

Leonardo's Laptop: Human Needs and the New Computing Technologies

<http://mitpress.mit.edu/leonardoslaptop>

Winner of IEEE book award for
"Distinguished Literary Contribution furthering Public Understanding of the Profession"

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The old computing was about what computers could do;
the new computing is about what people can do.

To accelerate the shift from the old to the new computing designers need to:

- 1) reduce computer user frustration.
- 2) promote universal usability.
- 3) envision a future in which human needs more directly shape technology evolution.

Leonardo da Vinci could help as an inspirational muse for the new computing. His example could push designers to improve quality through scientific study and more elegant visual design. Leonardo's example can guide us to the new computing, which emphasizes empowerment, creativity, and collaboration. Information visualization tools such as treemaps (www.smartmoney.com/marketmap) (www.hivegroup.com), Spotfire (www.spotfire.com) and TimeSearcher (www.cs.umd.edu/hcil/timesearcher) will be demonstrated. Similarly, personal photo interfaces will be shown: PhotoMesa (www.cs.umd.edu/hcil/photomesa) and PhotoFinder (www.cs.umd.edu/hcil/photolib).

For more:

<http://mitpress.mit.edu/leonardoslaptop>
<http://www.cs.umd.edu/hcil/newcomputing>

BEN SHNEIDERMAN is a Professor in the Department of Computer Science Founding Director (1983-2000) of the Human-Computer Interaction Laboratory (<http://www.cs.umd.edu/hcil/>), and Member of the Institutes for Advanced Computer Studies & for Systems Research, all at the University of Maryland at College Park. He was elected as a Fellow of the Association for Computing (ACM) in 1997 and a Fellow of the American Association for the Advancement of Science (AAAS) in 2001. He received the ACM SIGCHI Lifetime Achievement Award in 2001.

Ben is the author of "Software Psychology: Human Factors in Computer and Information Systems" (1980) and "Designing the User Interface: Strategies for Effective Human-Computer Interaction" (4th ed. 2004) <http://www.awl.com/DTUI/>. He pioneered the highlighted textual link in 1983, and it became part of Hyperties, a precursor to the web. His move into information

visualization helped spawn the successful company Spotfire <http://www.spotfire.com/> . With S Card and J. Mackinlay, he co-authored "Readings in Information Visualization: Using Vision to Think" (1999). "Leonardo's Laptop" (MIT Press) appeared in October 2002, and his new book with B. Bederson, "The Craft of Information Visualization" was published in April 2003.