volume 3
number 3
1984

information technology

research development applications

Butterworths

EDITOR

Professor C J van Rijsbergen
Department of Computer Science, University College, Dublin 4, Ireland

US EDITOR

Professor W B Croft
Department of Computer Science, University of Massachusetts, Amherst, MA 01003, USA

BOOK REVIEWS EDITOR

Dr C D Paice
Department of Computer Studies, Lancaster University, Lancaster UK

EDITORIAL ADVISORY BOARD

Dr T Addis
Department of Computer Science, Brunel University, Uxbridge, Middx. UB8 3PH, UK

D H Barlow
Kent-Barlow Information Associates, Kingsmead House, 250 Kings Road, Chelsea, London SW3 5UE, UK

Dr H P Frei
Institut fur Informatik, ETH-Zentrum, CH-8092 Zurich, Switzerland

Dr D J Harper
Department of Computer Science, University College, Dublin 4, Ireland

Dr P Higginson
Department of Computer Science, University College, London WC1E 6BT, UK

Dr J Lloyd
Department of Computer Science, The University of Melbourne, Parkville, Victoria 3052, Australia

R D Mannix
Unilever Research Laboratory, Bebington, Wirral, Merseyside L63 3JW, UK

Professor M J McGill
Ohio College Library Center, 6565 Frantz Road, Dublin, Ohio, USA

Professor D R McGregor
Department of Computer Science, University of Strathclyde, Livingstone Tower, Richmond Street, Glasgow G1 1XH, UK

Mr N Naffah
INRIA, Bulltransac, 127, rue Ampère, 91300 Massy, France

Professor W M Newman
14 Denning Road, London NW3, UK

Professor R N Oddy
School of Information Studies, Syracuse University, 113 Euclid Avenue, Syracuse, NY 13210, USA

Dr T Radecki
Department of Computer Science, Louisiana State University, Baton Rouge, LA 70803–4020, USA

Dr S E Robertson
Centre for Information Science, The City University, London EC1V 0HB, UK

Professor G Salton
Department of Computer Science, Cornell University, Ithaca, NY 14850, USA

Dr H J Schek
Department of Computer Science, Technische Hochschule Darmstadt, Alexanderstrasse 24, 61 Darmstadt, FRG

D Wallis
Reckitt H & Colman, Dansom Lane, Hull HU8 7DS, UK

Dr E J Yannakoudakis
Department of Computer Science, University of Bradford, West Yorkshire BD7 1DP, UK

Professor C T Yu
Department of Information Engineering, University of Illinois, Chicago, IL 60680, USA

Publishers, Editorial, Advertisement, Production and Reprint Offices:

Butterworth Scientific Limited,
PO Box 63, Westbury House, Bury Street,
Guildford, Surrey GU2 5BH, UK
Telephone: Guildford (0483) 31261
Telex: 859556 SCITEC G

Publishing Director: C J Rawlins
Production Manager:
B Marshall

Subscription enquiries and orders should be sent to:

Quadrant Subscription Services Limited,
Oakfields House, Perrymount Road,
Haywards Heath, Sussex RH16 3DH, UK
Telephone: Haywards Heath (0444) 459188

Annual Subscription price:

UK: £75.00 Overseas: £75.00 Single copies: £22.50. The journal is published every three months. Prices include packing and delivery by surface mail. Airmail prices available on request.

Copies of the journal sent to Canada and the United States of America are airspeeded at no extra cost. Second class postage paid of New York, NY.
Postmaster send all address corrections to c/o Expediters of the printed Word Limited, Suite 1217, 527 Madison Avenue, New York, NY 10022, USA.

This journal is listed in Current Contents.

US Mailing Agents:

Expediters of the printed Word Limited,
Suite 1217, 527 Madison Avenue, New York,
NY 10022, USA

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the Publisher.

Readers who require copies of papers published in this journal may either purchase reprints or obtain permission to copy from the publisher at the following address: Butterworth Scientific Limited, PO Box 63, Westbury House, Bury Street, Guildford, Surrey GU2 5BH, UK. For readers in the USA, permission to copy is given on the condition that the copier pay the stated per-copy fee through the Copyright Clearance Center Inc., PO Box 765, Schenectady, NY 12301, USA, for copying beyond that permitted by Sections 107 and 108n of the US Copyright Law. Fees appear in the code printed at the foot of the first page of each paper.

Back issues prior to the current volume are available from: Wm Dawson & Sons Limited, Canon House, Folkestone, Kent CT19 5EE, UK.

ISSN 0144–817X

© 1984 Butterworth & Co. (Publishers) Ltd.

Typeset by Tech-Set, Gateshead, Tyne & Wear.
Printed by J.W. Arrowsmith Ltd., Winterstoke Road, Bristol, UK.

information technology

research development applications

vol 3 no 3 1984

Editor-in-Chief Professor C J van Rijsbergen

122 **Simulation of a distributed expert-based information provision mechanism.** *N J Belkin, R D Hennings* and *T Seeger* discuss five simulations formulated to test an IPM model's design potential, validity and architecture

142 **An integrated fact/document information system for office automation.** A system designed to combine document retrieval with a relational database management system is described by *E A Ozkarahan* and *F Can*

157 **Technique for redundancy control in a distributed hierarchical filestore.** *K Lunn* and *K H Bennett* present an approach to distributed filestorage that is based on user-oriented file naming

162 **Experimental adaptive interface.** The application of man–machine interface techniques to information retrieval is examined by *M V Mason* and *R C Thomas*

168 **An approach to the functional description of an information retrieval system based on a generalized model.** *C J Crouch* and *R E Nance* assess an abstract specification of an IR system as a collection of processes, their inputs, outputs and associated transformations

180 **Book reviews.** Library systems — R & D — literature searching

IBC **Calendar**

Executive Editor Corinne Stocker **Managing Editor** Amanda Harper