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Latin American Perspectives and the IT2017 Curricular Guidelines

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ABSTRACT

The term ‘information technology’ has many meanings for various stakeholders and continues to evolve. This discussion presents an overview of the developing curricular guidelines for rigorous, high quality, bachelor’s degree programs in information technology (IT), called IT2017. Panel participants will focus on Latin American academic and industry perspectives on IT undergraduate education. Discussion will seek to ascertain commonalities and differences between the current draft IT2017 report and perspectives from Latino/a professional and academic communities. It also addresses ways in which this endeavor contrasts with current practices in Latin America industry and academia.

1. BACKGROUND

The ACM/IEEE-CS effort to update the IT2008 Curriculum Guidelines for Undergraduate Degree Programs in Information Technology [3], currently tagged as the IT2017 report, focuses on being a forward thinking document to capture both the current and future changes in information technology (IT). The report is in draft form and is accessible for public review and comment [5].

Information technology means different things for different stakeholders. These stakeholders include industry and business sectors, academic institutions, professional and scientific societies, and students graduating from high school or technical schools interested in pursuing undergraduate degrees in IT. The academia

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and industry dimensions are compounded by geographic factors. High-tech professional organizations have international membership and IT degree programs are becoming omnipresent as IT industry advances continue at a fast pace worldwide.

2. PRESENTATION

This panel discussion addresses the content of the pending IT2017 report and the ways it reflects industry needs within the context of academia. It is based on research results addressed in a paper titled “Multinational Perspectives on Information Technology from Academia and Industry” [6]. The paper addressed issues such as the commonalities and differences in IT curricular frameworks, pathways into and through IT education programs, and the future of IT.

This paper also addressed the global context of information technology by providing several meanings of information technology. The definition from the 2008 IT Model Curriculum states,

“Information Technology (IT) in its broadest sense encompasses all aspects of computing technology. IT, as an academic discipline, is concerned with issues related to advocating for users and meeting their needs within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies.” [3]

This and other definitions convey the all-inclusive, ever-expanding and integrative role of IT by organizations in our society. This presentation discusses the IT2017 report within the context of IT education in Latin America.

3. GLOBAL PERSPECTIVES

The notion of IT could mean different things around the world. In terms of business, research into various technology hubs worldwide seems to confirm these basic definitions. Europe, for example, tends to use the term information and communication technologies (ICT). In the Far East, information technology covers a broad spectrum of industries such as hardware, software, electronics,

semiconductors, internet, telecom equipment, e-commerce, and unlimited computing services.

Some Latin American countries such as Mexico view IT as a vehicle or driver for a technological and communications revolution [4]. In Brazil, IT becomes a way to create a competitive and innovative environment to promote economic development of the country [1]. Chile has already created a Ministry of Science and Technology to “lay the foundations to compete as a country on an equal footing with the rest of the world” [2].

4. PRESENTERS

The following individuals constitute the presenters for this panel discussion. A brief biography accompanies their listing.

John Impagliazzo is Professor Emeritus from Hofstra University in New York. John is a member of the executive committee of the IT2017 task group; he also is the chair of the computer engineering curriculum project CE2016. John has a long history devoted to computing education including former editor-in-chief of the publication *ACM Inroads* as well as an active member of the Computing Curricula Overview Report (CC2005) and the 2004 computer engineering report. John has published eighteen books and has evaluated over seventy-five computing programs worldwide.

Ernesto Cuadros-Vargas is full time professor and Head of the School of Computer Science at the San Pablo Catholic University in Arequipa, Perú. He was also a member of the ACM/IEEE-CS Computing Curricula for Computer Science (CS2013). He is now executive secretary of the Latin American Center on Computing (CLEI). Since 2001, Cuadros-Vargas has been the initiator and most active contributor of the initiative led by a number of professionals in Perú, to bring international standards, especially the ACM/IEEE-CS computing curricula into the higher education in computing in the country.

Juan José Miranda is founder and current project director and international business director of Magia Comunicaciones S.A., a Magia.Digital company. He has over nineteen years of experience by providing consulting and business solutions using information technologies, owns successful brands such as Aurix Software Solutions, Pariwana Studios, and Inka Madness. He is president of the Peruvian Association of Software and Technologies - APESOFTE. He is professor of Digital Projects, Digital Media and Technology and the Internet at the Universidad de Lima and the University of Science and Arts of Latin America (UCAL). He is the director of First Tuesday, a startup of the Peruvian initiative to support entrepreneurship. He is a member of the Technical Standards in Software Engineering and Information Systems Committee of INDECOPI.

Gonzalo Begazo Escobedo received a business administration and accounting degree from the Universidad del Pacifico in Lima, Peru and a MBA from Cornell University in New York. He is a member of advisory boards for several universities throughout Peru. Gonzalo brings an industry, investor, and startup perspectives to the discussion. He is the co-founder of Chazki, an urban logistics technology startup; previously, he was finance director at Google by managing the global financial aspects of the company at its headquarters in Mountain View, California. He also worked for Microsoft, Goldman Sachs, IBM and Digeo, a company of Paul Allen - co-founder of Microsoft. Included in the 2010 and 2011 lists

of the 100 most influential Hispanics in technology in the United States released by HITEC and the top 100 most influential Hispanics published by Hispanic Magazine's Technology Engineering in 2011. He is an angel investor and advisor of *cognicor.com*, *plazapoints.com*, *Yump.com*, *cinepapaya.com*, *pick1.com* and *Altodot.com*, and mentor of Wayra Peru (Telefonica's Incubator).

Mihaela Sabin is the Chair of the ACM/IEEE-CS IT2017 Task Group. She has been a long-standing member of ACM SIGITE and currently serves as its Vice-Chair for Education. Mihaela is an associate professor of computer science at the University of New Hampshire (UNH), and has been involved in curriculum development and revision of undergraduate and graduate programs in computer science and information technology at UNH. Her research is in computing education, open source content and development, and teacher professional learning.

Barbara Viola is President and Chief Executive Officer of Viotech Solutions, a successful information technology placement company in New York. Barbara is a member of the IT2017 task group and coordinates the group's work as its project manager. As immediate past president of the Association of Information Technology Professionals (AITP), Barbara has bridged the gap between industry profession practitioners and members from academic communities. She also leads a vibrant AITP chapter for Long Island in New York and she is the chair of the newly formed New York Metro chapter of ACM.

5. ACKNOWLEDGEMENTS

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