

Table of Contents

Introduction.....	vii
1 The UI Automation Environment.....	1
Providers and Clients	1
Providers	2
Clients	2
Main Components	3
Automation Elements.....	3
The UIA Tree.....	3
Control Patterns	5
Control Types.....	5
Properties	6
Events.....	7
Custom Control Patterns, Properties, and Events	7
Planning Your Hierarchy	8
2 Designing the Logical Hierarchy	9
The Logical Hierarchy	10
Mapping Basics.....	11
Elements and Controls	11
Element Relationships and Navigation	12
Getting Started	14
How to Do It.....	16
Example: Employee Timecard	17

Using the Logical Hierarchy for Planning Accessibility Settings.....	23
Keyboard Navigation	24
Graphics: Decorative vs. Contextual.....	24
Complex User Interfaces	24
Designing Element Functionality	25
3 Designing Your Implementation.....	27
Product Example Continued: Employee Timecard.....	28
Prep Work: Creating the Implementation Table	29
Process A: Control Maps to a UIA Control Type	31
Step 1: Gathering Required Control Patterns	31
Step 2: Gathering Required Control Type Properties	32
Step 3: Gathering Requirements for Additional Control Functionality.....	36
Process B: Control Does Not Map to a UIA Control Type	40
Methods and Events	41
Framework-Dependent Decisions.....	42
Implementing Your Native UIA Solution	43
Rounding Up Native Solutions	43
4 Testing and Delivery.....	45
Accessibility Testing and Test Automation.....	46
Tools	47
Investigation Tools	47
UIA Verify Test Automation Framework	48
Keyboard.....	49
Users and AT Devices.....	50
Delivery	50
Conclusion: 7 Steps to a Better Computing World.....	51
References	51

Appendix A: Windows Automation API: Overview	53
Microsoft Active Accessibility and UI Automation Compared	54
Architecture and Interoperability	54
Microsoft Active Accessibility Architecture.....	55
UI Automation Architecture	56
Interoperability Between Microsoft Active Accessibility-Based Applications	56
Limitations of Microsoft Active Accessibility	58
UI Automation Specification.....	58
UI Automation Elements.....	59
UI Automation Tree	60
UI Automation Properties.....	61
UI Automation Control Patterns	61
UI Automation Control Types	61
UI Automation Events	62
The IAccessibleEx Interface	62
Choosing Microsoft Active Accessibility, UI Automation, or IAccessibleEx.....	62
Appendix B: UI Automation Overview	65
UI Automation Components.....	66
UI Automation Header Files.....	66
UI Automation Model	67
UI Automation Providers	68
Glossary	69
Index.....	75



What do you think of this book? We want to hear from you!

Microsoft is interested in hearing your feedback so we can continually improve our books and learning resources for you. To participate in a brief online survey, please visit:

www.microsoft.com/learning/booksurvey