

Faculty Publications 04-05

Davis, T., Geist, R., Matzko, S., and Westall, J., "Course Development under TEXNH," Proc. Eurographics 2004 Education Program, Grenoble, France, August, 2004, pp. 23-27.

Davis, T. A., Geist, R. M., Matzko, S., and Westall, J. M., "Visual Learning through the TECHNI Project," (position paper) Eurographics/ACM SIGGRAPH Workshop on Computer Graphics Education 2004, Hangzhou, China, 2004.

Duchowski, A. T., "Eye Tracking", in Encyclopedia of Human-Computer Interaction, William Sims Bainbridge, Ed., Berkshire Publishing Group, Great Barrington, MA, 2004, pp.251-254.

Shumberger, M., **Duchowski, A.,** and Charlow, K., "Human Factors Engineering in Command, Control & Intelligence (C2I) User Interface Development Process: Use of Eye Tracking Methodology", in Proceedings of the Human Systems Integration Symposium, June 20-22, 2005, Arlington, VA, American Society of Naval Engineers (ASNE).

Sadasivan, S., Mehta, P., **Duchowski, A.,** Greenstein J., and Gramopadhye, A. K., "Gaze Display in a Collaborative Virtual Aircraft Inspection Training Environment", in Proceedings of the Industrial Engineering Annual Conference, May 14-18, 2005, Atlanta, GA, IIE.

Sadasivan, S., Stringfellow, P., Nalanagula, D., Castle, C., Washburn, C., Kanki, B., **Duchowski, A.,** Leonard, M., and Gramopadhye, A. K., "Using Virtual Reality Technology to Support Aircraft Maintenance Training", in Proceedings of the IMAGE Society Conference, Scottsdale, AZ, July 12-16, 2004.

Duchowski, A. T., "Gaze-Contingent Displays: Review and Current Trends", Adaptive Displays Conference, Los Angeles, CA, August 7, 2004 (invited talk). Material for this presentation was published as the following journal paper: Andrew T. Duchowski, Nathan Cournia, and Hunter Murphy, "Gaze-Contingent Displays: Review and Current Trends", CyberPsychology and Behavior, 7(6), 2004, Mary Ann Liebert, Inc.

Rasche, K., **Geist, R., and Westall, J.,** "Detail Preserving Reproduction of Color Images for Monochromats and Dichromats," IEEE Computer Graphics & Applications, Special Issue on Smart Depiction for Visual Communication 25:3 (2005), pp. 22-30.

Geist, R., Martin, J., and Westall, J., "Small Aggregations of ON/OFF Traffic Sources," Proc. IASTED Int. Conf. on Communication and Computer Networks, Boston, Massachusetts, November, 2004, pp. 312-318.

Gairing, M., **Geist, R., Hedetniemi, S.,** and Kristiansen, P., "A Self-Stabilizing Algorithm for Maximal 2-Packing," Nordic Journal of Computing, 11:1 (2004), pp. 1 - 11.

Van Pernis, A., **Geist, R.,** and Rasche, K., "Global Diffuse Illumination for Image Sequences," Proc. IASTED Int. Conf. on Computer Graphics and Imaging (CGIM 2004), Kauai, Hawaii, August, 2004, pp. 74 - 80.

Izak Broere, Michael Dorfling, **W. Goddard,** Johannes H. Hattingh, Michael A. Henning, and Elna Ungerer, "Augmenting trees to have two disjoint total dominating sets," Bull. Inst. Combin. Appl., 42:12--18, 2004.

O. Favaron, G. Fricke, **W. Goddard, S.M. Hedetniemi, S.T. Hedetniemi,** P. Kristiansen, R. Laskar, and D. Skaggs, "Offensive alliances," Discussiones Math. Graph Theory, 24:263--275, 2004.

Martin Gairing, **W. Goddard, Stephen T. Hedetniemi** and **David P. Jacobs.** "Self-stabilizing maximal k-dependent sets in linear time," Parallel Process. Lett., 14(1):75--82, 2004.

W. Goddard, "Mastermind revisited," J. Combin. Math. Combin. Comput., 51:215--220, 2004.

W. Goddard, "Minimum degree conditions for cycles including specified sets of vertices," Graphs Combin., 20(4): 467--483, 2004.

W. Goddard, T. Haynes, and D. Knisely, "Hereditary domination and independence parameters," Discuss. Math. Graph Theory, 24:239--248, 2004.

- W. Goddard**, Teresa W. Haynes, Michael A. Henning, and Lucas C. van der Merwe, "The diameter of total domination vertex critical graphs," *Discrete Math.*, 286(3):255--261, 2004.
- W. Goddard** and Michael A. Henning, "Clique/connected/total domination perfect graphs," *Bull. Inst. Combin. Appl.*, 41:20--21, 2004.
- Zhengnan Shi, **W. Goddard**, and **Stephen T. Hedetniemi**, "An anonymous self-stabilizing algorithm for 1-maximal independent set in trees," *Inform. Process. Lett.*, 91(2):77--83, 2004.
- W. Goddard**, **Sandra M. Hedetniemi**, and **Stephen T. Hedetniemi**, "Eternal security in graphs," *J. Combin. Math. Combin. Comput.*, 52:169--180, 2005.
- W. Goddard**, **Stephen T. Hedetniemi**, **David P. Jacobs**, and **Pradip K. Srimani**, "Self-stabilizing algorithms for orderings and colorings," *Internat. J. Found. Comput. Sci.*, 16(1):19--36, 2005. Also in APDCM'04.
- W. Goddard** and Michael A. Henning, "Multiple vertex coverings by cliques," *J. Graph Theory*, 48(2):157--167, 2005.
- M.A. Henning and **W. Goddard**, "Vertex coverings by coloured induced graphs--frames and umbrellas," *Quaestiones Math.*, 28:1--10, 2005.
- S.M. Hedetniemi, **S.T. Hedetniemi**, A.A. McRae, D. Parks and J.A. Telle, "Iterated colorings of graphs," *Discrete Math.*, 278 (2004), 81-108.
- O. Favaron, T.W. Haynes and **S.T. Hedetniemi**, "Domination subdivision numbers in graphs," *Utilitas Math.* 66 (2004), 195-209.
- T.W. Haynes, **S.T. Hedetniemi** and M.A. Henning, "A characterization of trees with equal domination and global strong alliance numbers," *Utilitas Math.* 66 (2004), 105-119.
- W. Goddard**, **S.M. Hedetniemi**, **S.T. Hedetniemi** and R. Laskar, "Generalized subgraph-restricted matchings in graphs," *Discrete Math.* 293 (2005), 129-138.
- R.C. Brigham, R.D. Dutton and **S.T. Hedetniemi**, "A sharp lower bound on the powerful alliance number of $C_m \times C_n$," *Congr. Numer.* 167 (2004), 57-63.
- Hallstrom, J.O.**, and Soundarajan, N., "Formal Specification of DesignPatterns: A Case Study", Proceedings of the 8th IASTED International Conference on Software Engineering and Applications, Cambridge, MA, 362 - 367, (November 2004).
- Kumar, S., Weide, B.W., Sivilotti, P.A.G., Sridhar, N., **Hallstrom, J.O.**, and Pike, S.M., "Encapsulating Concurrency as an Approach to Unification", Proceedings of the 3rd FSE Workshop on the Specification and Verification of Component-Based Systems, Newport Beach, CA, 10 - 17, (October 2004).
- Soundarajan, N., **Hallstrom, J.O.**, and Tyler, B., "Monitoring Design Pattern Contracts", Proceedings of the the 3rd FSE Workshop on the Specification and Verification of Component-Based Systems, Newport Beach, CA, 87 - 93, (October 2004).
- Hallstrom, J.O.**, Sridhar, N., Sivilotti, P.A.G., Arora, A., and Leal, W.M., "A Container-Based Approach to Object-Oriented Product Lines", *Journal of Object Technology*, 3(4), 161 - 175 (2004).
- Soundarajan, N., and **Hallstrom, J.O.**, "Responsibilities and Rewards: Specifying Design Patterns", Proceedings of the 26th International Conference on Software Engineering, Edinburgh, Scotland, 666 - 675, (May 2004).
- B. Cumming, **J. Kundert-Gibbs**, J. Gardiner, S. R. Johnson, and **T. A. Davis**, "Non-Photorealistic Rendering," (chapter) in **J. Kundert-Gibbs** (Ed.), *Maya: Secrets of the Pros -- Second Edition*, SYBEX Inc., CA, 2004.

Kundert-Gibbs, J., Derakhshani, D., *Maya: Secrets of the Pros 2* Sybex, Inc., 2004.

Lloyd, E.L. and **B. A. Malloy**, “A Study of Test Coverage Adequacy In the Presence of Stubs,” *Journal of Object Technology*, June, 2005.

J. F. Power and **B. A. Malloy**, “A Metrics Suite for grammar-based software,” *Journal of Software Maintenance and Evolution*, Volume 16, Issue 6, pages 405-426, Nov 18, 2004.

P. J. Clarke and **B. A. Malloy**, “A Taxonomy of OO Classes to Support the Mapping of Testing Techniques to a Class,” *Journal of Object Technology*, June, 2005.

P. J. Clarke and **B. A. Malloy**, “Using a Taxonomy to Analyze Classes During Implementation-Based Testing,” *Proceedings of International Conference on Software Engineering and Applications (SEA'04)*, Cambridge MA, USA, Nov 9--11, 2004.

B. A. Malloy and J. Voas, “Programming with Assertions: A Prospectus,” *IEEE IT Professional*, Nov/Dec., 2004, pages 54--59.

B. A. Malloy and J. F. Power, “Using a Molecular Metaphor to Facilitate Comprehension of 3D Object Diagrams,” *Proceedings of 2005 IEEE Symposium on Visual Languages and Human-Centric Computing, (VL/HCC'05)* Dallas, Texas, USA, 21--24 September 2005.

B. A. Malloy and J. F. Power, “Exploiting UML dynamic object modeling for the visualization of C++ programs,” *Proceedings of ACM Symposium on Software Visualization (SoftViz'05)*, May 14--15, 2005, Saint Louis, Missouri, USA.

J. Martin, M. Westall, V. Rajasekaran, “Virtual Machine Effects on Network Traffic Dynamics,” *Proceedings of the IEEE International Performance, Computing, and Communications Conference, (Phoenix, AZ, April 2005)*, pp. 233-238.

S. Howard, **J. Martin**, “DOCSIS Performance Evaluation: Piggybacking versus Concatenation,” *Proceedings of the ACM Southeast Conference*, March, 2005.

J. Martin, “The Impact of the DOCSIS 1.1/2.0 MAC Protocol on /TCP,” *Proceedings of the IEEE Consumer Communications and Networking Conference/*, (Las Vegas, NV, Jan 2005).

J. Martin, M. Westall, V. Rajasekaran, “On the Impact of Virtual Machine Overhead on TCP Performance,” *Proceedings of the IASTED International Conference on Communication and Computer Networks, (Boston, MA, Nov, 2004)*, pp. 287-292.

J. Martin, H. Karlapudi, “Web Application Performance Prediction,” *Proceedings of the IASTED International Conference on Communication and Computer Networks, (Boston, MA, Nov, 2004)*, pp. 281-286.

R. Geist, J. Martin, J. Westall, “Small Aggregations of ON/OFF Traffic Sources,” *Proceedings of the IASTED International Conference on Communication and Computer Networks, (Boston, MA, Nov, 2004)*, pp 312-318.

S. Biyani, **J. Martin**, “A Comparison of TCP-Friendly Congestion Control Protocols,” *Proceedings of the International Conference on Computers Communications and Networks 2004/*, (Chicago, IL, October 2004).

J. Martin, “The Interaction Between the DOCISS 1.1/2.0 MAC Protocol and TCP Application Performance,” *Proceedings of the International Working Conference on Performance Modeling and Evaluation of Heterogeneous Networks, (Ikley, UK, July, 2004)*, pp. P57/1-10.

J. Martin, “Managing Best Effort IP Networks over Heterogeneous WANs,” *Proceedings of the International Working Conference on Performance Modeling and Evaluation of Heterogeneous Networks, (Ikley, UK, July, 2004)*, pp WP7/1-6.

Il-Hyung Cho and **John D. McGregor**, “Component Specification for Enterprise Software Development on Web Services Environment,” *Proceedings of SERA*, June 2005.

- John D. McGregor**, "Domain," *Journal of Object Technology* vol. 3, no. 7, July - August 2004, pp. 71 - 81.
- John D. McGregor**, "The Weak Link in the Supply Chain," *Journal of Object Technology*, vol. 3, no. 8, September - October 2004, pp. 71 - 80.
- John D. McGregor**, "Product Production," *Journal of Object Technology*, vol. 3, no. 10, November - December 2004, pp. 89 - 98.
- John D. McGregor**, "Community," *Journal of Object Technology*, vol. 4, no. 1, Jan - Feb., 2005, pp. 59 -66.
- John D. McGregor**, "Metrics," *Journal of Object Technology* vol. 4, no. 2, March - April 2005, pp. 49 - 58.
- John D. McGregor**, "Secure Software," *Journal of Object Technology*, vol. 4, no. 3, May - June 2005, pp. 33 - 42.
- Pargas, R.P.** and **Weaver, K.A.** "Laptops in Computer Science: Creating the 'Learning Studio,'" *Enhancing Learning with Laptops in the Classroom*, L.B. Nilson and Barabara Weaver, (eds.) *New Directions for Teaching and Learning*, Jossey-Bass, San Francisco, no. 101, Spring 2005, pp. 43-50.
- Levin, A.R., and **Pargas, R.P.** "Appreciating Music, An Active Approach", *Enhancing Learning with Laptops in the Classroom*, L.B. Nilson and Barabara Weaver, (eds.), *New Directions for Teaching and Learning*, Jossey-Bass, San Francisco, no. 101, Spring 2005, pp. 27-36.
- Pargas, R.P.**, "A Different Pedagogical Approach to Teaching a Web Applications Course," *Proceedings of the 2004 IADIS International Conference, WWW/Internet 2004*, Madrid, Spain, October 6-9, 2005, v. 1, pp. 193-200.
- Hunt, J. and **Sitaraman, M.**, "Enhancements: Enabling Flexible Feature and Implementation Selection," *Proceedings of the Eighth International Conference on Software Reuse*, Madrid, Spain, July 2004, Springer-Verlag, 86-100.
- Sitaraman, M.**, Gandhi, D. P., Kuechelin, W., Sinz, C., and Weide, B. W., "DEET for Component-Based Software," *Proceedings of the Workshop on Specification and Verification of Component-Based Systems (SAVCBS'04)*, held in conjunction with *ACM SIGSOFT/FSE*, Newport Beach, CA, October 2004, 1-10.
- Edwards, S. H., **Sitaraman, M.**, Weide, B. W., and Hollingsworth, J. E., "Contract-Checking Wrappers for C++ Classes," *IEEE Transactions on Software Engineering* 30, November 2004, 794-810
- Cheon, Y., Leavens, G. T., **Sitaraman, M.**, and Edwards, S. H., "Model Variables: Cleanly Supporting Abstraction in Design-by-Contract," *Software - Practice & Experience* 35, John Wiley & Sons, February 2005, 583-599.
- Weide, B. W., Bucci, P., Heym, W., **Sitaraman, M.**, and Rizzoni, G., "Issues in Performance Certification for High-Level Automotive Control Software," *Proceedings of the Second IEEE ICSE Workshop on Software Engineering for Automotive Control Systems*, St. Louis, MO, May 2005.
- W. Shi and **P. K. Srimani**, "Hierarchical star: a new two level interconnection network", *Journal of System Architecture*, Volume 51, pp. 1-14, 2005.
- W. Shi, A. Bouabdallah and **P. K. Srimani**, "Leader election in oriented star graphs", *Networks*, Vol. 45, pp. 169 - 179, 2005.
- V. Jolly, S. Latifi, and **P. K. Srimani**, "Loop detection in MPLS for wireless sensor networks", *Microprocessors and Microsystems*, Vol. 28, pp. 439-445, 2004.
- J. Zheng, E. Regentova and **P. K. Srimani**, "Dynamic location management with personalized location area for future PCS networks", *Proceedings of IWDC-2004, Lecture Notes in Computer Science*, Springer Verlag, LNCS 2236, pp. 495 - 501, December 2004.
- Zhenyu Xu and **Pradip K Srimani**, "Self-Stabilizing Anonymous Leader Election in a Tree", *Proceedings of the 7th IPDPS Workshop on Advances in Parallel and Distributed Computing Models*, April 3-8, 2005 Denver, Colorado

K. Sinha and **P. K. Srimani**, "Mobility tolerant broadcast in mobile ad hoc networks", Proceedings of IWDC-2004, Lecture Notes in Computer Science, Springer Verlag, LNCS 2236, pp. 459 – 470, December 2004.

B. P. Sinha and **P. K. Srimani**, "Mobility tolerant broadcast in mobile ad hoc networks", To appear in the Proceedings of IWDC-2004, Lecture Notes in Computer Science, Springer Verlag, LNCS 2236, pp. 435 – 446, December 2004

Z. Shi and **P. K. Srimani**, "Self-stabilizing distributed systems and sensor networks", in J. Wu (edited), Handbook of Theoretical and Algorithmic Aspects of Ad Hoc, Sensor, and Peer-to-Peer Networks, CRC Press, June 2005.

Gross, David C., **Stevenson, D.E.**, and Youngblood, S., and BernardZeigler, eds., "V&V State of the Art: Proceedings of Foundations 2004," Workshop on Model and Simulation Verification and Validation for the 21st Century, October 13-15, Tempe, AZ. San Diego, CA: The Society for Modeling and Simulation, 2005.

James Z. Wang and Daniel Lowhom. Proxy Caching for Wireless Multimedia Streaming, IEEE WirelessCom 2005, Symposium on Multimedia over Wireless, June 2005.

James Z. Wang and Vipul Bhulawala. A P2P Cooperative Proxy Cache System for Wireless Base Stations, IEEE WirelessCom 2005, Symposium on Mobile Computing, June 2005.

James Z. Wang and Ratan K. Guha. Proxy Ecology - Cooperative Proxies with Artificial Life (Extended). Web Intelligence and Agent Systems: An International Journal, Volume 2, Number 3, 2004.

Ankur Pal, **James Z. Wang**, and **Pradip K Srimani**. Cache Coherency in P2P Cooperative Proxy Cache Systems, the IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2004), November 2004

James Z. Wang and Matti Vanninen. A Novel Self-Configuration Mechanism for Heterogeneous P2P Networks, In Proceedings of IEEE/WIC/ACM Conference on Intelligent Agent Technology (IAT'04), Beijing September 2004.

M.C. Weigle, K. Jeffay, and F.D. Smith, Delay-Based Early Congestion Detection and Adaptation: Impact on web performance, Computer Communications: The International Journal for the Computer and Telecommunications Industry, May 2005, Vol 28/8, pp. 837-850.