References

[1] J. Trinkle and B. Krogh, "CPS Virtual Organization," 2008. [Online]. Available: http://cps-vo.org/node/257

[2] M. Anderson, P. Kilgo, and J. Bowman, "RDIS: Generalizing domain concepts to specify device to framework mappings," in *International Conference on Robotics and Automation*, Saint Paul MN, 2012.

[3] "Robotics DTF, Object Management Group." [Online]. Available: http://robotics.omg.org/

[4] "Robotics Domain Task Force. Robotic Technology Component (RTC) 1.0. Technical report, Object Management Group," Tech. Rep., 2008.

[5] "Robotics Domain Task Force. Super Distributed Object (SDO) 1.1. Technical report, Object Management Group,," Tech. Rep., 2008.

[6] "Robotics Domain Task Force. Robot Localization Service (RLS) 1.0. Technical report, Object Management Group," 2010.

[7] C. Schlegel, T. Haß ler, A. Lotz, and A. Steck, "Robotic software systems: From code-driven to model-driven designs," in *Advanced Robotics, 2009. ICAR 2009. International Conference on*. IEEE, 2009, pp. 1–8. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5174736

[8] A. Steck and C. Schlegel, "Towards quality of service and resource aware robotic systems through model-driven software development," *Arxiv preprint arXiv:1009.4877*, 2010. [Online]. Available: http://arxiv.org/abs/1009.4877

[9] C. Schlegel, A. Lotz, and A. Steck, "ACE/SmartSoft - The State Management of a Component." ZAFH Servicerobotik, Hochschule Ulm, Germany, Tech. Rep., 2011.

[10] D. Harel, "On visual formalisms," *Communications of the ACM*, vol. 31, no. 5, pp. 514–530, 1988. [Online]. Available: http://dl.acm.org/citation.cfm?id=42414

[11] P. Trojanek, "Model-driven engineering approach to design and implementation of robot control system," in *2nd International Workshop on Domain-Specific Languages and models for ROBotic Systems*, 2011. [Online]. Available: http://users.info.unicaen.fr/~serge/share/DSLRob11/dslrob2011_submission_7.pdf

[12] P. Mohagheghi and V. Dehlen, "Existing model metrics and relations to model quality," in *Software Quality, 2009. WOSQ'09. ICSE Workshop on*. IEEE, 2009, pp. 39–45. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5071555

[13] C. Lange, "Model size matters," *Models in Software Engineering*, pp. 211–216, 2007. [Online]. Available: http://www.springerlink.com/index/V155814611867710.pdf

[14] Y. Wu, F. Hernandez, F. Ortega, P. Clarke, and R. France, "Measuring the effort for creating and using domain-specific models," in *Proceedings of the 10th Workshop on Domain-Specific Modeling*. ACM, 2010, p. 14. [Online]. Available: http://dl.acm.org/citation.cfm?id=2060360

[15] J. Sprinkle, "Analysis of a metamodel to estimate complexity of using a domain-specific language," in *Proceedings of the 10th Workshop on Domain-Specific Modeling*. ACM, 2010, p. 13. [Online]. Available: http://dl.acm.org/citation.cfm?id=2060359

[16] R. Vaughan and B. Gerkey, "Really Reusable Robot Code and the Player / Stage Project," *Engineering for Experimental Robotics,*, 2007. [Online]. Available: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.108.5078\&rep=rep1\&type=pdf

[17] M. Quigley, B. Gerkey, K. Conley, J. Faust, T. Foote, J. Leibs, E. Berger, R. Wheeler, and A. Ng, "ROS: an open-source Robot Operating System," *International Conference on Robotics and Automation*, 2009. [Online]. Available: http://pub1.willowgarage.com/~konolige/cs225B/docs/quigley-icra2009-ros.pdf

[18] J.-C. Baillie, "URBI: towards a universal robotic low-level programming language," *2005 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 820–825, 2005. [Online]. Available: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=1545467

[19] U. Schultz, D. Christensen, and K. Stoy, "A domain-specific language for programming self-reconfigurable robots," in *Proc. Wksh. on Automatic Program Generation for Embedded Systems (APGES 2007), Salzburg, Austria*, 2007. [Online]. Available: http://www.mip.sdu.dk/~ups/papers/apges07.pdf

[20] S. A. Thibault, R. Marlet, and C. Consel, "Domain-specific languages: from design to implementation application to video device drivers generation," *Software Engineering, IEEE Transactions on*, vol. 25, no. 3, pp. 363–377, 1999.

[21] S. Cooper, W. Dann, and R. Pausch, "{Alice: a 3-D tool for introductory programming concepts}," *Proceedings of the fifth annual CCSC northeastern conference on The journal of computing in small colleges*, pp. 107—-116, 2000. [Online]. Available: citeulike-article-id:7046098

[22] B. L. Wellman, S. Downing, G. Moore, and M. Anderson, "Observation-based Cooperation in Mobile Sensor Networks : A Bio-Inspired Approach for Fault Tolerant Coverage," in *ISCA First International Conference on Sensor Networks and Applications (SNA-2009)*, 2009, pp. 26—-30. [Online]. Available: http://www.informatik.uni-trier.de/~ley/db/conf/sna/sna2009.html

[23] M. Anderson, S. Vrbsky, M. Brown, B. L. Wellman, and A. Mckenzie, "Affecting Attitudes in First-year Computer Science using Syntax-free Robotics Programming," *ACM InRoads*, pp. 111—-123, 2011.

[24] F. P. Brooks, "No Silver Bullet Essence and Accidents of Software Engineering," *Computer*, vol. 20, no. 4, pp. 10–19, April 1987.

[25] S. Kelly and J.-P. Tolvanen, *Domain-Specific Modeling: Enabling Full Code Generation.* John Wiley & Sons, 2008.

[26] T. Stahl, M. Voelter, and K. Czarnecki, *Model-Driven Software Development – Technology, Engineering, Management.* John Wiley & Sons, 2006.

[27] F. Jouault, F. Allilaire, J. Bézivin, and I. Kurtev, "ATL: A model transformation tool," *Science of Computer Programming*, vol. 72, no. 1-2, pp. 31–39, June 2008.

[28] H. Ehrig, K. Ehrig, U. Prange, and G. Taentzer, *Fundamentals of Algebraic Graph Transformation*, ser. EATCS. Springer-Verlag, 2006.

[29] M. Walter, M. Anderson, I. Burt, and N. Papanikolopoulos, "The design and evolution of the eROSI robot," in *2007 IEEE International Conference on Robotics and Automation*, 2007, pp. 2984—-2989.

[30] M. Isaacs, M. Anderson, S. Ashworth, J. Blackburn-Lynch, B. Bynum, J. Pearce, and C. Pemberton, "Breaking Up Is Hard To Do - Dispersion: From Design to Implementation," in *Proc. of the IEEE Intl. Conf. on Robotics and Automation (ICRA), Orlando FL*, 2006. [Online]. Available: citeulike-article-id:7046127

[31] M. Anderson and A. L. Thomaz, "Enabling Intelligence through Middleware: Report of the AAAI 2010 Workshop," *AAAI Magazine*, vol. 32, no. 1, 2011.

[32] E. Syriani and H. Vangheluwe, "De-/Re-constructing Model Transformation Languages," *Electronic Communications of the European Association of Software Science and Technology*, vol. 29, March 2010.

[33] ——, "A Modular Timed Model Transformation Language," *Journal on Software and Systems Modeling*, vol. 11, pp. 1–28, June 2011.

[34] J. R. Croxell, J. B. Weinberg, R. W. Krauss, and S. R. Smith, "Robotic Limb Calibration : Accelerometer Based Discovery of Kinematic Constants," *Measurement*, pp. 1—-4, 2008.

[35] J. Davis, B. Wellman, M. Anderson, and M. Raines, "Providing Robotic Experiences Through Object-Based Programming (PREOP)," in *The 2009 Alice Symposium, Duke University*, 2009, pp. 2—-6. [Online]. Available: http://www.cs.duke.edu/csed/aliceSymposium2009/finalPresentations/PapersAbstracts/DavisWellmRainAndrsn_paper_9.pdf

[36] B. L. Wellman, J. Davis, and M. Anderson, "Alice and robotics in introductory CS courses," in *The Fifth Richard Tapia Celebration of Diversity in Computing Conference: Intellect, Initiatives, Insight, and Innovations*. ACM, 2009, pp. 98—-102.

[37] B. Wellman, M. Anderson, and S. Vrbsky, "PREOP as a tool to increase student retention in CS," *Journal of Computing Sciences in College*, vol. 25, no. 2, pp. 167—-175, 2009. [Online]. Available: http://portal.acm.org/citation.cfm?id=1629063

[38] A. Veluchamy and M. Anderson, "Target Acquisition in Resource Constrained Stationary Camera Systems," in *International Conference on Robots and Systems*, 2010.

[39] Q. Alexander, H. Hockett, A. Veluchamy, and M. Anderson, "Acquisition of 2-D ground truth data in multirobot experiments," in *2009 Robotics: Science and Systems Workshop on Good Experimental Methodology in Robotics*, 2009.

[40] A. Mckenzie, D. Gay, R. Nori, J. Davis, and M. Anderson, "Comparing Temporally Aware Mobile Robot Controllers Built with Sun's Java Real-Time System, OROCOS' Real-Time Toolkit and Player," in *International Conference on Robotics and Systems*, 2010.

[41] A. McKenzie, S. Dawson, and Q. Alexander, "Using real-time awareness to manage performance of Java clients on mobile robots," *Intelligent Robots and Systems, 2009. IROS 2009. IEEE/RSJ International Conference on*, pp. 3422—-3428, 2009. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5354796

[42] B. L. Wellman, S. Downing, G. Moore, and M. Anderson, "Observation-based Cooperation in Mobile Sensor Networks." in *Sensor Networks and Applications*, 2009, pp. 26—-30. [Online]. Available: http://dblp.uni-trier.de/db/conf/sna/sna2009.html\#WellmanDMA09

[43] S. Dawson, "Identification of Issues in Predicting Multi-Robot Performance through Model-Based Simulations," *Intelligent Control and Automation*, vol. 02, no. 02, pp. 133–143, 2011. [Online]. Available: http://www.scirp.org/journal/PaperDownload.aspx?DOI=10.4236/ica.2011.22016

[44] S. Dawson, B. L. Wellman, and M. Anderson, "Using Simulation to Predict Multi-robot Performance on Coverage Tasks," in *International Conference on Robots and Systems*, 2010.

[45] S. Dawson, B. Wellman, and M. Anderson, "Categorizing interference in real robot experiments," in *IEEE International Conference on Systems, Man and Cybrnetics,*, 2011. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6084221

[46] B. Wellman, J. Davis, and M. Anderson, "Cooperative Multirobot Systems," in *Cyber Physical Systems Luncheon and Senate Briefing*, 2009.

[47] A. Veluchamy and M. D. Anderson, "Balancing target acquisition and target tracking in existing resource constrained stationary camera systems," *Intelligent Service Robotics*, vol. 4, no. 3, pp. 181–190, Jun. 2011. [Online]. Available: http://www.springerlink.com/index/10.1007/s11370-011-0090-y

[48] A. Dukeman and M. Anderson, "A CSP Solution to Multi-Camera Surveillance and Target Tracking," in *IEEE Systems, Man and Cybernetics 2011*, 2011.