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> *IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.*

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is generally smaller and occasionally by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

IFIP distinguishes three types of institutional membership: Country Representative Members, Members at Large, and Associate Members. The type of organization that can apply for membership is a wide variety and includes national or international societies of individual computer scientists/ICT professionals, associations or federations of such societies, government institutions/government related organizations, national or international research institutes or consortia, universities, academies of sciences, companies, national or international associations or federations of companies.

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Jyoti Choudrie · M. Sirajul Islam
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Yogyakarta, Indonesia, May 22–24, 2017
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Preface

This book comprises the papers presented at the 14th International Conference on Social Implications of Computers in Developing Countries (IFIP WG 9.4 2017 Conference) held in Yogyakarta, Indonesia, May 22–24, 2017. The theme of the conference was "ICTs for Promoting Social Harmony: Towards a Sustainable Information Society." A harmonious society is viewed as a peaceful and balanced "connected whole" in a transformed social dynamic, where there is a sustainable exchange of resources and development taking place through mutual agreement. As "all problems of existence are essentially problems of harmony," the goal of development is apparently not only to ensure social harmony, but also to minimize the elements that undermine or disrupt the connected whole. Ideally, the information society is seen as a "classless and conflictless" inclusive community, which strives to use technologies to diminish structural barriers, democratize information, balance power with dependency, and transform human values. However, in reality, a harmonious society faces several challenges including political and religious extremism, infringement of privacy and security, as well as disparity of wealth and social disconnection. As we are unavoidably intermingling toward a complex environment of the information society, we need to critically investigate the social construction role of information technology especially in the contexts of peace and conflict, cooperation, and development of human capital for creating a sustainable world.

Within this spirit, a call for tracks was distributed and 17 track proposals were submitted, of which 13 were finally selected:

1. Large-Scale and Complex Information Systems for Development
2. Women Empowerment and Gender Justice
3. Social Mechanisms of ICT-Enabled Development
4. The Data Revolution and Sustainable Development Goals
5. Critical Perspectives on ICT and Open Innovation for Development
6. The Contribution of Practice Theories to ICT for Development
7. Agile Development
8. Indigenous and Local Community-Grounded ICT Developments
9. Global Sourcing and Development
10. Sustainability in ICT4D
11. Information Systems Development and Implementation in Southeast Asia
12. IPID and Graduate Student Track
13. General

The IFIP WG 9.4 2017 Conference began a novel tradition of published proceedings in collaboration with Springer in the IFIP *Advances in Information and Communication Technology* (IFIP AICT) series. The main purpose for this novelty is to sustain and preserve the papers and offer a digital space that is accessible and visible to a larger audience. This book consisting of 71 papers offers three keynote submissions, with the

remaining 68 being selected from 118 submissions, following a blind, rigorous review process assisted by over 150 peers from more than 40 countries. We thank Springer for their service in publishing the proceedings of this conference.

For a large event like this conference to happen, a considerable effort by numerous individuals is required. For this, we begin by thanking the 71 members of the Program Committee, the local arrangements chairs, and 123 additional reviewers for their enormous efforts in reviewing the submitted papers. We also express gratitude to all the sponsors: the IFIP WG 9.4 (ifipwg94.org), the Swedish Program for ICT in Developing Regions (SPIDER, spidercenter.org), International Network for Postgraduate Students in the area of ICT4D (IPID, ipid.se), UIINet (uii.net.id), and Cisco Indonesia (cisco.com/c/en_id/).

Special thanks go to the hosts of this conference, Universitas Islam Indonesia (UII, uii.ac.id) and Sanata Dharma University (USD, usd.ac.id). Both these private universities are among the pioneers of higher learning in Indonesia and are located in Yogyakarta, one of the most livable cities in Indonesia. Yogyakarta has more than 100 higher education institutions and is the city of tolerance. Yogyakarta is a melting pot of various cultures from all corners of Indonesia and is perhaps the pre-eminent city of culture in Indonesia. It was a great pleasure to hold the IFIP WG 9.4 2017 Conference in this special place.

May 2017

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