

Visual Week 2008 Program

**VL/HCC
2008**

Visual Week

Herrsching am Ammersee
Germany
15-21 September 2008

**SoftVis
2008**

**Diagrams
2008**

sponsored by

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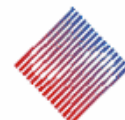


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Visual Week 2008

Herrsching am Ammersee, Germany

September 15-21, 2008

Program at a Glance

Monday, Sept. 15	Layout of Engineering Diagrams		Sketch Tools for Diagramming	
	08:00 - 09:00	Registration		Lobby
09:00 - 09:15	Opening	Seminarraum 1	Opening	Seminarraum 2
09:15 - 10:30	Invited talk: Eileen Kraemer	Seminarraum 1	Recognition Topics	Seminarraum 2
10:30 - 11:00	Break		Lobby	
11:00 - 11:45	Layout Extension and Interaction	Seminarraum 1	Discussion	Seminarraum 2
11:45 - 12:30			Applications Topics	Seminarraum 2
12:30 - 13:30	Lunch		Restaurant	
13:30 - 14:15	Layout Specification and Communication	Seminarraum 1	Live Demonstrations	Seminarraum 2
14:15 - 15:00			Discussion	Seminarraum 2
15:00 - 15:30	Break		Lobby	
15:30 - 16:15	Group Exercise	Seminarraum 1	General Topics	Seminarraum 2
16:15 - 17:00			Discussion	Seminarraum 2
17:00 - 17:15	Roundup	Seminarraum 1	Roundup	Seminarraum 2

Tuesday, Sept. 16	VL/HCC Graduate Consortium		SoftVis	
	08:00 - 08:45	Registration		Lobby
08:45 - 09:00	Session A	Konferenzraum	SoftVis Opening	Seminarraum 3
09:00 - 10:30			SV for Understanding	Seminarraum 3
10:30 - 11:00	Break		Lobby	
11:00 - 12:30	Session B	Konferenzraum	SV for Testing and Debugging	Seminarraum 3
12:30 - 14:00	Lunch		Restaurant	
14:00 - 15:30	Session C	Konferenzraum	SV for Maintenance	Seminarraum 3
15:30 - 16:00	Break		Lobby	
16:00 - 17:30	Session D	Konferenzraum	SV Interaction and Layout	Seminarraum 3
18:30	VL/HCC & SoftVis Opening Reception and SoftVis Poster Session		Lobby	

Wednesday, Sept. 17	VL/HCC		SoftVis	
	08:00 - 09:00	Registration		Lobby
09:00 - 09:15	VL/HCC Opening		Großer Saal	
09:15 - 10:30	Joint VL/HCC & SoftVis Keynote: John Stasko		Großer Saal	
10:30 - 11:00	Break		Lobby	
11:00 - 13:00	Joint VL/HCC & SoftVis Paper Session: Visualization and Animation		Großer Saal	
13:00 - 14:30	Lunch		Restaurant	
14:30 - 16:00	End User Programming I	Großer Saal	SV for Design	Seminarraum 3
16:00 - 16:30	Break		Lobby	
16:30 - 17:45	Supporting Professional Programmers	Großer Saal	SV Applications	Seminarraum 3
17:45 - 18:30			SoftVis Closing Remarks	Seminarraum 3
19:30	SoftVis Banquet		Restaurant	

Thursday, Sept. 18	08:45 - 10:30
	10:30 - 11:00
	11:00 - 12:30
	12:30 - 14:00
	14:00 - 15:30
	15:30 - 16:00
	16:00 - 17:30
	18:00

VL/HCC	
Domain-Specific Languages	Großer Saal
Break	Lobby
Visual Programming Tools	Großer Saal
Lunch	Restaurant
End User Programming II	Großer Saal
Break	Lobby
Understanding and Supporting Designers	Großer Saal
Bus departs for VL/HCC Banquet	

Friday, Sept. 19	08:00 - 09:00
	09:00 - 09:15
	09:15 - 10:30
	10:30 - 11:00
	11:00 - 12:45
	12:45 - 14:15
	14:15 - 15:30
	15:30 - 16:00
	16:00 - 17:30
	17:30 - 18:00
18:30	

VL/HCC		Diagrams	
		Registration	Lobby
		Diagrams Opening	Großer Saal
Joint VL/HCC & Diagrams Keynote: Wilhelm Schäfer		Großer Saal	
Break		Lobby	
Joint VL/HCC & Diagrams Paper Session: Diagram Aesthetics and Layout		Großer Saal	
Lunch		Restaurant	
Joint VL/HCC & Diagrams Paper Session: Modeling and Graphs		Großer Saal	
Break		Lobby	
Tools for Interaction Design	Großer Saal	Psychological and Cognitive Issues	Seminarraum 3
VL/HCC Closing	Großer Saal		
		Diagrams Reception and Poster Session	

Saturday, Sept. 20	09:00 - 11:00
	11:00 - 11:30
	11:30 - 13:00
	13:00 - 14:30
	14:30 - 15:45
	15:45 - 16:15
	16:15 - 17:35
	18:30

Diagrams	
Tutorial: Cognitive Dimensions of Notations: Understanding the Ergonomics of	Großer Saal
Break	Lobby
Tutorial: Getting Started With Sketch Tools: A Tutorial on Sketch Recognition Tools	Großer Saal
Lunch	Restaurant
Diagrams Keynote: John Etchemendy	Großer Saal
Break	Lobby
Applications of Diagrams	Großer Saal
Bus departs for Diagrams Banquet	

Sunday, Sept. 21	09:00 - 11:00
	11:00 - 11:30
	11:30 - 12:45
	12:45 - 14:00
	14:00 - 15:30
	15:30 - 15:50
	15:50 - 17:20
	17:20 - 17:30

Diagrams	
Theoretical Aspects	Großer Saal
Break	Lobby
Diagrams Keynote: W. Bradford Paley	Großer Saal
Lunch	Restaurant
Diagrams in Education	Großer Saal
Break	Lobby
Understanding and Comprehension	Großer Saal
Diagrams Closing	Großer Saal

Welcome

Welcome to *Visual Week 2008* at Herrsching am Ammersee, Germany. *Visual Week 2008* consists of the three symposia

- *2008 ACM Symposium on Software Visualization (SoftVis 2008)* on Tuesday and Wednesday
- *2008 IEEE Symposium on Visual Languages and Human Centric Computing (VL/HCC 2008)* on Wednesday till Friday, and
- *Fifth International Conference on the Theory and Application of Diagrams (Diagrams 2008)* on Friday till Sunday

as well as a *VL/HCC Graduate Consortium* on Tuesday, the VL/HCC workshops on Monday

- *Second International Workshop on Layout of (Software) Engineering Diagrams (LED 2008)* and
- *Workshop on Sketch Tools for Diagramming,*

and two Diagrams tutorials on Saturday

- *Cognitive Dimensions of Notations: Understanding the Ergonomics of Diagram Use* and
- *Getting Started With Sketch Tools: A Tutorial on Sketch Recognition Tools.*

The tutorials are included in the Diagrams registration.

This rich technical program is complemented by a versatile social program consisting of two receptions

- *VL/HCC & SoftVis Opening Reception* on Tuesday evening and
- *Diagrams Reception* on Friday evening

and the three conference banquets

- *SoftVis conference dinner* on Wednesday evening at the Conference Centre restaurant,
- *VL/HCC conference dinner* with beer tasting at Andechs Monastery on Thursday evening, and
- *Diagrams conference dinner* with brewery tour and beer tasting at Mühlfelder Brauhaus on Saturday evening.

Receptions and dinners are included for delegates of the corresponding symposia.

Each symposium, the VL/HCC Graduate Consortium and the workshops include break food & beverages in the Conference Centre Lobby as well as lunch at the Conference Centre Restaurant on the corresponding days.

Access to the Internet is available by WLAN in the Conference Centre Lobby and in the main lecture hall "Großer Saal" where all technical VL/HCC sessions take place.

We hope you will find Visual Week 2008 intellectually stimulating, that you take pleasure in meeting up with old colleagues and forging links with new ones, and enjoy the many attractions of Herrsching and the south of Munich.

The Visual Week 2008 organizers

Mark Minas (*VL/HCC General Chair & Visual Week Local Organizer*), Paolo Bottoni & Mary Beth Rosson (*VL/HCC PC Co-Chairs*)

Gem Stapleton (*Diagrams General Chair*), John Howse & John Lee (*Diagrams PC Co-Chairs*)

Rainer Koschke (*SoftVis General Chair*), Christopher Hundhausen & Alexandru Telea (*SoftVis PC Co-Chairs*)

Susan Wiedenbeck (*Chair*), Martin Erwig, Judith Good, John Pane, Mary Beth Rosson & Steve Tanimoto (*VL/HCC Graduate Consortium Organizers*)

Beryl Plimmer & Tracy Hammond (*Sketch Tools for Diagramming Workshop Organizers*)

Andrew Fish & Harald Störrle (*LED Workshop Organizers*)

Monday, 15 September

VL/HCC Workshop

Layout of (Software) Engineering Diagrams

(Seminarraum 1)

- 08:00 – 09:00 **Registration**
- 09:00 – 09:15 **Welcome Note**
- 09:15 – 10:30 **Invited Talk**
Eileen Kraemer, University of Georgia
Designing, Conducting, and Analyzing Empirical Studies
- 10:30 – 11:00 **Break**
- 11:00 – 12:30 **Layout Extension and Interaction**
Exploiting the Layout Engine to Assess Diagram Completions
Steffen Mazanek, Sonja Maier, Mark Minas
Generating Euler Diagrams from Existing Layouts
Gem Stapleton, John Howse, Peter Rodgers, Leishi Zhang
Interactive, Constraint-based Layout of Engineering Diagrams
Tim Dwyer, Kim Marriott, Michael Wybrow
- 12:30 – 13:30 **Lunch**
- 13:30 – 15:00 **Layout Specification and Communication**
Layout Specification on the Concrete and Abstract Syntax Level of a Diagram Language
Sonja Maier, Steffen Mazanek, Mark Minas
Positioning Map: a Visual Technique to Improve the Layout of Diagram Contextual Information
Nicolas Genon, Raimundas Matulevičius, Vincent Englebert, Patrick Heymans
MSCar: Enhancing Message Sequence Charts with Interactivity for Analysing (Automotive) Communication Sequences
Michael Sedlmair
- 15:00 – 15:30 **Break**
- 15:30 – 17:00 **Group Exercise**
3D UML Heuristic Challenge
Paul McIntosh, Jens von Pilgrim
- 17:00 - 17:15 **Roundup**

VL/HCC Workshop

Sketch Tools for Diagramming

(Seminarraum 2)

- 08:00 – 09:00 **Registration**
- 09:00 – 09:15 **Welcome Note**
- 09:15 – 10:30 **Recognition Topics**
- A Model-Based Recognition Engine for Sketched Diagrams*
Florian Brieler, Mark Minas: Universität der Bundeswehr München
- A Profile-driven Sketching Interface for Pen-and-Paper Sketches*
Alexandra Bartolo, Philip Farrugia, Kenneth Camilleri, Jonathan Borg
- Cross-Domain Diagram Sketch Recognition*
Paul Schmieder, Beryl Plimmer: University of Auckland, Jean Vanderdonckt:
Université catholique de Louvain
- What!?! No Rubine Features?: Using Geometric-based Features to Produce Normalized Confidence Values for Sketch Recognition*
Brandon Paulson, Pankaj Rajan, Pedro Davalos, Ricardo Gutierrez-Osuna,
Tracy Hammond: Texas A&M University
- Chinese Characters as Sketch Diagrams Using a Geometric-Based Approach*
Paul Taelle, Tracy Hammond: Texas A&M University
- 10:30 – 11:00 **Break**
- 11:00 – 11:45 **Discussion on Recognition Topics**
- 11:45 – 12:30 **Applications Topics**
- EditION: A Collaborative Calligraphic Tool to Manage Virtual Environments*
Alfredo Ferreira, Marco Vala, Guilherme Raimundo, J.A. Madeiras Pereira,
Joaquim A. Jorge, Ana Paiva: IST/Technical University of Lisbon
- Automated Sketching and Engineering Culture*
Peter Varley, Pedro Company: Universitat Jaume I
- Sketching for the Refinement Stage of Design*
Gabe Johnson, Carnegie Mellon University
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:15 **Live Demonstration Period**
- 14:15 – 15:00 **Discussion on Applications Topics**
- 15:00 – 15:30 **Break**
- 15:30 – 16:15 **General Topics**
- Formality in Sketches and Visual Representation: Some Informal Reflections*
Alan F. Blackwell & Luke Church: University of Cambridge, Beryl Plimmer:
University of Auckland, Dave Gray: XPLANE
- Calico: A Tool for Early Software Design Sketching*
Nicolas Mangano, Alex Baker, Mitch Dempsey, Emily Oh Navarro,
André van der Hoek: University of California, Irvine
- Towards Semantic Role Labeling of Hand-drawn Sketches*
Gennaro Costagliola : Università di Salerno, Alberto Greco: Università di Genova
- 16:15 – 17:00 **Discussion on Sketch Repository**
- 17:00 – 17:15 **Roundup**

Tuesday, 16 September

**VL/HCC Graduate Consortium:
*Expanding the Benefits of Computational
Thinking to Diverse Populations***

(Konferenzraum)

The VL/HCC Graduate Consortium is open to all conference attendees, however please sign up for lunch and break food & beverages at the registration desk.

8:00 – 8:45 **Registration**

8:45 – 10:30 **Session A**

Steps To Foster Computational Thinking by More of the World's Citizens

Steve Tanimoto, University of Washington

Developing Drawing and Visual Thinking Strategies to Ease Computer Programming for Dyslexics

Peter Coppin, University of Toronto

Designing Explanation-Oriented Languages

Eric Walkingshaw, Oregon State University

Development of Techniques for Sketched Diagram Recognition

Rachel Blagojevic, University of Auckland

Panel and audience discussion

10:30 – 11:00 **Break**

11:00 – 12:30 **Session B**

Developing a Mobile Intelligent Tutoring System to Bridge The Digital Divide

Quincy Brown, Drexel University

End-User Programming to Support Classroom Activities on Small Devices

Craig Prince, University of Washington

The Design of an Asynchronous Web-Based Project Review System to Support Studio-Based Learning in Computing Education

Anukrati Agrawal, Washington State University

Panel and audience discussion

12:30 – 14:00 **Lunch**

14:00 – 15:30 **Session C**

Mashups for the web-active user

Nan Zang, Pennsylvania State University

Improving Experiences of Computation

Luke Church, University of Cambridge

Rhetorical End-User Programming

Christopher Bogart, Oregon State University

Panel and audience discussion

15:30 – 16:00 **Break**

16:00 – 17:30 **Session D**

Diagrams and Intuitive Formal Specifications

James Burton, University of Brighton

Connecting the Social and Technical Aspects of Computing with Visualization

Erik H. Trainer, University of California, Irvine

Towards End-User Web Software Visualization

Craig Anslow, Victoria University of Wellington

Panel and audience discussion

- 08:00 – 08:45 **Registration**
- 08:45 – 09:00 **Opening to SoftVis**
- 09:00 – 10:30 **SV for Understanding** (Chair: C. Hundhausen)
- Assessing the Benefits of Synchronization-Adorned Sequence Diagrams: Two Controlled Experiments*
Shuaohua Xie, Eileen Kraemer, University of Georgia, Athens, Georgia, USA; R.E.K. Stirewalt, Laura Dillon, Scott Fleming, Michigan State University, East Lansing, Michigan, USA
- Visualization of Exception Handling Constructs to Support Program Understanding*
Hina Shah, Carsten Goerg, and Mary Jean Harrold, Georgia Institute of Technology, Atlanta, Georgia, USA
- Visual Analysis of Importance and Grouping in Software Dependency Graphs*
Christian Pich, University of Konstanz, Germany; Lev Nachmanson and George Robertson, Microsoft Research, Redmond, Washington, USA
- Algorithm Visualization Using Concrete and Abstract Shape Graphs*
Sascha Parduhn, Raimund Seidel, and Reinhard Wilhelm, Saarland University, Saarbrücken, Germany
- 10:30 – 11:00 **Break**
- 11:00 – 12:30 **SV for Testing and Debugging** (Chair: A. Telea)
- Analyzing the Reliability of Communication between Software Entities Using a 3D Visualization of Clustered Graphs*
Dirk Zeckzer, Fraunhofer IESE, Kaiserslautern, Germany; Leon Schröder, University of Kaiserslautern, Germany; Robert Kalcklösch, TU Kaiserslautern, Germany; Hans Hagen, University of Kaiserslautern, Germany; and Timo Klein, Fraunhofer IESE, Kaiserslautern, Germany
- HDPV: interactive, faithful, in-vivo runtime state visualization for C/C++ and Java*
Jaishankar Sundararaman, Godmar Back, Virginia Tech, Blacksburg, Virginia, USA
- Representing Unit Test Data for Large Scale Software Development*
Joseph Cottam, Joshua Hursey, and Andrew Lumsdaine, Indiana University, Bloomington, Indiana, USA
- 12:30 – 14:00 **Lunch**
- 14:00 – 15:30 **SV for Maintenance** (Chair: J. Hosking)
- An Interactive Reverse-Engineering Environment for Large-Scale C++ Code*
Alexandru Telea, University of Groningen, Netherlands; Lucian Voinea, SolidSource BV, Netherlands
- A Catalogue of Lightweight Visualizations to Support Code Smell Inspection*
Chris Parnin, Carsten Goerg, and Ogechi Nnadi, Georgia Institute of Technology, Atlanta, Georgia, USA
- Classifying Desirable Features of Software Visualization Tools for Corrective Maintenance*
Mariam Sensalire and Patrick Ogao, Makerere University, Uganda; Alexandru Telea, University of Groningen, Netherlands
- Cluster Analysis of Java Dependency Graphs*
Jens Dietrick, Vyacheslav Yakovlev, Catherine McCartin, and Graham Jenson, Massey University, Palmerston North, New Zealand; Manfred Duchrow, Consulting and Software, Germany
- 15:30 – 16:00 **Break**

16:00 – 17:30 **SV Interaction and Layout**

(Chair: J. Stasko)

GEF 3D—A Framework for Two-, Two-and-a-half-, and Three-Dimensional Graphical Editors

Jens von Pilgrim and Kristian Duske, FernUniversität Hagen, Germany

Automatic Layout of UML Use Case Diagrams

Holger Eichelberger, University of Hildesheim, Germany

Improving an Interactive Visualization of Transitions Systems

Bas Ploeger and Carst Tankink, Eindhoven University of Technology, Netherlands

VL/HCC Symposium & SoftVis

(Lobby)

18:30 **VL/HCC & SoftVis Opening Reception and SoftVis Poster Session**

The reception is open to all VL/HCC and SoftVis delegates. Others are invited to join the reception, however please sign up at the registration desk.

The SoftVis posters will be presented during the reception, which takes place in the Conference Centre Lobby. A list of accepted posters can be found below.

A Landscape Metaphor for Visualization of Software Projects

Amaia Aguirregoitia Martínez, J. Javier Dolado Cosín, and Concepción Presedo García, University of the Basque Country, Spain

A Metro Map Metaphor for Visualization of Software Projects

Amaia Aguirregoitia Martínez, J. Javier Dolado Cosín, and Concepción Presedo García, University of the Basque Country, Spain

Combining Software Visualization Paradigms to Support Software Comprehension Activities

Glauco de F. Carneiro, Rodrigo Magnavita, and Manoel Mendonça, Salvador University, Bahia - Brazil

Enhancing UML Sketch Tools with Digital Pens and Paper

Raimund Dachselt, Mathias Frisch, Eike Decker, Otto-von-Guericke-University Magdeburg, Germany

Texture-based Visualization of Metrics on Software Architectures

Heorhiy Byelas, Alexandru, Telea, University of Groningen, the Netherlands

Towards Seamless Semantic Zooming Techniques for UML Diagrams

Mathias Frisch and Raimund Dachselt, Otto-von-Guericke-University Magdeburg, Germany; Tobias Brückmann, University of Leipzig, Germany

VAST – Visualization of Abstract Syntax Trees within Language Processors Courses

Francisco J. Almeida-Martinez, Jaime Urquiza-Fuentesy, and J. Angel Velzquez-Iturbidez, Universidad Rey Juan Carlos, Spain

Visualizing the Computation Tree of the Tutte Polynomial

Bennett Thompson, David J. Pearce, and Craig Anslow, Victoria University of Wellington, New Zealand; Gary Haggard, Bucknell University, USA

Web Software Visualization Using Extensible 3D (X3D) Graphics

Craig Anslow, James Noble, and Stuart Marshall, Victoria University of Wellington, New Zealand; Robert Biddle, Carleton University, Canada

Wednesday, 17 September

VL/HCC Symposium & SoftVis

(Großer Saal)

The following sessions are joint sessions of VL/HCC and SoftVis

- 08:00 – 09:00 Registration
- 09:00 – 09:15 Opening to VL/HCC
- 09:15 – 10:30 Joint VL/HCC & SoftVis Keynote Presentation (Chair: M. B. Rosson)
John Stasko, Georgia Institute of Technology
Visualization for Information Exploration and Analysis
- 10:30 – 11:00 Break
- 11:00 – 13:00 Visualization and Animation (Chair: A. Repenning)

The following papers are accepted for VL/HCC. Further information about the papers is available at the conference registration desk

Exploring the Evolution of Software Quality with Animated Visualization

Guillaume Langelier, Houari Sahraoui & Pierre Poulin; Université de Montréal

Flexible Visualization of Automatic Simulation based on Structured Graph Transformation

Enrico Biermann, Claudia Ermel, Jonas Hurrelmann & Karsten Ehrig; Technische Universität Berlin, Federal Institute for Materials Research and Testing, Berlin

The following papers are accepted for SoftVis. Further information about the papers is available at the conference registration desk

Streamsight – A Visualization Tool for Large-Scale Streaming Applications

Wim De Pauw, Henrique Andrade & Lisa Amini, IBM T.J. Watson Research Center, Hawthorne, New York, USA

Software Visualization for End-User Programmers: Trial Period Obstacles

Neeraja Subrahmaniyan, Margaret Burnett & Christopher Bogart, Oregon State University, Corvallis, Oregon, USA

- 13:00 – 14:30 Lunch

VL/HCC Symposium

(Großer Saal)

- 14:30 – 16:00 End-User Programming I (Chair: A. Blackwell)
- What's in a Mashup? And Why? Studying the Perceptions of Web-Active End Users*
Nan Zang & Mary Beth Rosson; Pennsylvania State University
- End-User Programming in the Wild: A Field Study of CoScripter Scripts*
Christopher Bogart, Margaret Burnett, Allen Cypher & Christopher Scaffidi; Oregon State University, IBM Research – Almaden, Carnegie Mellon University
- Using Scalable Game Design to Promote 3D Fluency: Assessing the AgentCubes Incremental 3D End-User Development Framework*
Andri Ioannidou, Alexander Repenning & David Webb; AgentSheets, Inc., University of Colorado
- 16:00 – 16:30 Break

16:30 – 18:30 **Supporting Professional Programmers** (Chair: M. Erwig)

The Design of Khmer Word-based Predictive Non-QWERTY Soft Keyboard for Stylus-based Devices

Phavy Ouk, Ye Kyaw Thu, Mitsuji Matsumoto & Yoshiyori Urano; Waseda University

Codetrail: Connecting Source Code and Web Resources

Max Goldman & Rob C. Miller; Massachusetts Institute of Technology

Tool Support for Working with Sets of Source Code Entities (short)

Curtis Fraser, Chris Luce, Jamie Starke & Jonathan Sillito; University of Calgary

Analyzing a Socio-Technical Visualization Tool Using Usability Inspection Methods (short)

Erik Trainer, Stephen Quirk, Cleidson de Souza & David Redmiles, University of California Irvine

Towards the Next Generation of Bug Tracking Systems (short)

Sascha Just, Rahul Premraj & Thomas Zimmermann; Saarland University, University of Calgary

The Design and Experimental Evaluation of a Tool to Support the Construction and Wizard-of-Oz Testing of Low Fidelity Prototypes (short)

Christopher Hundhausen, Stephen Trent, Anzor Balkar & Mohamed Nuur, Washington State University

SoftVis

(Seminarraum 3)

14:30 – 16:00 **SV for Design** (Chair: W. De Pauw)

Visualizing Inter-Dependencies Between Scenarios

David Harel and Itai Segall, Weizmann Institute of Science, Rehovot, Israel

Visually Localizing Design Problems with Disharmony Maps

Richard Wettel and Michele Lanza, University of Lugano, Switzerland

Stack-based Visualization of Out-of-Core Algorithms

Tony Bernardin, Brian Budge, and Bernd Hamann, University of California–Davis, USA

16:00 – 16:30 **Break**

16:30 – 17:45 **SV Applications** (Chair: E. Kraemer)

Applying Visualisation Techniques in Software Product Lines

Daren Nestor, Steffen Thiel, Goetz Botterweck, Ciaran Cawley, and Patrick Healy, University of Limerick, Ireland

Signature Visualization of Software Binaries

Thomas Panas, Lawrence Livermore National Laboratory, Livermore, California, USA

Supporting the Understanding of the Evolution of Open Source Software Items

Roberto Theron, Antonio Gonzalez, and Francisco José Garcia Peñalvo, University of Salamanca, Spain

Rapid Visual Design with Semantics Encoding through 3d CRC Cards

Anthony Savidis, Foundation for Research and Technology Hellas, Heraklion, Crete, Greece

17:45 – 18:00 **Final Words and Symposium Close**

19:30 **SoftVis Dinner**

The banquet will take place at the restaurant of the conference centre.

VL/HCC Symposium

(Großer Saal)

- 08:45 – 10:30 **Domain-Specific Languages** (Chair: A. Schürr)
- EulerView: Article Organisation within the ACM Classification*
Rosario De Chiara & Andrew Fish; Università degli Studi di Salerno, University of Brighton
- A Visual Language for Representing and Explaining Strategies in Game Theory*
Martin Erwig & Eric Walkingshaw; Oregon State University
- A Domain Specific Visual Language for Design and Coordination of Supply Networks (short)*
John Hosking, Nikolay Mehandjiev & John Grundy; University of Auckland, University of Manchester
- Visual Programming Language for Bit-Level Concurrent Programming: APECbits (short)*
Takashi Ajiro & Kensei Tsuchida; Toyo University
- FlatCAD and FlatLang: Kits by Code (short)*
Gabe Johnson; Carnegie Mellon University
- 10:30 – 11:00 **Break**
- 11:00 – 12:30 **Visual Programming Tools** (Chair: P. Cox)
- Dimension Inference in Spreadsheets*
Chris Chambers & Martin Erwig; Oregon State University
- Test-Driven Goal-Directed Debugging in Spreadsheets*
Robin Abraham & Martin Erwig; Oregon State University
- Unobtrusive Data Acquisition for Spreadsheet Research (short)*
Brian Bishop & Kevin McDaid; Dundalk Institute of Technology
- Mashing Up Visual Languages and Web Mash-ups (short)*
M. Cameron Jones, Elizabeth F. Churchill & Michael B. Twidale; Yahoo! Research, University of Illinois at Urbana-Champaign
- 12:30 – 14:00 **Lunch**
- 14:00 – 15:30 **End-User Programming II** (Chair: M. F. Costabile)
- Can Feature Design Reduce the Gender Gap in End-User Software Development Environments?*
Valentina Grigoreanu, Jill Cao, Todd Kulesza, Christopher Bogart, Kyle Rector, Margaret Burnett & Susan Wiedenbeck; Oregon State University, Drexel University
- Enabling End-User Driven Business Process Composition through Programming by Example in a Collaborative Task Management System*
Todor Stoitsev, Stefan Scheidl, Felix Flentge & Max Mühlhäuser; SAP Research, Technische Universität Darmstadt
- End-User Development for Task Management: Survey of Attitudes and Practices*
Nikolay Mehandjiev, Todor Stoitsev, Olaf Grebner, Stefan Scheidl & Uwe Riss; University of Manchester, SAP Research
- 15:30 – 16:00 **Break**

16:00 – 17:30 **Understanding and Supporting Designers** (Chair: M. Burnett)

How Designers Design and Program Interactive Behaviors

Brad Myers, Sun Young Park, Yoko Nakano, Greg Mueller & Andrew Ko; Carnegie Mellon University

Designers' Natural Descriptions of Interactive Behaviors (short)

Sun Young Park, Brad Myers & Andrew Ko; Carnegie Mellon University

A Case Study of API Redesign for Improved Usability (short)

Jeffrey Stylos, Benjamin Graf, Daniela K. Busse, Carsten Ziegler, Ralf Ehret & Jan Karstens; Carnegie Mellon University, SAP AG, SAP Labs

Usability Challenges for Enterprise Service-Oriented Architecture APIs (short)

Jack Beaton, Sae Young Jeong, Yingyu Xie, Jeffrey Stylos & Brad Myers; Carnegie Mellon University

Coordinated Queries: A Domain Specific Language for Exploratory Development of Multiview Visualizations (short)

Chris Weaver; Pennsylvania State University

18:00 **Bus departs for VL/HCC Dinner**

The banquet will take place at the Andechs Monastery and includes a visit to the Monastery Church and a beer tasting.

Friday, 19 September

VL/HCC Symposium & Diagrams

(Großer Saal)

The following sessions are joint sessions of VL/HCC and Diagrams

- 08:00 – 09:00 **Registration**
- 09:00 – 09:15 **Welcome (opening to Diagrams)**
- 09:15 – 10:30 **Joint VL/HCC & Diagrams Keynote Presentation** (Chair: M. Minas)
Wilhelm Schäfer, University of Paderborn
Model Driven Development with Mechatronic UML
- 10:30 – 11:00 **Break**
- 11:00 – 12:45 **Diagram Aesthetics and Layout** (Chair: P. Bottoni)

The papers presented in this session are accepted for Diagrams. Further information about the papers is available at the conference registration desk

General Euler Diagram Generation

Peter Rodgers, Leishi Zhang & Andrew Fish

Euler Diagram Decomposition

Andrew Fish and Jean Flower

Smooth Linear Approximation of Non-overlap Constraints

Graeme Gange, Peter Stuckey & Kim Marriott

Extremes are better: investigating mental map preservation in dynamic graphs

Helen Purchase & Amanjit Samra

12:45 – 14:15 **Lunch**

14:15 – 15:30 **Modeling and Graphs** (Chair: J. Hosking)

The papers presented in this session are accepted for VL/HCC. Further information about the papers is available at the conference registration desk

Design-Time Simulation of Domain-Specific Models by Incremental Pattern Matching (short)

István Ráth, Dávid Vágó & Dániel Varró; Budapest University of Technology and Economics

Generic and Reflective Graph Transformations for the Checking and Enforcement of Modeling Guidelines

Carsten Amelunxen, Elodie Legros & Andy Schürr; Technische Universität Darmstadt

A Model-Driven Approach for the Visual Specification of Role-Based Access Control Policies in Web Systems

Paloma Díaz, Ignacio Aedo, Daniel Sanz & Alessio Malizia; Universidad Carlos III de Madrid

15:30 – 16:00 **Break**

VL/HCC Symposium

(Großer Saal)

- 16:00 – 17:30** **Tools for Interaction Design** (Chair: S. Tanimoto)
- Can Information Foraging Pick the Fix? A Field Study*
Joseph Lawrance, Rachel Bellamy, Margaret Burnett & Kyle Rector; Oregon State University, IBM Research - Hawthorne
- SpeechGraph – A Visual Programming Toolkit for Speech-Enabled Applications (short)*
Ednaldo Brigante Pizzolato & Agostinho Barone Ribeiro da Silva; Universidade Federal de São Carlos
- Collaborative End-User Development on Handheld Devices (short)*
Navid Ahmadi, Alexander Repenning & Andri Ioannidou; University of Lugano, AgentSheets, Inc.
- Auto-completion for Diagram Editors Based on Graph Grammars (short)*
Steffen Mazanek, Sonja Maier & Mark Minas; Universität der Bundeswehr München
- How Can Diagramming Tools Help Support Programming Activities? (short)*
Seonah Lee, Gail C. Murphy, Thomas Fritz & Meghan Allen; University of British Columbia
- 17:30 – 18:00** **Final Words and Symposium Close**

Diagrams

(Seminarraum 3)

- 16:00 – 17:30** **Psychological and Cognitive Issues** (Chair: S. Elzer)
- An Eye-tracking Study of Exploitations of Spatial Constraints in Diagrammatic Reasoning*
Atsushi Shimojima and Yasuhiro Katagiri
- What Diagrams Reveal about Representations in Linear Reasoning, and How they Help*
Krista DeLeeuw and Mary Hegarty
- What Can Pictorial Representations Reveal about the Cognitive Characteristics of Autism?*
Maithilee Kunda and Ashok Goel
- Visual Thinking with an Interactive Diagram (short)*
Colin Ware, Anne Gilman and Robert Bobrow

- 18:30** **Evening Reception and Poster Session** (Lobby)

The reception is open to all Diagrams delegates. Others are invited to join the reception, however please sign up at the registration desk.

The posters will be presented in two slots during the reception, which takes place in the conference centre Lobby. A list of accepted posters and details on the slot in which they are presented can be found below.

18:30 – 19:00 **Poster Session 1**

Talk to the Hand: An Agenda for Further Research on Tactile Graphics

Frances Aldrich

Openproof - A Flexible Framework for Heterogeneous Reasoning

Dave Barker-Plummer, John Etchemendy, Albert Liu, Michael Murray and Nik Swoboda

Cognitive and Semantic Perspectives of Token Representation in Diagrams

Rossano Barone and Peter Cheng

Estimating Effort for Trend Messages in Grouped Bar Charts

Richard Burns, Stephanie Elzer and Sandra Carberry

Types and Programs from Euler Diagrams

James Burton

Diagrams in the UK National School Curriculum

Grecia Garcia Garcia and Richard Cox

LePUS3: An Object-Oriented Design Description Language

Epameinondas Gasparis, Jonathan Nicholson and Amnon Eden

Utilizing Feature Diagrams to Assess the Capabilities of Tools that Support the Model Driven Architecture

Benjamin Gorry

Diagrammatic knowledge-based tools for complex multi-dynamic processes

Ronald Grau and Peter Cheng

Supporting Reasoning and Problem-Solving in Mathematical Generalisation with Dependency Graphs

Sergio Gutierrez Santos, Darren Pearce, Eirini Geraniou and Manolis Mavrikis

A Concept Mapping Tool for Nursing Education

Norio Ishii and Saori Sakuma

Cognitive Methods for Visualizing Space, Time, and Agents

Angela Kessell and Barbara Tversky

Benefits of Constrained Interactivity in Using a Three-Dimensional Diagram

Peter Khooshabeh, Mary Hegarty and Madeleine Keehner

A Strategy for Drawing a Conceptual Neighborhood Diagram Schematically

Yohei Kurata

19:00 – 19:30 Poster Session 2

Supporting relational processing in complex animated diagrams
Richard Lowe and Jean-Michel Boucheix

Animated Cladograms: Interpreting Evolution from Diagrams
Camillia Matuk

Automatic Diagram Drawing based on Natural Language Text Understanding
Anirban Mukherjee and Utpal Garain

Texts and graphs elaboration: the effect of graphs' examination on recall
Gisella Paoletti and Sara Rigutti

Diagrammatic Logic of Existential Graphs: A Case Study of Commands
Ahti-Veikko Pietarinen

Diagrammatic Reasoning in Separation Logic
M. Ridsdale, M. Jamnik, N. Benton and J. Berdine

Method of Minimal Representation: An alternative Diagrammatic technique for testing the validity of Categorical Syllogisms
Sumanta Sarathi Sharma

The Relationship between Graph Comprehension and Spatial Imagery: Support for an Integrative Theory of Graph Cognition
Brandie Stewart, Aren Hunter and Lisa Best

Using MusicXML to Evaluate Accuracy of OMR systems
Mariusz Szwoch

Aestheticization of flowcharts
Wioleta Szwoch

Towards Diagrammatic Patterns
Merete Skjelten Tveit

Visualizing Meaning: Literacy Materials for Dyslexic Children
Myra Thiessen

Diagrammatic Interrelationships Between Global and Local Algebraic Visual Objects: Communicating the Visual Abstraction
Julie Tolmie

School Curriculum Development to Promote Student Spontaneous Diagram Use in Problem Solving
Yuri Uesaka and Emmanuel Manalo

Saturday, 20 September

Diagrams

(Großer Saal)

- 09:00 – 11:00 **Tutorial**
Alan Blackwell
Cognitive Dimensions of Notations: Understanding the Ergonomics of Diagram Use
- 11:00 – 11:30 **Break**
- 11:30 – 13:00 **Tutorial**
Beryl Plimmer and Tracy Hammond
Getting Started With Sketch Tools: A Tutorial on Sketch Recognition Tools
- 13:00 – 14:30 **Lunch**
- 14:30 – 15:45 **Keynote Presentation** (Chair: D. Barker-Plummer)
John Etchemendy, Stanford University
Heterogeneous Reasoning
- 15:45 – 16:15 **Break**
- 16:15 – 17:35 **Applications of Diagrams** (Chair: R. Cox)
Strategy Roadmaps: New Forms, New Practices
Alan Blackwell, Rob Phaal, Martin Eppler and Nathan Crilly
VAST Improvements to Diagrammatic Scheduling using Representational Epistemic Interface Design
David Ranson and Peter Cheng
Enhancing State-Space Tree Diagrams for Collaborative Problem Solving (short)
Steven Tanimoto
Visual Programming with Interaction Net (short)
Abubaker Hassan, Ian Mackie and Jorge Sousa Pinto
- 18:30 **Bus departs for Diagrams dinner**
The banquet will take place at Mühlfelder Brauhaus and includes a brewery tour and beer tasting.

Sunday, 21 September

Diagrams

(Großer Saal)

- 09:00 – 11:00 **Theoretical Aspects** (Chair: N. Swoboda)
- Spider Diagrams of Order and a Hierarchy of Star-Free Regular Languages*
Aidan Delaney, John Taylor and Simon Thompson
- Diagrammatic Reasoning System with Euler Circles: Theory and Experiment Design*
Koji Mineshima, Mitsuhiro Okada, Ryo Takemura and Yuri Sato
- A Normal Form for Euler Diagrams with Shading*
Andrew Fish, Chris John and John Taylor
- Ensuring Generality in Formalizations of Euclid's Diagrammatic Arguments*
John Mumma
- Depicting Negation in Diagrammatic Logic: Legacy and Prospects (short)*
Fabien Schang and Amirouche Moktefi
- 11:00 – 11:30 **Break**
- 11:30 – 12:45 **Keynote Presentation** (Chair: M. Hegarty)
W. Bradford Paley, Columbia University and Digital Image Design Inc.
- Rich Data Representation: Sophisticated Visual Techniques for Ease and Clarity*
- 12:45 – 14:00 **Lunch**
- 14:00 – 15:30 **Diagrams in Education** (Chair: A. Fish)
- Transforming Descriptions and Diagrams to Sketches in Information System Design*
Barbara Tversky, James E. Corter, Jeffrey V. Nickerson, Doris Zahner & Yun Jin Rho
- Graphical Revelations: Comparing Students' Translation Errors in Graphics and Logic (short)*
Richard Cox, Robert Dale, John Etchemendy and Dave Barker-Plummer
- Learning from Animated Diagrams: How are Mental Models Built?*
Richard Lowe and Jean-Michel Boucheix
- Diagrams for the Masses: Raising Public Awareness - from Neurath to Gapminder and Google Earth*
Raul Niño Zambrano and Yuri Engelhardt
- 15:30 – 15:50 **Break**
- 15:50 – 17:20 **Understanding and Comprehension** (Chair: A. Blackwell)
- Detection of Sample Differences from Dot Plot Displays*
Lisa Best, Laurence Smith and D. Alan Stubbs
- Visualizing Non-subordination and Multidominance in Tree Diagrams: Testing Five Syntax Tree Variants*
Leonie M. Bosveld-de Smet and Mark de Vries
- The Effects of Users' Background Diagram Knowledge and Task Characteristics upon Information Display Selection*
Beate Grawemeyer and Richard Cox
- Multimodal Comprehension of Graphics with Textual Annotations: The Role of Graphical Means Relating Annotations and Graph Lines (short)*
Cengiz Acarturk, Christopher Habel and Kursat Cagiltay
- 17:20 – 17:30 **Final Words and Symposium Close**

VL/HCC Most Influential Papers

The VL/HCC community has begun a new tradition. Starting this year, a voting group consisting of all members of the current steering committee, current program committee, and program chairs of the VL/HCC conferences of the years being considered, reviewed the papers from the VL/HCCs held one decade ago and two decades ago, to select the papers from these decades that have had the most influence on VL/HCC research or commerce.

The voting group considered technical papers presented at VL/HCC approximately one decade ago (in 1997, 1998, and 1999) and approximately two decades ago (in 1984, 1986, and 1987). All members were invited to nominate papers from these years and, once a shortlist of nominated papers was produced, the members who did not have conflicts with the nominees reviewed and voted for the most influential paper from each decade. The process was organized and facilitated by Margaret Burnett, Andy Schürr, and Steven Tanimoto.

Following this process, the group voted to award the Most Influential Paper Awards to the following papers. These awards will be officially presented at VL/HCC 2008.

Most Influential Paper from approximately two decades ago:

N. Monden, Y. Yoshino, M. Hirakawa, M. Tanaka, and T. Ichikawa:
HI-VISUAL: A Language Supporting Visual Interaction in Programming
1984 Workshop on Visual Languages

Abstract:

Visual icons can represent the objects of a system and, at the same time, the functions which they perform. Thus the visual icon works as a tool for specifying system functions, and makes it easier to develop the system itself. Furthermore, the system thus developed can also be activated by the use of visual icons.

In order to offer an environment which makes feasible the development of a system by the use of visual icons, it is necessary to provide a software tool which supports generation and interpretation of visual icons, and organization and evaluation of icon-based system performance. This can be regarded as a type of programming language.

This paper presents a language named HI-VISUAL which supports visual interaction in programming. Following a brief description of the language concept, the icon semantics and language primitives characterizing HI-VISUAL are extensively discussed. HI-VISUAL also shows a system extendability providing the possibility of organizing a high level application system as an integration of several existing subsystems, and will serve to developing systems in various fields of applications supporting simple and efficient interactions between programmer and computer.

Most Influential Paper from approximately one decade ago:

Mark Minas:
Diagram Editing with Hypergraph Parser Support
1997 IEEE Symposium on Visual Languages

Abstract:

Diagrams are always used when communicating complex situations. Diagram editors support the user when editing diagrams on a computer. However, creating diagram editors is expensive and time-consuming. Frameworks that can be customized for the specific diagram classes considerably reduce these costs. In previous work, the framework DiaGen using an internal hypergraph model and offering syntax-directed editing had been introduced. This paper presents an incremental hypergraph parser and an extension of DiaGen that allows for editing diagrams like in a drawing tool. The hypergraph parser detects correct (sub-) diagrams online and notifies the user of incorrect diagram parts. This allows editing with temporally inconsistent diagrams which supports a natural editing style.