

Keynote Talk

Inclusive Thinking in Computer Science Education

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Abstract

On average, one in every five people has a disability. There is a growing, worldwide attention to the rights and needs of disabled users to access information technologies (IT). This technology is not simply for recreational use, but in many cases is a disabled user's lifeline to services and a path to employment. To address this issue, there has been enactment of legislation in countries worldwide aimed at making technology accessible. Such legislation has led to the creation of standards, guidelines, and checklists for accessibility, with the goal of having a common understanding of what is needed to make IT accessible and thereby enabling developers to create accessible applications.

Despite these efforts, however, technology remains largely unusable for people with disabilities. A number of factors may contribute to this state. Here we consider one of the key factors--that developers, in large part, do not understand and are not attuned to the needs of disabled users. The checklists are not intuitive and provide developers with little insight into the very real problems that disabled users have with computing. Moreover, these checklists address issues of 'compliance', but do not meet the needs of a large number of users whose needs fall outside of traditional accessibility concerns. Older adults are an excellent example of users whose needs are often not considered during development.

A conference theater event will highlight computer use by persons with disabilities. Following up on that event, inclusive design in computer science education will be considered. The focus will be on populations that are often not considered in the design process.

Categories and Subject Descriptors

K.3.2 [Computers and Education]: Computer and Information Science Education - *Computer science education*; K.4.2 [Computers and Society]: Social Issues - *Assistive technologies for persons with disabilities*.

General Terms: Human Factors, Design.

Bio

Dr. Hanson has been involved in working with people with disabilities for nearly 30 years. She currently manages the Accessibility Research group at IBM's T. J. Watson Research Center. Holding a doctorate in Cognitive Psychology, her primary research areas consist of computer usability and Web access, as well as reading and language processing in learning environments. Through an Award from the Leverhulme Trust to the University of Dundee, she will serve as a Visiting Professor at the university during 2007 – 08.

She is Chair of ACM's Special Interest Group on Accessibility (SIGACCES) and has chaired their ASSETS'02 conference on Assistive Technologies. She has received multiple awards from IBM for Outstanding Technical Achievement in the areas of education and accessibility and in 1992 was an award winner in the Johns Hopkins National Search for Computing to Assist Persons with Disabilities. She serves on Advisory Boards for universities and non-profit organizations in disability areas (AccessComputing Alliance, CAST, and the University of Colorado RERC for Advancement of Cognitive Technologies), and on government review panels in the U.S. and U.K. She is the founder and co-Editor-in-Chief of *ACM Transactions on Accessible Computing*, Associate Editor for Accessibility of *ACM Transactions on the Web* and has served as guest editor for several Special Issues on accessibility topics for journals. She was named ACM Fellow in 2004 for her contributions to computing technologies for people with disabilities.