

Eurographics '84

and

IFIP Working Conference on Knowledge Engineering in Computer Aided Design

木村文彦 (東大・工)

1. Eurographics '84

Eurographics '84 は Copenhagen において 9月12日～14日 にかけて開催された。参加者数は500人程度と思われるが、展示会にのみ参加した人も多かったようである。1981年に Darmstadt で開催された時に、参加者数が最も多く、その後、増減があり、必ずしも順調に成長してゐるとは言えない。特に今年は、2週間後に Berlin において CAMP '84 が開催されたため、CAD/CAM 関連の人達が大部分を占めたようである。(CAMP '84 にも短時間参加したが、参加者数は数千人とのことで、展示会にはほとんどの欧米の CAD/CAM 専門家

WEDNESDAY, SEPTEMBER 12, 1984
No. 15 (Auditorium)

- 09.30 Session A - Opening Session
Chairman: *H. A. TUCKER*
University of Copenhagen, Denmark
Eurographics Chairman: J. ENCARNACAO
Technische Hochschule Darmstadt, Fed. Rep. Germany
Opening address: *Ib Stetter*
Minister of Industry, Denmark
Computer Graphics: A Tool for Innovation
A. Van Dam
Brown University, R.I., U.S.A.
- 10.45 Coffee Break
- 11.15 Session B1 - Data Capture
Chairman: *Sig Ulfvby*
SI, Oslo, Norway
Computer-Aided Three-Dimensional Reconstruction from Serial Sections: A Software Package for Reconstruction and Selective Image Generation for Complex Topologies
D. P. HUIJSMANS, W. H. LAMERS, J. A. LOS, J. SMITH, and J. STRACKEE
University of Amsterdam, The Netherlands
Three-Dimensional Data Input by Selection of Hierarchically Defined Blocks
K. YAMAGUCHI, N. INAMOTO, and T. L. KUNII
University of Tokyo, Japan
and *H. S. KUNII*
- 12.30 Lunch / Art and film Show
- 14.00 Session C1 - Geometric Modelling
Chairman: *G. VALLE*
Università della Calabria, Arcavacata, Italy
Conventional Elements of Engineering Drawings - Free Form Curves
G. RENNERT
Hungarian Academy of Sciences, Budapest, Hungary
Ray Tracing Objects Defined by Sweeping a Sphere
J. J. VAN WIJK
Delft University of Technology, The Netherlands
A New Display File Structure for Line and Surface Presentations
T. KRÄMER
Universität Karlsruhe, Fed. Rep. Germany
and *J. RIX*
Technische Hochschule Darmstadt, Fed. Rep. Germany
- 15.30 Coffee break
- 16.00 Session D - Visualization
Chairman: *P. TEN HAGEN*
Mathematical Center, Amsterdam, The Netherlands
An Analytical Visibility Method for Displaying Parametrically Defined Surfaces
P. REHWALD and C. HORNUNG
Technische Hochschule, Darmstadt, Fed. Rep. Germany
Numerical Simulation and Video Display of Dynamic Problems
J. CARNET and J. DUJARDIN
Université de Haute Normandie, Mont-Saint-Aignan, France
Generating High Quality Pictures by Ray-Tracing
C. BOUVILLE, J. L. DUBOIS, and I. MARCHAL
Centre Commun D'Etudes de Télédiffusion et Télécommunications, Cesson-Sévigné, France

WEDNESDAY, SEPTEMBER 12, 1984
No. 18/19 (Upper Level)

- 10.45 Coffee Break
- 11.15 Session B2 - Applications
Chairman: *J. ARNSPANG*
Kampsax AIS, Copenhagen, Denmark
Cadastral Mapping Pilot Project
Aa. SØNDERGAARD
IS Datacentralen af 1959, Valby, Denmark
and
H. H. LARSEN
Matrikeldirektoratet, Copenhagen, Denmark
A Computer Graphic Approach to Lateral Skull Cephalostat Radiograph Analysis for Orthodontic Diagnosis and Treatment Planning
R. J. HUBBOLD
University of Manchester, U.K.
and
A. A. EID
University of Cairo, Egypt
- 12.30 Lunch
- 14.00 Session C2 - Art and Animation
Chairman: *M. QUIRINO*
University Nova de Lisboa, Portugal
Application of Computer-Generated Animation in European Space Research
E. KRISTIANSEN
European Space Agency, Noordwijk, The Netherlands
A Paint Program for the Graphic Arts in Printing
P. J. WILLIS
University of Bath, U.K.
Twitx: A 3D Animation System
J. E. GÓMEZ
Ohio State University, Columbus, OH, U.S.A.
- 15.30 Coffee break

THURSDAY, SEPTEMBER 13, 1984
No. 15 (Auditorium)

- 09.30 Session E - Invited Speakers
Chairman: *I. CARLBOM*
Schlumberger-Doll, Ridgefield, CT, U.S.A.
Computer Graphics Development in Europe
G. MARECHAL and J. MATTHYS
Philips & MBL Associated, Brussels, Belgium
The Computer Graphics Scene in the United States
N. I. BADLER
University of Pennsylvania, Philadelphia, PA, U.S.A.
and
I. CARLBOM
Schlumberger-Doll Research, Ridgefield, CT, U.S.A.
- 10.30 Coffee break
- 11.00 Session F1 - Computer Graphic Tools
Chairman: *D. DUCE*
Rutherford Appleton Laboratory, Chilton, U.K.
Improving Computer Graphics Tools for Architects
J. LUNDEQUIST, Ö. EKEBERG, C.-H. ENGBLÖM, L. KJELL-DAHL
Royal Institute of Technology, Stockholm, Sweden
and
I. THÖRNBLÖM
Höjer-Ljungqvist, Stockholm, Sweden
Direct CADD Drawing: A Flexible Screen Oriented User Interface to CADD
F. W. HUDSON, JR., D. SAWTELLE III, K. STEINBRECHER, and K. THOMPSON
IAG Bausch & Lomb, Austin, Texas, U.S.A.
SUDES: Surface Description System
H. P. MORETON and R. D. BERGERON
University of New Hampshire, U.S.A.
- 12.30 Lunch/Art and Film Show
- 14.00 Session G - Computer Graphics Development and Applications in Japan
Chairman: *F. KIMURA*
University of Tokyo, Japan
Computer Graphics Production as a Business
M. KANEKO
Japan Computer Graphics Laboratory, Inc., Tokyo, Japan
Computer Graphics for Visualizing Simulation Results
E. NAKAMAE and H. YAMASHITA
Hiroshima University, Higashihiroshima, Japan
T. NISHITA
Fukuyama University, Japan
- 15.30 Coffee break
- 16.00 Art and Film Show - Awards presentations
Chairman: *P. COMINOS*
Teeside Polytechnical, U.K.
- 17.00 Eurographics Association's General Assembly
Chairman: *J. ENCARNACAO*
Technische Hochschule Darmstadt, Germany

FRIDAY, SEPTEMBER 14, 1984
No. 15 (Auditorium)

- 09.30 Session I - Invited Speakers
Chairman: *M. D. RÖMER*
M. D. Römer ApS, Hellerup, Denmark
Management Issues in Computer Graphics
C. MACHOVER
Machover Associates, White Plains, N.Y., U.S.A.
Shaping the Future: A Systems Approach to MIS Planning
J. L. KIRKLEY
Datamation Magazine, New York, N.Y., U.S.A.
- 10.30 Coffee break
- 11.00 Session J1 - User Interfaces
Chairman: *G. ENDERLE*
Kernforschungszentrum, Karlsruhe, Germany
The Design of a User Interface for a CAM Application
R. SAUTER
Mecasoft s.a., Minusio, Switzerland
User Interface: Concepts and Specifications
A. M. SPLID and A. SORGEN
Technical University of Denmark, Lyngby, Denmark
Graphical Support in a User Interface Management System
S. GUEST and E. EDMONTS
Leicester Polytechnic, U.K.
- 12.30 Lunch

THURSDAY, SEPTEMBER 13, 1984
No. 18/19 (Upper Level)

- 10.30 Coffee break
- 11.00 Session F2 - Algorithms
Chairman: *S. TURK*
University of Zagreb, Yugoslavia
Experiences with New Image Component Algorithms: Extended Abstract
H. SAMET
University of Maryland, College Park, MD, U.S.A.
and
M. TAMMINEN
Helsinki University of Technology, Finland
Two Display Algorithms for Octrees
M. A. OLIVER
University of Canterbury, U.K.
Quadtree Scan Conversion
University of Canterbury, U.K.
and
T. R. KING and N. E. WISEMAN
University of Cambridge, U.K.
- 12.30 Lunch
- 15.30 Coffee break
- 16.00 Session H - Education
Chairman: *L. KJELLDAHL*
Royal Institute of Technology, Stockholm, Sweden
The Development of Computer Graphics Curricula for Design Education
R. G. KING
Sheridan College, Oakville, Ontario, Canada
Interactive Editing of Polygons
L. OLSSON
National Defence Research Institute, Linköping, Sweden

- 14.00 Panel Session - Europe Between Two Fast Moving Technologies. How do we handle it?
Chairman: *J. ENCARNACAO*
Technische Hochschule Darmstadt, Fed. Rep. Germany
Panel members:
N. BADLER
Moore School, University of Pennsylvania, Philadelphia, PA, U.S.A.
VANDONI
CERN, Switzerland
MATTHYS
Philips, Belgium
F. KIMURA
University of Tokyo, Japan
- 15.30 Closing Session
Chairman: *H. A. TUCKER*
University of Copenhagen, Denmark

FRIDAY, SEPTEMBER 14, 1984
No. 18/19 and 20 (Upper Level)

10.30 Coffe break

11.00 Session J2 - Business Graphics
Chairman: C. VANDONI
CERN, Data Handling Division, Geneva, Switzerland

Steps to Effective Business Graphics
B. LOEBER, A. MACILROY and P. WYMAN
Hewlett-Packard Co., San Diego, CA, U.S.A.

Drawing of an Unusual Kind of Diagrams - Nomogram Drawing
L. KJELLDALH
Royal Institute of Technology, Stockholm, Sweden

How Intelligent Can Business Graphics Software Be?
P. R. JONES
Olivetti Advanced Technology Center, Inc., Cupertino, CA, U.S.A.

11.00 Panel Session J3 - Graphic Standards
Chairman: F. R. A. HOPGOOD
Rutherford Appleton Laboratory, Chilton, U.K.

Extending GKS to level 3
J. STEINHART,
Tektronix, Portland, OR., U.S.A.

PHIGS
T. HEWITT,
University of Manchester, Manchester, U.K.

3D-GKS
P. TEN HAGEN
Mathematical Center, Amsterdam, The Netherlands
and
R. KESNER
University of Technology, Eindhoven, The Netherlands

VDM/VDI
A. FRANCES
The Open Univ., Buckinghamshire, UK

12.30 Lunch

14.00 Session K - Presentation
Chairman: J. F. MACK
NTNF, Oslo, Norway

An Approach to the Design of Hardware Curve Generators for Graphic Displays
G. ALIA and E. MARTINELLI
I.E.I. del C.N.R., Pisa, Italy

A Two-Dimensional Clipping Divider
M. MERIAUX
University of Lille, France

Bilevel Display Screen Presentation of Text, Graphics and Images for Page Make-Up Work
Y. SUNBLAD
Royal Institute of Technology, Stockholm, Sweden

出展士出ており、仲々の盛況であった。) 会議の性格付など、今後の開催方法について組織委員の向で議論があったようである。

70プログラムは上に示したようである。今年は論文の応募数が少なく、選取に苦労したらしい。Session 名から判るよう、グラフィックスの全般をバリエーション良くカバーしてはいるが、際立って目新しい成果を挙げているものは少ないように思われる。招待論文にアメリカ国の話題が見えるのは、70プログラムの委員長の好みであろう。

全般に出席者が少なく、会場が閑散としてはいる中で、Graphics Standard のパネル討論だけは超満員であった。沢山の人が床に座って熱心に討論していた。特に、Tektronix の Steinhart による GKS level 3 の話は強い関心を集めていた。

次回は、1985年9月9日~13日 Nice にて開催予定である。論文応募締めは1985年1月15日(フルテキスト)の予定。

2. IFIP WG.5.2 Working Conference on Knowledge Engineering in CAD

上記 Working Conference は、Budapest において9月17日~19日にかけて開催された。会議の性格上、参加者は50人程度に限定されたが、米国や西欧から多くの参加者があり、盛会であった。西独からの参加者がいなかったのは、研究の現状を反映しているところまであるだろうか。イギリス、フランス勢の活躍が目立った。

CAD における知識工学という話題は、現在最も興味を集めているものであるが、表題に対して内容が違いつかない、という感じがある。この会議も同様の

Monday 17 September 9.30 - 12.30

Requirements and Principles for Intelligent CAD Systems.
T. TOMIYAMA and H. YOSHIKAWA (Japan)

Conceptual Design of CAD Systems Involving Knowledge Bases.
S. OHSUGA (Japan)

Monday 17 September 14.00 - 18.30

Knowledge-Based Computer-Aided Architectural Design.
J. GERO, A. RADFORD, R. COYNE and V. AKINER (Australia)

An Integrated Knowledge Based Structural Engineering Environment.
D. REHAK, C. HOWARD and D. SRIRAM (USA)

HI-RISE: An Expert System for the Preliminary Structural Design of High Rise Buildings.
M. MAHER and S. FENVES (USA)

Tuesday 18 September 9.00 - 12.30

Knowing Where to Draw the Line.
P. SZALAPAJ and A. BIJL (UK)

CAD, KE and ADA.
M. MAC AN AIRCHINNIGH (Ireland)

Encoding Requirements to Increase Modelisation Assistance.
L. CHOLVY and J. FOISSEAU (France)

Tuesday 18 September 14.00 - 18.30

An Object-Centred Framework for Expert Systems in Computer-Aided Design.
M. BARBUCEANU (Romania)

Expert Systems for a Class of Mechanical Activity.
D. BROWN and B. CHANDRASEKARAN (USA)

EXCAP: An Expert Generative Process Planning System.
I. DARBYSHIRE and B. DAVIES (UK)

Wednesday 19 September 9.00 - 12.30

Critics as Optimization Operators in a Silicon Compiler.
M. KAHRIS (USA)

Automated Configuration of Microprocessor Application Systems: The Description of Board Level Components.
J. BOWEN (UK)

Knowledge Engineering for CAD/VLSI on a Generalized Data Management System.
M. ADIBA and G. NGUYEN (France)

Wednesday 19 September 14.00 - 16.00

A Configurer for Switching System Software Based on Knowledge about the Assembling of Program Modules.
J-F. CLOAREC, J-F. CUDELOU and J. COLLET (France)

(Title to be announced)
J. HATVANY (Hungary)

傾向で、議論は活発であったものの、本質的な点での議論はまだまだ足りなかったとの感がある。知識工学側の研究者は、Expert System や知識表現で設計の問題を捕えようとするのに対し、CAD研究者は、設計問題をより良く組織化する必要性を主張した。設計の立場に立てば、Expert System はその極く一部の側面を扱っているにすぎない。同じ言葉が各人が異なる意味に使用してゐることから、この分野における Taxonomy の確立が望まれた。「概念設計」もその一例である。

この会議の後、Trondheim, Stockholm, Berlin 等を訪問したが、どこでも、従来の CAD の行進が止まり、新しい方向への模索が話題となり、知識工学への期待が強かった。しかし、研究の現状は依然として概念的であり、具体的な成果に乏しい。Toy problem を起さずデータの集積が望まれているのである。

本会議の会議録は North-Holland より出版される予定である。

次回の WG5.2 の Working Conf. は「Design Theory for CAD」とのタイトルで東京において(1985年10月1日~3日)にかけて開催される予定である。応募論文締切は2月28日(フルテキスト)の予定。