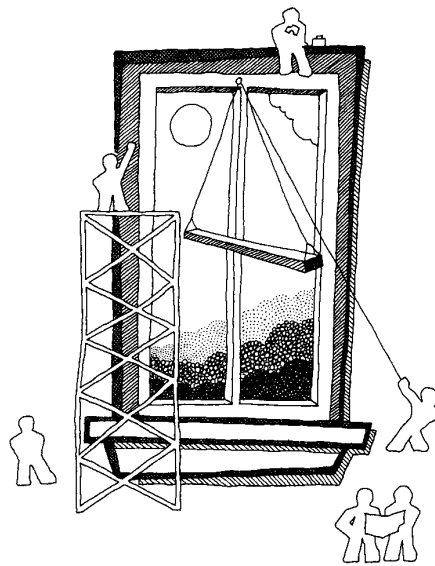




WINDOWBUILDER PRO/V 1.0

Tutorial and Reference Guide



OBJECTSHARE SYSTEMS

Objectshare License Agreement

This is a legal agreement between you, the end user, and Objectshare Systems, Inc. (OSI). Having opened the sealed software packet you have agreed to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, promptly return the software packet and the accompanying items (including written materials and other containers) to the place you obtained them for a full refund.

Grant of License. OSI grants you (i) a non-exclusive, nontransferable license to use one copy of the enclosed OSI software program (the "Software") on a single computer for your personal use on the understanding that a single person uses each copy, and (ii) a non-exclusive, nontransferable license to use one copy of the related written materials enclosed ("Documentation"). Purchasers of the Software are therefore licensed to use it themselves on one computer at a time, and to make a single backup copy for their own use. No other license is given. In particular, The Software may not be installed on a computer network for use by more than one person. The Software may not be rented or leased to others, and the conditions of this sale apply to the purchaser in any resale.

Non-Disclosure of the Program Documentation. The user's manual, all other documentation, and any portion of the program that can be reproduced in printed form is proprietary and confidential to OSI. Unauthorized disclosure of these printed materials may cause irreparable harm to OSI. You must treat the information contained in the documentation as trade secrets belonging to OSI. You must strictly safeguard against unauthorized copying or disclosing of them to parties not licensed to use the program.

Limited Warranty. Objectshare Systems, Inc. ("OSI") warrants the enclosed diskettes and documentation to be free of defects in materials and workmanship for 90 days from the date of purchase. Defective products returned to OSI during this period will be replaced without charge and are subject to the original warranty. Furnishing such replacements is OSI's only obligation under the terms of this sale.

Although OSI has made all efforts to ensure that the Software performs as stated in this manual, no representation is made and no guarantee is given regarding the Software's merchantability, performance, or its fitness for any purpose. It is sold as-is and purchasers assume all risks regarding its suitability for their purposes.

OSI is not liable for any loss of profit or other commercial damages, including but not limited to, special, incidental, consequential or other damages, including the loss of data, resulting from the use of the Software.

This is the sole and exclusive statement of OSI's warranty, and no one is authorized to alter it in any way either orally or in writing.

Copyright. The Software and Documentation are owned by OSI and are protected by US and International copyright laws. You may not copy the Software or Documentation, except that you may make one copy of the Software solely for backup or archival purposes. No part of the Documentation may be reproduced or transmitted in any form or by any means, electronic or mechanical, including but not limited to photocopying, without prior written permission from OSI. Copying or duplicating the Documentation or any part thereof is a violation of the law.

Runtime Rights and Limitations. You have a royalty-free right to reproduce and distribute executable files created by using the Software that include the runtime environment portions of the Software (the "Runtime Files") which are identified in the Documentation as being required to execute programs. The executable you distribute must not contain any part of the development environment portions of the Software (the "Development Files") which are identified in the Documentation as being required to develop programs using the Software. You may not distribute any portion of the source code of the Software. You may not distribute executable files whose functionality is similar to that of the Software.

Governing Law. This Agreement shall be governed and construed under the laws of the State of California and subject to the exclusive jurisdiction of the courts therein.

Entire Agreement. You agree that this Agreement expresses the entire understanding between you and OSI and supersedes all other communications, oral or written, relating to the Software.

Copyright © Objectshare Systems, Inc., 1993. All rights reserved.

Information in this document is subject to change without notice and does not constitute a commitment on the part of Objectshare Systems, Inc.

Third edition October 1993. Printed in California.

**Objectshare Systems, Inc.
5 Town & Country Village
Suite 735
San Jose, CA 95128-2026**

WindowBuilder, WindowBuilder Pro, and Subpanes/V are trademarks of Objectshare Systems, Inc. Smalltalk/V is a registered trademark of Digitalk, Inc. Windows is a trademark of Microsoft Corporation. OS/2 is a registered trademark of International Business Machines Corporation. ENVY/Developer is registered trademark of Object Technology International, Inc.

Table of Contents

Part I — WindowBuilder Pro/V Tutorial

Chapter 1 — Getting Started	3
What You Should Already Know	3
What's In This Manual	4
Differences From Earlier Versions	5
Manual Conventions	6
Chapter 2 — Learning WindowBuilder Pro	7
A Quick Peek.....	7
Laying Out the Interface	8
Choosing and Placing Components	8
Resizing the Window	11
Positioning Components Correctly	12
Modifying Component Attributes	15
Hooking Up Events	18
Coding Considerations in WindowBuilder Pro	20
What WindowBuilder Pro Generates	20
WindowBuilder Pro and Smalltalk/V	22
Passing Arguments to Windows	23
Returning Values From a Dialog	24
Chapter 3 — Using WindowBuilder Pro	27
Aligning and Sizing Objects	27
Aligning Multiple Objects	28
Sizing Multiple Objects	30
Controlling Tab Order	30
Using and Creating CompositePanes.....	32
Using an Existing CompositePane	33
Creating a CompositePane	35
Programming With CompositePane Objects	37
Using the WindowBuilder Pro Scrapbook	38
Using Custom Panes	39

WindowBuilder Pro/V

Rapid Prototyping Tools	40
Linking With Buttons and Menus.....	40
ActionButtons and ActionMenus.....	42
The Power of Morphing Controls	45
Some Closing Thoughts	48
Chapter 4 — The Calendar Application	49
The Application: Phase One	49
Constructing the Interface in WindowBuilder Pro.....	49
Reviewing the Code.....	55
Finishing the Application.....	56
The Application: Phase Two	56
Constructing the Second Window in WindowBuilder Pro.....	56
Reviewing the Code.....	58
Finishing the Application.....	58
The Application: Phase Three	59
Creating the Clock View in WindowBuilder Pro.....	60
Reviewing the Code.....	60
Finishing the Application.....	60
Chapter 5 — Graphing Application	63
Getting Started	63
Constructing the User Interface	63
Reviewing the Code.....	65
Finishing the Application.....	65
Chapter 6 — Form Designer Project	67
The EntryFieldGroup CompositePane	67
Constructing the Demo Application in WindowBuilder Pro	70
Finishing the Application	72
The “ok:” Method.....	72
The “cancel:” Method.....	73
The Font-Changing Methods.....	73
Testing the Final Application.....	74
Some Closing Thoughts	75

Part II — WindowBuilder Pro/V Reference

Chapter 7 — Tool Bar Reference79

Chapter 8 — Menu Reference81

 File Menu.....81

 Edit Menu.....85

 View Menus87

 Align Menu.....88

 Size Menu90

 Options Menu.....91

 Scrapbook Menu.....92

 Add Menu.....93

Chapter 9 — General Reference95

Mechanics and Techniques.....95

 Selecting Multiple Subpanes.....95

 Placing Multiple Subpanes95

 Creating a New Default Window96

 Editing Existing Windows96

 Importing From Res Files.....97

 Exporting as Res Files97

 Getting an Event Summary98

Creating Windows and Subpanes.....98

 Adding a Popup Menu98

 Entering Menu Item Names99

 Entering Hierarchical Menus99

 Rearranging Menus and Menu Items99

 Inserting and Deleting Menu Items.....100

 Selecting a Menu Item100

 Adding a Selector.....100

 Adding Mnemonics.....101

WindowBuilder Pro/V

Adding Keyboard Accelerators.....	101
Adding a Divider.....	101
Testing a Menu.....	102
Accepting a Menu	102
Creating a Menubar	102
Adding Your Own Subpanes.....	103
Editing the Initial Window Position	103
Sizing, Aligning, and Moving Subpanes	104
Moving and Sizing Subpanes with the Keyboard.....	104
Constraining Sizing	104
Aligning Subpanes	104
Distributing Subpanes.....	105
Replicating Subpanes' Sizes	105
Reframing Automatically	105
Framing Parameters	106
Editing Framing Parameters.....	106
Applying Automatic Framing	109
Autosizing Subpanes	109
Using the Grid.....	109
Changing Subpane Appearances.....	110
Changing a Subpane's Style	110
Changing a Subpane's Fore- and BackColor.....	110
Changing a Subpane's Font.....	111
Editing Specific Attributes.....	112
Setting the Window's Size Explicitly	112
Changing Subpane Relationships & Behaviors.....	112
Editing Tabbing Order	112
Setting Groups	114
Coding With WindowBuilder Pro	115
The SubPane Hierarchy	115
Accessing Subpanes	115
Accessing Views	116

Table of Contents

Avoiding the createViews Method	116
The initWindow Method	116
The preInitWindow Method	117
Other WindowBuilder Pro Features	118
Window CUA Keyboard Emulation	118
Mnemonic Redundancy Checking	119
Using the Scrapbook	119
Storing to the Scrapbook	119
Retrieving from the Scrapbook	120
Widget Morphing	121
Chapter 10 — Widget Encyclopedia	123
Subpane	125
ActionButton	128
AnimationPane	130
Button	132
CheckBox	133
CheckBoxGroup	134
ComboBox	136
CPStaticGraphic	139
DrawnButton	141
EnhancedEntryField	143
EntryField	148
EntryFieldGroup	150
GraphPane	152
LinkButton	154
ListBox	157
ListPane	159
MultipleSelectListBox	161
RadioButton	163
RadioButtonGroup	165
ScrollBar	166

WindowBuilder Pro/V

SexPane.....	168
StaticBox.....	169
StaticText.....	170
TextEdit.....	172
TextPane.....	174
ThreeStateButton.....	176
WBToolBar.....	177
Chapter 11 — Windows and Dialogs.....	183
Chapter 12 — CompositePanels.....	185
Chapter 13 — Bitmap Manager and Button Editor.....	187
File Menu.....	188
Edit Menu.....	190
Programmatic Access.....	192
Appendix A - Customizing WindowBuilder Pro.....	193
The GraphicObject Framework.....	193
GraphicObject Naming.....	193
Setting a Subpane's Contents.....	194
Setting Subpane's Initial Size.....	194
Setting the Minimum and Maximum Size.....	194
Working with Color.....	195
Setting the Default Font.....	195
Denying Input Focus.....	195
Adding Styles.....	196
Creating an Attribute Editor.....	196
Drawing Your SubPane.....	200
Enabling Morphing.....	201
Adding Tool Palette Icons.....	202
Using the Add-In Manager.....	204
Appendix B — Changes To WindowBuilder.....	207
Coding Differences Between Versions (V/Win 1.1 to V/Win 2.0).....	207
WindowBuilder Differences.....	208

Table of Contents

Importing From Windows 1.x	209
Importing Windows Layout	209
Assigning Instance Variables	210
Altering Your close Window Code.....	210
Changes from WindowBuilder to WindowBuilder Pro.....	211
Appendix C — FramingParameters Explained	213
Appendix D — The Notifier	215
What is the Notifier?	215
Programming for OS/2 and Windows	215
Window Events	215
The Message Loop	216
The Window Function	216
An Overview of Event Processing in Smalltalk	217
Executing the Event Loop.....	218
Step 1: Wait for an Event.....	219
Step 2: Notify a Message	220
Step 3: Process Queued Window Messages	220
Direct vs. Queued Window Messages	224
Synchronization Problems	226
Avoiding Synchronization Problems	227
Methods Relating to Queued Messages	227
The Notifier and Open Windows	228
Reinitializing the Notifier	228
Methods Relating to the List of Windows	229
The Notifier and the User Interface Process	230
Modal Windows	230
Trapping User Input Outside a Window.....	232
Global Objects Relating to the Notifier	232

Acknowledgments

We would like to thank the following people. Without their hard work, help, advice, and debugging skills, this product would never have seen the light of day. Thanks!

Wayne Beaton, Robert Benson, Bennett Berke, Robb Canfield, Eric Clayberg, Christine Comaford, Ken Cooper, Peter Day, Bill Feero, Dina Fischer, Dwight Ford, Bob Gleason, Susan Griffin, Robert Gurrieri, Chris Hayes, Scott Herndon, Hal Hildebrand, Ray Horn, Ron Jeffries, Darrow Kirkpatrick, Pia Kraft, Anthony Lander, Tom Lipkis, Mike Palmer, Ted Peters, Steve Poehline, Lee Roberts, Maria Ruscigno, Dan Shafer, Gordon Sheppard, Harpreet Singh, Geir Skylstad, S. Sridhar, David Taylor, Mike Taylor, Steve Wessels, Scott Wlaschin, Bob Yerex.

Also, thanks to the following organizations for helping making WindowBuilder Pro and Smalltalk successful:

American Management Systems, Inc.
Cocking & Drury, Ltd.
Digitalk, Inc.
Electronic Data Systems, Inc.
Enterprise Engines, Inc.
Graphical–User Interfaces, Inc.
Knowledge Systems Corporation, Inc.
micado SoftwareConsult GmbH
The Object People, Inc.
Object Technology International, Inc.

And finally a very special thanks to Dan Shafer who authored the tutorial section of this manual.