



Planning and Execution of Holistic Model Using Object Oriented Technology

Tomas U. Ganiron Jr

Auckland University of Technology (New Zealand)

tomasuganironjr@gmail.com

Abstract

When providing for a group learning situation where each student was at their own machine, the need arose to combine individual and group learning models to provide an educational framework for a supportive learning environment. The framework had to be implementable on a (reductionist) computer network. The independence of behavior and implementation was exploited to allow a holistic educational framework to be used when designing the learning environment. In a model, memory, functions, and goals are reducible, whereas the relationship between the purpose functions and the state manipulating functions are irreducible. Implementation was neatly achievable using the Software Engineering technology of Object Oriented Technology to provide encapsulation for the reducible aspects while preserving holistic entities, that can then exploit the benefits of polymorphism.

References

- [1] Deligiannis, Ignatios S., et al. "A review of experimental investigations into object-oriented technology." *Empirical Software Engineering* 7.3 (2002): 193-231.
- [2] Zha, X. F., and H. Du. "A PDES/STEP-based model and system for concurrent integrated design and assembly planning." *Computer-Aided Design* 34.14 (2002): 1087-1110.
- [3] Taïani, François, J-C. Fabre, and M-O. Killijian. "Principles of multi-level reflection for fault tolerant architectures." *Dependable Computing, 2002. Proceedings. 2002 Pacific Rim International Symposium on.* IEEE, 2002.
- [4] Zha, Xuan F. *Artificial intelligence and integrated intelligent information systems: emerging technologies and applications.* Igi Global, 2007.
- [5] Chandra, C., & Grabis, J. (2008). Information technology support for integrated supply chain modeling. *Human Systems Management*, 27(1), 3-13.
- [6] Jablonski, Stefan. "Process Modeling for Holistic Process Management." *Handbook of Research on Business Process Modeling* (2009): 49-68.
- [7] Jung, Georg, and John Hatcliff. "A type-centric framework for specifying heterogeneous, large-scale, component-oriented, architectures." *Proceedings of the 6th international conference on Generative programming and component engineering.* ACM, 2007.
- [8] Tsang, Curtis Hing-kui, Clarence Siu-wah Kau, and Ying-keung Leung. *Object-Oriented Technology.* McGraw-Hill, 2005.
- [9] Dué, Richard T. "Object-oriented technology." *Information systems management* 10.3 (1993): 69-73.
- [10] Taylor, David A. *Object-oriented technology: a manager's guide.* Addison-Wesley Longman Publishing Co., Inc., 1990.
- [11] Booch, Grady. *Object Oriented Analysis & Design with Application.* Pearson Education India, 2006.
- [12] Bickerton, Matthew John, et al. "Object oriented technology framework for accounts receivable and accounts payable." U.S. Patent No. 6,041,312. 21 Mar. 2000.