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Heather Brown (Eds.)

Electronic Publishing, Artistic Imaging, and Digital Typography

7th International Conference
on Electronic Publishing, EP'98
Held Jointly with the 4th International Conference
on Raster Imaging and Digital Typography,
RIDT'98
St. Malo, France, March 30 – April 3, 1998
Proceedings



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Preface

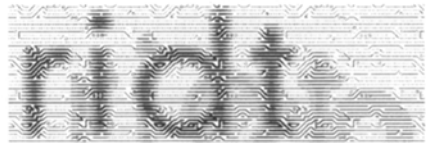
This book, *Electronic Documents, Artistic Imaging and Digital Typography*, contains the proceedings of two related conferences, EP'98 and RIDT'98, held at Saint-Malo (France) during the second *Week on Electronic Publishing and Typography*, 29 March to 3 April, 1998.

EP'98 is the seventh in a biennial series of conferences dedicated to electronic publishing and all aspects of digital document representation. The series began with EP'86 at Nottingham in England. After that the conferences moved to France, the USA, Switzerland, and Germany. The first two EP conferences included several papers on typography. However, specific interest in the specialized field of digital typography and of raster imaging led to a new series of conferences, named RIDT, that took place in 1989 (Lausanne, Switzerland) and 1991 (Boston, US). In 1994, EP joined up with RIDT and other conferences dealing with different aspects of electronic document handling to form a complete week of electronic publishing events (Darmstadt, Germany, 1994). For its tenth anniversary in 1996, the EP conference returned to the USA for the second time. In 1998 it is returning to France and joining up with RIDT and other conferences again to form a complete week of electronic publishing events in Saint-Malo.

When EP and RIDT first came together in 1994, they were organized so that the final RIDT session was also the first EP session. This shared session was so successful that the conference organisers were keen to use the same pattern again and to go one step further and publish the proceedings as a single volume.

As a result this book contains three parts: the papers specifically for RIDT'98, the papers presented in the common session, and finally the papers specific to EP'98. A preface to RIDT'98 is given on page vi, and a preface to EP'98 on page vii.

Roger D. Hersch, Heather Brown, Jacques André
Proceedings Editors



RIDT'98 Preface

The series of RIDT conferences (Lausanne'89, Boston'91, Darmstadt'94) started at the end of the 1980s, when making typography and imaging available on personal computers was the primary task of many researchers and developers at universities and in industry.

Now that the basic problems related to desktop typography and printing have been solved, the research in typography and imaging takes a more fundamental turn. Can we gain more insight into the coherence rules governing the design of typefaces? Will new character models enable the synthesis of new fonts just by turning a few knobs?

The growing importance of distributed systems (WEB) and electronic documents also creates new problems: can fonts be synthesized to match the original document's fonts? Web displays may take any size, from a very small display integrated in a telephone to a full computer display. New methods need to be developed to create user interfaces and symbols that adapt themselves to the available resolution and space.

In addition to typography, RIDT addresses the topic of imaging. While previous RIDT conferences focused mostly on shape rasterization and halftoning, the present Saint-Malo 98 conference addresses the problem of artistic imaging, a domain which has been partly neglected in the computer graphics community. 2D imaging has a tradition of two millennia; 2D artistic pictures provide a high degree of abstraction: complex concepts and ideas can be illustrated with a few pen strokes. A picture being worth more than a thousand words, many different concepts and ideas can be incorporated within a single picture.

The RIDT'98 sessions cover the topics of artistic imaging, tools and methods in typography, non-latin type, typographic creation, imaging, character recognition, handwriting models, legibility and design issues (in common with EP'98). Two invited talks are given. Peter Karow gives a retrospective survey about two decades of research efforts at his former company URW. Victor Ostromoukhov presents tools and methods for analyzing and synthesizing ornamental patterns.

We hope that the book will fulfill its aim of providing readers with information about state-of-the-art research in the fields of digital typography, advanced design, and artistic imaging.

Roger D. Hersch, RIDT'98 Chairman

PS. The RIDT conference Web site incorporates additional information that could not be published in this book: color images, tutorial descriptions, etc. See <http://diwww.epfl.ch/w3lsp/pub/ridt98/cfpapers.html>

EP'98 Preface

Since the EP series started in 1986, electronic publishing and digital document handling has grown enormously in scope, scale, and importance. The conference proceedings have consistently reported the latest research into document models and systems, thus providing a fascinating record of ideas that have moved from theory and prototype into widespread use. A system using documents as active programmable interfaces to many different types of information, for example, was reported at EP'90 long before anyone dreamt of the active HTML-and-Java documents that are commonplace today. It is interesting to speculate about the future of the innovations reported at more recent EP conferences. Will the context-aware documents presented at EP'96 sweep the world? Will the intelligent paper described at EP'98 completely change the way we use paper documents?

As explained in the Preface, the opening sessions of EP'98 were designed to be shared with RIDT'98. So the papers presented on the first day concentrate on issues of digital typography and document presentation. The section on *Legibility and typography* presents work on designing for and reading from computer screens, and the section on *Fonts and design* looks at some of the problems of handling unusual scripts (Mongolian-related scripts and baroque music notation). The final section of papers from the first day covers issues of page styles and structures.

The overall theme of the papers presented on the second day of EP'98 is structured documents and systems. Models for structured documents provide the basic functionality on which many diverse facilities can be built, so it is not surprising that this has been a central theme of the EP conferences from the beginning. The section on *Time and multimedia* presents work on multimedia models. As the inclusion of time is the main difference between hypertext and multimedia models, it is appropriate that this section presents models for synchronization in time-based multimedia. The following section on *Electronic and paper documents* presents a striking new innovation from Xerox which completely changes the normal relationship between electronic and paper documents. Information which is machine-readable but invisible to the human eye is added to the paper, thus allowing the paper itself to act as an active interface to electronic information. The next two sections on *Document engineering* and *Documents and linguists* look at architectures and models for system building and consider the use of document structure information in multilingual documents.

The third day of EP'98 presented work with a distinct 'Web' flavor. One of the challenges presented by the proliferation of Web documents is how to gather and reuse information. The papers in the *Document reuse* section describe systems for finding information and stitching it together into useful documents. The final two sections in the proceedings, *Hypertext and the Web* and *Hypertext creation and management*, deal with managing large collections of linked documents.

The papers presented in these proceedings provide a snapshot of the best in the current state of the art in electronic publishing. On behalf of the Programme Committee, I would like to thank all the authors for their contributions and for making EP'98 into a worthy successor to previous EP conferences.

Heather Brown, EP'98 Programme Committee Chair

RIDT98 Conference

RIDT'98 is organized by Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, with help from Irisa/Inria Rennes for the local organization.

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Credits

Program Committee members Hobby and Bigelow helped improve the English of some papers. Dan Berry, Technion, Israel, reviewed several papers related to non-Latin typography. Nicolas Rudaz, EPFL, designed the proceedings' book front page and the printed RIDT'98 program. Julien Mercay and Dorith Lion formatted some of the RIDT'98 papers. Many thanks to all of you and to all other conference contributors.

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EP'98 Conference

EP'98 is organized by Irisa/Inria-Rennes, the Rennes unit of the French National Institute for Research in Computer Science and Automatics.

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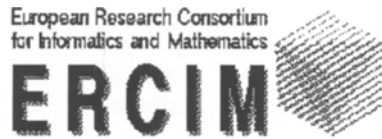


Table of Contents

Part I: RIDT'98

Artistic Imaging

| | |
|---|----|
| An Interface for the Interactive Design of Artistic Screens | 1 |
| <i>Rudaz N., Hersch R.-D., and Ostromoukhov V.</i> | |
| Image Mosaics | 11 |
| <i>Finkelstein A. and Range M.</i> | |
| Font Decoration by Automatic Mesh Fitting | 23 |
| <i>Browne C.</i> | |

Tools and Methods in Typography

| | |
|--|----|
| A Window-Based Method for Automatic Typographic Parameter Extraction . | 44 |
| <i>Hertz J., Hu C., Gonczarowski J., and Hersch R.-D.</i> | |
| Unified Table Approach for Typographic Rendering | 55 |
| <i>Kang B.</i> | |
| Producing the Skeleton of a Character | 66 |
| <i>Gonczarowski J.</i> | |

Advanced Tools for Typography

| | |
|--|-----|
| Visual TrueType: A Graphical Method for Authoring Font Intelligence | 77 |
| <i>Stamm B.</i> | |
| Feature-Based Design of Fonts Using Constraints | 93 |
| <i>Shamir A. and Rappoport A.</i> | |
| An Object-Oriented Model for the Hierarchical Composition of Letterforms in Computer-Aided Typeface Design | 109 |
| <i>Schneider U.</i> | |

Typography and Tools for Non-Latin Type

| | |
|---|-----|
| The Design and Use of a Multiple-Alphabet Font with Omega | 126 |
| <i>Haralambous Y. and Plaice J.</i> | |
| Simplification of the Arabic Script: Three Different Approaches and their Implementations | 138 |
| <i>Haralambous Y.</i> | |
| The Formulation of Parameters for Type Design of Indian Scripts Based on Calligraphic Studies | 157 |
| <i>Mohanty S.-K.</i> | |

Typographic Creation

| | |
|--|-----|
| Metafont in the Rockies: The Colorado Typemaking Project | 167 |
| <i>Southall R.</i> | |

| | |
|--|-----|
| Designing and Using Scalable Type for Display as Graphic Elements on Digital Devices | 181 |
| <i>Connare V.</i> | |
| Ornamental Patterns | |
| Mathematical Tools for Computer-Generated Ornamental Patterns | 193 |
| <i>Ostromoukhov V.</i> | |
| Recognition and Models | |
| Fundamentals of 3D Halftoning | 224 |
| <i>Lou Q. and Stucki P.</i> | |
| Using Typography in Document Image Analysis | 240 |
| <i>Bapst F. and Ingold R.</i> | |
| A Beta-Velocity Model for Simulating Handwritten Korean Scripts | 252 |
| <i>Lee D.-H. and Cho H.-G.</i> | |
| Part II: Common RIDT'98 and EP'98 sessions | |
| Legibility and Typography | |
| Two Decades of Typographic Research at URW: A Retrospective | 265 |
| <i>Karow P.</i> | |
| Legibility of Condensed Perceptually-Tuned Grayscale Fonts | 281 |
| <i>Morris R.-A., Hersch R.-D., and Coimbra A.</i> | |
| Exploring the Effect of Layout on Reading from Screen | 294 |
| <i>Dyson M.-C. and Kipping G.-J.</i> | |
| Fonts and Design | |
| Internationalized Text Manipulation Covering Perso-Arabic Enhanced for Mongolian Scripts | 305 |
| <i>Kataoka T.-I., Kataoka Y., Uezono K., and Ohara H.</i> | |
| Une bibliothèque informatique pour la notation musicale baroque | 319 |
| <i>Bouzaïene N., Le Gall L., and Saint-Jammes É.</i> | |
| Part III: EP'98 | |
| Page Styles and Structures | |
| Document Style Design by Direct Manipulation | 331 |
| <i>Richy H.</i> | |
| A DTD Extension for Document Structure Recognition | 343 |
| <i>Brugger R., Bapst F., and Ingold R.</i> | |
| Time Management and Multimedia | |
| Synchronization in Multimedia Documents | 355 |
| <i>King P., Cameron H., Bowman H., and Thompson S.</i> | |
| Édition et visualisation interactive de documents multimédia | 370 |
| <i>Jourdan M., Roisin C., and Tardif L.</i> | |
| Memory Scalability in Constraint-Based Multimedia Style Sheet Systems ... | 381 |
| <i>Cumaranatunge T. and Munson E.-V.</i> | |

Electronic and Paper documents

| | |
|---|-----|
| Intelligent Paper | 392 |
| <i>Dymetman M. and Copperman M.</i> | |
| Active Alice: Using Real Paper to Interact with Electronic Text | 407 |
| <i>Brown H., Harding R., Lay S., Robinson P., Sheppard D., and Watts R.</i> | |
| Autotag: A Tool for Creating Structured Document Collections from Printed Materials | 420 |
| <i>Taghva K., Condit A., and Borsack J.</i> | |

Document Engineering

| | |
|--|-----|
| Hyperbook Data Modeling | 432 |
| <i>Fröhlich P., Henze N., and Nejd W.</i> | |
| A Component Architecture for Cross-media Formatters | 444 |
| <i>Brethauer T., Brüggemann-Klein A., Hermann S., and Klein R.</i> | |

Documents and Linguistics

| | |
|--|-----|
| The Effect of Textual Aesthetics on Information Retrieval | 454 |
| <i>Brooks T.-A.</i> | |
| The Use of Automatic Alignment on Structured Multilingual Documents | 464 |
| <i>Ballim A., Coray G., Linden A., and Vanoirbeek C.</i> | |

Document Reuse

| | |
|---|-----|
| Design and Implementation of a Document Assembly Workbench | 476 |
| <i>Ahonen H., Heikkinen B., Heinonen O., Jaakkola J., Kilpeläinen P., and Lindén G.</i> | |
| A Virtual Document Interpreter for Reuse of Information | 487 |
| <i>Paradis F., Vercoustre A.-M., and Hills B.</i> | |
| Reuse of Linked Documents through Virtual Document Prescriptions | 499 |
| <i>Vercoustre A.-M. and Paradis F.</i> | |

Hypertext and the Web

| | |
|--|-----|
| Measuring Structural Similarity Among Web Documents: Preliminary Results | 513 |
| <i>Cruz I.-F., Borisov S., Marks M.-A., and Webb T.-R.</i> | |
| A Tool for Maintaining Multi-variant Hypertext Documents | 525 |
| <i>Hu S.-C. and Furuta R.</i> | |

Hypertext Creation and Management

| | |
|--|-----|
| Projet Hypermap : pour un environnement complet de génération automatique d'hypertexte | 537 |
| <i>Rhissassi H. and Lelu A.</i> | |
| Dynamic Link Inclusion in Online PDF Journals | 550 |
| <i>Proberts S., Brailsford D.-F., Carr L., and Hall W.</i> | |
| Adding Semantics to SGML Databases | 563 |
| <i>Mazumdar S., Yuan G., Bao W., and Price J.</i> | |
| Author Index | 575 |