

# The First International Workshop on Requirements Engineering for Social Computing

Fabiano Dalpiaz and Amit K. Chopra  
Dept. of Information Engineering and Computer Science  
Università degli Studi di Trento, Italy  
{dalpiaz, chopra}@disi.unitn.it

Soo Ling Lim  
Department of Computer Science  
University College London, United Kingdom  
s.lim@cs.ucl.ac.uk

**Abstract**—The First International Workshop on Requirements Engineering for Social Computing (RESC'11)<sup>1</sup> was held in Trento on August 29, 2011, in conjunction with the 19th IEEE International Requirements Engineering Conference. The aim of the workshop was to explore the relationship between requirements engineering and social computing. The workshop consisted of eight technical papers, an invited talk, and a panel discussion. Workshop participants presented and discussed their perspectives on the area. In this note, we summarize the highlights of the workshop.

**Index Terms**—Requirements engineering; Social computing.

## I. HIGHLIGHTS

Below we highlight some of the most interesting points that came up for discussion during the workshop.

**Interaction** among autonomous agents emerged as one of the key modeling concerns for requirements engineering (RE) research. It is through interaction that agents would exchange services and information. Although concepts such as roles have found a place in RE, RE has instead largely focused on aspects of individual agents, e.g., goals, preferences, and abilities. Interaction protocols have largely been overlooked.

**Social state** There were at least a couple of ideas on the nature of social state. One modeled social state purely in terms of abstractions such as social commitments; the other also included the interacting agents' collective (or *system-level*) goals.

**Trust** Perhaps as a corollary of the emphasis on interaction, *trust* was a recurring theme across presentations. How can an agent trust another that he possibly does not even know? Can we design systems that inspire trust in the potential participants? Can agents interact if they lack trust in each other?

**Compliance** A closely related aspect is that of compliance: as a consequence of their autonomy, agents may potentially violate their commitments to others or the trust that others place in them. Some challenges related to compliance were also discussed, namely, the detection of violation, the countermeasures to take upon violation by an agent, and prevention of violations.

**Security and privacy** Current social applications suffer from security and privacy breaches (e.g., in social networks).

We need to develop methods to enable the design of systems that guarantee security and privacy properties. However, the root challenge is to understand why security and privacy are threatened and whether there are specific methods and attacks that are specifically relevant in a social computing setting.

**Role of cognitive science** Cognitive models of users could be used to inform the construction of social computing applications. There was no clear sense though of what role cognitive abstractions such as goals would play in system models though.

**Evolution and adaptation** When autonomous and heterogeneous agents interact, the outcome is inherently uncertain. Social computing has uncertainty as its core. Agents could join or leave applications, and in general autonomously decide their course of action. Social computing applications are in this sense in constant flux. Agents therefore need to be adapt to opportunities, failures, and other kinds of system events.

**Methodologies** There is a clear lack of RE methodologies that support social computing. Current applications are developed in an ad hoc manner and largely owe their success to the intuition of their designers. The challenge for RE is to propose a disciplined approach to the engineering of social computing applications.

## ACKNOWLEDGMENTS

We thank Anthony Finkelstein and John Mylopoulos for serving on the steering committee, Munindar Singh for his keynote talk, and the panelists Annie I. Anton, Fausto Giunchiglia, Eric Yu, and John Mylopoulos for raising interesting discussion points. We also thank the program committee members for responding in a timely manner to all our requests. Amit Chopra was supported by the Marie Curie Trentino Cofund. Fabiano Dalpiaz was supported by European Union Seventh Framework Programme (FP7/2007-2013) under grant no 257930.

<sup>1</sup><http://www.cs.ucl.ac.uk/research/resc11/>