Goal-Oriented Requirements Engineering

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Abstract

The last fifteen years have seen the rise of a new phase in software development which is concerned with the acquisition, modelling and analysis of stakeholder purposes (“goals”) in order to derive functional and non-functional requirements. We review the history of ideas and research results for this new phase and sketch on-going research on the topic. Specifically, we discuss an agent-oriented software development methodology – called Tropos – that is founded on the concepts of goal, actor as well as inter-actor dependencies. We also show how goal models that characterize a space of possible solutions for meeting stakeholder goals can be used as a basis for designing high variability software.

The research reported is the result of collaborations with Alexei Lapouchnian, Sotirios Liaskos, Yijun Yu (University of Toronto), Paolo Giorgini (University of Trento) and Manuel Kolp (Catholic University of Louvain).

Biography

John Mylopoulos received his BEng degree from Brown University in 1966 and his PhD degree from Princeton in 1970, the year he joined the faculty of the University of Toronto. His research interests include requirements engineering, conceptual modeling, data semantics and knowledge management.

Mylopoulos is the recipient of the first-ever Outstanding Services Award given by the Canadian AI Society (CSCSI), a co-recipient of the best-paper award of the 1994 International Conference on Software Engineering, a fellow of the American Association for AI (AAAI) and the elected president of the VLDB Endowment (1997-2003). He is co-editor of the Requirements Engineering Journal (published by Springer-Verlag). He has also contributed to the organization of major international conferences, including program co-chair of the International Joint Conference of AI (1991), general chair of the Entity-Relationship conference (1994), program chair of the International IEEE Symposium of Requirements Engineering (1997), and general chair of the Very Large Databases Conference (2004).