

**Dissertation**

**Thu 15 July 2010 at 12, Mattilanniemi, Agora, Auditorium 2**

**Mobile Social Software Empower Future Societies**

**M.Sc. Giuseppe Lugano** defends his doctoral dissertation in the field of cognitive science, titled “Digital community design: exploring the role of mobile social software in the process of digital convergence”. Opponent **Professor Matthias Rauterberg** (Eindhoven University of Technology, the Netherlands), Custos **Professor Pertti Saariluoma** (University of Jyväskylä).

In his dissertation, Lugano examines the social significance of mobile social software (MoSoSo) as well as its effects on society as a whole in the context of digital convergence. According to Lugano, MoSoSo are a class of mobile applications that support informal mobile social networking. Although smartphone use is becoming more widespread, MoSoSo has not reached critical mass because it is not yet publicly well-known and because users are not familiar with the added value it can offer. This is partly due to its fragmented nature and the lack of technological consensus within the field, causing incompatibilities between different kinds of software.

The success of digital convergence is closely linked to policy convergence.

- When designing products and services exploiting digital convergence, acknowledging the multiple roles of users as consumers, citizens, and creative innovators is crucial, says Lugano.

The study suggests that sustainable business ICT solutions are about generating profits as a side effect of strategies which are primarily oriented at the achievement of human and societal development. Converging views on the potential of digital convergence are needed in order to realize the vision of sustainable living.

Digital communities are powerful tools in promoting grassroots social change. They provide, especially during crises, efficient, cheap, and quick means to attain individual and/or collective goals. Thus, digital communities offer their members safety and security, and allow them to achieve mutual goals and objectives that would be impossible to realize by acting alone.

- Recently, thousands of passengers around Europe organized themselves through mobile access to Facebook, in order to implement an ad-hoc car sharing service. In this way, they managed to reach their destinations despite the flight disruptions caused by the Icelandic volcanic ash cloud, Lugano points out.

By interconnecting people with contextual needs, MoSoSo represents an enabler of global digital communities. It also empowers digital communities to plan, co-



create, and use community-generated services (CGS) in order to replace or complement public and private services. In this way, MoSoSo supports the emergence of an informal and spontaneous network-based civil society consisting of interconnected digital communities. By acting as the “glue” between networked citizens and public and private sector, the network-based civil society enhances the resilience of individual lives, as well as the functioning of markets and global societies.

Digital communities can be “designed”, almost in real time, by one or more individuals for different purposes, including entertainment, socialization or a political protest.

- For instance, in 2001, a million Filipinos became quickly mobilized through SMS chains to protest against President Estrada, who resigned shortly after, Lugano explains.

#### **Further information:**

Giuseppe Lugano, tel. +358 (0)40 152 0863, [giuseppe.lugano@nokia.com](mailto:giuseppe.lugano@nokia.com)  
Head of PR & Information Anu Mustonen, tel. (014) 260 1054, [tiedotus@jyu.fi](mailto:tiedotus@jyu.fi),  
will provide a photograph of the candidate in electronic form upon request.

Giuseppe Lugano graduated from the Liceo Scientifico of Camerino, Italy, in 1996, and received his master's degree in computer science from the University of Bologna, Italy, in 2003. In Finland, he has been a member of the Cosco/ Edutech research group at the Helsinki Institute for Information Technology (HIIT) during 2003–2004, and the Sonera Information Society Unit (SISU) of TeliaSonera Finland from 2004 to 2008. In 2007, he published his first book, “Comunicazione Mobile” [Mobile communication], for the Italian publisher Cierre. He is currently working on sustainability research at the Nokia Research Center Helsinki.

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#### **Abstract**

This study covers the theme of digital community design from the perspective of mobile social software (MoSoSo) and within the broader context of digital convergence. Digital communities and MoSoSo are key products of digital convergence, a multifaceted phenomenon encompassing the technological, economic, cultural and social dimensions. Digital convergence contributes to the evolution of community by the integration of the offline, online and mobile dimensions in a hybrid social space. In the hybrid social space, digital communities are structured, perceived and experienced as mobile social

networks through MoSoSo. So far, the potential of MoSoSo and mobile social networking has not been realized because there is a lack of a common conceptual framework on which to ground design solutions. The shortcomings of MoSoSo are addressed in this thesis by applying conceptual analysis and design thinking to develop a conceptualization and a holistic model of MoSoSo design. Support policies to MoSoSo adoption are also discussed. The findings of the study show that MoSoSo can be defined as a class of mobile applications whose scope is to support informal mobile social networking. In this way, MoSoSo design can be enhanced by grounding MoSoSo on its three main building blocks, namely the user profile, mobile social network and social algorithms. The individual level of the user profile concerns the inference and representation of user psychological knowledge; the social level of mobile social networks deals with the sensing and processing of their evolving structure; finally, the interaction level of social algorithms uses the input of the other two levels to dynamically personalize MoSoSo for contextual interaction, while supporting the user's management of incoming and outgoing flows of social information and facilitating social interconnections on the basis of homophily and heterophily. This model conceives MoSoSo as a general purpose social platform, which allow users to attain individual and/ or collective purposive action goals through access to social resources embedded in mobile social networks. In this manner, MoSoSo plays an enabling role and has an emancipatory function for digital communities because it provides, through community-generated services (CGS), an increased capability to drive change. By emphasizing grassroots social action, MoSoSo enhances the resilience of individual lives, societies and businesses, which can withstand periods of transformation thanks to a stronger network-based civil society consisting of interconnected self-organizing digital communities. Ultimately, the key role of MoSoSo consists in exploiting digital convergence for the realization of sustainable futures. This goal does not rely only on its conceptualization and design model, but also on how a set of principles of digital community design will be followed and support policies agreed by all relevant stakeholders.

**Keywords:** digital community, mobile social software (MoSoSo), mobile social network, digital convergence, social computing, conceptual analysis, design thinking