**Computational Social Science in Product Design Research**

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Product design research has focused on methods for the design of products and more recently on the cognitive behavior of individuals and teams designing. The notion that design is carried out only individually or in teams fails to account for the social interactions that occur between design team members, between design teams, between designers and products, between consumers and products, and between consumers themselves, as evidenced by the activity on Facebook, Twitter, Amazon reviews and Google searches. How can we include such interactions in product design research? One approach based on computational social science (CSS) is to measure large-scale *emergent* social behavior through the aggregation of individual behaviors and examine its effects on the behaviors of designers and consumers. CSS uses agent-based models as its computational substrate. This talk presents social, situated cognitive agents as the basis of individuals and uses concepts from situated cognition as the foundation for the agent's behavior. Such systems are being used to study design, creativity and innovation, where creativity is the generation of intellectual property and innovation is the production of value from intellectual property.

This talk presents:
- foundational concepts of social computing
- concepts of situated cognition as basis for designing computational agents
- results from a study of innovation through consumer social behavior.

**Bio**

John Gero is Research Professor in Computer Science and Architecture at UNCC, Research Professor in Krasnow Institute for Advanced Study, and Research Professor in Computational Social Science at George Mason University. He was formerly Professor of Design Science, University of Sydney. He has edited/authored over 50 books and published over 650 research papers. He has been a professor of computer science, cognitive science, architecture, civil engineering, and mechanical engineering at MIT, UC-Berkeley, UCLA, Columbia and CMU in the USA, at Strathclyde and Loughborough in the UK, at INSA-Lyon and Provence in France and at EPFL-Lausanne in Switzerland. His research has been funded by NASA, NSF, DARPA, IBM and ARC.
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