

Table of Contents

General Chairman's Message	iii
Preface	v
Workshop Committee	vii

Wednesday August 19

Session 1. Icon Formalization

Co-chairmen: S. K. Chang and Nan Shu

Icon Purity - Toward a Formal Theory of Icons.....	3
Shi-Kuo Chang, G. Tortora, Bing Yu and A. Guercio	
Visual Representaion in the Game of Adumbration.....	17
Steven L. Tanimoto	
Approach to Standardize Icons.....	29
K. Furuya, S. Tayama, E. Kutsuwada and K. Matsumura	

Session 2: Visual Programming

Co-chairmen: Michael Tauber and Christian Krysander

Animation of Algorithms Without Programming.....	40
A. Hyrskykari and K.-J. Rähkä	
Visual Programming of Program Visualizations	
A Gestural Interface for Animating Algorithms.....	55
Robert Duisberg	
Software Design Capture.....	67
Don Petersen	
Generalized Halstead Metrics for Iconic Programming?.....	78
Ephraim P. Glinert and Craig D. Smith	

Session 3: Sheet Languages

Co-chaimen: E. Glinert and W. Schneider

A Spreadsheet-Based Visual Language for Freehand	
Sketching of Complex Motions.....	94
J. Michael Moshell, Charles E. Huges, Lee W. Lacy, Richard L. Lewis and David J. Blower	
Forms: Expanding the Visualness of Sheet Languages.....	105
Allen L. Ambler	
Description Based Icon Design.....	118
P. Mussio, M. Padula and M. Protti	

Thursday August 20

Session 4: Applications

Co-chairmen: S. Levialdi and G. Borgefors

Animation Using Behaviour Functions.....	133
Timothy C. Lethbridge and Colin Ware	
An Extended Visual Programming Synthesizer for	
Computer Aided Instruction Applications.....	147
K. Y. Cheng, M. S. Hwu and C. C. Hsu	
Visual Programming of Graphical User Interfaces.....	161
Gurminder Singh and Mark Green	

Session 5: Information Retrieval Applications

Co-chairmen: Robert R. Korfhage and Roland Hjerppe
A Pictorial Representation of Data in an
Information Retrieval Environment.....177
Donald B. Crouch
A Graphical Tool for Structuring and Understanding Quantitative
Decision Models.....188
Charles Wiecha and Max Henrion
QPF - A Versatile Query Language Based on ADTS.....199
Tao Chen and Jian-Kang Wu
Methodologies and Applications of Visual languages for
Information Services.....206
S. C. Chan, I. F. Chang, T. S. Chua, K. C. Chu, A. B. H. Kang, K. C. Kwok,
C. K. Law, K. H. Lim, K. T. Loh, H. B. Low, A. D. Narasimhalu, T. M. Ng,
W. H. Wong

Session 6: Panel: Visual Grammers: Consistency and Desirability

Chairman and Moderator: Erland Jungert

Session 7: Visual Data Structures

Co-chairmen: Tadao Ichikawa and G. Tortora
Specification of Visual Representations of Petri Nets.....225
A. T. Berztiss
A Rapid Prototyping of Real-Time Software Using Petri Nets.....234
Tadashi Ae and Reiji Aibara
A Visual Programming Environment for Hierarchical
Data Structures.....242
Sandra Loosemore

Friday August 21

Session 8: Panel: Visual Human-Machine Interfaces

Chairman and Moderator Stefano Levialdi

Session 9: Visual Languages and Systems

Co-chairmen: Steven L. Tanimoto and Tadashi Ae
From Modern Alchemy to a New Renaissance.....259
Kim Fairchild and Eric Gullichsen
Simulacrum: A System Behavior Example Editor.....260
David Bridgeland
Icon Driven Troubleshooting.....275
L. Cinque, M. Crispoldi and S. Levialdi
Visual Specification of Security Constraints.....288
J. D. Tygar and Jeannette M. Wing

Session 10: Visual Programming Languages

Co-chairmen: P. Mussio and S. Hägglund
An Environment for HI-VISUAL Iconic Programming.....305
M. Hirakawa, S. Iwata, I. Yosimoto, M. Tanaka and T. Ichikawa
ALEX - An Alexical Programming Language315
D. Kozen, T. Teitelbaum, W. Chen, J. Field, W. Pugh and
B. Vander Zanden
A Visual Environment for the Design of Distributed Systems.....330
Michael Graf