

Editors

John Pugh and Paul White
Carleton University & The Object People

SIGS Publications Advisory Board

Tom Atwood, *Object Design*
 François Bancelhon, *O₂ Technology*
 Grady Booch, *Rational*
 George Bosworth, *ParcPlace-Digital*
 Jesse Michael Chonoles, *Lockheed Martin ACC*
 Stuart Frost, *SELECT Software*
 Adele Goldberg, *ParcPlace-Digital*
 Thomas Keffler, *Rogue Wave Software*
 R. Jordan Kriender, *IBM Consulting Group*
 Thomas Love, *Consultant*
 Bertrand Meyer, *ISE*
 Meilir Page-Jones, *Wayland Systems*
 Bjørn Stroustrup, *AT&T Bell Labs*
 Dave Thomas, *Object Technology International*

The Smalltalk Report Editorial Board

Jim Anderson, *ParcPlace-Digital*
 Adele Goldberg, *ParcPlace-Digital*
 Reed Phillips
 Mike Taylor, *ParcPlace-Digital*
 Dave Thomas, *Object Technology International*

Columnists

Jay Almarode, *GemStone Systems Inc.*
 Wayne Beaton, *The Object People*
 Kent Beck, *First Class Software*
 Dwight Deugo, *The Object People*
 Juanita Ewing, *ParcPlace-Digital*
 Bob Hinkle, *Consultant*
 Tim Howard, *FH Protocol, Inc.*
 Ralph E. Johnson, *University of Illinois*
 Alan Knight, *The Object People*
 Mark Lorenz, *Hatteras Software, Inc.*
 Jan Steinman, *Bytesmiths*
 Rebecca Wirts-Brock, *ParcPlace-Digital*
 Barbara Yates, *Bytesmiths*

SIGS Publications Group, Inc.

Richard P. Friedman, Founder, President, and CEO
 Chris Keating, Publishing Director—US Magazines
 John McCormick, Editorial Director

Editorial/Production

Kristina Joukadar, Senior Managing Editor
 Elisa Varian, Director of Manufacturing
 Jan Foster, Cover Design
 Douglas Finlay, Associate/Managing Editor
 Serena Tesler, Production Editor
 Erika Romero, Desktop Designer
 Margaret Conti, Manufacturing Coordinator

Circulation

Elayne Glick, Circulation Director
 Byron Scarlett, Assistant Circulation Manager

Advertising/Marketing

Gary Portie, National Sales Manager
 Elisa Marcus, Advertising Manager, Central US
 Michael W. Peck, Advertising Representative
 Kristine Viksnins, West Coast Exhibit Sales
 Sarah Olszewski, East Coast Exhibit Sales
 212.242.7447 (v), 212.242.7574 (f)
 Nancy Beuschel, Promotions Manager for Magazines

Administration

Margherita R. Monck, General Manager
 David Chatterpaul, Senior Accounting Manager
 Bibi Budhran, Accounts Payable

SIGS PUBLICATIONS C++ REPORT, THE SMALLTALK REPORT, THE X JOURNAL, JAVA REPORT, OBJECT CURRENTS and THE X SPOT (ONLINE), OBJECT EXPERT (UK), JAVASPECTRUM and OBJEKTSPETRUM (GERMANY)
 Publishers of JOURNAL OF OBJECT-ORIENTED PROGRAMMING, OBJECT MAGAZINE.



For more object news and analysis, check out SIGS online at <http://www.sigs.com>

Features:

Externalizing Business-Object Behavior

4

Paul Davidowitz

One of the frameworks explored by the advanced development group at Andersen Consulting is the externalization of business-object behavior, which allows for tailoring by the end user. The behavior is represented as rule bases, which are specified in Smalltalk.

Using events for constraint solving

11

Annick Fron

Constraint-solving techniques have been commercially implemented in C++ and used for such industrial applications as train and plane scheduling. Smalltalk events allow an elegant representation of these techniques.

How to display an object as a string: TypeConverter and PrintConverter

16

Bobby Woolf

Producing an object's description is not enough. When the user types in another string, the new one needs to be converted back into an object. Here are some guidelines on how to use the TypeConverter and PrintConverter classes to display objects and read new ones from the user.

Columns



Visual programming: Managing connection complexity

19

Wayne Beaton and Dwight Deugo

What approach is one to take to minimize the connection complexity of visual parts? There must be a way to understand easily what is being built now and what has been built in the past.



Managing Objects: SmallDoc Web serving

22

Jan Steinman and Barbara Yates

Now that you know how to turn SmallDoc into HTML and how to build a generic TCP/IP server, you can now begin serving up Smalltalk project documentation to anyone with a Web server.



Getting Real: Fault tolerance

25

Jay Almarode

Here are some mechanisms to achieve fault tolerance, and how to recover when bad things happen.



Smalltalk Idioms: Object-oriented recursion

27

Kent Beck

While coming to understand recursion as a rite of passage for developers, it must be managed somewhat differently to make effective use of it.

Departments

Editors' Corner

2

The Smalltalk Report (ISSN# 1056-7976) is published 9 times a year, monthly except in Mar-Apr, July-Aug, and Nov-Dec. Published by SIGS Publications Inc., 71 West 23rd St., 3rd Floor, New York, NY 10010. © Copyright 1996 by SIGS Publications. All rights reserved. Reproduction of this material by electronic transmission, Xerox or any other method will be treated as a willful violation of the US Copyright Law and is flatly prohibited. Material may be reproduced with express permission from the publisher. Bulk rate U.S. postage paid Lancaster, PA, permit 161. Canada Post International Publications Mail Product Sales Agreement No. 290386.

Individual Subscription rates 1 year (9 issues): domestic \$89; Mexico and Canada \$114. Foreign \$129; Institutional/Library rates: domestic \$199, Canada & Mexico \$224, Foreign \$239. To submit articles, please send electronic files on disk to the Editors at 885 Meadowlands Drive #509, Ottawa, Ontario K2C 3N2, Canada, or via Internet to streport@objectpeople.on.ca. Preferred formats for figures are Mac or DOS EPS, TIF, or GIF formats. Always send a paper copy of your manuscript, including camera-ready copies of your figures (laser output is fine).

POSTMASTER: Send domestic address changes and subscription orders to: The Smalltalk Report, P.O. Box 5050, Brentwood, TN 37024-5050. For service on current domestic subscriptions call 1.800.361.1279 or fax 615.370.4845. Email: subscriptions@sigs.com. For foreign subscription orders and inquiries phone +44(0)1858.435302. PRINTED IN THE UNITED STATES.