The Seventh International Conference on Intelligent User Interfaces (IUI-2003)

David Leake

The conference was interfaces whose focus goes beyond rational "intelligence" to address psychological concerns such as emotion, personality, and motivation. The conference received an all-time record number of submissions, covering a wide range of areas and approaches. Oral presentation sessions were organized into seven major topics: (1) adaptive and collaborative interfaces, (2) affective interfaces, (3) agent-based interfaces, (4) knowledge acquisition and visualization, (5) model-based interface design, (6) multimodal input, and (7) natural language interfaces.

The conference program included three invited talks, each reflecting a different direction for developing the intelligent interfaces of the future. In "What Users Want," Daniel Weld, the University of Washington, discussed the tension between interfaces that adapt automatically and their users' need for stability to maintain an accurate mental model, predict system behavior, and feel in control. Weld presented principles for addressing this tension, described algorithms for mining user action traces, and proposed the algorithms' role in dynamically transforming interfaces.

roshi Ishii, the Massachusetts Institute of Technology MediaLab, presented "Tangible Bits: Designing the Seamless Interface between People, Bits, and Atoms," a vision of how to give physical form to digital information to take advantage of multimodal human senses and interaction skills. His presentation was illustrated with examples of projects aimed at realizing this vision by enabling interactions with graspable objects, augmented surfaces, and "ambient media" involving light and sound. Allen Gorin, AT&T Research, presented "Semantic Information Processing of Spoken Language in How May I Help You?" His talk described a new generation of voice-based user interfaces. Unlike menu-driven systems, in which the user must conform to the menu and respond to narrow questions, the deployed "How May I Help You?" system enables the users to drive the interaction by saying what they want, and the system understands and adapts to what the user says. The approach is based on algorithms that learn to extract meaning from speech and exploit salient information for robust, speaker-independent processing.

The conference opened with two tutorials, "Intelligent User Interfaces: An Introduction" by Mark Maybury of MITRE and "Recommender Systems: Interfaces and Technology" by John Riedl and Joseph Konstan of the University of Minnesota. An evening poster-demonstration session gave attendees the opportunity to interact with more than 30 live systems and to see emerging research. Discussions and demonstrations continued long after the official end of the session, with the last participants departing only when the room was closed.

IUI-2002 started a new tradition for the conference, an invited panel from a major IUI center presenting an in-depth look at their projects. The panel "A Life without Friction: Tales from the InfoLab," chaired by Kristian Hammond and Larry Birnbaum, discussed and demonstrated a spectrum of projects from the Intelligent Information Laboratory of Northwestern University, all of them serving the goal of bridging the gap between user and system to increase the ease and effectiveness of user-system interactions. Research in IUIs draws on areas such as AI and human-computer interaction to study methods for supporting varied users for a wide range of tasks, task environments, platforms, and interaction paradigms. The Intelligent User Interfaces Conference is the annual meeting of the IUI community and the principal international forum for reporting research and development in this area. IUI-2003, the seventh IUI conference, was held in Miami Beach, Florida, from 12 to 15 January 2003.

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between human information needs
and the ability of machines to meet
them. The conference’s closing pan-
el, “XML: The Lingua Franca of
IUIs?,” chaired by Angel Puerta of
RedWhale Software, examined the
role of standardization of interopera-
tion and data interchange in the IUI
software industry.

IUI-2003 was chaired by David
Leake, Indiana University. Lewis
Johnson, the USC Information Sci-
ences Institute, and Elisabeth Andre,
the University of Augsburg, were the
program cochairs, and John Do-
ingue, the Open University, was the
poster and demonstrations chair.
The conference was sponsored by the
Association of Computing Machin-
er SIGART and SIGCHI, in coopera-
tion with the American Associa-
tion for Artificial Intelligence and
BCS-HCI, with support from the
Mitsubishi Electric Research Labora-
tories, Microsoft Research, Red-
Whale Software, IBM Research, Lu-
cent Technologies, and The HSBC
Group.

The ocean-side setting, sun, and
January weather in the 70s made IUI-
2003 as pleasant as it was productive.
IUI-2004, to be held 13 to 16 January
2004 on the island of Madeira,
promises a comparable setting and
marks the first time the conference
will be held in Europe. Full IUI-2004
information and online access to the
proceedings of previous IUI confer-
ences are available at www.iuiconf.org.

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