings IEEE Symposium on Visual Languages*, pp. 296–303. IEEE Computer Society Press, Los Alamitos, CA (1999)
349. Hibbard, W.: Top Ten Visualization Problems. *Computer Graphics*, 33(2), available online (May 1999)
350. Himsolt, M.: GraphEd: a Graphical Platform for the Implementation of Graph Algorithms. In: *DIMACS International Workshop on Graph Drawing*, pp. 182–193 (1994)

351. Hinckley, K., Pausch, R., Goble, J.C., Kassell, N.F.: A Survey of Design Issues in Spatial Input. In: *UIST '94: Proceedings of the ACM Symposium on User Interface Software & Technology*, pp. 213–222. ACM Press, New York, NY (1994)
352. Hinckley, K., Pausch, R., Proffitt, D., Kassell, N.F.: Two-handed virtual manipulation. *ACM Trans. Comput.-Hum. Interact.* 5(3), 260–302 (1998)
353. Hinckley, K., Pierce, J., Sinclair, M., Horvitz, E.: Sensing techniques for mobile interaction. In: *UIST '00: Proceedings of the 13th annual ACM symposium on User interface software and technology*, pp. 91–100. ACM Press, New York, NY (2000)
354. Hinckley, K., Ramos, G., Guimbretiere, F., Baudisch, P., Smith, M.: Stitching: pen gestures that span multiple displays. In: *AVI '04: Proceedings of the working conference on Advanced visual interfaces*, pp. 23–31. ACM Press, New York, NY (2004)
355. Hinckley, K., Sinclair, M., Hanson, E., Szeliski, R., Conway, M.: The Video-Mouse: a camera-based multi-degree-of-freedom input device. In: *UIST '99: Proceedings of the 12th annual ACM symposium on User interface software and technology*, pp. 103–112. ACM Press, New York, NY (1999)
356. Ho, J., Hong, S.-H.: Drawing Clustered Graphs in Three Dimensions. In: Healy, P., Nikolov, N.S. (eds.) *GD 2005. LNCS*, vol. 3843, pp. 492–502. Springer, Berlin Heidelberg (2006)
357. Ho, J., Manwaring, T., Hong, S.-H., Roehm, U., Fung, D.C.Y., Xu, K., Kraska, T., Hart, D.: PathBank: Web-based Querying and Visualization of an Integrated Biological Pathway Database. In: *3rd International conference on Computer Graphics, Imaging and Visualization (CGIV06)*, page submitted (2006)
358. Hochheiser, H., Baehrecke, E., Mount, S., Shneiderman, B.: Dynamic Querying for Pattern Identification in Microarray and Genomic Data. In: *Proc. IEEE Int'l Conf. Multimedia and Expo, IEEE Computer Society Press, Los Alamitos, CA* (2003)
359. Hoffman, P.E.: *Table Visualizations: A Formal Model and Its Applications* (PhD Dissertation). Technical report, Department of Computer Science, University of Massachusetts Lowell (1999)
360. Holman, D., Vertegaal, R., Altosaar, M., Troje, N., Johns, D.: Paper windows: interaction techniques for digital paper. In: *CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 591–599. ACM Press, New York, NY (2005)
361. Holtzblatt, K., Beyer, H.: Contextual design: using customer work models to drive systems design. In: *CHI 98 conference summary on Human factors in computing systems*, pp. 149–150. ACM Press, New York, NY (1998)
362. Hong, S.-H., Merrick, D., do Nascimento, H.A.D.: The Metro Map Layout Problem. In: Pach, J. (ed.) *GD 2004. LNCS*, vol. 3383, pp. 482–491. Springer, Berlin Heidelberg (2005)
363. Hong, S.-H., Murtagh, T.: Visualisation of Large and Complex Networks Using PolyPlane. In: Pach, J. (ed.) *GD 2004. LNCS*, vol. 3383, pp. 471–481. Springer, Berlin Heidelberg (2005)
364. Hong, S.-H., Nikolov, N.S.: Layered Drawings of Directed Graphs in Three Dimensions. In: *Asia Pacific Symposium on Information Visualisation (APVIS2005)*, vol. 45 of CRPIT, pp. 69–74. ACS (2005)
365. Hopgood, F.: Computer Animation Used as a Tool in Teaching Computer Science. In: *Proceedings IFIP Congress* (1974)
366. Hornbaek, K.: *Usability of Information Visualization: Reading and Interaction Processes*. PhD thesis, Department of Computing, Faculty of Science, University of Copenhagen (2001)

367. Hornbaek, K., Bederson, B., Plaisant, C.: Navigation patterns and usability of zoomable user interfaces with and without an overview. *ACM Trans. Comput.-Hum. Interact.* 9(4), 362–389 (2002)
368. Hornof, A.J., Halverson, T.: Cognitive strategies and eye movements for searching hierarchical computer displays. In: *CHI '03: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 249–256. ACM Press, New York, NY (2003)
369. House, D., Bair, A., Ware, C.: On the Optimization of Visualizations of Complex Phenomena. In: *Proceedings Visualization*, pp. 87–94. IEEE Computer Society Press, Los Alamitos, CA (2005)
370. House, D., Interrante, V., Laidlaw, D., Taylor, R., Ware, C.: Panel: Design and Evaluation in Visualization Research. In: *Proceedings IEEE Visualization*, pp. 705–708. IEEE Computer Society Press, Los Alamitos, CA (2005)
371. Hu, Z., Mellor, J., Wu, J., Yamada, T., Holloway, D., Delisi, C.: VisANT: data-integrating visual framework for biological networks and modules. *Nucleic Acids Research* 33, W352 (2005)
372. Huang, M.L., Eades, P.: A Fully Animated Interactive System for Clustering and Navigating Huge Graphs. In: Whitesides, S.H. (ed.) *GD 1998. LNCS*, vol. 1547, pp. 374–383. Springer, Berlin Heidelberg (1999)
373. Huang, W., Eades, P.: How People Read Graphs. In: *Asia-Pacific Symposium on Information Visualisation*, pp. 51–58 (2005)
374. Huang, W., Hong, S.-H., Eades, P.: Layout Effects on Sociogram Perception. In: Healy, P., Nikolov, N.S. (eds.) *GD 2005. LNCS*, vol. 3843, pp. 262–273. Springer, Berlin Heidelberg (2006)
375. Huang, W., Hong, S.-H., Eades, P.: Predicting Graph Reading Performance: A Cognitive Approach. In: *Asia Pacific Symposium on Information Visualisation (APVIS2006), CRPIT*, vol. 60, pp. 207–216. ACS (2006)
376. Hughes, T., Hyun, Y., Liberles, D.A.: Visualising very large phylogenetic trees in three dimensional hyperbolic space. *BMC Bioinformatics* 5 (April 2004)
377. Hundhausen, C.D., Brown, J.L.: What You See Is What You Code: A Radically Dynamic Algorithm Visualization Development Model for Novice Learners. In: *VL/HCC*, pp. 163–170 (2005)
378. Hundhausen, C.D., Douglas, S.: SALSA and ALVIS: A Language and System for Constructing and Presenting Low Fidelity Algorithm Visualizations. In: *IEEE International Symposium on Visual Languages (VL'00)*, p. 67. IEEE Computer Society Press, Los Alamitos, CA (2000)
379. Hundhausen, C.D., Douglas, S.A., Stasko, J.T.: A Meta-Study of Algorithm Visualization Effectiveness. *Journal of Visual Languages and Computing* 13(3), 259–290 (2002)
380. Hundhausen, C.D., Wingstrom, J., Vatrapsu, R.: The Evolving User-Centered Design of the Algorithm Visualization Storyboarder. In: *VL/HCC*, pp. 62–64 (2004)
381. IBM Lakes Team: *IBM Lakes: An Architecture for Collaborative Networking*. R. Morgan Publishing, Chislehurst (1994)
382. IEEE: 11th International Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (HAPTICS 2003), 22–23 March 2003, Los Angeles, CA, USA, Proceedings. IEEE Computer Society Press (2003)
383. Igarishi, T., Hinckley, K.: Speed-dependent automatic zooming for browsing large documents. In: *Proceedings of the 13th Annual ACM Symposium on User Interface Software and Technology (UIST'00)*, pp. 139–148. ACM Press, New York, NY (2000)

384. Ithantola, P., Karavirta, V., Korhonen, A., Nikander, J.: Taxonomy of effort-less creation of algorithm visualizations. In: ICER '05: Proceedings of the 2005 international workshop on Computing education research, pp. 123–133. ACM Press, New York, NY (2005)
385. Immersion Corporation: Various Interaction Devices, <http://www.immersion.com> (2006)
386. International Nucleotide Sequence Database Collaboration. <http://www.insdc.org/>
387. Ino, S., Shimizu, S., Sato, T.O.M., Takahashi, M., Izumi, T., Ifukube, T.: A tactile display for presenting quality of materials by changing the temperature of skin surface. In: Proceedings, 2nd IEEE International Workshop on Robot and Human Communication, Nov. 2003, pp. 220–224. IEEE Computer Society Press, Los Alamitos, CA (1993)
388. Inselberg, A.: The plane with parallel coordinates. *The Visual Computer* 1(2), 69–91 (1985)
389. Inselberg, A., Dimsdale, B.: Parallel Coordinates: A Tool for Visualizing Multi-Dimensional Geometry. In: Proceedings of the 1st Conference on Visualization '90, pp. 361–378. IEEE Computer Society Press, Los Alamitos, CA (1990)
390. Iqbal, R., Sturm, J., Kulyk, O., Wang, J., Terken, J.: User-Centred Design and Evaluation of Ubiquitous Services. In: International Conference on Design of Communication: Documenting and Designing for Pervasive Information, pp. 138–145. ACM Press, New York, NY (2005)
391. Irani, P., Ware, C.: Diagrams based on structural object perception. In: Proceedings of the working conference on Advanced visual interfaces, pp. 61–67. ACM Press, New York, NY (2000)
392. Irani, P., Ware, C.: Diagramming information structures using 3D perceptual primitives. *ACM Transactions on Computer-Human Interaction* 10(1), 1–19 (2003)
393. Isenhour, P., Begole, J.B., Heagy, W.S., Shaffer, C.A.: Sieve: A Java-Based Collaborative Visualization Environment. In: IEEE Visualization '97 Late Breaking Hot Topics Proceeding, pp. 13–16. IEEE Computer Society Press, Los Alamitos, CA (1997)
394. ISO: ISO 13407: Human-Centered Design Processes for Interactive Systems (1998)
395. ISO: ISO 9241: Ergonomic requirements for office work with visual display terminals (VDTs) - Part 11: Guidance on usability (1998)
396. Itti, L., Koch, C., Niebur, E.: A Model of Saliency-Based Visual Attention for Rapid Scene Analysis. *IEEE Transactions on Pattern Analysis and Machine Intelligence* 20(11), 1254–1259 (1998)
397. Iwata, H., Yano, H., Uemura, T., Moriya, T.: Food Simulator: A Haptic Interface for Biting. In: VR '04: Proceedings of the IEEE Virtual Reality 2004 (VR'04), IEEE Computer Society Press, Los Alamitos, CA (2004)
398. Jacob, R.J.: Commentary on Section 4. Eye tracking in human-computer interaction and usability research: Ready to deliver the promises
399. Jaimes, A., Sebe, N.: Multimodal Human Computer Interaction: A Survey. In: Computer Vision in Human-Computer Interaction: Workshop on HCI, pp. 1–15 (2005)
400. Jain, A.K., Mao, J., Mohiuddin, K.M.: Artificial Neural Networks: A Tutorial. *Computer* 29(3), 31–44 (1996)
401. Jalview Alignment Editor: <http://www.jalview.org/>
402. Jankun-Kelly, T.J., Ma, K.-L.: Visualization Exploration and Encapsulation via a Spreadsheet-like Interface. *IEEE Transactions on Visualization and Computer Graphics* 7(3), 275–287 (2001)

403. Jankun-Kelly, T.J., Ma, K.-L.: MoireGraphs: Radial Focus+Context Visualization and Interaction for Graphs with Visual Nodes. In: In Proceedings of the 9th IEEE Symposium on Information Visualization (InfoVis'03), pp. 59–66. IEEE Computer Society Press, Los Alamitos, CA (2003)
404. Jennings, C.: Robust Finger Tracking with Multiple Cameras. In: International Workshop on Recognition, Analysis, and Tracking of Faces and Gestures in Real-Time Systems, pp. 152–160 (1999)
405. Jepsen, M.L.: Smoke, Mirrors, and Manufacturable Displays. *IEEE Computer Society Press* 38(8), 63–67 (2005)
406. Jerding, D.F., Stasko, J.T.: The Information Mural: A Technique for Displaying and Navigating Large Information Spaces. *IEEE Transactions on Visualization and Computer Graphics* 4(3), 257–271 (1998)
407. Johanson, B., Hutchins, G., Winograd, T., Stone, M.: PointRight: experience with flexible input redirection in interactive workspaces. In: *UIST '02: Proceedings of the 15th annual ACM symposium on User interface software and technology*, pp. 227–234. ACM Press, New York, NY (2002)
408. Johnson, B., Shneiderman, B.: Treemaps: A Space-Filling Approach to the Visualization of Hierarchical Information Structures. In: Card, S., Mackinlay, J., Shneiderman, B. (eds.) *Information Visualization: Using Vision to Think*, pp. 152–159. Morgan Kaufmann, San Francisco, CA (1999)
409. Johnson, C.: Top Scientific Visualization Research Problems. *IEEE Computer Graphics and Applications* 24(4), 13–17 (2004)
410. Johnson, C., Moorehead, R., Munzner, T., Pfister, H., Rheingans, P., Yoo, T.S. (eds.): *NIH-NSF Visualization Research Challenges Report*, 1st edn. IEEE Computer Society Press, Los Alamitos, CA, <http://tab.computer.org/vgtc/vrc/index.html> (2006)
411. Johnson, C., Moorhead, R., Munzner, T., Pfister, H., Rheingans, P., Yoo, T.S.: *Visualization Research Challenges*. Technical report, NIH/NSF (January 2006)
412. Johnson, C., Sanderson, A.: A Next Step: Visualizing Errors and Uncertainty. *IEEE Computer Graphics and Applications* 23(5), 6–10 (2003)
413. Johnson, D.S., McGeoch, L.A.: The Traveling Salesman Problem: A Case Study. In: Aarts, E.H.L., Lenstra, J.K. (eds.) *Local Search in Combinatorial Optimization*, pp. 215–310. Wiley, Chichester (1997)
414. Johnson, G., Ebert, D., Hansen, C., Kirk, D., Mark, B., Pfister, H.: Panel: The Future Visualization Platform. In: *Proceedings IEEE Visualization*, pp. 569–571. IEEE Computer Society Press, Los Alamitos, CA (2004)
415. Johnson, G., Elvins, T.T.: Introduction to collaborative visualization. *SIGGRAPH Comput. Graph.* 32(2), 8–11 (1998)
416. Johnson, J.: *GUI Bloopers*. Morgan Kaufmann, San Francisco, CA (2000)
417. Jolliffe, I.: *Principal Component Analysis*. Springer, Berlin Heidelberg New York (2002)
418. Jones, S., Scaife, M.: Animated Diagrams: An investigation into the cognitive effects of using animation to illustrate dynamic processes. In: Anderson, M., Cheng, P., Haarslev, V. (eds.) *Diagrams 2000*. LNCS (LNAI), vol. 1889, pp. 1–3. Springer, Berlin Heidelberg (2000)
419. Joseph, J., LaViola, J., Feliz, D.A., Keefe, D.F., Zeleznik, R.C.: Hands-free multi-scale navigation in virtual environments. In: *SI3D '01: Proceedings of the 2001 symposium on Interactive 3D graphics*, pp. 9–15. ACM Press, New York, NY (2001)
420. Jünger, M., Mutzel, P. (eds.): *Graph Drawing Software*. Springer, Berlin Heidelberg New York (2003)
421. Kadmon, N., Shlomi, E.: A polyfocal projection for statistical surfaces. *Cartograph* 15(1), 36–40 (1978)

422. Kaiser, E., Olwal, A., McGee, D., Benko, H., Corradini, A., Li, X., Cohen, P.R., Feiner, S.: Mutual disambiguation of 3D multimodal interaction in augmented and virtual reality. In: ICMI '03: Proceedings of the 5th international conference on Multimodal interfaces, pp. 12–19. ACM Press, New York, NY (2003)
423. Kakoulis, K.G., Tollis, I.G.: An Algorithm for Labeling Edges of Hierarchical Drawings. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 169–180. Springer, Berlin Heidelberg (1997)
424. Kakoulis, K.G., Tollis, I.G.: A Unified Approach to Labeling Graphical Features. In: Proceedings of the 14th ACM Symposium on Computational Geometry, pp. 347–356. ACM Press, New York, NY (1998)
425. Kalman, R.E.: A New Approach to Linear Filtering and Prediction Problems. *Transactions of the ASME - Journal of Basic Engineering* 82, 35–45 (1960)
426. Kamada, T., Kawai, S.: An algorithm for drawing general undirected graphs. *Information Processing Letters* 31(1), 7–15 (1989)
427. Kamba, T., Elson, S.A., Harpold, T., Stamper, T., Sukaviriya, P.: Using small screen space more efficiently. In: CHI '96: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 383–390. ACM Press, New York, NY (1996)
428. Kannusmäki, O., Moreno, A., Myller, N., Sutinen, E.: What a Novice Wants: Students Using Program Visualization in Distance Programming Course. In: Proceedings of the Third Program Visualization Workshop, pp. 126–133 (July 2004)
429. Karavirta, V., Korhonen, A., Malmi, L., Stalnacke, K.: MatrixPro - A Tool for On-The-Fly Demonstration of Data Structures and Algorithms. In: Proceedings of the Third Program Visualization Workshop, pp. 26–33 (July 2004)
430. Kato, H., Billingham, M., Poupirev, I., Imamoto, K., Tachibana, K.: Virtual Object Manipulation on a Table-Top AR Environment. In: ISAR '00: Proceedings of the International Symposium on Augmented Reality, pp. 111–119 (2000)
431. Katzenmaier, M., Stiefelhagen, R., Schultz, T.: Identifying the addressee in human-human-robot interactions based on head pose and speech. In: ICMI '04: Proceedings of the 6th international conference on Multimodal interfaces, pp. 144–151. ACM Press, New York, NY (2004)
432. Kaufmann, M., Wagner, D. (eds.): *Drawing Graphs*. LNCS, vol. 2025. Springer, Berlin Heidelberg (2001)
433. Kawachiya, K., Ishikawa, H.: NaviPoint: An input device for mobile information browsing. In: CHI '98: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 1–8. ACM Press/Addison-Wesley (1998)
434. Kaye, J.J.: Making Scents: aromatic output for HCI interactions 11(1), 48–61 (2004)
435. KDE - The K-Desktop Environment, <http://www.kde.org>
436. Keim, D.A.: Information Visualization and Visual Data Mining. *IEEE Transactions on Visualization and Computer Graphics* 7(1), 1–8 (2002)
437. Keim, D.A., Kriegel, H.-P.: Visualization Techniques for Mining Large Databases: A Comparison. *IEEE Transactions on Knowledge and Data Engineering* 8(6), 923–938 (1996)
438. Keim, D.A., Panse, C., Sips, M.: Information Visualization: Scope, Techniques and Opportunities for Geovisualization. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 23–52. Elsevier, Amsterdam (2005)
439. W. Keith Edwards, V. Bellotti, A. Dey, and M. Newman. Stuck in the Middle: The Challenges of User-Centered Design and Evaluation of Infrastructure. In: ACM Conference on Human Factors in Computing Systems (CHI'03) (2003)
440. Kerren, A., Stasko, J.: Algorithm Animation - Introduction. In: Diehl, S. (ed.) *Software Visualization*. LNCS, vol. 2269, pp. 1–15. Springer, Berlin Heidelberg (2002)

441. Keyson, D.V.: Dynamic Cursor Gain and Tactual Feedback in the Capture of Cursor Movements. *Ergonomics* 12, 1287–1298 (1997)
442. Khan, A., Fitzmaurice, G., Almeida, D., Burtnyk, N., Kurtenbach, G.: A remote control interface for large displays. In: *UIST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology*, pp. 127–136. ACM Press, New York, NY (2004)
443. Khan, A., Komalo, B., Stam, J., Fitzmaurice, G., Kurtenbach, G.: HoverCam: interactive 3D navigation for proximal object inspection. In: *SI3D '05: Proceedings of the 2005 symposium on Interactive 3D graphics and games*, pp. 73–80. ACM Press, New York, NY (2005)
444. Khan, A., Matejka, J., Fitzmaurice, G., Kurtenbach, G.: Spotlight: Directing users' attention on large displays. In: *CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 791–798. ACM Press, New York, NY (2005)
445. Khoudja, B.M., Hafez, M., Alexandre, J., Kheddar, A.: Tactile Interfaces. A State of the Art Survey. In: *International Symposium on Robotics, March 23-26 2004* (2004)
446. Khoudja, M.B., Hafez, M., Alexandre, J.M., Kheddar, A.: Thermal feedback interface requirements for virtual reality. In: *Proceedings of the EuroHaptics 2003* (July 2003)
447. Kijimam, R., Hirose, M.: Representative Spherical Plane Method and Composition of Object Manipulation Methods. In: *VRAIS '96: Proceedings of the 1996 Virtual Reality Annual International Symposium (VRAIS 96)*, IEEE Computer Society Press, Los Alamitos, CA (1996)
448. Kindlmann, G., Reinhard, E., Creem, S.: "Face-based Luminance Matching for Perceptual Colormap Generation". In: *Proceedings of the 13th IEEE Visualization 2002 Conference (VIS-02)*, pp. 299–306. IEEE Computer Society Press, Los Alamitos, CA (2002)
449. Kirstein, C., Müller, H.: Interaction with a Projection Screen Using a Camera-Tracked Laser Pointer. In: *MMM '98: Proceedings of the International Conference on Multimedia Modeling*, p. 191 (1998)
450. Klau, G.W., Mutzel, P.: Combining Graph Labeling and Compaction. In: *Kratochvíl, J. (ed.) GD 1999. LNCS, vol. 1731*, pp. 27–37. Springer, Berlin Heidelberg (1999)
451. Kleiner, B., Hartigan, J.: Representing Points in Many Dimensions by Trees and Castles. *Journal of the American Statistical Association* 76, 260–272 (1981)
452. Knoche, H., McCarthy, J.D., Sasse, M.A.: Can small be beautiful?: Assessing image resolution requirements for mobile TV. In: *MULTIMEDIA '05: Proceedings of the 13th annual ACM international conference on Multimedia*, pp. 829–838. ACM Press, New York, NY (2005)
453. Knowlton, K.: L6: Bell Telephone Laboratories Low-Level Linked List Language. 16-minute black-and-white film (1966)
454. Kobsa, A.: An empirical comparison of three commercial information visualization systems. In: *Symposium on Information Visualization, InfoVis 2001*, pp. 123–130. IEEE Computer Society Press, Los Alamitos, CA (2001)
455. Kobsa, A.: User Experiments with Tree Visualization Systems. In: *Proceedings of the IEEE Symposium on Information Visualization (InfoVis'04)*, pp. 9–16. IEEE Computer Society Press, Los Alamitos, CA (2004)
456. Koch, T.: The Map as Intent: Variations on the Theme of John Snow. *Cartographica* 39(4), 1–14 (2004)
457. Kölling, M., Barnes, D.J.: Enhancing apprentice-based learning of Java. In: *Proceedings of the thirty-fifth SIGCSE technical symposium on computer science education*, pp. 286–290. ACM Press, New York, NY (2004)

458. Koren, Y., Carmel, L., Harel, D.: ACE: A Fast Multiscale Eigenvectors Computation for Drawing Huge Graphs. In: INFOVIS '02: Proceedings of the IEEE Symposium on Information Visualization (InfoVis'02), p. 137. IEEE Computer Society Press, Los Alamitos, CA (2002)
459. Korhonen, A., Malmi, L., Nikander, J., Silvasti, P.: Algorithm Simulation— A Novel Way to Specify Algorithm Animations. In: Proceedings of the Second Program Visualization Workshop, pp. 28–36 (June 2002)
460. Körner, O., Männer, R.: Implementation of a Haptic Interface for a Virtual Reality Simulator for Flexible Endoscopy. In: HAPTICS '03: Proceedings of the 11th Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (HAPTICS'03), IEEE Computer Society Press, Los Alamitos, CA (2003)
461. Kosara, R., Bendix, F., Hauser, H.: TimeHistograms for Large, Time-Dependent Data. In: Proceedings of the Joint EG-IEEE TCVG Symposium on Visualization (VisSym '04), pp. 45–54, 340. IEEE Computer Society Press, Los Alamitos, CA (2004)
462. Kosara, R., Hauser, H., Gresh, D.: An Interaction View on Information Visualization. In: Proceedings of Eurographics 2003, State of the Art Reports, pp. 123–137 (Sept 2003)
463. Kosara, R., Healey, C., Interrante, V., Laidlaw, D., Ware, C.: User Studies: Why, how, and when? IEEE Computer Graphics and Applications 23(4), 20–25 (2003)
464. Kosara, R., Healey, C.G., Interrante, V., Laidlaw, D.H., Ware, C.: User Studies: Why, How, and When? Computer Graphics and Applications 23(4), 20–25 (2003)
465. Kosara, R., Miksch, S.: Visualization Methods for Data Analysis and Planning in Medical Applications. International Journal of Medical Informatics 68, 141–153 (2002)
466. Kosara, R., Miksch, S., Hauser, H.: Semantic Depth of Field. In: IEEE Symposium on Information Visualization 2001 (InfoVis 2001), pp. 97–104. IEEE Computer Society Press, Los Alamitos, CA (2001)
467. Kosara, R., Miksch, S., Hauser, H., Schrammel, J., Giller, V., Tscheligi, M.: Useful Properties of Semantic Depth of Field for Better F+C Visualization. In: Proceedings of the Joint Eurographics - IEEE TCVG Symposium on Visualization 2002 (VisSym'02), pp. 205–210. IEEE Computer Society Press, Los Alamitos, CA (2002)
468. Kosara, R., Miksch, S., Shahar, Y., Johnson, P.: AsbruView: Capturing Complex, Time-oriented Plans - Beyond Flow-Charts (1998)
469. Kosslyn, S.M.: Elements of Graph Design. W. H. Freeman and Company, New York (1994)
470. Koua, E.L., Kraak, M.-J.: A Usability Framework for the Design and Evaluation of an Exploratory Geovisualization Environment. In: Proceedings of the Eighth International Conference on Information Visualisation (IV '04), pp. 153–158 (2004)
471. Koua, E.L., Kraak, M.-J.: Geovisualization to Support the Exploration of Large Health and Demographic Survey Data. International Journal of Health Geographics 3 (2004)
472. Koussoulakou, A., Kraak, M.-J.: Spatio-Temporal Maps and Cartographic Communication. The Cartographic Journal 29, 101–108 (1992)
473. Kraak, M.-J.: Geovisualization Illustrated. ISPRS Journal of Photogrammetry and Remote Sensing 57, 390–399 (2003)
474. Krackhardt, D.: Social networks and the liability of newness for managers. Trends in Organizational Behavior 3, 159–173 (1996)

475. Kron, A., Schmidt, G.: Multi-Fingered Tactile Feedback from Virtual and Remote Environments. In: HAPTICS, pp. 16–23 (2003)
476. Kron, A., Schmidt, G.: Haptisches Telepräsenzsystem zur Unterstützung bei Entschärfungstätigkeiten: Systemgestaltung, Regelung und Evaluation (Haptic Telepresence System for Support of Disposal of Explosive Ordnances: Design Issues, Control, and Evaluation). *at - Automatisierungstechnik* 53(3), 101–113 (2005)
477. Krum, D.M., Omoteso, O., Ribarsky, W., Starner, T., Hodges, L.F.: Speech and gesture multimodal control of a whole Earth 3D visualization environment. In: VISSYM '02: Proceedings of the symposium on Data Visualisation 2002, pp. 195–200. Eurographics Association (2002)
478. Krum, D.M., Ribarsky, W., Shaw, C.D., Hodges, L.F., Faust, N.: Situational visualization. In: VRST '01: Proceedings of the ACM symposium on Virtual reality software and technology, pp. 143–150. ACM Press, New York, NY (2001)
479. Krygier, J.B.: Sound and Geographic Visualization. In: MacEachren, A.M., Taylor, D.F. (eds.) *Visualization in Modern Cartography*, pp. 149–166. Pergamon Press, Oxford (1994)
480. Kujala, S., Kauppinen, M.: Identifying and Selecting Users for User-Centered Design. In: Nordic Conference on Computer-Human Interaction, pp. 297–303. ACM Press, New York, NY (2004)
481. Kulyk, O., Wang, J., Terken, J.: Realtime Feedback on Nonverbal Behaviour to Enhance Social Dynamics in Small Group Meetings. In: Renals, S., Bengio, S. (eds.) *MLMI 2005. LNCS, vol. 3869*, Springer, Berlin Heidelberg (2006)
482. Kulyk, O., Wassink, I.: Getting to know bioinformaticians: Results of an exploratory user study. In: British HCI'06 Workshop on Combining Visualisation and Interaction to Facilitate Scientific Exploration and Discovery (2006)
483. Kumar, S., Cohen, P.R.: Towards a fault-tolerant multi-agent system architecture. In: AGENTS '00: Proceedings of the fourth international conference on Autonomous agents, pp. 459–466. ACM Press, New York, NY (2000)
484. Künzler, U., Runde, C.: Kinesthetic Haptics Integration into Large-Scale Virtual Environments. In: WHC, pp. 551–556. IEEE Computer Society Press, Los Alamitos, CA (2005)
485. Kurtenbach, G., Buxton, W.: User Learning and Performance with Marking Menus. In: Proceedings of ACM CHI'94 Conference on Human Factors in Computing Systems. Pen Input, vol. 1, pp. 258–264. ACM Press, New York, NY (1994)
486. Laakso, M.-J., Salakoski, T., Gradell, L., Qiu, X., Korhonen, A., Malmi, L.: Multi-Perspective Study of Novice Learners Adopting the Visual Algorithm Simulation Exercise System TRAKLA2. *Informatics in Education* 4(1), 49–68 (2005)
487. Lamping, J., Rao, R.: Laying Out and Visualizing Large Trees Using a Hyperbolic Space. In: Proceedings of the ACM Symposium on User Interface Software and Technology (UIST '94), pp. 13–14. ACM Press, New York, NY (1994)
488. Lamping, J., Rao, R., Pirolli, P.: A Focus+Context Technique Based on Hyperbolic Geometry for Visualizing Large Hierarchies. In: Proceedings of the Conference on Human Factors in Computing Systems (CHI '95), pp. 401–408 (1995)
489. Lang, U., Peltier, J.P., Christ, P., Rill, S., Rantzau, D., Nebel, H., Wierse, A., Lang, R., Causse, S., Juaneda, F., Grave, M., Haas, P.: Perspectives of collaborative supercomputing and networking in European aerospace research and industry. *Future Generation Computer Systems* 11(4-5), 419–430 (1995)
490. Laramee, R.S.: FIRST: A Flexible and Interactive Resampling Tool for CFD Simulation Data. *Computers & Graphics* 27(6), 905–916 (2003)

491. Laramee, R.S., Bergeron, R.D.: An Isosurface Continuity Algorithm for Super Adaptive Resolution Data. In: *Advances in Modelling, Animation, and Rendering: Computer Graphics International (CGI 2002)*, pp. 215–237. Computer Graphics Society/Springer, Berlin Heidelberg (2002)
492. Laramee, R.S., Garth, C., Doleisch, H., Schneider, J., Hauser, H., Hagen, H.: Visual Analysis and Exploration of Fluid Flow in a Cooling Jacket. In: *Proceedings IEEE Visualization 2005*, pp. 623–630. IEEE Computer Society Press, Los Alamitos, CA (2005)
493. Laramee, R.S., Hauser, H.: Interactive 3D Flow Visualization Using Textures and Geometric Primitives. In: *NAFEMS World Congress Conference Proceedings*, p. 75. NAFEMS—The International Association for the Engineering Analysis Community, May 17–20 2005, full proceedings on CDROM
494. Laramee, R.S., Hauser, H., Doleisch, H., Post, F.H., Vrolijk, B., Weiskopf, D.: The State of the Art in Flow Visualization: Dense and Texture-Based Techniques. *Computer Graphics Forum* 23(2), 203–221 (2004)
495. Laramee, R.S., Ware, C.: Rivalry and Interference with a Head Mounted Display. *ACM Transactions on Computer-Human Interaction (TOCHI)* 9(3), 238–251 (2002)
496. Laramee, R.S., Weiskopf, D., Schneider, J., Hauser, H.: Investigating Swirl and Tumble Flow with a Comparison of Visualization Techniques. In: *Proceedings IEEE Visualization*, pp. 51–58. IEEE Computer Society Press, Los Alamitos, CA (2004)
497. Larkin, J., Simon, H.: Why a Diagram is (Sometimes) Worth Ten Thousand Words. *Cognitive Science* 11, 65–99 (1987)
498. Latour, B., Woolgar, S.: *Laboratory Life*, vol. 60 Sage, Beverly Hills, CA (1979)
499. Lauesen, S.: *User interface design*. Addison-Wesley, Reading, MA (2005)
500. LeBlanc, J., Ward, M.O., Wittels, N.: Exploring N-dimensional databases. In: *VIS '90: Proceedings of the 1st conference on Visualization '90*, pp. 230–237. IEEE Computer Society Press, Los Alamitos, CA (1990)
501. Lee, M.D., Reilly, R.E., Butavicius, M.E.: An empirical evaluation of Chernoff faces, star glyphs, and spatial visualizations for binary data. In: *APVis '03: Proceedings of the Asia-Pacific symposium on Information visualisation*, pp. 1–10. Australian Computer Society, Inc (2003)
502. Leganchuk, A., Zhai, S., Buxton, W.: Manual and cognitive benefits of two-handed input: an experimental study. *ACM Transactions on Computer-Human Interaction* 5(4), 326–359 (1998)
503. Lester, J., Converse, S., Kahler, S., Barlow, T., Stone, B., Bhoga, R.: The Persona Effect: Affective Impact of Animated Pedagogical Agents. In: *CHI '97: CHI '97 extended abstracts on Human factors in computing systems*, pp. 359–366. ACM Press, New York, NY (1997)
504. Levoy, M.: Spreadsheets for images. In: *Proceedings of ACM SIGGRAPH 1994, Computer Graphics Proceedings, Annual Conference Series*, pp. 139–146. ACM Press, New York, NY (1994)
505. v. Liere, R., de Leeuw, J., Mulder, J., Verschure, P., Visser, A., Manders, E., v. Driel, R.: Virtual Reality in Biological Microscopic Imaging. In: *International, I.E.E.E. (ed.) Symposium on Biomedical Imaging*, pp. 879–882. IEEE Computer Society Press, Los Alamitos, CA (2002)
506. Likert, R.A.: A Technique for the Measurement of Attitudes. *Archives of Psychology* 140, 1–55 (1932)
507. Lind, M., Bingham, G.P., Forsell, C.: The Illusion of Perceived Metric 3D Structure. In: *IEEE Symposium on Information Visualization (InfoVis)*, pp. 51–56. IEEE Computer Society Press, Los Alamitos, CA (2002)

508. Lipton, R.J., North, S.C., Sandberg, J.S.: A method for drawing graphs. In: Proceedings of the first annual symposium on Computational geometry, pp. 153–160. ACM Press, New York, NY (1985)
509. Liu, A., Tendick, F., Cleary, K., Kaufmann, C.: A survey of surgical simulation: applications, technology, and education. Presence: Teleoper. Virtual Environ. 12(6), 599–614 (2003)
510. Lodha, S.K., Pang, A., Sheehan, R.E., Wittenbrink, C.M.: UFLOW: Visualizing Uncertainty in Fluid Flow. In: Proceedings IEEE Visualization '96, pp. 249–254. IEEE Computer Society Press, Los Alamitos, CA (1996)
511. Logitech: Logitech@Cordless RumblepadTM2 Vibration Feedback Gamepad, <http://www.logitech.com> (2006)
512. Longabaugh, W.J., Davidson, E.H., Bolouri, H.: Computational representation of developmental genetic regulatory networks. Developmental Biology 283, 1–16 (2005)
513. Longley, P.A., Goodchild, M.F., Maguire, D.J., Rhind, D.W.: Geographical Information Systems and Science. Wiley, Chichester (2005)
514. Lord, H.: Improving the Application Development Process with Modular Visualization Environments. Computer Graphics 29(2), 10–12 (1995)
515. Lorensen, B.: Panel Statement: On the Death of Visualization: Can It Survive Without Customers. In: NIH/NSF Fall 2004 Workshop on Visualization Research Challenges, <http://visual.nlm.nih.gov> (Sept 2004)
516. Lovegrove, S., Brodlie, K.W.: Collaborative Research Within a Sustainable Community: Interactive Multi User VRML and Visualization. In: Eurographics UK Conference, pp. 53–68. Eurographics (March 1998)
517. Lowenthal, M.: Intelligence: From Secrets to Policy. CQ Press, Washington, DC (2000)
518. Ma, K.-L.: Visualizing Visualizations: User Interfaces for Managing and Exploring Scientific Visualization Data. IEEE Computer Graphics and Applications 20(5), 16–19 (2000)
519. MacEachren, A.M.: How Maps Work: Representation, Visualization, and Design. Guilford, New York, NY (1995)
520. MacEachren, A.M.: An Evolving Cognitive-Semiotic Approach to Geographic Visualization and Knowledge Construction. Information Design Journal 10, 26–36 (2001)
521. MacEachren, A.M.: Moving Geovisualization Toward Support for Group Work. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 445–462. Elsevier, Amsterdam (2005)
522. MacEachren, A.M., Boscoe, F.P., Haug, D., Pickle, L.W.: Geographic Visualization: Designing Manipulable Maps for Exploring Temporally Varying Georeferenced Statistics. In: Proceedings Information Visualization '98, pp. 87–94. IEEE Computer Society Press, Los Alamitos, CA (1998)
523. MacEachren, A.M., Brewer, I.: Developing a Conceptual Framework for Visually-Enabled Geocollaboration. International Journal of Geographical Information Science 18(1), 1–34 (2004)
524. MacEachren, A.M., Cai, G., Sharma, R., Rauschert, I., Brewer, I., Boelli, L., Shaparenko, B., Fuhrmann, S., Wang, H.: Enabling Collaborative Geoinformation Access and Decision-Making Through a Natural, Multimodal Interface. International Journal of Geographical Information Science 19(3), 293–317 (2005)
525. MacEachren, A.M., Edsall, R., Huag, D., Baxter, R., Otto, G., Masters, R., Fuhrmann, S., Qian, L.: Virtual Environments for Geographic Visualization: Potential and Challenges. In: Proceedings of the ACM Workshop on New Paradigms in Information Visualization and Manipulation (1999)

526. MacEachren, A.M., Gahegan, M., Pike, W., Brewer, I., Cai, G., Lengerich, E., Hardisty, F.: Geovisualization for knowledge construction and decision support. *Computer Graphics and Applications*, IEEE 24(1), 13–17 (2004)
527. MacEachren, A.M., Ganter, J.H.: A Pattern Identification Approach to Cartographic Visualization. *Cartographica* 27(2), 64–81 (1990)
528. MacEachren, A.M., Kraak, M.-J.: Research Challenges in Geovisualization. *Cartography and Geographic Information Science* 28(1), 3–12 (2001)
529. Machiraju, R., Johnson, C., Yoo, T., Crawfis, R., Ebert, D., Stredney, D.: Do I Really See A Bone? In: *Visualization Panels*, pp. 615–617. IEEE Computer Society Press, Los Alamitos, CA (2003)
530. Mackay, E., Wendy,: Ethics, lies and videotape. In: *SIGCHI conference on Human factors in computing systems*, pp. 138–145. Addison-Wesley/ACM Press, New York, NY (1995)
531. MacKenzie, I.S.: Movement time prediction in human-computer interfaces. In: *Proceedings of Graphics Interface '92*, pp. 140–150 (May 1992)
532. MacKenzie, I.S., Jusoh, S.: An Evaluation of Two Input Devices for Remote Pointing. In: *EHCI '2001: Proceedings of the Eighth IFIP Working Conference on Engineering for Human-Computer Interaction*, pp. 235–249 (2001)
533. MacKenzie, I.S., Ware, C.: Lag as a Determinant of Human Performance in Interactive Systems. In: *INTERCHI'93 Conference on Human Factors in Computing Systems*, pp. 488–493 (1993)
534. Mackinlay, J.D., Card, S.K., Robertson, G.G.: Rapid controlled movement through a virtual 3D workspace. In: *SIGGRAPH '90: Proceedings of the 17th annual conference on Computer graphics and interactive techniques*, pp. 171–176. ACM Press, New York, NY (1990)
535. Mackinlay, J.D., Robertson, G.G., Card, S.K.: The Perspective Wall: Detail and Context Smoothly Integrated. In: *Proceedings of the Conference on Human Factors in Computing Systems (CHI '91)*, pp. 173–179 (Apr 1991)
536. Madhavapeddy, A., Ludlam, N.: Ubiquitous Computing needs to catch up with Ubiquitous Media. In: *Pervasive 2005 UbiApps Workshop (May 2005)*
537. Madhavapeddy, A., Scott, D., Sharp, R., Upton, E.: Using Camera-Phones to Enhance Human-Computer Interaction. In: *Sixth International Conference on Ubiquitous Computing (Adjunct Proceedings: Demos) (2004)*
538. Maizel, J., Lenk, R.: Enhanced Graphic Matrix Analysis of Nucleic Acid and Protein Sequences. In: *Proceedings of the National Academy of Science*, pp. 7665–7669 (1981)
539. Malik, S., Laszlo, J.: Visual Touchpad: A Two-Handed Gestural Input Device. In: *ICMI '04: Proceedings of the 6th international conference on Multimodal interfaces*, pp. 289–296. ACM Press, New York, NY (2004)
540. Malik, S., Ranjan, A., Balakrishnan, R.: Interacting with large displays from a distance with vision-tracked multi-finger gestural input. In: *UIST '05: Proceedings of the 18th annual ACM symposium on User interface software and technology*, pp. 43–52. ACM Press, New York, NY (2005)
541. Malmi, L., Karavirta, V., Korhonen, A., Nikander, J., Seppälä, O., Silvasti, P.: Visual Algorithm Simulation Exercise System with Automatic Assessment: TRAKLA2. *Informatics in Education* 3(2), 267–288 (2004)
542. Manning, J., Atallah, M.J., Cudjoe, K., Lozito, J., Pacheco, R.: A System for Drawing Graphs with Geometric Symmetry. In: Tamassia, R., Tollis, I.(Y.) G. (eds.) *GD 1994. LNCS*, vol. 894, pp. 262–265. Springer, Berlin Heidelberg (1995)
543. Marchette, D.J., Solka, J.L.: Using Data Images for Outlier Detection. *Computational Statistics & Data Analysis* 43, 541–552 (2003)
544. Mardia, K.V.: *Multivariate Analysis*. Academic Press, London (1979)
545. Marketmap: Marketmap, www.smartmoney.com/marketmap (2006)

546. Massie, T., Salisbury, J.: The PHANToM Haptic Interface: A Device for Probing Virtual Objects. In: Proceedings of the ASME Winter Annual Meeting, Symposium on Haptic Interfaces for Virtual Environments and Teleoperator Systems, Chicago, USA, pp. 295–302 (Nov 1994)
547. Maybury, M., Lee, J.: The Structure of Multimodal Dialogue - Multimedia and Multimodal Interaction Structure, vol. 2, pp. 295–308. John Benjamins, Amsterdam/Philadelphia (2000)
548. Mayhew, D.: The usability engineering cycle. Morgan Kaufmann Publishers, San Francisco, CA (1999)
549. Mayor, C., Brudno, M., Schwartz, J.R., Poliakov, A., Rubin, E.M., Frazer, K.A., Pachter, L.S., Dubchak, I.: VISTA: Visualizing global DNA sequence alignments of arbitrary length. *Bioinformatics* 16(11), 1046–1047 (2000)
550. McCormick, B., DeFanti, T., Brown, M.: Visualization in Scientific Computing. Technical report, The National Science Foundation (NSF) (1987)
551. McDonnell, K.T., Qin, H., Wlodarczyk, R.A.: Virtual clay: a real-time sculpting system with haptic toolkits. In: SI3D '01: Proceedings of the 2001 symposium on Interactive 3D graphics, pp. 179–190. ACM Press, New York, NY (2001)
552. McGrath, C., Blythe, J., Krackhardt, D.: Seeing Groups in Graph Layouts. *Connections* 19, 22–29 (1996)
553. McGrath, C., Blythe, J., Krackhardt, D.: The effect of spatial arrangement on judgments and errors in interpreting graphs. *Social Networks* 19, 223–242 (1997)
554. McMillan, W.W.: The robot's sense of touch: Some lessons from human taction. In: CSC '84: Proceedings of the ACM 12th annual computer science conference on SIGCSE symposium, pp. 95–97. ACM Press, New York, NY (1984)
555. Medina-Sánchez, M., Lázaro-Carrascosa, C., Pareja-Flores, C., Urquiza-Fuentes, J., Velázquez-Iturbide, J.: Empirical Evaluation of Usability of Animations in a Functional Programming Environment. In: Technical report, Departamento de Sistemas Informáticos y Programación, Universidad Complutense de Madrid. Technical report 141/04 (2004)
556. Mehrabian, A.: Communication Without Words. *Psychology today : a general magazine about the disciplines of psychology* 2(4) (1968)
557. Meissner, M., Zuiderveld, K., Harris, G., Lesser, J.R., Persson, A., Vannier, M.: Panel: End Users' Perspectives on Volume Rendering in Medical Imaging: A job well done or not over yet?. In: Proceedings IEEE Visualization, pp. 711–714. IEEE Computer Society Press, Los Alamitos, CA (2005)
558. Mine, M.R.: Virtual Environment Interaction Techniques. Technical report, University of North Carolina at Chapel Hill (1995)
559. Mine, M.R., Frederick, J., Brooks, P., Sequin, C.H.: Moving objects in space: exploiting proprioception in virtual-environment interaction. In: SIGGRAPH '97: Proceedings of the 24th annual conference on Computer graphics and interactive techniques, pp. 19–26. Addison-Wesley/ACM Press, New York, NY (1997)
560. Minnotte, M.C., Webster, R.: The Data Image: A Tool for Exploring High Dimensional Data Sets. In: 1998 Proceedings of the ASA Section on Statistical Graphics, pp. 25–33 (1998)
561. Mitchell, K., Race, N.J.P., Clarke, M.: CANVIS: Context-aware network visualization using smartphones. In: MobileHCI '05: Proceedings of the 7th international conference on Human computer interaction with mobile devices & services, pp. 175–182. ACM Press, New York, NY (2005)
562. Miyaoku, K., Higashino, S., Tonomura, Y.: C-blink: A hue-difference-based light signal marker for large screen interaction via any mobile terminal. In: UIST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology, pp. 147–156. ACM Press, New York, NY (2004)

563. Moeslund, T.B., Granum, E.: A Survey of Computer Vision-Based Human Motion Capture. *Comput. Vis. Image Underst.* 81(3), 231–268 (2001)
564. Moeslund, T.B., Storrang, M., Granum, E.: A Natural Interface to a Virtual Environment through Computer Vision-Estimated Pointing Gestures. In: *Gesture Workshop*, pp. 59–63 (2001)
565. Monkman, G., Taylor, P.: Thermal Tactile Sensing. *IEEE Trans. Rob. Automat* 9(3), 313–318 (1993)
566. Monmonier, M.: Geographic Brushing: Enhancing Exploratory Analysis of the Scatterplot Matrix. *Geographical Analysis* 21(1), 81–84 (1989)
567. Moody, J.: Peer Influence Groups - Identifying Dense Clusters in Large Networks. *Social Networks* 23, 261–283 (2001)
568. Moreno, A., Myller, N.: Producing an Educationally Effective and Usable Tool for Learning, The Case of the Jeliot Family. In: *Proceedings of International Conference on Networked e-learning for European Universities (CD-ROM publication)* (2003)
569. Moreno, A., Myller, N., Sutinen, E., Ben-Ari, M.: Visualizing programs with Jeliot 3. In: *AVI*, pp. 373–376 (2004)
570. Morgan, D.: *Focus groups as qualitative research*, 2nd edn. Sage, Thousand Oaks, CA (1997)
571. Morris, C.J., Ebert, D.S., Rheingans, P.L.: Experimental analysis of the effectiveness of features in Chernoff faces. *28th AIPR Workshop: 3D Visualization for Data Exploration and Decision Making* 3905(1), 12–17 (2000)
572. Morris, C.J., Ebert, D.S., Rheingans, P.L.: Experimental Analysis of the Effectiveness of Features in Chernoff Faces. In: *28th AIPR Workshop: 3D Visualization for Data Exploration and Decision Making*, Proc. of SPIE, vol. 3905, pp. 12–17 (2000)
573. Morris, M.R., Paepcke, A., Winograd, T., Stamberger, J.: TeamTag: Exploring Centralized Versus Replicated Controls for Co-Located Tabletop Groupware. In: *CHI '06: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 1273–1282. ACM Press, New York, NY (2006)
574. Morris, S.A., Asnake, B., Yen, G.G.: Dendrogram seriation using simulated annealing. *Information Visualization* 2(2), 95–104 (2003)
575. Morrison, A., Chalmers, M.: A pivot-based routine for improved parent-finding in hybrid MDS. *Information Visualization* 3(2), 109–122 (2004)
576. Morrison, A., Ross, G., Chalmers, M.: Fast multidimensional scaling through sampling, springs and interpolation. *Information Visualization* 2(1), 68–77 (2003)
577. Morrison, G.D.: A Camera-Based Input Device for Large Interactive Displays. *IEEE Computer Graphics and Applications* 25(4), 52–57 (2005)
578. Morrison, G.D., Holmgren, D.: Toward a Touch-Sensitive Display Wall. *SID Symposium Digest of Technical Papers* 34(1), 1458–1461 (2003)
579. Morrison, J.B., Bétrancourt, M., Tversky, B.: Animation: Does it Facilitate Learning. In: *Proceedings of the AAAI 2000 Spring Symposium Smart Graphics*, pp. 53–60 (2000)
580. Moskal, B., Lurie, D., Cooper, S.: Evaluating the effectiveness of a new instructional approach. *SIGCSE Bull.* 36(1), 75–79 (2004)
581. Moustakides, G., Botto, J.-L.: Stabilizing the fast Kalman algorithms (see also *IEEE Transactions on Signal Processing*). *IEEE Transactions on Acoustics, Speech, and Signal Processing* 37, 1342–1348 (1989)
582. Müldner, T., Shakshuki, E., Kerren, A., Shen, Z., Bai, X.: Using Structured Hypermedia to Explain Algorithms. In: *Proceedings of the 3rd IADIS International Conference e-Society '05*, pp. 499–503. IADIS (2005)

583. Munzner, T., Guimbretière, F., Tasiran, S., Zhang, L., Zhou, Y.: TreeJuxtaposer: Scalable Tree Comparison Using Focus+Context with Guaranteed Visibility. *ACM Transactions on Graphics (SIGGRAPH'03)* 22(3), 453–462 (2003)
584. Munzner, T.: Exploring Large Graphs in 3D Hyperbolic Space. *IEEE Comput. Graph. Appl.* 18(4), 18–23 (1998)
585. Munzner, T.: Interactive visualization of large graphs and networks. PhD thesis, Stanford University (2000)
586. Myers, B.A.: Visual programming, programming by example, and program visualization: a taxonomy. In: *Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 59–66. ACM Press, New York, NY (1986)
587. Myers, B.A.: Taxonomies of Visual Programming and Program Visualization. *Journal of Visual Languages and Computing* 1(1), 97–1232 (1990)
588. Myers, B.A., Bhatnagar, R., Nichols, J., Peck, C.H., Kong, D., Miller, R., Long, A.C.: Interacting at a distance: measuring the performance of laser pointers and other devices. In: *CHI '02: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 33–40. ACM Press, New York, NY (2002)
589. Myers, B.A., Peck, C.H., Nichols, J., Kong, D., Miller, R.: Interacting at a Distance Using Semantic Snarfing. In: *Abowd, G.D., Brumitt, B., Shafer, S. (eds.) Ubicomp 2001: Ubiquitous Computing. LNCS, vol. 2201*, pp. 305–314. Springer, Berlin Heidelberg (2001)
590. Nakatani, M., Kajimoto, H., Kawakami, N., Tachi, S.: Tactile sensation with high-density pin-matrix. In: *APGV '05: Proceedings of the 2nd symposium on Applied perception in graphics and visualization*, pp. 169–169. ACM Press, New York, NY (2005)
591. Naps, T.L.: JHAVé – Addressing the Need to Support Algorithm Visualization with Tools for Active Engagement. In: *IEEE Computer Graphics and Applications, IEEE Computer Society Press, Los Alamitos, CA* (2005)
592. Naps, T.L., Bressler, E.: A multi-windowed environment for simultaneous visualization of related algorithms on the World Wide Web. In: *SIGCSE '98: Proceedings of the twenty-ninth SIGCSE technical symposium on Computer science education*, pp. 277–281. ACM Press, New York, NY (1998)
593. Naps, T.L., Cooper, S., Koldehofe, B., Leska, C., Röbbling, G., Dann, W., Korhonen, A., Malmi, L., Rantakokko, J., Ross, R.J., Anderson, J., Fleischer, R., Kuittinen, M., McNally, M.: Evaluating the educational impact of visualization. *SIGCSE Bull.* 35(4), 124–136 (2003)
594. T. L. Naps and S. Grissom. The effective use of quicksort visualizations in the classroom. *J. Comput. Small Coll.*, 18(1):88–96, 2002.
595. Naps, T.L., Röbbling, G., Almstrum, V., Dann, W., Fleischer, R., Hundhausen, C., Korhonen, A., Malmi, L., McNally, M., Rodger, S., Velázquez-Iturbide, J.A.: Exploring the role of visualization and engagement in computer science education. In: *ITiCSE-WGR '02: Working group reports from ITiCSE on Innovation and technology in computer science education*, pp. 131–152. ACM Press, New York, NY (2002)
596. NASA Advanced Supercomputing Division (NAS). Flow Analysis Software Toolkit (FAST), <http://www.nas.nasa.gov/Resources/Software/swdescriptions.html> 2006
597. Nass, C., Steuer, J., Tauber, E.R.: Computers are social actors. In: *CHI '94: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 72–78. ACM Press, New York, NY (1994)
598. National Research Council, Committee on Intersections Between Geospatial Information and Information Technology: IT Roadmap to a Geospatial Future. National Academies Press (2003)
599. NaturalPoint® Inc.: OptiTrack™, <http://www.naturalpoint.com> (2006)
600. NCSA. Habanero, <http://www.isrl.uiuc.edu/isaac/Habanero/> (2006)

601. Neale, D.C., Carroll, J.M., Rosson, M.B.: Evaluating Computer-Supported Cooperative Work: Models and Frameworks. In: ACM Conference on Computer Supported Cooperative Work (CSCW '04), pp. 112–121. ACM Press, New York, NY (2004)
602. Nesbitt, K., Barrass, S.: Finding trading patterns in stock market data. *IEEE Computer Graphics and Applications* 24(5), 45–55 (2004)
603. Newsmap: Newsmap, <http://www.marumushi.com/apps/newsmap/newsmap.cfm> (2006)
604. Ni, T., Schmidt, G.S., Staadt, O.G., Livingston, M.A., Ball, R., May, R.: A Survey of Large High-Resolution Display Technologies, Techniques, and Applications. In: VR 2006: Proceedings of the IEEE International Virtual Reality Conference, IEEE Computer Society Press, Los Alamitos, CA (2006)
605. Nickel, K., Stiefelhagen, R.: Pointing gesture recognition based on 3D-tracking of face, hands, and head-orientation. In: Proceedings of the International Conference on Multimodal Interfaces, pp. 140–146 (2002)
606. Nielsen, J.: Usability Engineering. Morgan Kaufmann, San Francisco (1994)
607. Nielsen, J., Levy, J.: Measuring usability: Preference vs. performance. *Communications of the ACM* 37(4), 66–75 (1994)
608. Nielson, G.M., Hagen, H., Müller, H. (eds.): Scientific Visualization: Overviews, Methodologies, and Techniques. IEEE Computer Society Press, Los Alamitos, CA (1997)
609. Nijholt, A.: Algorithms in Ambient Intelligence. In: Multimodality and Ambient Intelligence. Philips Research Book Series, vol. 2, pp. 21–53. Kluwer Academic Publishers, Dordrecht (2003)
610. Nijholt, A., Hondorp, H.: Towards communicating agents and avatars in virtual worlds. In: Proceedings EUROGRAPHICS 2000, pp. 91–95 (August 2000)
611. Nijholt, A., Rist, T., Tuijnbreijer, K.: Lost in ambient intelligence?. In: CHI '04: CHI '04 extended abstracts on Human factors in computing systems, pp. 1725–1726. ACM Press, New York, NY (2004)
612. Nixon, M.A., McCalum, B.C., Fright, W.R., Price, N.B.: The Effects of Metals and Interfering Fields on Electromagnetic Trackers. *Presence* 7(2), 204–218 (1998)
613. National Library of Medicine, <http://www.nlm.nih.gov>
614. noDNA GmbH Realtime Interactive Solutions. X-IST DataGlove, <http://www.nodna.com> (2006)
615. Nöllenburg, M., Wolff, A.: A Mixed-Integer Program for Drawing High-Quality Metro Maps. In: Healy, P., Nikolov, N.S. (eds.) GD 2005. LNCS, vol. 3843, pp. 321–333. Springer, Berlin Heidelberg (2006)
616. Norman, D.: The Design of Everyday Things. MIT Press, Cambridge, MA (1988)
617. North, C., Rhyne, T.-M., Duca, K.: Bioinformatics Visualization: Introduction to the Special Issue. *Information Visualization* 4(3), 147–148 (2005)
618. North, C., Shneiderman, B.: Snap-together visualization: can users construct and operate coordinated visualizations?. *International Journal of Human-Computer Studies* 53(5), 715–741 (2000)
619. North, C., Shneiderman, B., Plaisant, C.: User controlled overviews of an image library: A case study of the Visible Human. In: Proceedings of the 1st ACM International Conference on Digital Libraries (DL'96), pp. 74–82. ACM Press, New York, NY (1995)
620. Northern Digital Inc. (NDI): Polaris®, <http://www.ndigital.com/> (2006)
621. Nowell, L., Hetzler, E., Tanasse, T.: Change blindness in information visualization: a case study. In: IEEE Symposium on Information Visualization (InfoVis 2001), pp. 15–22. IEEE Computer Society Press, Los Alamitos, CA (2001)

622. Odell, D.L., Davis, R.C., Smith, A., Wright, P.K.: Toolglasses, marking menus, and hotkeys: a comparison of one and two-handed command selection techniques. In: GI '04: Proceedings of the 2004 conference on Graphics interface, pp. 17–24. Canadian Human-Computer Communications Society (2004)
623. Oh, J.-Y., Stuerzlinger, W.: Laser Pointers as Collaborative Pointing Devices. In: GI '02: Proceedings of the 2002 Conference on Graphics Interface (2002)
624. Olsen Jr., D.R., Nielsen, T.: Laser Pointer Interaction. In: CHI '01: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 17–22. ACM Press, New York, NY (2001)
625. Olwal, A., Feiner, S.: Interaction techniques using prosodic features of speech and audio localization. In: IUI '05: Proceedings of the 10th international conference on Intelligent user interfaces, pp. 284–286. ACM Press, New York, NY (2005)
626. ONERA/DRIS: CEC Projects, <http://visu-www.onera.fr/> (2006)
627. Ostry, D.I.: Some Three-Dimensional Graph Drawing Algorithms. Master's thesis, Department of Computer Science and Software Engineering, The University of Newcastle, Australia (1996)
628. Otten, R.H.J.M., van Wijk, J.J.: Graph representations in interactive layout design. In: Proceedings IEEE International Symposium on Circuits and Systems, pp. 914–918. IEEE Computer Society Press, Los Alamitos, CA (1978)
629. Oviatt, S.L.: Mutual disambiguation of recognition errors in a multimodal architecture. In: CHI '99: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 576–583. ACM Press, New York, NY (1999)
630. Oviatt, S.L.: Ten myths of multimodal interaction. *Commun. ACM* 42(11), 74–81 (1999)
631. Oviatt, S.L.: Multimodal Interfaces. In: Oviatt, S.L. (ed.) *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications*, pp. 286–304. Lawrence Erlbaum Associates, Mahwah, NJ (2003)
632. Oviatt, S.L., Cohen, P.R.: Multimodal Interfaces That Process What Comes Naturally. *Communications of the ACM* 43(3), 45–53 (2000)
633. Oviatt, S.L., Coulston, R., Tomko, S., Xiao, B., Lunsford, R., Wesson, M., Carmichael, L.: Toward a theory of organized multimodal integration patterns during human-computer interaction. In: ICMI '03: Proceedings of the 5th international conference on Multimodal interfaces, pp. 44–51. ACM Press, New York, NY (2003)
634. Owen, C.B., Xiao, F., Middlin, P.: What is the best fiducial?. In: Proceedings of the First IEEE International Augmented Reality Toolkit Workshop, pp. 98–105. IEEE Computer Society Press, Los Alamitos, CA (2002)
635. Pagendarm, H.-G.: HIGHEND, A Visualization System for 3d Data with Special Support for Postprocessing of Fluid Dynamics Data. In: Eurographics Workshop on Visualization in Scientific Computing (1990)
636. Pagendarm, H.-G., Walter, B.: A Prototype of a Cooperative Workplace for Aerodynamicists. *Comput. Graph. Forum* 12(3), 485–496 (1993)
637. Pang, A.: Spray Rendering. *IEEE Comput. Graph. Appl.* 14(5), 57–63 (1994)
638. Pang, A., Wittenbrink, C.: Collaborative 3D Visualization with CSpray. *IEEE Comput. Graph. Appl.* 17(2), 32–41 (1997)
639. Pang, A., Wittenbrink, C.M., Goodman, T.: CSpray: A Collaborative Scientific Visualization Application. In: Proceedings of the 1995 SPIE Conference on Multimedia Computing and Networking (MMCN 1995), pp. 317–326. ACM SIGMM/SPIE, Society of Photo-Optical Instrumentation Engineers (March 1995)

640. Park, J.-M., Choi, J.-H., Jung, J.-Y., Park, S.-H.: Design and Implementation of Navigation System for Protein Interaction Networks. In: 15th International Conference on Genome Informatics (2004)
641. Parker, J.K., Mandryk, R.L., Inkpen, K.M.: TractorBeam: Seamless integration of local and remote pointing for tabletop displays. In: GI '05: Proceedings of the 2005 conference on Graphics interface, pp. 33–40. Canadian Human-Computer Communications Society (2005)
642. Patterson, E., Woods, D., Tinapple, D., Roth, E., Finley, J., Kuperman, G.: Aiding the Intelligence Analyst in Situations of Data Overload: From Problem Definition to Design Concept Exploration, ERGO-CSEL 01-TR-01. Technical report, Institute for Ergonomics/Cognitive Systems Engineering Lab., The Ohio State University, Columbus OH (2001)
643. Pausch, R., Burnette, T., Brockway, D., Weiblen, M.E.: Navigation and locomotion in virtual worlds via flight into hand-held miniatures. In: SIGGRAPH '95: Proceedings of the 22nd annual conference on Computer graphics and interactive techniques, pp. 399–400. ACM Press, New York, NY (1995)
644. Peng, W., Ward, M.O., Rundensteiner, E.A.: Clutter Reduction in Multi-Dimensional Data Visualization Using Dimension Reordering. In: Proceedings of the IEEE Symposium on Information Visualization, pp. 89–96. IEEE Computer Society Press, Los Alamitos, CA (2004)
645. Pennisi, E.: Modernizing the Tree of Life. *Science* 300, 1692–1697 (2003)
646. Perlin, K., Fox, D.: Pad: An Alternative Approach to the Computer Interface. In: Proceedings of the 20th Annual ACM Conference on Computer Graphics (SIGGRAPH '93), pp. 57–64. ACM Press, New York, NY (1993)
647. Pickering, J.A.: Touch-Sensitive Screens: The Technologies and Their Application. *International Journal of Man.-Machine Studies* 25(3), 249–269 (1986)
648. Pierce, J.S., Forsberg, A.S., Conway, M.J., Hong, S., Zeleznik, R.C., Mine, M.R.: Image plane interaction techniques in 3D immersive environments. In: SI3D '97: Proceedings of the 1997 symposium on Interactive 3D graphics, p. 39. ACM Press, New York, NY (1997)
649. Pierce, J.S., Stearns, B.C., Pausch, R.: Voodoo dolls: seamless interaction at multiple scales in virtual environments. In: SI3D '99: Proceedings of the 1999 symposium on Interactive 3D graphics, pp. 141–145. ACM Press, New York, NY (1999)
650. Plaisant, C.: The Challenge of Information Visualization Evaluation. In: Working conference on Advanced Visual Interfaces, pp. 109–116. ACM Press, New York, NY (2004)
651. Plaisant, C.: Information Visualization and the Challenge of Universal Usability. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 53–82. Elsevier, Amsterdam (2005)
652. Plaisant, C., Carr, D., Shneiderman, B.: Image-browser taxonomy and guidelines for designers. *IEEE Software* 12(2), 21–32 (1995)
653. Plaisant, C., Grosjean, J., Bederson, B.B.: SpaceTree: Supporting Exploration in Large Node Link Tree, Design Evolution and Empirical Evaluation. In: *IEEE Symposium on Information Visualization (InfoVis 2002)*, pp. 57–64. IEEE Computer Society Press, Los Alamitos, CA (2002)
654. Plaisant, C., Milash, B., Rose, A., Widoff, S., Shneiderman, B.: LifeLines: visualizing personal histories. In: *CHI '96: Proceedings of the SIGCHI conference on Human factors in computing systems*, p. 221. ACM Press, New York, NY (1996)
655. Plaue, C., Miller, T., Stasko, J.: Is a picture worth a thousand words? An Evaluation of Information Awareness Displays. In: *Conference on Graphics Interface*, pp. 117–126. Canadian Human-Computer Communications Society (2004)
656. Polhemus: Fastrack, <http://www.polhemus.com> (2006)

657. Pollack, S., Ben-Ari, M.: Selecting a Visualization System. In: Proceedings of the Third Program Visualization Workshop, pp. 134–140 (July 2004)
658. Pook, S., Lecolinet, E., Vaysseix, G., Barillot, E.: Context and Interaction in Zoomable User Interfaces. In: Proceedings of the 5th International Working Conference on Advanced Visual Interfaces (AVI'00), pp. 227–231. ACM Press, New York, NY (2000)
659. Poppe, R.: Vision-Based Human Motion Analysis: An Overview. *Computer Vision and Image Understanding (CVIU)*, 2007. To appear
660. Post, F.H., Vrolijk, B., Hauser, H., Laramee, R.S., Doleisch, H.: The State of the Art in Flow Visualization: Feature Extraction and Tracking. *Computer Graphics Forum* 22(4), 775–792 (2003)
661. Poupyrev, I., Ichikawa, T.: Manipulating Objects in Virtual Worlds: Categorization Empirical Evaluation of Interaction Techniques. *Journal of Visual Languages and Computing* 10(1), 19–35 (1999)
662. Poupyrev, I., Weghorst, S., Fels, S.: Non-isomorphic 3D rotational techniques. In: CHI '00: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 540–547. ACM Press, New York, NY (2000)
663. Pouteau, X.: Interpretation of Gestures and Speech: A Practical Approach to Multimodal Communication. In: Bunt, H., Beun, R.-J. (eds.) CMC 1998. LNCS (LNAI), vol. 2155, pp. 28–30. Springer, Berlin Heidelberg (2001)
664. Preece, J., Rogers, Y., Sharp, H.: *Interaction Design: Beyond Human-Computer Interaction*. John Wiley and Sons, New York (2002)
665. Pressman, R., Ince, D.: *Software Engineering*, 5th edn. McGraw-Hill, New York, NY (2000)
666. Price, B.A., Baecker, R.M., Small, I.S.: A principled Taxonomy of Software Visualization. *Journal of Visual Languages and Computing* 4(1), 211–266 (1993)
667. Pruitt, J., Grudin, J.: Personas: practice and theory. In: Conference on Designing for User Experiences, pp. 1–15. ACM Press, New York, NY (2003)
668. Purchase, H.C.: Which Aesthetic has the Greatest Effect on Human Understanding?. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 248–261. Springer, Berlin Heidelberg (1997)
669. Purchase, H.C.: Which Aesthetic has the Greatest Effect on Human Understanding. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 284–290. Springer, Berlin Heidelberg (1997)
670. Purchase, H.C.: Performance of Layout Algorithms: Comprehension, not Computation. *Journal of Visual Languages and Computing* 9(6), 647–657 (1998)
671. Purchase, H.C.: Effective information visualisation: a study of graph drawing aesthetics and algorithms. *Interacting with Computers* 13(2), 147–162 (2000)
672. Purchase, H.C., Alder, J.-A., Carrington, D.A.: User Preference of Graph Layout Aesthetics: A UML Study. In: Marks, J. (ed.) GD 2000. LNCS, vol. 1984, pp. 5–18. Springer, Berlin Heidelberg (2001)
673. Purchase, H.C., Alder, J.-A., Carrington, D.A.: Graph Layout Aesthetics in UML Diagrams: User Preferences. *Journal of Graph Algorithms and Applications* 6(3), 255–279 (2002)
674. Purchase, H.C., Carrington, D.A., Alder, J.-A.: Experimenting with Aesthetics-Based Graph Layout. In: Anderson, M., Cheng, P., Haarslev, V. (eds.) *Diagrams 2000*. LNCS (LNAI), vol. 1889, pp. 1–3. Springer, Berlin Heidelberg (2000)
675. Purchase, H.C., Carrington, D.A., Alder, J.-A.: Empirical Evaluation of Aesthetics-based Graph Layout. *Empirical Software Engineering* 7(3), 233–255 (2002)
676. Purchase, H.C., Cohen, R.F., James, M.: Validating Graph Drawing Aesthetics. In: Brandenburg, F.J. (ed.) GD 1995. LNCS, vol. 1027, pp. 435–446. Springer, Berlin Heidelberg (1996)

677. Purchase, H.C., Cohen, R.F., James, M.I.: An Experimental Study of the Basis for Graph Drawing Algorithms. *ACM Journal of Experimental Algorithms* 2, 4 (1997)
678. Qeli, E., Wiechert, W., Freisleben, B.: Visualizing Time-Varying Matrices Using Multidimensional Scaling and Reorderable Matrices. In: *Proceedings of the 2004 International Conference on Information Visualization (IV2004)*, London, UK, pp. 561–567. IEEE Computer Society Press, Los Alamitos, CA (2004)
679. Qeli, E., Wiechert, W., Freisleben, B.: The Time-Dependent Reorderable Matrix Method for Visualizing Evolving Tabular Data. In: *Proceedings of the 2005 IST/SPIE Conference on Visualization and Data Analysis*, San Jose, USA, pp. 199–207. SPIE (2005)
680. Qeli, E., Wiechert, W., Freisleben, B.: Visual Exploration of Time-Varying Matrices. In: *Proceedings of the 2005 International Conference on Information Visualization (IV2005)*, London, UK, pp. 889–895. IEEE Computer Society Press, Los Alamitos, CA (2005)
681. Qualisys Motion Capture Systems: ProReflex MCU Digital Cameras, <http://www.qualisys.com/proreflex.html> (2006)
682. Quek, F., Mysliwicz, T., Zhao, M.: FingerMouse: A Freehand Computer Pointing Interface. In: *Proceedings of International Conference on Automatic Face and Gesture Recognition*, pp. 372–377 (1995)
683. Quesenbery, W.: The Five dimensions of Usability. In: *Content and Complexity: Information Design in Technical Communication*, Lawrence Erlbaum Associates, Mahwah, NJ (2003)
684. Quigley, A., Eades, P.: FADE: Graph Drawing, Clustering, and Visual Abstraction. In: Marks, J. (ed.) *GD 2000*. LNCS, vol. 1984, pp. 197–210. Springer, Berlin Heidelberg (2001)
685. Qvarfordt, P., Jönsson, A., Dahlbäck, N.: The role of spoken feedback in experiencing multimodal interfaces as human-like. In: *ICMI '03: Proceedings of the 5th international conference on Multimodal interfaces*, pp. 250–257. ACM Press, New York, NY (2003)
686. Qvarfordt, P., Zhai, S.: Conversing with the user based on eye-gaze patterns. In: *CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 221–230. ACM Press, New York, NY (2005)
687. Raje, R.R., Boyles, M., Fang, S.: CEV: Collaborative Environment for Visualization Using Java-RMI. *Concurrency - Practice and Experience* 10(11-13), 1079–1085 (1998)
688. Ramage, M.: *The Learning Way: Evaluation of Cooperative Systems*. PhD thesis, Lancaster University (1999)
689. Randhawa, B., Coffman, W. (eds.): *Visual Learning, Thinking and Communication*. San Francisco, New York, San Francisco, London (1978)
690. Rao, R., Card, S.K.: The Table Lens: Merging Graphical and Symbolic Representations in an Interactive Focus+Context Visualization for Tabular Information. In: *Proceedings of ACM CHI '94 Conference on Human Factors in Computing Systems*, pp. 318–322. ACM Press, New York, NY (1994)
691. Rao, R., Card, S.K.: The Table Lens: Merging Graphical and Symbolic Representations in an Interactive Focus+Context Visualization for Tabular Information. In: *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '94)*, pp. 318–322. ACM Press, New York, NY (1994)
692. Rauwerda, H., Roos, M., Hertzberger, B., Breit, T.: The promise of a virtual lab in drug discovery. *Drug Discovery Today* 11, 228–236 (2006)
693. Reeves, B., Nash, C.: *The media equation: How people treat computers, television, and new media like real people and places*. CSLI Publications, Cambridge University Press (1996)

694. Reeves, L.M., Lai, J., Larson, J.A., Oviatt, S.L., Balaji, T.S., Buisine, S., Collings, P., Cohen, P.R., Kraal, B., Martin, J.-C., McTear, M., Raman, T., Stanney, K.M., Su, H., Wang, Q.Y.: Guidelines for multimodal user interface design. *Commun. ACM* 47(1), 57–59 (2004)
695. Reidsma, D., Jovanovic, N., Hofs, D.: Designing Annotation Tools based on Properties of Annotation Problems. Technical Report 04-45, CTIT (2004)
696. Reidsma, D., op den Akker, H., Rienks, R., Poppe, R., Nijholt, A., Heylen, D., Zwiers, J.: Virtual Meeting Rooms: From Observation to Simulation. In: *Proceedings Social Intelligence Design 2005*, p. 15 (March 2005)
697. Reingold, E.M., Tilford, J.S.: Tidier Drawing of Trees. *IEEE Transactions on Software Engineering* SE-7(2), 223–228 (1981)
698. Rekimoto, J.: Tilting operations for small screen interfaces. In: *UIST '96: Proceedings of the 9th annual ACM symposium on User interface software and technology*, pp. 167–168. ACM Press, New York, NY (1996)
699. Rekimoto, J.: Pick-and-drop: a direct manipulation technique for multiple computer environments. In: *UIST '97: Proceedings of the 10th annual ACM symposium on User interface software and technology*, pp. 31–39. ACM Press, New York, NY (1997)
700. Rekimoto, J., Ayatsuka, Y.: CyberCode: Designing augmented reality environments with visual tags. In: *Designing Augmented Reality Environments*, pp. 1–10 (2000)
701. Rekimoto, J., Matsushita, N.: Perceptual Surfaces: Towards a Human and Object Sensitive Interactive Display. In: *Proceedings of the ACM Workshop on Perceptive User Interfaces*, ACM Press, New York, NY (1997)
702. Rensink, R.A., O'Regan, J.K., Clark, J.J.: To See or Not to See: The Need for Attention to Perceive Changes in Scenes. *Psychological Science* 8, 368–373 (1997)
703. Repenning, A., Sumner, T.: Agentsheets: A Medium for Creating Domain-Oriented Visual Languages. *Computer* 28(3), 17–25 (1995)
704. Repokari, L., Saarela, T., Kurki, I.: Visual search on a mobile phone display. In: *SAICSIT '02: Proceedings of the 2002 annual research conference of the South African institute of computer scientists and information technologists on Enablement through technology*, pp. 253–253. South African Institute for Computer Scientists and Information Technologists (2002)
705. Rhodes, P.J., Laramée, R.S., Bergeron, R.D., Sparr, T.M.: Uncertainty Visualization Methods in Isosurface Rendering. In: *Eurographics 2003, Short Papers*, pp. 83–88. The Eurographics Association, September 1-5 (2003)
706. Rhyne, T.-M., Hibbard, B., Johnson, C., Chen, C., Eick, S.: Panel: Can We Determine the Top Unresolved Problems of Visualization?. In: *Proceedings IEEE Visualization*, pp. 563–565. IEEE Computer Society Press, Los Alamitos, CA (2004)
707. Rienks, R., Reidsma, D.: Meeting Annotation: a Framework for Corpus Based Research on Human-Human Interaction (June 2004)
708. Ridsen, K., Czerwinski, M.P., Munzner, T., Cook, D.B.: An initial examination of ease of use for 2D and 3D information visualizations of web content. *International Journal of Human-Computer Studies* 53(5), 695–715 (2000)
709. Robertson, G.G., Czerwinski, M., Baudisch, P., Meyers, B., Robbins, D., Smith, G., Tan, D.: The Large-Display User Experience. *IEEE Computer Graphics and Applications* 25(4), 44–51 (2005)
710. Robertson, G.G., Czerwinski, M., Larson, K., Robbins, D.C., Thiel, D., van Dantzich, M.: Data mountain: using spatial memory for document management. In: *Proceedings of the 11th annual ACM symposium on User interface software and technology*, pp. 153–162. ACM Press, New York, NY (1998)

711. Robertson, G.G., Horvitz, E., Czerwinski, M., Baudisch, P., Hutchings, D.R., Meyers, B., Robbins, D., Smith, G.: Scalable Fabric: Flexible task management. In: AVI '04: Proceedings of the working conference on Advanced visual interfaces, pp. 85–89. ACM Press, New York, NY (2004)
712. Robertson, G.G., Mackinlay, J.D., Card, S.K.: Cone Trees: Animated 3D Visualizations of Hierarchical Information. In: Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '91), pp. 189–194. ACM Press, New York, NY (1991)
713. Robinson, A.C., Chen, J., Lengerich, E.J., Meyer, H.G., MacEachren, A.M.: Combining Usability Techniques to Design Geovisualization Tools for Epidemiology. In: Proceedings of Auto-Carto (2005)
714. Rodgers, P.: Graph Drawing Techniques for Geographic Visualization. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 143–158. Elsevier, Amsterdam (2005)
715. Rogowitz, B.E., Kalvin, A.D.: The "Which Blair Project": A Quick Visual Method for Evaluating Perceptual Color Maps. In: Proceedings Visualization, pp. 183–190. IEEE Computer Society Press, Los Alamitos, CA (2001)
716. Rohs, M.: Real-World Interaction with Camera Phones. In: Murakami, H., Nakashima, H., Tokuda, H., Yasumura, M. (eds.) UCS 2004. LNCS, vol. 3598, pp. 74–89. Springer, Berlin Heidelberg (2005)
717. Rolland, J.P., Davis, L.D., Baillot, Y.: A Survey of Tracking Technologies for Virtual Environments. In: Fundamentals of Wearable Computers and Augmented Reality, pp. 67–112. Lawrence Erlbaum Associates, Mahwah, NJ (2001)
718. Röbling, G., Schüler, M., Freisleben, B.: The ANIMAL algorithm animation tool. In: ITiCSE '00: Proceedings of the 5th annual SIGCSE/SIGCUE Conference on Innovation and technology in computer science education (ITiCSE'00), pp. 37–40. ACM Press, New York, NY (2000)
719. Rost, U., Bornberg-Bauer, E.: TreeWiz: interactive exploration of huge trees. *Bioinformatics* 18(1), 109–114 (2002)
720. Roth, S., Mattis, J.: Data Characterization for Intelligent Graphics Presentation. In: CHI '90: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 193–200. ACM Press, New York, NY (1990)
721. Roweis, S.T., Saul, L.K.: Nonlinear Dimensionality Reduction by Locally Linear Embedding. *Science* 290, 2323–2326 (2000)
722. Rubin, J.: Handbook of Usability Testing, How to Plan, Design, and Conduct Effective Tests. John Wiley and Sons, New York (1994)
723. Rusdorf, S., Brunnett, G.: Real time tracking of high speed movements in the context of a table tennis application. In: VRST '05: Proceedings of the ACM symposium on Virtual reality software and technology, pp. 192–200. ACM Press, New York, NY (2005)
724. Russel, S., Norvig, P.: Artificial Intelligence: A Modern Approach, 2nd edn. Prentice-Hall, Englewood Cliffs (2002)
725. Saitek Elektronik Vertriebs GmbH: Cyborg evo Force, <http://www.saitek.com> (2006)
726. Saitek Elektronik Vertriebs GmbH: R440 Force Feedback Wheel, <http://www.saitek.com> (2006)
727. Sammon, J.W.: A Nonlinear Mapping for Data Structure Analysis. *IEEE Transactions on Computers* 18(5), 401–409 (1969)
728. Sandstrom, T.A., Henze, C., Levit, C.: The hyperwall. In: Proceedings of the Conference on Coordinated and Multiple Views In Exploratory Visualization, pp. 124–133. IEEE Computer Society Press, Los Alamitos, CA (2003)
729. Saraiya, P., Lee, P., North, C.: Visualization of Graphs with Associated Time-series Data. In: INFOVIS '05: Proceedings of the 2005 IEEE Symposium on

- Information Visualization, IEEE Computer Society Press, Los Alamitos, CA (2005)
730. Saraiya, P., North, C., Duca, K.: An Evaluation of Microarray Visualization Tools for Biological Insight. In: 10th IEEE Symposium on Information Visualization, pp. 1–8. IEEE Computer Society Press, Los Alamitos, CA (2004)
 731. Saraiya, P., North, C., Duca, K.: An Insight-Based Methodology for Evaluating Bioinformatics Visualizations. *IEEE Transactions on Visualization and Computer Graphics* 11(4), 443–456 (2005)
 732. Saraiya, P., North, C., Duca, K.: Visualizing biological pathways: requirements analysis, systems evaluation and research agenda. *Information Visualization* 4(3), 191–205 (2005)
 733. Sawhney, N., Schmandt, C.: Nomadic radio: speech and audio interaction for contextual messaging in nomadic environments. *ACM Trans. Comput.-Hum. Interact.* 7(3), 353–383 (2000)
 734. Schaffer, D., Zuo, Z., Greenberg, S., Bartram, L., Dill, J., Dubs, S., Roseman, M.: Navigating Hierarchically Clustered Networks through Fisheye and Full-Zoom Methods. *ACM Transactions on Computer-Human Interaction* 3(2), 162–188 (1996)
 735. Schena, M., Shalon, D., Davis, R.W., Brown, P.O.: Quantitative Monitoring of Gene Expression Patterns with a Complementary DNA Microarray. *Science* 270, 467–470 (1995)
 736. Scheuermann, G., Garth, C., Peikert, R.: Panel: Even more theory, or more practical applications to particular problems. In which direction will Topology-Based Flow Visualization go? In: *Topology-Based Methods in Visualization Workshop*, September 2005. Held in Budmerice, Slovakia (2005)
 737. Schlag, M., Luccio, F., Maestrini, P., Lee, D.T., Wong, C.K.: *Advances in Computing Research, Vol. II, VLSI Theory*, chapter A Visibility Problem in VLSI Layout Compaction. JAI Press Inc (1984)
 738. Schneider, T.D., Stephens, R.M.: Sequence logos: a new way to display consensus sequences. *Nucleic Acids Research* 18(20), 6097–6100 (1990)
 739. Schnyder, W.: Embedding planar graphs on the grid. In: *Proceedings of the first annual ACM-SIAM symposium on Discrete algorithms*, pp. 138–148. Society for Industrial and Applied Mathematics (1990)
 740. Schoenberg, I.J.: Remarks to M. Fréchet’s article *Sur la d’efinition axiomatique d’une classe d’espaces vectoriels distanciés applicables vectoriellement sur l’espace de Hilbert*. *Annals of Mathematics* 36, 724–732 (1935)
 741. Schreiber, F.: High Quality Visualization of Biochemical Pathways in BioPath. In: *Silico Biology* 2(2), 59–73 (2002)
 742. Schroeder, M.: Intelligent Information Integration: From Infrastructure Through Consistency Management to Information Visualization. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 477–494. Elsevier, Amsterdam (2005)
 743. Schroeder, W.J., Martin, K.M., Lorensen, W.E.: *The Visualization Toolkit, An Object-Oriented Approach to 3D Graphics*, 2nd edn. Prentice-Hall, Englewood Cliffs (1998)
 744. Scott, S.D., Carpendale, M.S.T., Habelski, S.: Storage Bins: Mobile Storage for Collaborative Tabletop Displays. *IEEE Computer Graphics and Applications* 25(4), 58–65 (2005)
 745. Sears, A., Plaisant, C., Shneiderman, B.: A New Era for High Precision Touchscreens. In: *Advances in Human-Computer Interaction*, vol. 3, pp. 1–33. Ablex Publishing, Greenwich CT (1992)
 746. Segen, J., Kumar, S.: Look ma, no mouse! *Communications of the ACM* 43(7), 102–109 (2000)

747. Seisenberger, K.: Termgraph: Ein system zur zeichnerischen darstellung von strukturierten agenten und petrinetzen. Technical report, University of Passau (1991)
748. SensAble Technologies: Haptics - Touch it!, <http://www.sensable.com> (2006)
749. Seo, J., Shneiderman, B.: Interactively Exploring Hierarchical Clustering Results. *Computer* 35(7), 80–86 (2002)
750. Seo, J., Shneiderman, B.: A Rank-by-Feature Framework for Unsupervised Multidimensional Data Exploration Using Low Dimensional Projections. In: 10th IEEE Symposium on Information Visualization, pp. 65–72. IEEE Computer Society Press, Los Alamitos, CA (2004)
751. Shafer, S., Shan, Y., Wu, Y., Zhang, Z.: Visual Panel: Virtual Mouse, Keyboard and 3D Controller with an Ordinary Piece of Paper. In: Proceedings of the ACM Workshop on Perceptive User Interfaces, ACM Press, New York, NY (2001)
752. Shah, N., Dillard, S., Weber, G., Hamann, B.: Volume visualization of multiple alignment of large genomic DNA. In: Moeller, T., Hamann, B., Russell, R. (eds.) *Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration*, Springer, Berlin Heidelberg New York (2006)
753. Shanbhag, P., Rheingans, P., desJardins, M.: Temporal Visualization of Planning Polygons for Efficient Partitioning of Geo-Spatial Data. In: Proc. IEEE Symposium on Information Visualization (InfoVis), pp. 211–218. IEEE Computer Society Press, Los Alamitos, CA (2005)
754. Shaner, M.C., Blair, I.M., Schneider, T.D.: Sequence Logos: A Powerful, Yet Simple, Tool. In: Proceedings of the Twenty-Sixth Annual Hawaii International Conference on System Sciences, Volume 1: Architecture and Biotechnology Computing, pp. 813–821. IEEE Computer Society Press, Los Alamitos, CA (1993)
755. Shannon, P., Markiel, A., Ozier, O., Baliga, N.S., Wang, J.T., Ramage, D., Amin, N., Schwikowski, B., Ideker, T.: Cytoscape: A Software Environment for Integrated Models of Biomolecular Interaction Networks. *Genome Research* 13, 2498–2504 (2003)
756. Shi, K., Irani, P., Li, B.: An Evaluation of Content Browsing Techniques for Hierarchical Space-Filling Visualizations. In: Proceedings of the 2005 IEEE Symposium on Information Visualization (INFOVIS'05), p. 11. IEEE Computer Society Press, Los Alamitos, CA (2005)
757. Shiloach, Y.: Arrangements of Planar Graphs on the Planar Lattices. PhD thesis, Weizmann Institute of Science, Rehovot, Israel (1976)
758. Shneiderman, B.: Tree Visualization with Tree-Maps: A 2-D Space-Filling Approach. *ACM Transactions on Graphics* 11(1), 92–99 (1992)
759. Shneiderman, B.: The Eyes Have It: A Task by Data Type Taxonomy for Information Visualization. In: Proceedings of the IEEE Symposium on Visual Languages (VL'96), pp. 336–343. IEEE Computer Society Press, Los Alamitos, CA (1996)
760. Shneiderman, B.: Universal Usability. *Communications of the ACM* 43(5), 84–91 (2000)
761. Shneiderman, B., Maes, P.: Direct manipulation vs. interface agents. *ACM Interactions* 4(6), 42–61 (1997)
762. Shneiderman, B., Plaisant, C.: *Designing the User Interface: Strategies for Effective Human-Computer Interaction*, 4th edn. Addison-Wesley, Reading, MA (2005)
763. Shneiderman, B., Rao, R., Andrews, K., Ahlberg, C., Brodbeck, D., Jewitt, T., Mackinlay, J.: Panel: Turning Information Visualization Innovations into Commercial Products: Lessons to Guide the Next Success. In: Proceedings of IEEE Symposium on Information Visualization 2005 (InfoVis 2005), pp. 241–244. IEEE Computer Society Press, Los Alamitos, CA (2005)

764. Siirtola, H.: Interaction with the Reorderable Matrix. In: International Conference on Information Visualization (IV '99), pp. 272–279. IEEE Computer Society Press, July (1999)
765. Siirtola, H.: Combining Parallel Coordinates with the Reorderable Matrix. In: Coordinated and Multiple Views In Exploratory Visualization (CMV'03), pp. 63–74. IEEE Computer Society Press, Los Alamitos, CA (2003)
766. Siirtola, H., Mäkinen, E.: Constructing and reconstructing the reorderable matrix. *Information Visualization* 4(1), 32–48 (2005)
767. Silfverberg, M., MacKenzie, I.S., Kauppinen, T.: An Isometric Joystick as a Pointing Device for Handheld Information Terminals. In: GI '01: Proceedings of Graphics Interface 2001, pp. 119–126 (2001)
768. Simon, A.: First-person experience and usability of co-located interaction in a projection-based virtual environment. In: VRST '05: Proceedings of the ACM symposium on Virtual reality software and technology, pp. 23–30. ACM Press, New York, NY (2005)
769. Simon, A., Scholz, S.: Multi-Viewpoint Images for Multi-User Interaction. In: VR '05: Proceedings of the IEEE Virtual Reality Conference, pp. 107–113. IEEE Computer Society Press, Los Alamitos, CA (2005)
770. Slack, J., Hildebrand, K., Munzner, T., John, K.S.: SequenceJuxtaposer: Fluid Navigation For Large-Scale Sequence Comparison in Context. In: German Conference on Bioinformatics, pp. 37–42 (2004)
771. Slater, M., Usoh, M.: Presence in Immersive Virtual Environments. In: VR '93: Proceedings of the IEEE Virtual Reality International Symposium, pp. 90–96. IEEE Computer Society Press, Los Alamitos, CA (1993)
772. Slocum, T.A., Blok, C., Jiang, B., Koussoulakou, A., Montello, D.R., Fuhrmann, S., Hedley, N.R.: Cognitive and Usability Issues in Geovisualization. *Cartography and Geographic Information Science* 28(1), 61–75 (2001)
773. Slocum, T.A., Cliburn, D.C., Feddema, J.J., Miller, J.R.: Evaluating the Usability of a Tool for Visualizing the Uncertainty of the Future Global Water Balance. *Cartography and Geographic Information Science* 30(4), 299–317 (2003)
774. SmartMoney: Smartmoney.com - Investing, Saving and Personal Finance, 2003, <http://www.smartmoney.com> (2006)
775. Smith, D.C., Ludolph, F.E., Irby, C.H.: The desktop metaphor as an approach to user interface design (panel discussion). In: ACM '85: Proceedings of the 1985 ACM annual conference on The range of computing: mid-8's perspective, pp. 548–549. ACM Press, New York, NY (1985)
776. Smith, G.M., Schraefel, M.C.: The radial scroll tool: scrolling support for stylus- or touch-based document navigation. In: UIST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology, pp. 53–56. ACM Press, New York, NY (2004)
777. Smith, M.A., Davenport, D., Hwa, H., Turner, T.: Object auras: a mobile retail and product annotation system. In: EC '04: Proceedings of the 5th ACM conference on Electronic commerce, pp. 240–241. ACM Press, New York, NY (2004)
778. Sohn, M., Lee, G.: ISeeU: Camera-based user interface for a handheld computer. In: MobileHCI '05: Proceedings of the 7th international conference on Human computer interaction with mobile devices & services, pp. 299–302. ACM Press, New York, NY (2005)
779. Somervell, J., McCrickard, D.S., North, C., Shukla, M.: An Evaluation of Information Visualization in Attention-Limited Environments. In: Proceedings of the Joint Eurographics - IEEE TCVG Symposium on Visualization 2002 (Vis-Sym'02), pp. 211–216. IEEE Computer Society Press, Los Alamitos, CA (2002)
780. Sommer, R.: *Personal Space*. Prentice-Hall, Englewood Cliffs (1969)

781. Spakov, O., Miniotas, D.: Gaze-based selection of standard-size menu items. In: ICMI '05: Proceedings of the 7th international conference on Multimodal interfaces, pp. 124–128. ACM Press, New York, NY (2005)
782. Spell, R., Brady, R., Dietrich, F.: BARD: A visualization tool for biological sequence analysis. In: INFOVIS'03: Proceedings of the IEEE Symposium on Information Visualization, IEEE Computer Society Press, Los Alamitos, CA (2003)
783. Spence, B., Witkowski, M., Fawcett, C., Craft, B., de Bruijn, O.: Image presentation in space and time: errors, preferences and eye-gaze activity. In: Working Conference on Advanced Visual Interfaces, pp. 141–149. ACM Press, New York, NY (2004)
784. Spence, R.: Information Visualization, vol. 1. Addison-Wesley, Edinburgh Gate (2001)
785. Spotfire. Will better Usability Studies Help Swell Market for Bioinformatics Software? GenomeWeb, January 2005. BioInform, vol. 9 (2) (2005)
786. Sráček, M., Dimitrov, L.I.: f3d - A File Format and Tools for Storage and Manipulation of Volumetric Data Sets. In: Proceedings of the 1st International Symposium on 3D Data Processing Visualization and Transmission (3DPVT '02), pp. 368–371 (2002)
787. Stammers, R., Shepherd, A.: Task analysis. In: Corbette, N., Wilson, J. (eds.) The evaluation of human work, pp. 144–168. Taylor & Francis, Abington (1995)
788. Starner, T.E., Leibe, B., Minnen, D., Westyn, T., Hurst, A., Weeks, J.: The perceptive workbench: Computer-vision-based gesture tracking, object tracking, and 3D reconstruction for augmented desks. Machine Vision and Applications 14(1), 59–71 (2003)
789. Stasko, J.T., Domingue, J., Brown, M.H., Price, B.A.: Software Visualization. MIT Press, Cambridge, MA (1998)
790. Stasko, J.T., Patterson, C.: Understanding and Characterizing Software Visualization Systems. In: Proceedings of the 1992 IEEE Workshop on Visual Languages, pp. 3–10. IEEE Computer Society Press, Los Alamitos, CA (1992)
791. Stefani, O., Hoffmann, H., Rauschenbach, J.: Design of Interaction Devices for Optical Tracking in Immersive Environments. In: Human-Centred Computing: Cognitive, Social and Ergonomic Aspects Volume 3 of the Proceedings of HCI International 2003, Lawrence Erlbaum Associates, Mahwah, NJ (2003)
792. Steiner, E.B., MacEachren, A.M., Guo, D.: Developing and Assessing Light-Weight Data-Driven Exploratory Geovisualization Tools for the Web. In: Proceedings of the Workshop on Geovisualization for the Web. ICA Commission on Visualization & Virtual Environments (2001)
793. Stephen, D.K.M., Brewster, A., Miller, C.A.: Olfoto: Designing a Smell-Based Interaction. In: CHI '06: Proceedings of the IEEE Computer Human Interaction 2006, IEEE Computer Society Press, Los Alamitos, CA (2006)
794. Stern, R., Liu, F., Ohshima, Y., Sullivan, T., Acero, A.: Multiple Approaches to Robust Speech Recognition (1992)
795. Stevens, S.: On the theory of scales of measurement. Science 103, 677–680 (1946)
796. Stoakley, R., Conway, M.J., Pausch, R.: Virtual reality on a WIM: interactive worlds in miniature. In: CHI '95: Proceedings of the SIGCHI conference on Human factors in computing systems, pp. 265–272. Addison-Wesley/ACM Press, New York, NY (1995)
797. Stolk, B., Abdoelrahman, F., Koning, A., Wielinga, P., Neefs, J., Stubbs, A., de Bondt, A., Leemans, P., van der Spek, P.: Mining the Human Genome Using Virtual Reality. In: Eurographics Workshop on Parallel Graphics and Visualization, pp. 17–21. Germany Eurographics Digital Library (2002)
798. Stone, D., Jarrett, C., Woodroffe, M., Minocha, S.: User Interface Design and Evaluation. Morgan Kaufmann/Elsevier, Amsterdam (2005)

799. Stott, J.M., Rodgers, P.: Metro Map Layout Using Multicriteria Optimization. In: Proc. 8th International Conference on Information Visualisation (IV'04), pp. 355–362. IEEE Computer Society Press, Los Alamitos, CA (2004)
800. Streit, M.: Why Are Multimodal Systems so Difficult to Build? - About the Difference between Deictic Gestures and Direct Manipulation. In: Bunt, H., Beun, R.-J. (eds.) CMC 1998. LNCS (LNAI), vol. 2155, pp. 28–30. Springer, Berlin Heidelberg (2001)
801. Sturm, J.: On the Usability of Multimodal Interaction for Mobile Access to Information Services. PhD thesis, Raboud University (June 2005)
802. Succliffe, A.G., Ennis, M., Hu, J.: Evaluating the effectiveness of visual user interfaces for information retrieval. *International Journal of Human-Computer Studies* 53(5), 741–765 (2000)
803. Sugiyama, K.: Graph Drawing and Applications: for Software and Knowledge Engineers. World Scientific (2002)
804. Sugiyama, K., Tagawa, S., Toda, M.: Methods for Visual Understanding of Hierarchical System Structures. *IEEE Transactions on Systems, Man, and Cybernetics* 11(2), 109–125 (1981)
805. SUN: JavaBeans, <http://java.sun.com/products/javabeans/> (2006)
806. Surakka, V., Illi, M., Isokoski, P.: Gazing and frowning as a new human-computer interaction technique. *ACM Transactions on Applied Perception* 1(1), 40–56 (2004)
807. Sutherland, I.: The ultimate display. *Proceedings of the International Federation of Information Processing Congress 2*, 506–508 (1965)
808. Sutherland, I.: Ten Unsolved Problems in Computer Graphics. *Datamation* 12(5), 22–27 (1966)
809. Swaminathan, K., Sato, S.: Interaction design for large displays. *Interactions* 4(1), 15–24 (1997)
810. Swayne, D.F., Cook, D., Buja, A.: XGobi: Interactive Dynamic Data Visualization in the X Window System. *Journal of Computational and Graphical Statistics* 7(1), 113–130 (1998)
811. Szalay, A., Gray, J., Kunszt, P., Thakar, A.: Designing and Mining Multi-Terabyte Astronomy Archives: The Sloan Digital Sky Survey. In: *Proceedings of ACM SIGMOD*, pp. 451–462. ACM Press, New York, NY (2000)
812. Takatsuka, M., Gahegan, M.: GeoVISTA Studio: A Codeless Visual Programming Environment for Geoscientific Data Analysis and Visualization. *The Journal of Computers and Geosciences* 28(10), 1131–1144 (2002)
813. Talbert, N.: Toward human-centered systems. *IEEE Computer Graphics and Applications* 17, 21–28 (1997)
814. Tamassia, R.: On embedding a graph in the grid with the minimum number of bends. *SIAM Journal on Computing* 16(3), 421–444 (1987)
815. Tamassia, R., Battista, G.D., Batini, C.: Automatic graph drawing and readability of diagrams. *IEEE Transactions on Systems, Man, and Cybernetics* 18(1), 61–79 (1988)
816. Tamassia, R., Tollis, I.: Tessellation representation of planar graphs. In: *Proceedings of Twenty-Seventh Annual Allerton Conference on Communication, Control and Computing*, pp. 48–57 (1989)
817. Tan, D.S., Meyers, B., Czerwinski, M.: WinCuts: manipulating arbitrary window regions for more effective use of screen space. In: *Proceedings of ACM CHI 2004 Conference on Human Factors in Computing Systems. Late breaking result papers*, vol. 2, pp. 1525–1528. ACM Press, New York, NY (2004)
818. Tan, D.S., Robertson, G.G., Czerwinski, M.: Exploring 3D navigation: combining speed-coupled flying with orbiting. In: *CHI '01: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 418–425. ACM Press, New York, NY (2001)

819. Tan, D.S., Stefanucci, J.K., Proffitt, D., Pausch, R.: The Infocockpit: Providing Location and Place to Aid Human Memory. In: Workshop on Perceptive User Interfaces 2001 (2001)
820. Tavanti, M., Lind, M.: 2D vs 3D, implications on spatial memory. In: IEEE Symposium on Information Visualization (InfoVis 2001), pp. 139–148. IEEE Computer Society Press, Los Alamitos, CA (2001)
821. Taylor, M.M.: Response Timing in Layered Protocols: A Cybernetic View of Natural Dialogue. In: The Structure of Multimodal Dialogue, pp. 159–172. North-Holland, Amsterdam (1989)
822. ten Bosch, L., Boves, L.: Survey of spontaneous speech phenomena in a multimodal dialogue system and some implications for ASR. In: International Conference on Spoken Language Processing ICSLP (2004)
823. Tenenbaum, J.B., de Silva, V., Langford, J.C.: A Global Geometric Framework for Nonlinear Dimensionality Reduction. *Science* 290, 2319–2323 (2000)
824. The Mathworks: Statistics Toolbox, <http://www.mathworks.com/products/statistics> (2006)
825. Theisel, H., Ertl, T., Hagen, H.-C., Noack, B., Scheuermann, G.: Panel: Why are topological methods not included in commercial visualization systems. In: Topology-Based Methods in Visualization Workshop, September 2005. Held in Budmerice, Slovakia (2005)
826. Thomas, J.J., Cook, K.A.: Illuminating the Path: The Research and Development Agenda for Visual Analytics. IEEE Computer Society Press, Los Alamitos, CA (2005)
827. Tobler, W.: Thirty Five Years of Computer Cartograms. *Annals of the Association of American Geographers* 94(1), 58–73 (2004)
828. Toffler, A.: *Future Shock*. Bantam Press, London (1970)
829. Tory, M., Moeller, T.: Evaluating Visualizations: Do Expert Reviews Work?. *Computer Graphics and Applications*, IEEE 25(5), 8–11 (2005)
830. Tory, M., Möller, T.: Human Factors in Visualization Research. *IEEE Transactions on Visualization and Computer Graphics* 10(1), 72–84 (2004)
831. Tory, M., Möller, T.: Rethinking Visualization: A High-Level Taxonomy. In: IEEE Symposium on Information Visualization (INFOVIS'04), vol. 00, pp. 151–158. IEEE Computer Society Press, Los Alamitos, CA (2004)
832. Trafton, G.J., Kirschenbaum, S.S., Tsui, T.L., Miyamoto, R.T., Ballas, J.A., Raymond, P.D.: Turning pictures into numbers: extracting and generating information from complex visualizations. *International Journal of Human-Computer Studies* 53(5), 827–850 (2000)
833. Tricoche, X., Garth, C., Kindlmann, G., Deines, E., Scheuermann, G., Hagen, H.: Visualization of Intricate Flow Structures for Vortex Breakdown Analysis. In: Proceedings IEEE Visualization 2004, pp. 187–194. IEEE Computer Society Press, Los Alamitos, CA (2004)
834. TriSenx Holding Inc.: The Scent DomeTM, <http://www.trisenx.com> (2004)
835. Tufte, E.R.: *Envisioning Information*. Graphics Press, Cheshire, CT, USA (1990)
836. Tufte, E.R.: *Visual Explanations: Images and Quantities, Evidence and Narrative*. Graphic Press, Cheshire, CT, USA (1997)
837. Tufte, E.R.: *The Visual Display of Quantitative Information*, 2nd edn. Graphics Press, Cheshire, CT, USA (2001)
838. Tukey, J.W.: *Exploratory Data Analysis*. Addison-Wesley, Reading, MA (1977)
839. Tunkelang, D.: *A Practical Approach to Drawing Undirected Graphs*. Technical report, Carnegie Mellon University, Pittsburgh, PA, USA (1994)
840. Urquiza-Fuentes, J., Velázquez-Iturbide, J.: A Survey of Program Visualizations for the Functional Paradigm. In: Proceedings of the Third Program Visualization Workshop, pp. 2–9 (July 2004)

841. Urquiza-Fuentes, J., Velázquez-Iturbide, J.: R-Zoom: a Visualization Technique for Algorithm Animation Construction. In: Proceedings of the IADIS International Conference on Applied Computing 2005, pp. 145–152 (2005)
842. van Dam, A., Forsberg, A.S., Laidlaw, D.H., L. Jr., J.J., Simpson, R.M.: Immersive VR for Scientific Visualization: A Progress Report. *IEEE Computer Graphics and Applications* 20(6), 26–52 (2000)
843. van Dam, A., Laidlaw, D.H., Simpson, R.M.: Experiments in Immersive Virtual Reality for Scientific Visualization. *Computers & Graphics* 26(4), 535–555 (2002)
844. van der Sluis, I.F.: Multimodal Reference. PhD thesis, University of Tilburg, december (2005)
845. van der Veer, G., del Carmen Puerta Melguizo, M.: Mental Models. In: *Human Factors And Ergonomics* (2002)
846. van Es, I., Heylen, D., van Dijk, B., Nijholt, A.: Gaze behavior of talking faces makes a difference. In: CHI '02: CHI '02 extended abstracts on Human factors in computing systems, pp. 734–735. ACM Press, New York, NY (2002)
847. van Ham, F., van Wijk, J.J.: Beamtrees: Compact Visualization of Large Hierarchies. *Information Visualization* 2(1), 31–39 (2003)
848. van Kreveld, M., Speckmann, B.: On Rectangular Cartograms. In: Albers, S., Radzik, T. (eds.) *ESA 2004. LNCS*, vol. 3221, pp. 724–735. Springer, Berlin Heidelberg (2004)
849. van Welbergen, H.: A virtual human presenter in a 3D meeting environment. Master's thesis, Human Media Interaction Group, University of Twente (2005)
850. van Welie, M., van der Veer, G., Koster, A.: Integrated Representations for Task Modeling. In: Tenth European Conference on Cognitive Ergonomics, pp. 129–138 (2000)
851. van Wijk, J.J.: Image Based Flow Visualization. *ACM Transactions on Graphics* 21(3), 745–754 (2002)
852. van Wijk, J.J.: The Value of Visualization. In: Proceedings IEEE Visualization '05, pp. 79–86. IEEE Computer Society Press, Los Alamitos, CA (2005)
853. van Wijk, J.J., Nuij, W.A.A.: Smooth and efficient zooming and panning. In: IEEE Symposium on Information Visualization (InfoVis 2003), pp. 15–23. IEEE Computer Society Press, Los Alamitos, CA (2003)
854. van Wijk, J.J., Nuij, W.A.A.: A Model for Smooth Viewing and Navigation of Large 2D Information Spaces. *IEEE Transactions on Visualization and Computer Graphics* 10(4), 447–458 (2004)
855. van Wijk, J.J., van de Wetering, H.: Cushion Treemaps: Visualization of Hierarchical Information. In: INFOVIS '99: Proceedings of the 1999 IEEE Symposium on Information Visualization, p. 73. IEEE Computer Society Press, Los Alamitos, CA (1999)
856. van Wijk, J.J., van Ham, F., van de Wetering, H.: Rendering hierarchical data. *Commun. ACM* 46(9), 257–263 (2003)
857. Varci, A.C., Vieu, L.: *Frontiers in Artificial Intelligence and Applications Systems*. In: *Formal Ontology in Information Systems*, 3rd edn. IOS Press (2006)
858. Velázquez-Iturbide, J., Pareja-Flores, C., Urquiza-Fuentes, J.: An evaluation of the effortless approach to build algorithm animations with WinHIPE. *Computers & Education*. In press
859. Vernier, F., Nigay, L.: A Framework for the Combination and Characterization of Output Modalities. In: Palanque, P., Paternó, F. (eds.) *DSV-IS 2000. LNCS*, vol. 1946, Springer, Berlin Heidelberg (2001)
860. Vincente, K.: *Cognitive Work Analysis: Toward Safe, Productive, and Healthy Computer-Based Work*. Lawrence Erlbaum & Associates, Mahwah (1999)
861. Visenso GmbH: Visual Engineering Solutions, <http://www.visenso.de> (2006)
862. VisionCue: LLC. In: *ALVA Braille Displays*, <http://www.visioncue.com> (2006)

863. Vogel, D., Balakrishnan, R.: Interactive public ambient displays: transitioning from implicit to explicit, public to personal, interaction with multiple users. In: UIST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology, pp. 137–146. ACM Press, New York, NY (2004)
864. Vogel, D., Balakrishnan, R.: Distant freehand pointing and clicking on very large, high resolution displays. In: UIST '05: Proceedings of the 18th annual ACM symposium on User interface software and technology, pp. 33–42. ACM Press, New York, NY (2005)
865. Wagner, C.R., Lederman, S.J., Howe, R.D.: A Tactile Shape Display Using RC Servomotors. In: Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems 2002, pp. 354 – 356 (2002)
866. Wahlster, W. (ed.): SmartKom: Foundations of Multimodal Dialogue Systems. Cognitive Technologies, vol. XVIII. Springer, Berlin Heidelberg New York (2006)
867. Waldeck, C., Balfanz, D.: Mobile Liquid 2D Scatter Space (ML2DSS). In: Proceedings of the 8th International Conference on Information Visualisation, pp. 494–498 (2004)
868. Wang, N., Johnson, W.L., Rizzo, P., Shaw, E., Mayer, R.E.: Experimental evaluation of polite interaction tactics for pedagogical agents. In: IUI '05: Proceedings of the 10th international conference on Intelligent user interfaces, pp. 12–19. ACM Press, New York, NY (2005)
869. Wang, X., Miyamoto, I.: Generating Customized Layouts. In: Brandenburg, F.J. (ed.) GD 1995. LNCS, vol. 1027, pp. 504–515. Springer, Berlin Heidelberg (1996)
870. Ward, K., Heeman, P.A.: Acknowledgments in human-computer interaction. In: Proceedings of the first conference on North American chapter of the Association for Computational Linguistics, pp. 280–287. Morgan Kaufmann, San Francisco, CA (2000)
871. Ward, M.O., Theroux, K.J.: Perceptual Benchmarking for Multivariate Data Visualization. In: DAGSTUHL '97: Proceedings of the Conference on Scientific Visualization, pp. 314–321. IEEE Computer Society Press, Los Alamitos, CA (1997)
872. Ware, C.: Information Visualization: Perception for Design. Morgan Kaufmann, San Francisco, CA (2000)
873. Ware, C.: Information Visualization: Perception for Design, 2nd edn. Morgan Kaufmann, San Francisco, CA (2004)
874. Ware, C., Bobrow, R.: Motion to support rapid interactive queries on node–link diagrams. *ACM Transactions on Applied Perception* 1(1), 3–18 (2004)
875. Ware, C., Bobrow, R.: Supporting visual queries on medium-sized node-link diagrams. *Information Visualization* 4(1), 49–58 (2005)
876. Ware, C., Fleet, D.: Context sensitive flying interface. In: SI3D '97: Proceedings of the 1997 symposium on Interactive 3D graphics, p. 127. ACM Press, New York, NY (1997)
877. Ware, C., Franck, G.: Evaluating stereo and motion cues for visualizing information nets in three dimensions. *ACM Transactions on Graphics* 15(2), 121–140 (1996)
878. Ware, C., Jessome, D.R.: Using the bat: a six dimensional mouse for object placement. In: Proceedings on Graphics interface '88, pp. 119–124. Canadian Information Processing Society (1988)
879. Ware, C., Mikaelian, H.H.: An evaluation of an eye tracker as a device for computer input. In: Graphics Interface '87 (CHI+GI '87), pp. 183–188 (Apr 1987)

880. Ware, C., Osborne, S.: Exploration and virtual camera control in virtual three dimensional environments. In: SI3D '90: Proceedings of the 1990 symposium on Interactive 3D graphics, pp. 175–183. ACM Press, New York, NY (1990)
881. Ware, C., Plumlee, M.: 3D Geovisualization and the Structure of Visual Space. In: Dykes, J. et al. (ed.) Exploring Geovisualization, pp. 567–576. Elsevier, Amsterdam (2005)
882. Ware, C., Purchase, H., Colpoys, L., McGill, M.: Cognitive measurements of graph aesthetics. *Information Visualization* 1(2), 103–110 (2002)
883. Wasserman, S., Faust, K.: *Social network analysis: methods and applications* Cambridge University Press, Cambridge (1994)
884. Watson, B., Luebke, D.P.: The Ultimate Display: Where Will All the Pixels Come From?. *IEEE Computer Society Press* 38(8), 54–61 (2005)
885. Wattenberg, M.: Arc Diagrams: Visualizing Structure in Strings. In: INFOVIS '02: Proceedings of the IEEE Symposium on Information Visualization 2002 (InfoVis'02), p. 110. IEEE Computer Society Press, Los Alamitos, CA (2002)
886. Wehrend, S., Lewis, C.: A problem-oriented classification of visualization techniques. In: Proceedings of the 1st conference on Visualization '90, pp. 139–143. IEEE Computer Society Press, Los Alamitos, CA (1990)
887. Welch, G., Bishop, G.: An Introduction to the Kalman Filter. Technical report, University of North Carolina at Chapel Hill (1995)
888. Welch, G., Bishop, G.: An introduction to the kalman filter. In: SIGGRAPH 2001, course 8, Computer Graphics, Annual Conference on Computer Graphics and Interactive Techniques, Addison-Wesley, Reading, MA (2001)
889. G. Welch and E. Foxlin. Motion Tracking: No Silver Bullet, but a Respectable Arsenal. *IEEE Computer Graphics and Applications*, 22(6):24–38, 2002.
890. Westerman, S.J., Cribbin, T.: Mapping semantic information in virtual space: dimensions, variance and individual differences. *International Journal of Human-Computer Studies* 53(5), 765–787 (2000)
891. Wickens, C.D., Hollands, J.D.: *Engineering Psychology and Human Performance* Prentice-Hall, Englewood Cliffs (1999)
892. Wiener, N.: *Extrapolation, Interpolation, and Smoothing of Stationary Time Series* MIT Press, Cambridge, MA (1964)
893. Wierse, A.: Performance of the Covise Visualization System under Different Conditions. In: *Visual Data Exploration and Analysis*. SPIE, vol. 2410, pp. 218–229 (1995)
894. Wierse, A., Lang, U., Ruhle, R.: A System Architecture for Data-Oriented Visualization. In: Lee, J.P., Grinstein, G.G. (eds.) *Database Issues for Data Visualization*. LNCS, vol. 871, pp. 148–159. Springer, Berlin Heidelberg (1994)
895. Wikipedia: Human-Computer Interaction, http://en.wikipedia.org/wiki/Human-computer_interaction (2006)
896. Wilkinson, L.: Presentation Graphics, <http://www.spss.com/research/wilkinson/Publications/iesbs.pdf> (2006)
897. Williams, M., Munzner, T.: Steerable, Progressive Multidimensional Scaling. In: Proceedings of the IEEE Symposium on Information Visualization, pp. 57–64. IEEE Computer Society Press, Los Alamitos, CA (2004)
898. Wills, G.J.: NicheWorks - Interactive Visualization of Very Large Graphs. In: DiBattista, G. (ed.) GD 1997. LNCS, vol. 1353, pp. 403–414. Springer, Berlin Heidelberg (1997)
899. Wilson, A.D.: TouchLight: An imaging touch screen and display for gesture-based interaction. In: ICMI '04: Proceedings of the 6th international conference on Multimodal interfaces, pp. 69–76. ACM Press, New York, NY (2004)
900. Wilson, A.D.: PlayAnywhere: A compact interactive tabletop projection-vision system. In: UIST '05: Proceedings of the 18th annual ACM symposium on User interface software and technology, pp. 83–92. ACM Press, New York, NY (2005)

901. Wilson, T.: Models in information behavior research. *Journal of Documentation* 55(3), 249–270 (1999)
902. Winckler, A., Marco, P., Palanque, M.D.S., Freitas, C.: Tasks and scenario-based evaluation of information visualization techniques. In: 3rd annual conference on Task models and diagrams, pp. 165–172. ACM Press, New York, NY (2004)
903. Wise, J., Thomas, J., Penneck, K., Lantrip, D., Pottier, M., Schur, A., Crow, V.: Visualizing the non-visual: spatial analysis and interaction with information from text documents. In: INFOVIS '95: Proceedings of the 1995 IEEE Symposium on Information Visualization, IEEE Computer Society Press, Los Alamitos, CA (1995)
904. Wong, P.C., Bergeron, R.D.: 30 Years of Multidimensional Multivariate Visualization. In: *Scientific Visualization, Overviews, Methodologies, and Techniques*, pp. 3–33. IEEE Computer Society Press, Los Alamitos, CA (1997)
905. Wong, P.C., Mackey, P., Perrine, K., Eagan, J., Foote, H., Thomas, J.: Dynamic Visualization of Graphs with Extended Labels. In: *Proceedings of IEEE Symposium on Information Visualization*, pp. 73–80. IEEE Computer Society Press, Los Alamitos, CA (2005)
906. Wong, P.C., Thomas, J.: Visual Analytics. *IEEE Computer Graphics and Applications* 24, 20–21 (2004)
907. Wood, J.: Collaborative Visualization. PhD thesis, University of Leeds (1997)
908. Wood, J., Kirschenbauer, S., Döllner, J., Lopes, A., Bodum, L.: Using 3D in Visualization. In: Dykes, J. et al. (ed.) *Exploring Geovisualization*, pp. 295–312. Elsevier, Amsterdam (2005)
909. Wood, J., Wright, H., Brodli, K.W.: CSCV - Computer Supported Collaborative Visualization (1995)
910. Wood, J., Wright, H., Brodli, K.W.: Collaborative Visualization. In: *Visualization '97, Proceedings*, pp. 253–259 (1997)
911. Woodruff, A., Landay, J., Stonebreaker, M.: Constant Information Density in Zoomable Interfaces. In: *Proceedings of the 4th International Working Conference on Advanced Visual Interfaces (AVI'98)*, pp. 110–119. ACM Press, New York, NY (1998)
912. Woods, D.: Drawing planar graphs. PhD thesis, Department of Computer Science, Stanford University (1982)
913. Xiong, R., Donath, J.: PeopleGarden: creating data portraits for users. In: *UIST '99: Proceedings of the 12th annual ACM symposium on User interface software and technology*, pp. 37–44. ACM Press, New York, NY (1999)
914. Yanagida, Y., Kawato, S., Noma, H., Tetsutani, N., Tomono, A.: A nose-tracked, personal olfactory display. In: *GRAPH '03: Proceedings of the SIGGRAPH 2003 conference on Sketches & applications*, p. 1. ACM Press, New York, NY (2003)
915. Yanagida, Y., Noma, H., Tetsutani, N., Tomono, A.: An unencumbering, localized olfactory display. In: *CHI '03: CHI '03 extended abstracts on Human factors in computing systems*, pp. 988–989. ACM Press, New York, NY (2003)
916. Yang, C.C., Wang, F.L.: Fractal summarization for mobile devices to access large documents on the web. In: *WWW '03: Proceedings of the 12th international conference on World Wide Web*, pp. 215–224. ACM Press, New York, NY (2003)
917. Yang, J., Stiefelhagen, R., Meier, U., Waibel, A.: Visual tracking for multimodal human computer interaction. In: *CHI '98: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 140–147. Addison-Wesley/ACM Press, New York, NY (1998)
918. Yee, K.-P.: Peephole displays: Pen interaction on spatially aware handheld computers. In: *CHI '03: Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 1–8. ACM Press, New York, NY (2003)

919. Yost, B., North, C.: Single Complex Glyphs versus Multiple Simple Glyphs. In: Extended Abstracts Proceedings of the Conference on Human Factors in Computing Systems, CHI, pp. 1889–1892 (2005)
920. Young, G., Householder, A.S.: Discussion of a Set of Points in Terms of Their Mutual Distances. *Psychometrika* 3, 19–22 (1938)
921. Young, M., Argiro, D., Worley, J.: An Object Oriented Visual Programming Language Toolkit. *Computer Graphics* 29(2), 25–28 (1995)
922. Yu, E.S.-K.: Modelling strategic relationships for process reengineering. PhD thesis, University of Toronto (1995)
923. Zhai, S.: User performance in relation to 3D input device design. *Computer Graphics* 32(4), 50–54 (1998)
924. Zhai, S.: What’s in the eyes for attentive input. *Communications of the ACM* 46(3), 34–39 (2003)
925. Zhai, S., Morimoto, C., Ihde, S., Center, R.: Manual and Gaze Input Cascaded (MAGIC) Pointing. In: Proceedings of ACM CHI 99 Conference on Human Factors in Computing Systems. Gaze and Purpose, vol. 1, pp. 246–253. ACM Press, New York, NY (1999)
926. Zhang, J.: A representational analysis of relational information displays. *International Journal of Human-Computer Studies* 45, 159–174 (1996)
927. Zhang, J., Johnson, K., Malin, J., Smith, J.: Human-Centered Information Visualization. In: International Workshop on dynamic Visualizations and Learning. Digital Enterprise Research Institute, University of Innsbruck (2002)
928. Zhao, W., Chellappa, R., Phillips, P.J., Rosenfeld, A.: Face recognition: A literature survey. *ACM Comput. Surv.* 35(4), 399–458 (2003)
929. Zhu, Z., Fujimura, K., Ji, Q.: Real-time eye detection and tracking under various light conditions. In: ETRA '02: Proceedings of the 2002 symposium on Eye tracking research & applications, pp. 139–144. ACM Press, New York, NY (2002)

Author Index

- Bierz, Torsten 77
- D'Ambros, Marco 77
- Ebert, Achim 1
- Fikkert, Wim 77
- Görg, Carsten 163
- Jankun-Kelly, T.J. 77
- Kerren, Andreas 1
- Kosara, Robert 13, 231
- Kulyk, Olga 13
- Laramee, Robert S. 231
- Lungu, Mircea 311
- Meyer, Jörg 1
- Moreno, Andrés 295
- Nöllenburg, Martin 257
- Pohl, Mathias 163
- Qeli, Ermir 163
- Urquiza, Jaime 13
- Wassink, Ingo H.C. 13
- Xu, Kai 163, 311

Index

- action space 89
- aesthetics 194
- affordance 104
- agent 82, **85**
- Algorithm Animation 295
- Alice 304
- Alvis 303
- Alvis Live 303
- analysis 173
- Andrews plots 183
- Applegate Matrix 136
- applied visualization 236
- arc diagram 323
- ArcView 283
- arm-extension technique 80
- associative perception 169
- audio interfaces 123
- audio/video conference 134, 137, 146–148, 151, 152, 160
- automated speech recognition 124
- axis reconfiguration techniques 181

- BeamTree 204, 237
- biological pathways 197
- box plots 178
- browsing 173
- brushing 228

- cartogram 265
- cartographic data visualizer 283
- CFD simulation data 245
- challenge
 - a theory of visualization 253
 - collaborative visualization 239
 - computational steering 253
 - cross-platform visualization 248
 - data filtering 247
 - distributed visualization 239
 - effective interaction 241
 - effective visual metaphors 237
 - evaluating effectiveness 249
 - evaluating utility in practice 249
 - evaluation of usability 236
 - feature extraction 248
 - feature tracking 248
 - from research into practice 252
 - high data dimensionality 245
 - improving aesthetics 253
 - improving visual quality 253
 - integrating problem solving environments 253
 - integrating virtual and physical reality 253
 - interdisciplinary collaboration 235
 - multi-attribute data 245
 - multi-field data 245
 - multi-variate data 245
 - optimal levels of abstraction 239
 - privacy and security 253
 - reducing complexity 253
 - representing data quality 241
 - simulation data 245
 - time-dependent data 245
- challenges
 - financial 233, 249
 - human-centered 232, 234
 - large data management 243
 - other 252
 - scalability 243
 - solved 253
 - technical 232, 243
 - unsolved 254
- Chernoff faces 183
- choropleth map 265
- clustered graphs 213
- cognitive abilities 37
- collaboration 133
 - asynchronous collaboration 154
 - synchronous collaboration 137
- collaborative visualization 133, **136**, 159, 160, 239
 - asynchronous visualization 137, 138
 - collaboration level 145, 147, 151, 152, 155, 160

- fully shared control 146, 147, 150
- limited shared control 146, 147
- local control 146, 147
- local control with shared data 146, 147
- collaboration nature 145, 151, 152, 160
- ease of learning 145, 147, 151, 160
- overview 240
- participation 145, 151, 152, 160
- synchronous visualization 138
- collaborative visualization model 137
 - CSpray 138
 - extension of Haber and McNabb Model 139
 - web-based model 143
- collaborative visualization tool
 - CEV 154, 155
 - COVISA 147–151
 - COVISE 146, 147
 - COVISE CE 146, 147
 - CSpray 146, 153
 - DSAV Loops 155, 156
 - Engel and Ertl VRML Volume Visualization 155, 156
 - EnSight Gold 147, 148
 - FASTexpeditions 147, 148
 - Habanero 155, 156
 - Interview 154
 - KnittingFactory 155, 156
 - Lovegrove and Brodlie VRML Solution 155, 156
 - MANICORAL 147, 148
 - ONERA 147, 148
 - Pagendarm and Walter Prototype 147, 148
 - Poly 147, 150–152
 - Shastra 147, 148, 150, 152, 156
 - Sieve 154
 - TANGO 155, 158, 159
 - Tempus Fugit 154
 - WWW Visualization 155, 158, 159
- collaborative workspace 104, 105, 131
- CommonGIS 283
- computational steering 253
- computer supported collaborative work 105
- computer supported cooperative visualization 136
- Concept Keyboard 301
- Cone tree 202
- controlled experiments 58
- cooling jacket 235
- cooperation 85, **133**, **134**, 159
- coordinated views 224
- cross-platform visualization 248
- data
 - incomplete 242
 - message 243
 - preprocessing 243
 - smoothing 243
- data filtering 247
- data mapping 164
- data model 31
 - presentation 32
 - representation 32
- data quality 241
- data requirements 42
- data state reference model 26
- data types 165
- DAVE_G 292
- design cycle 33
 - iterative process 33
- desktop metaphor 80
- dimension reduction methods 183
- dimensional embedding techniques 180
- display 85
 - bezel 100
 - assist management 102
 - Mouse Ether 100
 - navigation interference 100
 - viewing interference 101
 - electronic paper 87
 - general purpose 86
 - large-scale 86, **87**, 90, 95, 98
 - bubble cursor **98**, 100
 - dollhouse 99
 - dragging/throwing cursor 99
 - frisbee 99
 - Hyperwall 102
 - index of difficulty 98
 - navigation 100
 - reaching problem 90, **98**
 - Scalable Fabric **98**, 102
 - spotlight 101
 - tablecloth 99
 - Target Chooser 99
 - vacuum 99
 - viewing 101
 - ZoomScapes 98
 - management 101
 - medium-scale 86, **87**, 90
 - small-scale **86**, 91, 97, 98
 - bubble cursor 98
 - DateLens 98
 - index of difficulty 97
 - layering 101
 - liquid browsing **98**, 101

- navigation 99
- PowerBrowser 98
- viewing 101
- survey of technologies 86
- volumetric display 87
- autostereoscopic *see* immersive environment, **88**, 101
- stereoscopic *see* immersive environment, **87**, 101
- distributed collaborative visualization 134
- distributed visualization **133**, 239
 - overview 240
- dot plots 177, 322
- early adopters 36
- easy to explore 30
- easy to learn 30
- easy to use 30
- effective interaction 241
- effective view navigation 26
- effective visual metaphors 237
- effectiveness 17–20, 22, 25, 31
- efficiency 17–20, 22, 25, 27
- enhanced views 225
- error tolerant 19, 20
- error visualization 241, 242
- ethnographic observation 45
- ethnographic study: Alvis 303
- evaluating effectiveness 249
- evaluating utility in practice 249
- evaluation **52**, 236
 - analytical methods 56
 - approaches in visualization 55
 - collaborative visualization environments 64
 - empirical methods 57
 - formative 59
 - human-centered 236
 - in human-centered design cycle 54
 - in practice 52
 - methods 56
 - software 236
 - summative 59
- evaluation of usability 236
- exploratory data analysis 268
- expressiveness 31
- extended labels 222
- facilitator *see* modality, multimodality
- feature extraction 248
- feature tracking 248
- field studies 58
- financial challenges 233, 249
- fish-eye lens 98
- Fitt's Law *see* selection, Fitt's Law
- flow visualization 235
 - uncertainty 242
- focus+context interfaces 22, 23, 27, 98, 202, 314
- functional requirements 42
- geospatial data 264
- GeoVISTA Studio 284
- geovisualization 257
 - 2D techniques 265
 - 3D techniques 267
 - animation 271
 - cognitive approach 261
 - collaboration 290
 - interaction 276
 - usability 285
 - user studies 287
 - user-centered design 287
- gesture interfaces *see* iteration, gestures117
- glyph-based techniques 183
- glyphs 183
- GPU-based literature 248
- graph drawing 270
- graph labeling 221
- graph layout 190
- graph readability 190, 194
- graph visualization 189
- GraphEd 208
- graphic variables 263
- guided discovery **258**, 276
- haptics 119
 - common devices 120
 - tactile devices 113, 121
- hierarchical data 200
- high data dimensionality 245
- Hilbert's list of unsolved problems 233
- histogram plots 178
- human-centered 13, 24, 28
- human-centered challenges 232, 234
- human-centered evaluation 236
- human-centered visualization environment 78, 82, *see* collaborative workspace, *see* immersive environment, 135
 - discovery environment 136
 - virtual environment 82
 - virtual laboratory 136
 - e-biolab 104, 105, 131
- human-computer interaction 14, **78**, 104
- Hyperbolic Browser 202
- hyperbolic space 315

- icons 100, 101, 183
- immersive environment
 - CAVE 79, 88, 114, 122, 125, 126, 136
 - FLEX 125
 - Head-Mounted Display 114
 - IntelliMedia WorkBench 125
 - Powerwall 114, 122
 - Quickset 79, **111**, 125
 - reFLEX 125
 - The Media Room 111, 124
- improving aesthetics 253
- improving visual quality 253
- incomplete data 242
- information overload 15, 24, 25
 - effects of 25
- information visualization 165, 172
 - criteria 171
- InfoSky 238
- input
 - semantic snarfing 96
- integrated graph drawing 219
- integrated view 228
- integrating problem solving environments 253
- integrating virtual and physical reality 253
- interaction *see* human-computer interaction, 241
 - arms-length scale **89**, 92
 - brushing 279
 - distal scale 89, **90**, 95
 - effective 241
 - focusing 276
 - hand-held scale **89**, 91
 - intuitive 241
 - keyboard and mouse 241
 - linking 279
 - multimodal communication 108
 - scale 88
 - selection *see* selection
 - semantic snarfing 95
 - unimodality *see* modality, unimodality, *see* modality, unimodality
 - virtual reality **104**, 241
- interdisciplinary collaboration 235
- interface design 33
- interval scale 165
- interview 44
- intimate space 89
- introducing benchmarks 250
- introducing standards 250
- intuitive interaction 241
- ISO 14, 17
- Jeliot 3 304
- JHAVÉ 302, 306
- jittered dot plots 178
- large data management 243
- laser pointer *see* medium, laser pointer
- late adopters 36
- layout aesthetics 190
- layout conventions 190
- layout methods 192
 - directed graphs 193
 - planar graphs 193
 - trees 192
 - undirected graphs 193
- learnability 17, 19, 20
- linking 228
- manipulation 79, **80**, 89
 - dollhouse 99
 - frisbee 99
- map use cube 258
- Matrix 302
- matrix representation of graphs 218
- MatrixPro 302
- MDS 184
- media **83**, 85
 - media equation 81, 82, 134
- medical informatics 338
- medium **84**, 105
 - diviplexing 84
 - eye-tracking 92
 - joystick 93
 - keyboard 92
 - keypad 92
 - laser pointer **93**, 96
 - light pen 92
 - mouse 93
 - multiplexing 84
 - stylus 92
 - VisionWand 93
 - trackball 93
 - wand 92, *see* medium, stylus
- memorability 17, 20
- mental model 32
- microarray data visualization 331
- modality **83**, 85, 91, 105, 132
 - body tracking 94
 - finger tracking **94**
 - gaze **92**, 96
 - gesture **94**
 - gestures 111, 125
 - head tracking 94
 - hearing 107
 - isometric 93
 - isotonic 93
 - keypad 96

- language 111
- modality theory **105**, 106
 - completeness 106
 - intuitiveness 106
 - relevance 106
 - uniqueness 106
- multimax principle 84, 110
- multimodal system 83, **84**, 85, 106
- multimodality **106**, 110
- olfactory 107, 123
- overview 107
- photographic/video **95**, 96
- sight 107
- speech **95**, 96, 107, 111
- stylus 96
- taste 107
- text 92
- touch **91**, 96, 107, 112
- tracking *see* tracking
- writing 92
- modular visualization environment
 - 133**, 137, 138, 141, 143, 144, 146, 148, 154, 160
 - filter 138
 - map 138
 - render 138
- Moiré graphs 221
- motion 101, 216
- mouse *see* medium, mouse
- multi-agent system 110, 134
- multi-attribute data 245
- multi-field data 245
- multi-variate data 245
- multidimensional scaling 184
- multidimensional visualization 180
- multimodal interaction 95, **104**, 105, 106, 108–110, 120, 123, 124, 127, 129, 131, 135
 - barge-in scenario 127
 - efficiency gains 109
 - multimax principle 109
 - mutual disambiguation 109
 - perceptive interface 107
 - system architecture *see* multi-agent system
 - wait problem 108
- multiple views 224–225
 - design 227
 - complementarity 227
 - consistency 227
 - decomposition 227
 - diversity 227
 - parsimony 227
 - self-evidence 227
- space/time res. optimization 227
- multivariate visualization 177
- National Institute of Health 231
- National Science Foundation 231
- navigation **79**, **99**
 - bezel interference 100
 - bubble cursor 100
 - cursor tracking 100
 - large displays 100
 - layering 101
 - liquid browsing 101
 - marking menus 100
 - Mouse Ether 100
 - small displays 99
 - space distortion 99
- NIH *see* National Institute of Health
- NIH/NSF Visualization Research Challenges report 234
- nominal scale 165
- NSF *see* National Science Foundation
- objective measures 61
- olfactory interfaces *see* mdality, olfactory123
- optimal levels of abstraction 239
- ordered perception 169
- ordinal scale 165
- overview+detail interfaces 22, 23, 27
- overview, zoom, filter 239
- parallel coordinate plot 181, 269
- parallel sets 246
- participatory design 51
- participatory workshops 45
- PeopleGarden 173
- personal space 89
- personality differences 38
- personas 51, 60
- phylogenetic trees 312
- physical abilities 37
- pointing *see* selection
- preattentive processing 67, 164, 166
- presence 90
- privacy and security 253
- Program Animation 295
- programmable graphics hardware 248
- prototype *see* prototyping
- prototyping 50
 - functional prototypes 50
 - screen prototypes 50
 - sketches 50
- quality of data 241
- quantitative perception 169

- querying 95
- questionnaires 45
- ratio scale 165
- reading distance 87
- reasoning process 25
 - inference 25
 - recognition 25
 - search 25, 26
- reducing complexity 253
- reorderable matrix 186
- representing data quality 241
- research through design 54
- resistant users 36
- satisfaction 42
- scalability challenge 243
- scatter plots 178, 239, 269
- scatterplot matrix 180
- scenarios 47
- search 173
- selection 91, 92, 94, **97**
 - bubble cursor 98
 - DateLens 98
 - dollhouse 95, **99**
 - dragging/throwing cursor 99
 - Fitt’s Law 93, **97**
 - index of difficulty 97, **97**, 98, 99
 - focus+context 98
 - frisbee 99
 - liquid browsing 98
 - PowerBrowser 98
 - Scalable Fabric 98
 - tablecloth 99
 - Target Chooser 99
 - vacuum 99
 - ZoomScapes 98
- selective perception 169
- self-organizing map 281
- sequence alignment 316
- sequence logo 318
- sequence walker 321
- Sequoiaview 203
- social networks 197, 209
- social space 89
- software usability 236
- solved challenges in 20 years 253
- space-time cube 273
- spatio-temporal data 273
- stacked dot plots 177
- standard benchmarks 251
- standard data file formats 250
- standard interaction techniques 251
- standard interfaces 251
- standard visualizations 251
- star glyphs 183
- stripe plots 177
- stylus *see* medium, stylus
- subjective measures 61
- subjective satisfaction *see* satisfaction
- synchronized visualization 239
- tabular visualization methods 186
- target group 36, 37
- task analysis 43
 - completeness 46
 - guidelines 47
- task demonstration 46
- task modeling 48
 - tools and artifacts 49
 - work dynamics 49
 - work environment 49
 - work structure 49
- taste interfaces *see* modality, taste123
- technical challenges 232, 243
- 3D graph layout 214
- time histograms 246
- time-dependent data 245
- top problems in visualization 231
 - information visualization 231
 - scientific visualization 231
- touch input *see* modality, touch
- tracking
 - hybrid **115**, 117
 - inertial 93, 117
 - magnetic 93, 115
 - markerless 117
 - mechanical 114
 - optical 93, 116
 - ultrasonic 116
 - ultrasound 93, 116
 - vision-based 91, **93**, 96
- Trakla2 302
- transparency 101
- Treemaps 202
- turning research into practice 252
- UFLOW 242
- uncertainty visualization 241
- universal usability 19
- unsolved challenges in 20 years 254
- usability 14, 15, 19, 25, 28, 97, 236
 - software 236
- usability aspects 19
 - correlations 17
 - definition 17
 - easy to learn *see* learnability
 - easy to remember *see* memorability
- usability requirements 42
- usability studies 188, 204, 304

- use cases 47
- useful field-of-view 89
- user aims 28
- user analysis 34
 - vertical versus horizontal 35
- user model 32, 39
 - definition 39
- user profiling 37
 - working environment 40
- user requirements 28, 42, 43
 - validating 43
- user satisfaction 16–20, 26
- user studies 33, 66
 - application-level 69
 - automated mini-studies 68
 - basic perception 66
 - future of 71
 - 2D versus 3D 70
- user's satisfaction 20, 22
- user-centered *see* human-centered

- value of visualization 250
- viewing 100
 - active 90
 - bezel interference 101
 - passive 89, 90
 - spotlight 101
- viewing distance 89
- virtual reality interaction 241
- visual analytics 22
- visual angle 89
- visual communication 258
- visual data mining 268
- visual metaphors 173
- visual representations 163
- visual scalability 243
- visual thinking 258
- visual variables 163, 167
- visualization
 - collaborative 239
 - contest 244
 - costs of 250
 - distributed 239
 - error 241
 - introducing benchmarks 250
 - introducing standards 250
 - model of 250
 - self-criticism 233
 - synchronized 239
 - uncertainty 241
- visualization and economics 250
- visualization categories
 - analytical visualization 133, 143, 159
 - descriptive visualization 133, 143, 151, 159
 - exploratory visualization 133, 143, 159
 - visualization contest 244
- visualization costs 250
- visualization design 29, 32, 33
- visualization dimensions 31
- visualization model 250
 - Haber and McNabb Model 138
 - Spray 138, 141, 153, 160
 - eyecon 153
 - sparts 141
 - spraycan 141, 153
- visualization process 164
- visualization theory 253
- VRML 143, 144, 155–158

- wand *see* medium, stylus
- web-based visualization 143, 160
 - client-based 144
 - data only 144
 - full service 143, 155
 - server-based 144
 - software delivery 143, 155
- Windows-Icons-Menu-Pointer 78, 80, 84
- WinHipe 307
- world in miniature 79, 80

- XGobi 283

- zoomable interfaces 27