IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP’s aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

*IFIP’s mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.*

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

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 small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less 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.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.
Education and Technology for a Better World

9th IFIP TC 3 World Conference on Computers in Education, WCCE 2009
Bento Gonçalves, Brazil, July 27-31, 2009 Proceedings
Preface

Education and Technology for a Better World was the main theme for WCCE 2009. The conference highlights and explores different perspectives of this theme, covering all levels of formal education as well as informal learning and societal aspects of education. The conference was open to everyone involved in education and training. Additionally players from technological, societal, business and political fields outside education were invited to make relevant contributions within the theme: Education and Technology for a Better World.

For several years the WCCE (World Conference on Computers in Education) has brought benefits to the fields of computer science and computers and education as well as to their communities. The contributions at WCCE include research projects and good practice presented in different formats from full papers to posters, demonstrations, panels, workshops and symposiums. The focus is not only on presentations of accepted contributions but also on discussions and input from all participants.

The main goal of these conferences is to provide a forum for the discussion of ideas in all areas of computer science and human learning. They create a unique environment in which researchers and practitioners in the fields of computer science and human learning can interact, exchanging theories, experiments, techniques, applications and evaluations of initiatives supporting new developments that are potentially relevant for the development of these fields. They intend to serve as reference guidelines for the research community.

Proposals were invited on a wide range of topics relevant to the theme and included, but were not limited to these streams (based on the Stellenbosch declaration, WCCE 2005):

- Digital solidarity
- Learners and lifelong learning
- Teachers – teaching and role of teachers
- Decision making strategies/policy
- Networking and collaboration
- Innovation and creativity in schools
- IT security in Academia
- Informatics, programming and problem solving

Perspectives:

- societal perspective
- learning and teaching
- technology and infrastructure
- research

It is usual for the conference to reflect new trends, presenting the more relevant research in the area. Among the hot topics that have often been discussed there, we
can cite those in the areas of innovation and creativity in schools, informatics, digital 
solidarity, learners and life long learning, networking and collaboration and teaching 
and the role of teachers.

Along with traditional paper sessions the conference had several symposia and 
expert panels for professional in-depth discussions and reflections. A special stream 
was dedicated to Lifelong Learning under the IFIP AGORA umbrella. The 
Workshops also complement the main conference by providing a more focused target 
audience for discussion of current topics of interest. These activities are not reported 
in this book or the CD proceedings but were aimed at initiating or continuing 
activities and events throughout the world after the conference.

All this has been the tradition since the First World Conference on Computers in 
Education (WCCE) that was held in Amsterdam, The Netherlands in 1970, and these 
conferences have since then been organized every fourth to sixth year in: Marseille 
(France), Lausanne (Switzerland), Norfolk (USA), Sydney (Australia), Birmingham 
(USA), Copenhagen (Denmark) and Cape Town/Stellenbosch (South Africa) before 
finally arriving in Bento Gonçalves, Brazil this year – the first time in South America.

The main goal of the WCCE 2009 proceedings is to offer a venue for the 
presentation of a sample of the best papers submitted to the WCCE 2009 Research 
Track. In particular, this special issue is of relevance to anybody interested in current 
research in computers and education and the development and use of relevant 
applications and tools. This keeps with the spirit of the event, which aims at 
stimulating contact between participants in order to exchange experiences on 
applications, methodologies and management of educational hardware and software.

We would like to thank all the scientists who contributed to this WCCE 2009 
edition. We received 289 contributions to the conference, whereof 146 were accepted 
as full papers, and finally 48 of these were selected as the best papers to be published 
in this book. All conference papers were peer reviewed by at least three reviewers, 
and those published in this book were subjected to additional peer review before 
acceptance.

We also thank the members of the International Program Committee who did a 
very good job and worked hard given the total number of contributions we received. 
Moreover, we want to express our gratitude to the editors Arthur Tatnall and Anthony 
Jones for making this book a reality.

Finally, we are also grateful to the WCCE 2009 organizing team, our sponsors and 
in particular to the participants. WCCE 2009 was an IFIP event hosted by the 
Computer Society of Brazil and organized by UFRGS (Universidade Federal do Rio 
Grande do Sul) UFSC Universidade Federal de Santa Catarina, and IDESTI (Instituto 
de Capacitação, Pesquisa e Desenvolvimento Institucional em Gestão Social de 
Tecnologia de Informação).

May 2009
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