The Internet of People (IoP): A New Wave in Pervasive Mobile Computing

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Abstract—Cyber-Physical convergence, the fast expansion of the Internet at its edge, and tighter interactions between human users and their personal mobile devices push toward an Internet where the human user becomes more central than ever, and where their personal devices become their proxies in the cyber world, in addition to acting as a fundamental tool to sense the physical world. The current Internet paradigm, which is infrastructure-centric, is not the right one to cope with such emerging scenario with a wider range of applications. This calls for a radically new Internet paradigm, that we name the Internet of People (IoP), where the humans and their personal devices are not seen merely as end users of applications, but become active elements of the Internet. Note that IoP is not a replacement of the current Internet infrastructure, but it exploits legacy Internet services as (reliable) primitives to achieve end-to-end connectivity on a global-scale. The talk discusses the key features of the IoP paradigm along with the underlying research issues and challenges. Then it presents emerging networking and computing paradigms that are anticipating IoP.

SPEAKER BIO

Andrea Passarella (Ph.D 2005) is currently a Researcher at the Institute for Informatics and Telematics (IIT) of the National Research Council of Italy (CNR). Prior to join IIT he was with the Computer Laboratory of the University of Cambridge, UK. He has published 130+ papers on Online and Mobile social networks, opportunistic, ad hoc and sensor networks, receiving the best paper award at IFIP Networking 2011 and IEEE WoWMoM 2013. He is the founding Associate Editor-in-Chief of Elsevier Online Social Networks. He is co-author of the book "Online Social Networks: Human Cognitive Constraints in Facebook and Twitter Personal Graphs" (Elsevier, 2015), and was Guest Co-Editor of several special sections in ACM and Elsevier Journals and of the book "Multi-hop Ad hoc Networks: From Theory to Reality" (2007). He is the chair of the IFIP WG 6.3 "Performance of Communication Systems".