

The 2009 Visualization Technical Achievement Award

Jock Mackinlay

This 2009 Visualization Technical Achievement Award goes to Jock D. Mackinlay, Tableau Software, in recognition of his seminal work on automatic presentation tools and new visual metaphors that helped to shape the field of information visualization.

Jock's 1986 Ph.D. dissertation at Stanford University developed a formal algebraic approach for the automatic design of graphical presentations of relational information. After graduation, he joined Xerox PARC, where he focused on user interaction. In 1991, he co-presented three papers at the CHI conference that established the field of information visualization. Over the next decade, he developed many visual metaphors, some inspired by his dissertation formalism. In 2004, Jock joined Tableau Software, where he is working to broaden the adoption of information visualization. His 2007 IEEE InfoVis paper described how his dissertation work on automatic presentation finally became widely available when it was added as a core function to a commercial visual analysis application. The IEEE VGTC is pleased to award Jock D. Mackinlay the 2009 Visualization Technical Achievement Award.



Jock Mackinlay
Tableau Software
Award Recipient 2009

BIOGRAPHY

Jock D. Mackinlay is Director of Visual Analysis at Tableau Software. In 1975, he received a BA with honors in Mathematics and Computer Science from UC Berkeley. His graduate work was done at Stanford University under Professor Michael R. Genesereth. His 1986 Ph.D. dissertation codified the semiology of graphics developed by the French cartographer Jacques Bertin. In particular, he developed algebraic operators that were used to automate the design of effective presentations of relational data.

At Xerox PARC, Jock focused on using 3D graphics and interactive animation to help people work with abstract information and data. Working in close collaboration with Stuart K. Card and George G. Robertson, he developed a system called the Information Visualizer that grew to contain many novel visualizations of information. Their work was foundational for the field of information visualization, a term they coined to distinguish their research from scientific visualization.

In 1999, Jock wrote and edited a book with Stuart K. Card and Ben Shneiderman titled *Readings in Information Visualization: Using Vision to Think*, which is a key reference work in the field of visualization. A reference model inspired by the formalism from Jock's dissertation was used in this book to describe a wide range of visualization systems.

Other interaction work at PARC included a collaboration with Polle T. Zellweger and Bay-Wei Chang. They developed Fluid Documents, which used interactive animation to incorporate additional material in documents. During a sabbatical to the University of Aarhus, Denmark in 2000-1 as visiting professors, Polle and Jock extended this work to Web standards with collaborators Niels Olof Bouvin and Kaj Grønbaek.

In 2004, Jock joined Tableau Software to work with founders Chris Stolte and Professor Pat Hanrahan after

serving on Chris's Ph.D. dissertation committee at Stanford University. Inspired by Jock's dissertation, Chris and Pat had developed a formal specification language that combines query, analysis, and visualization into a single framework. Their current joint work focuses on using this formalism to develop intuitive visual analysis applications for a wide range of users.

Jock has co-authored many scientific publications on visualization and human-computer interaction in a variety of refereed journal and conference publications, including IEEE TVCG, IEEE InfoVis, IEEE CG&A, IEEE Computer, Communications of the ACM, ACM SIGGRAPH, ACM TOIS, ACM TOG, ACM CHI, ACM UIST, WWW, and AAAI. He received the best paper award at IEEE Visual Languages'98 (co-authored with Polle T. Zellweger, Bay-Wei Chang, and Takeo Igarashi). He has served as a member of program committees and as a reviewer for most of the conference and journals in the fields of visualization and human-computer interaction. He was UIST'91 program chair and UIST'92 conference chair. He was co-papers chair for CHI'96. He was on the editorial boards for ACM TOCHI (1997-2003) and IEEE CG&A (2004-6). Jock is a co-inventor on almost 50 patents. In 2003, he received a Valuable Patent Award from PARC.

AWARD INFORMATION

The IEEE VGTC Visualization Technical Achievement Award was established in 2004. It is given every year to recognize an individual for a seminal technical achievement in visualization. VGTC members may nominate individuals for the Visualization Technical Achievement Award by contacting the awards chair, Bill Lorensen, at <http://tab.computer.org/vgtc/>.