E-Infrastructures and E-Services for Developing Countries

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Revised Selected Papers
Africa is considered the remaining land of opportunities that provides a very large untouched market for e-infrastructures and e-services solutions. We have recently witnessed a wave of submarine cable initiatives to bring high-speed Internet access in the continent. Due to its geography as well as the popularity of mobile telephony in the continent, however, Africa is bound to remain a wireless continent and is therefore one of the most important markets for emerging high-speed wireless and mobile communication technologies. In this scenario, new, affordable, and innovative mobile services are increasingly needed to close the gap in the digital divide currently engulfing the continent.

Communities in Africa experience unique socio-economic challenges compared to communities in other continents, developed and developing alike. Therefore, ICT needs to be exploited differently and customized to address these challenges. Technologies of high contemporary relevance include those that enable affordable mobile broadband access and that provide enriched mobile handsets with services such as mobile banking, mobile health, mobile learning, etc.

For largely economical reasons, Africa needs highly adaptive, self-configuring, energy-efficient, and scalable technologies that require minimal manual operation and maintenance. Wireless mesh networking, mobile ad-hoc networking, or mobile peer-to-peer networking therefore some of the key areas that can lead to numerous relevant services in the future. Cloud computing and its services are emerging and highly promising technologies for economically constrained communities like those in Africa. More research work is required in that area.

In addition, there is a need for effective policies and regulations within African countries to enable not only widely accessible e-infrastructures and e-services to the poor and to remote communities, but also to protect from their misuse through enforcement of relevant security measures as well.

Researchers and practitioners across the world, therefore, live in a very critical moment with regard to the continent. Africa is, more than ever, in need of cutting-edge and relevant e-infrastructures, e-services, and enabling policies. AFRICOMM is a series of annual conferences established in 2009 to provide a platform that will actively contribute to such needs through dissemination of quality research findings. Its contributions have been published in Springer’s Lecture Notes on ICST.

This book contains the proceedings of AFRICOMM 2010, which was held in Cape Town. The book contains high-quality papers thanks to the effective and highly specialized technical Program Committee which also diligently selected
the best paper that was awarded at AFRICOMM 2010. The best paper is entitled “Connecting Mobile Phones via Carrier-Grade Meshed Wireless Back-Haul Networks,” by Mathias Kretschmer, Christian Niephaus, Karl Jonas, and Thorsten Horstmann from Fraunhofer FOKUS, Sankt Augustin, Germany

May 2011

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