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e-Infrastructure and e-Services for Developing Countries

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Revised Selected Papers

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Preface

Africa is a continent of diversity that is facing dramatic changes in its social, political, and economical environments. Its population is reaching for the billion, and in particular young Africans demand their share of social inclusion, educational opportunities, and prosperity.

Information and communication infrastructures provide the basis to access knowledge worldwide, blurring social and economic differences while opening opportunities that never existed before. E-services enable or enhance healthcare, agro-business, higher education, and social participation.

Its history, its geography, its (low) population density, and its culture make Africa different from regions in the world where ICT provides ubiquitous access. Technologies as well as services need to be adapted to local challenges. An example are the submarine cables that are becoming available, providing huge capacities at the landing spots but that now need to be connected to the inland population. There is no time to waste, because young Africans will not accept the digital divide. The Internet must come to every household, or the young population will leave their home environment in search for a better future.

The challenge is to reduce operational and capital cost to provide affordable connectivity to all. Services must be adapted to local needs, and business concepts must meet local requirements. New ideas must be tested and prove their superiority; they need to be evaluated, discussed, and challenged.

This is where the AFRICOMM conference comes in. For several years now it provides an open forum where researchers and politicians can discuss new ideas and new challenges. While some of us see the M-services as the logical next step in ICT evolution (which takes place in Africa first), others see them as an intermediate step based on the fact that low-bandwidth services are required because low-bandwidth networks need to be used. Should applications adapt to frequent network failures, or should networks be improved and become more reliable? Probably both, and small steps toward the all-inclusive ICT future were made at this year's AFRICOMM.

Energy efficiency has been a challenge in Africa for many years and is now becoming a hype in Europe as well. And, finally, is the (ICT) situation for rural communities in Europe, the USA or Australia so much different from the situation in rural Africa? While Europeans took advantage of the fact that a monopoly of operators installed copper networks all over the countries, these networks do not meet the requirements of high bandwidth for all. New ideas are required but not only for Africa; perhaps the technological future starts in Africa. Above all, developing countries need relevant content in computing disciplines to spur development. Does it suffice to teach in Africa the same computing programs that are taught in developed worlds? AFRICOMM 2011 provided answers to these questions.

The African continent is, more than ever, in need of cutting-edge and relevant e-infrastructures, e-services, and enabling policies. AFRICOMM was established in 2009 in Mozambique and continued 2010 in Cape Town as a series of annual conferences. Its contributions have been published in the Springer's *Lecture Notes on ICST*.

This book contains the proceedings of AFRICOMM 2011, which was held in Zanzibar. 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 2011. The best paper is entitled "Relevant Computing Curricula in Sub-Saharan Africa," written by Anthony Rodrigues, Isabella Venter, Godfrey Mills, Hussein Suleman, John Edumadze and Idris Rai from universities in Kenya, Uganda, South Africa, and Ghana.

November 2011

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Table of Contents

Track I: Communication Infrastructures for Developing Countries

Scenario to Serve Remote Areas in Emerging Countries with the Village Internet Service Station 1
Gaël Fromentoux, Arnaud Braud, and Xavier Marjou

Enhancing Service Provisioning within Heterogeneous Wireless Networks for Emergency Situations 14
Christian Lottermann, Andreas Klein, Hans D. Schotten, and Christian Mannweiler

Providing Some Quality of Service for Secondary Users in Cognitive Radios Using Time Slotted Systems 24
Hudson Okii and Idris A. Rai

Fair Usage and Capping for Providing Internet for All in Developing Countries 35
Yvon Gourhant, Ali Gouta, and Venmani Daniel Philip

OpenFlow as an Architecture for e-Node B Virtualization 49
Venmani Daniel Philip, Yvon Gourhant, and Djamal Zeghlache

The White Space Opportunity in Southern Africa: Measurements with Meraka Cognitive Radio Platform 64
Moshe T. Masonta, David Johnson, and Mjumo Mzyece

Strategies for Energy-Efficient Mobile Web Access: An East African Case Study 74
Le Wang, Edward Mutafungwa, Yeswanth Puvvala, and Jukka Manner

Scalable Scheduling with Burst Mapping in IEEE 802.16e (Mobile) WiMAX Networks 84
Mukakanya Abel Muwumba and Idris A. Rai

A Pilot of a QoS-Aware Wireless Back-Haul Network for Rural Areas . . . 96
Philipp Batroff, George Ghinea, Thorsten Horstmann, Karl Jonas, and Jens Moedeker

SolarMesh - Energy-Efficient, Autonomous Wireless Networks for Developing Countries 106
Christian Mannweiler, Christian Lottermann, Andreas Klein, and Hans D. Schotten

Critical Information Infrastructure Protection (CIIP) and Cyber Security in Africa – Has the CIIP and Cyber Security Rubicon Been Crossed? 116
Basie von Solms and Elmarie Kritzinger

Geographic Information System as a Tool for Integration of District Health Information System and Drug Logistics Management Information System in Malawi 125
Patrick Albert Chikumba and Auxilia Nyaukaya Kaunda

Track II: Electronic Services, ICT Policy, and Regulatory Issues for Developing Countries

A Socio-technical Perspective on the Use of Mobile Phones for Remote Data Collection in Home Community Based Care in Developing Countries 135
Nobubele Angel Shozi, Dalenca Pottas, and Nicky Mostert-Phipps

Open Source Software Solution for Healthcare: The Case of Health Information System in Zanzibar 146
Yahya Hamad Sheikh and Abubakar Diwani Bakar

A Software Business Incubation Model Using ICTs for Sustainable Economic Development in Uganda 156
Hugh Cameron, Benjamin Kanagwa, and Michael Niyitegeka

Crowdsourcing ICTD Best Practices 167
Aaron Ciaghi and Adolfo Villafiorita

Information and Communication Technologies and Firms Productivity in Cameroon 177
Pierre Valére Nketcha Nana and Christophe Péguy Choub Faha

e-Health for Rural Areas in Developing Countries: Lessons from the Sebokeng Experience 187
Massimiliano Masi, Rosario Pugliese, and Francesco Tiezzi

On Development of a Collaborative ICT Infrastructure for Online HIV/AIDS Advisory Service Provision 197
Simon Samwel Msanjila

Socio-technical Arrangements for mHealth: Extending the Mobile Device Use and Adoption Framework 208
Tiwonge Davis Manda and Yamiko Msosa

Power Dynamics in E-commerce Adoption in Least Developing Countries: The Case of Dar-es-Salaam SMEs, Tanzania 218
Salah Kabanda

The Expansion of the Siyakhula Living Lab: A Holistic Perspective 228
Lorenzo Dalvit, Ingrid Siebörger, and Hannah Thinyane

Effect of Attitude towards SMS Technology and Its Applications on Blood Donation Behaviour 239
Harry H. Gombachika and Maganizo D. Monawe

The Intelligent City Operations Centre: An Integrated Platform for Crisis Management 248
Mweene Monze

Enabling New Interaction Forms and Applications through Next Generation Mobile Platforms for Urban and Rural Africa 258
Kasper Løvborg Jensen and Gary Marsden

Author Index 261