



Contents

Introduction	xxix
Part I The Building Blocks for a Successful Customization	1
Chapter 1 An Introduction to the Office User Interface	3
What Is the Ribbon and Why Does It Exist?	3
Problems with the Old UI	4
Issues Solved with the New UI	6
Issues Created with the New UI	7
What Happened to the Toolbars from My Pre-2007 Files?	9
A Customization Example for Pre-2007 UIs	10
Ribbon Components	16
Tips for Navigating the Ribbon and Quick Access Toolbar (QAT)	17
Using Keyboard Shortcuts and Keytips	17
Using the Mouse Wheel	19
Minimizing and Maximizing the Ribbon	19
Adding Commands to the QAT	20
Assigning a Macro to a QAT Button	22
Changing the QAT Location	24
Preparing for Ribbon Customization	24
Showing the Developer Tab	24
Showing CustomUI Errors at Load Time	26
Reviewing Office 2007 Security	26
Has Customization of the Office UI Become Easier?	27
Conclusion	27
Chapter 2 Accessing the UI Customization Layer	29
Accessing the Excel and Word Ribbon Customization Layers	30
What's New in Excel and Word Files?	30
Creating a Ribbon Customization with Notepad	30

xiv Contents

Creating the customUI File	30
Creating the File to Use the Customized UI	31
Attaching the XML to the File	32
Using the Microsoft Office 2007 Custom UI Editor to Modify Your UI	35
Installing Microsoft .NET Framework 2.0 for Windows XP Users	36
Installing the Microsoft Office 2007 Custom UI Editor	38
Using the CustomUI Editor to Customize the Ribbon	39
Storing Customization Templates in the CustomUI Editor	41
Some Notes About Using the CustomUI Editor	42
XML Notepad	43
Installing XML Notepad	43
Using XML Notepad	43
The Benefits of XML Notepad	47
The Drawbacks of XML Notepad	48
A Final Word on Excel and Word Customizations	48
Microsoft Access Customizations	48
Storing the CustomUI Information in Tables	49
Creating an Access UI Modification Using a Table	49
Access USysRibbons Caveat	51
Other Techniques for Access UI Customizations	52
Conclusion	52
Chapter 3 Understanding XML	55
What Is XML and Why Do You Need It?	55
Essential Background	57
Tags	57
Elements	59
Attributes	59
The id Attribute	60
The label Attribute	61
Tips for Laying Out XML Code	61
Creating Comments in XML Code	63
The Core XML Framework	65
The customUI Element	65
Required Attributes of the customUI Element	66
Optional Static and Dynamic Attributes with Callback Signatures	66
Allowed Children Objects of the customUI Element	67
The ribbon Element	67
Required Attributes of the ribbon Element	67
Optional Static Attributes	68
Allowed Children Objects of the ribbon Element	68
Graphical View of ribbon Attributes	68
The tabs Element	69
Required Attributes of the tabs Element	69
Allowed Children Objects of the tabs Element	70

The tab Element	70
Required Attributes of the tab Element	70
Optional Static and Dynamic Attributes with Callback Signatures	71
Allowed Children Objects of the tab Element	72
Graphical View of tab Attributes	72
Built-in Tabs	72
Referring to Built-in Tabs	72
Modifying a Built-in Tab	73
Custom Tabs	74
Creating Custom Tabs	74
Positioning Custom Tabs	75
The group Element	76
Required Attributes of the group Element	76
Optional Static and Dynamic Attributes with Callback Signatures	76
Allowed Children Objects of the group Element	78
Graphical View of group Attributes	79
Built-in Groups	80
Referring to Built-in Groups	80
Using a Built-in Group on a Custom Tab	81
Custom Groups	83
Creating Custom Groups	83
Positioning Custom Groups	83
Custom Groups on Built-in Tabs	85
Conclusion	85
Chapter 4 Introducing Visual Basic for Applications (VBA)	87
Getting Started with Visual Basic for Applications (VBA)	88
What Is VBA?	89
Macro-Enabled Documents	89
Using the Visual Basic Editor (VBE)	90
Recording Macros for Excel and Word	91
A Recording Example	94
Editing the Recorded Macro	95
Editing Macro Options After Recording	96
Subprocedures versus Functions	97
Object Model	98
Subprocedures	98
Functions	100
VBA Coding Techniques	101
Looping Statements	101
For-Next Loops	102
Do-While/Do-Until Loops	105
With . . . End With Statement	106
If . . . Then . . . Else . . . End If Statement	107
Select Case Statement	109

xvi Contents

Writing Your Own Code	110
Naming Conventions	111
Data Types	112
Working with Events	114
Workbook Events	115
Worksheet Events	117
Form and Report Events in Access	119
Document-Level Events in Word	122
Application-Level Events	123
The Object Browser	125
Referencing Libraries	126
Early and Late Bindings Explained	128
Debugging Your Code	129
Debug.Print and Debug.Assert	130
Stop Statement	131
Immediate Window	132
Locals Window	134
Watches Window	135
Error Handling	137
On Error Resume Next	138
On Error GoTo	138
Working with Arrays	140
Determining the Boundaries of an Array	141
Resizing Arrays	142
Conclusion	143
Chapter 5	
Callbacks: The Key to Adding Functionality to Your Custom UI	145
Callbacks: What They Are and Why You Need Them	145
Setting Up the File for Dynamic Callbacks	146
Capturing the IRibbonUI Object	147
Adjusting the XML to Include onLoad	147
Setting Up VBA Code to Handle the onLoad Event	147
Generating Your First Callback	148
Writing Your Callback from Scratch	148
Using the Office CustomUI Editor to Generate Callbacks	150
Understanding the Order of Events When a File Is Open	151
Can I Have Two Callbacks with the Same Name But Different Signatures?	152
Calling Procedures Located in Different Workbooks	153
Organizing Your Callbacks	155
Individual Callback Handlers	155
Using Global Callback Handlers	157
Handling Callbacks in Access	158
Using VBA to Handle Callbacks	158
Using Macros to Handle Callbacks	160

Invalidating UI Components	162
What Invalidating Does and Why You Need It	162
Invalidating the Entire Ribbon	163
Invalidating Individual Controls	165
Conclusion	167
Chapter 6 RibbonX Basic Controls	169
The button Element	169
Required Attributes of the button Element	170
Optional Static and Dynamic Attributes with Callback Signatures	171
Allowed Children Objects of the button Element	173
Parent Objects of the button Element	173
Graphical View of button Attributes	173
Using Built-in button Controls	174
A button Idiosyncrasy: The showLabel Attribute	175
Creating Custom button Controls	176
An Excel Example	176
A Word Example	179
An Access Example	181
The checkBox Element	183
Required Attributes of the checkBox Element	184
Optional Static and Dynamic Attributes with Callback Signatures	184
Allowed Children Objects of the checkBox Element	186
Parent Objects of the button Element	186
Graphical View of checkBox Attributes	186
Using Built-in checkBox Controls	187
Creating Custom Controls	188
An Excel Example	188
A Word Example	192
An Access Example	194
The editBox Element	196
Required Attributes of the editBox Element	197
Optional Static and Dynamic Attributes with Callback Signatures	197
Allowed Children Objects of the editBox Element	199
Parent Objects of the editBox Element	199
Graphical View of editBox Attributes	200
Using Built-in editBox Controls	200
Creating Custom Controls	200
An Excel Example	200
A Word Example	203
An Access Example	205
The toggleButton Element	209
Required Attributes of the toggleButton Element	209
Optional Static and Dynamic Attributes with Callback Signatures	210

xviii Contents

Allowed Children Objects of the toggleButton Element	212
Parent Objects of the toggleButton Element	212
Graphical View of toggleButton Attributes	212
Using Built-in toggleButton Controls	213
Creating Custom Controls	214
An Excel Example	214
A Word Example	217
An Access Example	220
Conclusion	223
Chapter 7 comboBox and dropDown Controls	225
The item Element	225
Required Attributes of the item Element	226
Optional Static and Dynamic Attributes with Callback Signatures	226
Allowed Children Objects of the item Element	227
Parent Objects of the item Element	227
Graphical View of item Attributes	227
Using Built-in Controls	228
Creating Custom Controls	228
The comboBox Element	229
Required Attributes of the comboBox Element	229
Optional Static and Dynamic Attributes with Callback Signatures	229
Allowed Children Objects of the comboBox Element	232
Parent Objects of the comboBox Element	232
Graphical View of comboBox Attributes	232
Using Built-in Controls	232
Creating Custom Controls	234
An Excel Example	235
A Word Example	237
An Access Example	239
The dropDown Element	244
Required Attributes of the dropDown Element	244
Optional Static and Dynamic Attributes with Callback Signatures	244
Allowed Children Objects of the dropDown Element	247
Parent Objects of the dropDown Element	247
Graphical View of dropDown Attributes	248
Using Built-in Controls	248
Creating Custom Controls	249
An Excel Example	249
A Word Example	254
An Access Example	258
Conclusion	261

Chapter 8	Custom Pictures and Galleries	263
	Custom Pictures	263
	Suggested Picture Formats	263
	Appropriate Picture Size and Scaling	266
	Adding Custom Pictures to Excel or Word Projects	266
	Using the Custom UI Editor	267
	Loading Custom Pictures On-the-Fly	268
	Adding Custom Pictures to Access Projects	270
	Using GDI+ to Load PNG Files	274
	Using the Gallery Control	276
	Example of Static Attributes	278
	Example of Built-in Controls	280
	Creating an Image Gallery On-the-Fly	281
	Conclusion	282
Chapter 9	Creating Menus	285
	The menu Element	286
	Required Attributes of the menu Element	286
	Optional Static and Dynamic Attributes with Callback Signatures	286
	Allowed Children Objects of the menu Element	288
	Parent Controls of the menu Element	289
	Graphical View of menu Attributes	289
	Using Built-in Controls	290
	Creating Custom Controls	291
	An Excel Example	292
	A Word Example	294
	An Access Example	296
	The splitButton Element	299
	Required Attributes of the splitButton Element	299
	Optional Static and Dynamic Attributes with Callback Signatures	300
	Allowed Children Objects of the splitButton Element	301
	Parent Objects of the splitButton Element	301
	Graphical View of splitButton Attributes	301
	Using Built-in Controls	302
	Creating Custom Controls	303
	An Excel Example	303
	A Word Example	305
	An Access Example	306
	The dynamicMenu Element	310
	Required Attributes of the dynamicMenu Element	310
	Optional Static and Dynamic Attributes with Callback Signatures	311
	Allowed Children Objects of the dynamicMenu Element	313
	Parent Objects of the dynamicMenu Element	313

xx Contents

Graphical View of dynamicMenu Attributes	313
Using Built-in Controls	314
Creating Custom Controls	314
Conclusion	320
Chapter 10 Formatting Elements	323
The box Element	324
Required Attributes of the box Element	324
Optional Static and Dynamic Attributes with Callback Signatures	324
Allowed Children Objects of the box Element	325
Parent Objects of the box Element	326
Graphical View of box Attributes	326
Using Built-in box Elements	327
Creating Custom box Elements	327
Horizontal Alignment	327
Vertical Alignment	328
Nesting box Controls	329
The buttonGroup element	333
Required Attributes of the buttonGroup element	334
Optional Static and Dynamic Attributes with Callback Signatures	335
Allowed Children Objects of the buttonGroup Element	336
Parent Objects of the buttonGroup Element	336
Graphical View of a buttonGroup	336
Using Built-in buttonGroup Elements	336
Creating Custom buttonGroup Elements	337
The labelControl Element	338
Required Attributes	338
Optional Static and Dynamic Attributes with Callback Signatures	338
Allowed Children Objects of the labelControl Element	340
Parent Objects of the labelControl Element	340
Graphical View of a labelControl	340
Using Built-in labelControl Elements	341
Creating Custom labelControl Elements	341
The separator Element	344
Required Attributes of the separator Element	344
Optional Static and Dynamic Attributes with Callback Signatures	345
Allowed Children Objects of the separator Element	346
Parent Objects of the separator Element	346
Graphical View of a Separator	346
Using Built-in separator Elements	346
Creating Custom separator Elements	346

The menuSeparator Element	347
Required Attributes of the menuSeparator Element	347
Optional Static and Dynamic Attributes with Callback Signatures	348
Allowed Children Objects of the menuSeparator Element	349
Parent Objects of the menuSeparator Element	349
Graphical View of the menuSeparator Element	349
Using Built-in menuSeparator Elements	350
Creating Custom menuSeparator Elements	350
Conclusion	352
Chapter 11 Using Controls and Attributes to Help Your Users	355
The dialogBoxLauncher Element	356
Required and Optional Attributes	356
Allowed Children Objects	356
Parent Objects	357
Examples of Using the dialogBoxLauncher Element	357
Built-in dialogBoxLaunchers	357
A Custom dialogBoxLauncher with Built-in Dialogs	358
Custom dialogBoxLauncher with Custom Userforms	360
The keytip Attribute	362
Creating a Keytip	363
Keytip Idiosyncrasies	364
screentip and supertip Attributes	366
Creating screentip and supertip Attributes	366
Overwriting Built-in Control Attributes	368
Conclusion	369
Part II Advanced Concepts in Ribbon Customization	371
Chapter 12 Advanced VBA Techniques	373
Working with Collections	373
Determining Whether an Item Belongs to a Collection	377
Class Modules	378
Properties, Methods, and Events	378
Working with Properties	379
Working with Methods	380
Working with Events	382
Web Services and CustomUI	383
Using VBA Custom Properties	389
Setting Up the Custom Properties	389
Saving and Retrieving Values from the Registry	394
Conclusion	399
Chapter 13 Overriding Built-in Controls in the Ribbon	401
Starting the UI from Scratch	402
Setting the startFromScratch Attribute	402
Activating a Tab at Startup	404
Disabling and Repurposing Commands	406

xxii Contents

Disabling Commands, Application Options, and Exit	406
Disabling Commands	406
Disabling the Commands Associated with the Application	
Options and Exit Controls	407
Repurposing a Command Associated with a Generic Control	408
Affecting the Keyboard Shortcuts and Keytips	410
Conclusion	412
Chapter 14 Customizing the Office Menu and the QAT	413
Adding Items to the Office Menu	413
Adding Items to the QAT	418
Customization Overview	418
sharedControls versus documentControls	419
Adding Custom and Built-in Commands to the QAT	420
Adding Custom and Built-in Groups to the QAT	422
Repurposing QAT Controls	424
Table-Driven Approach for QAT Customization	
(Excel and Word)	428
Table-Driven Approach for QAT Customization (Access)	430
QAT Caveats	433
Inability to Load Controls	433
Inability to Load Custom Images to Controls	434
Duplication of Controls on XML-Based and	
XML-Free Customizations	434
Conclusion	435
Chapter 15 Working with Contextual Controls	437
Making Your Items Contextual	437
Tabs	438
Groups	439
Working Through Nonvisibility Methods	441
Enabling and Disabling Controls	441
Working with Contextual Tabs and tabSets	442
Creating a Custom Contextual Tab in Access	442
Renaming a tabSet	444
Modifying Built-in Contextual Tabs	445
Working with Contextual Pop-up Menus	447
Replacing Built-in Pop-up Menus in Their Entirety	448
Adding Individual Items to Pop-up Menus	453
Multilingual UI	455
Conclusion	458
Chapter 16 Sharing and Deploying Ribbon Customizations	459
Excel Deployment Techniques	460
Distributing Workbooks	460
Using Templates	461
Creating and Deploying Add-ins	463
Preparing a Workbook for Conversion to an Add-in	464
Converting a Workbook to an Add-in Format	465

Installing an Add-in	465
Unloading and Removing Add-ins	467
Toggling the IsAddin Property	467
A Note on the PERSONAL.XLSB Workbook	468
Word Deployment Techniques	469
Distributing Documents	469
Using Templates	470
Configuring Template Directories	470
Creating Templates	471
Global Templates	472
Preparing a Document for Conversion to a Global Template	473
Converting a Template to a Global Template	474
Editing Global Templates	475
Removing Global Templates	476
A Note on the Normal.dotm Template	476
Sharing Ribbon Items Across Files(Word and Excel)	477
Creating a Shared Namespace	478
Sharing Tabs and Groups in Excel	479
Sharing Tabs and Groups in Word	485
Deploying Word and Excel Solutions Where Multiple Versions of Office are in Use	491
Do Legacy CommandBar Customizations Still Work?	491
Method 1: Creating Separate Versions	492
Method 2: Calling a Previous Version from a New Add-in	493
Using a 2003 Excel Add-in as a Front-End Loader for a 2007 Add-in	494
Using a Word 2007 Global Template as a Front-End for a 2003 Template	500
Access Deployment Techniques	504
General Information Concerning Database Deployment	504
Preparing the Files for Multi-User Environments	504
Managing Access Startup Options	507
Leveraging the startFromScratch Attribute	507
Adjusting Access Options for Your Users	508
Creating an ACCDE File	510
Loading the customUI from an External Source	511
Deploying Solutions to Users with Full-Access Installations	514
Deploying Customizations with Full Versions of Access	514
Deploying Solutions to Users with the Access Runtime Version	518
Conclusion	519
Chapter 17 Security In Microsoft Office	523
Security Prior to Office 2007	524
Macro-Enabled and Macro-Free File Formats	524
The Trust Center	525
Trusted Publishers	526

xxiv Contents

Trusted Locations	526
Adding, Modifying, or Removing Trusted Locations	528
Trusting Network Locations	529
Disabling Trusted Locations	529
Add-ins	529
Requiring Add-ins to Be Signed	530
Disabling Notification for Unsigned Add-ins	530
Disabling All Add-ins	531
ActiveX Settings	531
Macro Settings	532
Setting Macro Options	532
Trusting VBA Project Access	533
Message Bar	533
Privacy Options	534
Digital Certificates	534
How Digital Certificates Work	534
Acquiring a Digital Certificate	535
Using SELF CERT.exe to Create a Digital Signature	536
Adding a Digital Certificate to a Project	537
Trusting a Digital Certificate on Another Machine	538
Deleting a Digital Certificate from Your Machine	540
Conclusion	542
Appendix A Tables of RibbonX Tags	545
How to Use This Appendix	545
Ribbon Container Elements	546
customUI Element	546
ribbon Element	548
contextualTabs Element	548
tabSet Element	548
qat Element	549
sharedControls Element	549
documentControls Element	549
officeMenu Element	549
tabs Element	550
tab Element	550
group Element	551
Ribbon Control Elements	552
box Element	553
button Element	553
buttonGroup Element	556
checkBox Element	557
comboBox Element	558
dialogBoxLauncher Element	562
dropDown Element	562
dynamicMenu Element	566

editBox Element	568
gallery Element	571
item Element	575
labelControl Element	576
menu Element	577
menuSeparator Element	579
separator Element	580
splitButton Element	581
toggleButton Element	582
Appendix B Tables of Tab and Group idMso Names	587
Common Tab idMso Identifiers	587
Contextual Tab idMso Identifiers	588
Contextual Tab idMso Identifiers for Excel	588
Contextual Tab idMso Identifiers for Access	589
Contextual Tab idMso Identifiers for Word	590
Group idMso Identifiers	590
Excel's Group idMso Identifiers	590
Access's Group idMso Identifiers	595
Word's Group idMso Identifiers	600
Appendix C imageMso Reference Guide	607
How to Get Your Own imageMso References	607
Your Own Reference Tool	608
Appendix D Keytips and Accelerator keys	611
Keytips and Accelerator Keys for Excel	611
Appendix E RibbonX Naming Conventions	615
How Our Naming System Works	615
Naming Samples	617
Appendix F Where to Find Help	621
Websites with RibbonX Information	621
Websites Maintained by the Authoring and Tech Edit Team	623
Newsgroups	623
Web Forums	624
Index	627