Keynote Address

Making Visualization Work: How Abstract is Too Abstract — How Real is Too Complex?

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Problem solving and decision making are vital components of most complex tasks and, as such, are increasingly supported through means of one or more information displays. The approach to presentation and portrayal can hinder or promote accurate and effective processing of information and, as such, provides the interface designer with an opportunity to influence the user's processing of information and resultant actions. Similarly, information visualization concepts reflect the interface designer's level of understanding of the task-critical contexts in which information has value and the cognitive and experiential processes engaged by the user in acquiring and processing it.

Issues underlying information visualization techniques will be provocatively addressed in the context of two application domains. (1) Design decision aiding and (2) Interactive virtual interfaces. Some of the issues to be discussed are: Cognitive quality, aiding inter-disciplinary access and understanding of information, information usefulness and usability, experiential representation, and alternative control and interaction techniques.

Biographical Sketch

Kenneth R. Boff is Chief of the Fitts Human Engineering Division of the USAF Armstrong Laboratory at Wright-Patterson Air Force Base, Ohio, USA. In this position, he directs a multi-disciplinary team of scientists and engineers concerned with enhancing the operability and affordability of Air Force human systems. He received his M.Phil. and Ph.D. from Columbia University in 1978.

His personal research has focused on facilitating applications of human performance data and models in the design and evaluation of human system interfaces. Holder of a patent for Rapid Communication Display Technology, Dr. Boff has authored numerous articles, book chapters, and technical papers and is Co-Editor of System Design (1987), Senior Editor of the two-Volume Handbook of Perception and Human Performance (1986) and the four-Volume Engineering Data Compendium: Human Perception and Performance (1988). He is cited in Who's Who in the USA, Who's Who in Frontier Science and Technology and other biographical literature.

Dr. Boff actively consults and provides technical liaison with a broad range of government agencies, international working groups, universities, and professional societies and is founder and Technical Director of the Crew System Ergonomics Information Analysis Center (CSERIAC). He is founding member and Chair of the Reliance Human-Systems Interface Technology Panel for the Department of Defense, chairs and coordinates the Human Factors technology area for NATO AGARD and is the US Principal Investigator for the US-French Super Cockpit and US-UK Vista Warrior Projects.