Editorial: Smart Objects and Technologies for Social Good (GOODTECHS 2017)

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1 Editorial

By social good we refer to a “good” or a service that benefits the largest number of people in the largest possible way. Some classic examples of social goods are, of course, healthcare, safety, environment, education, democracy, and human rights, but we can add to this classic list even communication, art, entertainment and much more.

In this context, the popularity of portable computing devices, like smartphones, tablets, or smart watches combined with the emergence of many other small smart objects with computational, sensing and communication capabilities coupled with the popularity of social networks and new human-technology interaction paradigms is creating unprecedented opportunities for each of us to do something useful, ranging from a single person to the whole world. Furthermore, Internet of Things, Smart-cities, distributed sensing and Fog computing are representative examples of modern ICT paradigms that aim to describe a dynamic and globally cooperative infrastructure built upon objects’ intelligence and self-configuring capabilities. These connected objects are finding their way into our pockets, vehicles, urban areas and infrastructure, thus becoming the very texture of our society and providing us the possibility, but also the responsibility, to shape it. Clearly, we are not considering only the so called first world as the scenario for this evolution; we also refer to those areas where ICT is currently less widespread, hoping that it may represent a societal development opportunity rather than a source for further divide.

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This special issue features six selected high quality papers. Most of them are best papers from the GOODTECHS 2017 which have been further improved and extended.

The first article, “Energy Efficiency and Superlative TTT for Equitable RLF and Ping Pong in LTE Networks” provides a performance analysis of REHO, a reduced early handover scheme aimed at increased energy efficiency in LTE systems. Results show that REHO increases the energy efficiency by comparing it with other state of art, and LTE standard in terms of dynamic power consumption.

The second article, entitled “A Discretized Approach to Air Pollution Monitoring Using UAV-based Sensing”, presents an optimized algorithm, called PdUC-D, which is based on Pollution-driven UAV Control (PdUC). This version of the algorithm applies space discretization to substantially reduce the convergence time from 1800 to 4200 s in PdUC to 1200–3000 s in PdUC-D, while achieving similar levels of accuracy (about 5% of final relative error) in an area of 4×4 km, and a step size / tile size equals to 100 m.

The third article, entitled “Serious Games to Support Cognitive Development in Children with Cerebral Visual Impairment” presents the results obtained using serious games, developed by authors, for the assessment and rehabilitation of children affected by CVI.

Combining both basic visual search task with more complex tasks requiring attention and cognitive processes, such as decision making, allows a “whole child” evaluation and helps identifying all areas of strengths and difficulties.

The fourth article is entitled “Discovery Homophily in Online Social Networks”, and presents an analysis of similarity of social profiles in terms of movie preferences. Results reveal the presence of homophily between users and its dependence from the tie strength. Moreover, authors show that it is possible to profile a user by exploiting movie preferences.

The fifth article is entitled “Content-Based Recommendations for Sustainable Wardrobes Using Linked Open Data”, and it presents a content-based recommendation approach that utilizes semantic web technologies and that leverages a set of context

signals obtained from the system's architecture, to recommend clothing items that might be relevant for the user to recycle.

Finally, the last article is entitled “The Design of Web Games for Helping Young High-Functioning Autistics in Learning How to Manage Money”, and it presents the design of a Web-based game application aimed to support high-functioning individuals affected by Autism Spectrum Disorder in gaining skills that can help them understand the concept of money and apply it in practical life situations.

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EAI GoodTechs 2017, and she is a workshop Co-Chair for LSDVE 2018, in conjunction with EUROPAR 2018. She received two Best Paper Awards: at the International Conference DCNET 2013 and at the workshop LSDVE 2017. She has been involved in the TPC of conferences and workshops, such as IEEE CloudCom, and has been a reviewer for journals, such as Mobile Networks and Applications (MONET), Multimedia Tools and Applications (MTAP), and Concurrency and Computation: Practice and Experience (CCPE). Her current research interests include distributed systems, P2P networks, complex networks, Decentralized Online Social Networks, dynamic community detection, and the blockchain technology.

Laura Ricci received the M. Computer Science from the University of Pisa in 1983 and the Ph.D. from the University of Pisa in 1990. Currently, she is an Assistant Professor at the Department of Computer Science, University of Pisa, Italy. Her research interests include parallel and distributed systems, peer-to-peer networks, cryptocurrencies and blockchains. In this field, she has co-authored over 100 papers in refereed scientific journals and conference proceedings.

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