Contents

Introduction **xxiii**

Chapter 1: InfoPath — The Journey Begins **1**

What Is InfoPath, and How Can It Be Used? **1**
The Challenge of Forms Management 1
Microsoft's Solution: InfoPath 2
Try It Out: Opening the Sample Absence Request InfoPath Form ***2***
Side Trip: Installing the InfoPath 2003 Service Pack 1.1 4
InfoPath Features 4
Features Introduced in Service Pack 1.1 5
The InfoPath Form Process 6
Ways to Use InfoPath 7
Single User 7
Published for Others' Use 8
Collaborative Efforts 8
Ways to Connect Data to InfoPath 8
Deployment Requirements for Designing and Filling Out InfoPath Forms 8
Taking a Look at a Typical InfoPath Form 9
Try It Out: Testing the Features of the Absence Request Form ***10***
Summary **12**
Exercises **12**

Chapter 2: Getting Started Designing with InfoPath **13**

Touring the InfoPath Designer **13**
Overview of the Task Panes 15
Layout Task Pane 15
Control Task Pane 16
Data Source Task Pane 17
Views Task Pane 18
Creating Your First InfoPath Form **19**
Try It Out: Creating a New InfoPath Form ***19***
Exploring the Ways of Designing a New Form 21

Working with Tables 22
  Adding a Table 22
    Try It Out: Adding the Tables ***22***
  Resizing Table Columns and Rows 23
    Try It Out: Resizing Elements ***24***
  Setting Fonts and Adding Text to the Form 24
    Try It Out: Setting Font Information and Adding Text ***25***
  Adding Controls to the Form 25
    Try It Out: Adding Controls ***26***
  Setting a Color Scheme 26
    Try It Out: Set the Color Scheme ***26***
Summary **27**
Exercises **28**

Chapter 3: Understanding Data **29**

A Quick Database Primer **29**
Databases in the Real World 30
Database Models 31
  Flat File Model Databases 31
Relational Database Model 32
  Tables: Where Data is Stored 32
  It's All about Relations 34
  Referential Integrity 34
  Normalizing Your Data 35
Working with Various Databases **35**
File Server versus Client Server 36
Front and Backends 36
Microsoft Access 36
  Benefits and Issues of Microsoft Access 37
  Microsoft Access Objects Used with InfoPath 37
Microsoft SQL Server 38
  Benefits and Issues of Microsoft SQL Server 38
  Microsoft SQL Server Objects Used with InfoPath 39
Other Databases 40
Looking Briefly at XML **40**
    Try It Out: Examining an XML Document ***42***
Introduction to Web Services **42**
Web Services Overview 42
Using Web Services with InfoPath 43
Summary **44**
Exercises **44**

Chapter 4: Creating an InfoPath Form from an Existing Data Source 45

Starting the Form Based on a Data Source 45
Specifying the Right Data for the Right Job 46
Working with the Data Connection Wizard 46
Try It Out: Creating the Form and Specifying the Data Source 47
Working with the Created InfoPath Form 51
A Look at the Features of the New Form 51
Try It Out: Filling in the Form Header Information 52
Data Source Task Pane 53
Try It Out: Displaying the Fields in the Data Source 53
Query Field Section 54
Adding the fields 54
Try It Out: Adding Fields to the Query Field Section 54
Using More Than One Query Field 55
Data Field Section 55
Adding Fields One at a Time 55
Adding Repeating Sections of Fields to the Form 55
Try It Out: Adding Fields to the Data Field Section 56
New Record and Run Query Command Buttons 56
Try It Out: Examining to Run Query Command Button Action 57
Previewing the Form 58
Try It Out: Querying a Customer Record by Region 58
Try It Out: Modify a Customer's Record 59
Try It Out: Adding a New Customer 60
Updating a Form's Data Source 61
Try It Out: Adding a Sort Order to tblCustomers 62
Summary 63
Exercises 64

Chapter 5: Utilizing XML and Web Service Data Sources 65

XML Overview 65
What Is XML? 66
XML Documents 66
Standard XML Files 66
The XML Data Document (*.xml) 68
The Schema File (*.xsd) 69
Try It Out: Exporting tblShippers from Access to XML 70
Utilizing XML Data in InfoPath 71
Why Use an XML Data Source? 71

Creating an InfoPath Form Using an Existing XML Document 72
Try It Out: Specifying a XML Data Source *72*
Try It Out: Adding the Fields *74*
Utilizing Data with an XML Data Source 75
Try It Out: Adding a Data Source Using an XML Document *75*
A Brief Look at the XML Used for InfoPath Forms **80**
Try It Out: Examining the Files *80*
Summary **81**
Exercises **81**

Chapter 6: Working with Controls in General **83**

Using the Right Control for the Right Job **83**
Looking at the Starting Form for the Chapter **85**
Try It Out: Open the Sample Form *86*
Working with the Property Sheet **86**
Setting the Default Value of a Control **87**
Using Literal Values 87
Try It Out: Adding a Default Value to Quantity *87*
Using Formulas 89
Try It Out: Using a Formula for Order Date Default Value *90*
Working with Rules at the Control Level **92**
What Are Rules and When Are They Used? 92
Creating Rules 93
Try It Out: Adding a Second Rule *96*
Formatting Fields **98**
Using Standard Formatting 98
Try It Out: Formatting the UnitPrice for Currency *99*
Conditional Formatting 100
Formatting Attributes 100
Display Properties of a Text Box 100
Try It Out: Creating Conditional Formatting *101*
Summary **102**
Exercises **102**

Chapter 7: Looking at Some Useful Controls and Techniques **103**

Using Expression Boxes with Formulas **103**
Try It Out: Adding an Expression Box Based on a Formula *104*
Utilizing Command Buttons **106**
Try It Out: Adding a Delete Button *107*

Utilizing Drop-Down List Boxes on the Form **109**
Adding a Drop-Down List Box to a Form 109
Try It Out: Adding the Field from the Data Source as a Text Box, and then Changing It ***110***
Try It Out: Adding a Drop-Down List Box and Binding it to a Field ***111***
Specifying List Box Data Sources 112
Working with an Additional Data Source 113
Try It Out: Specifying an Additional Data Source ***113***
List Box Data Connection Properties 115
Try It Out: Setting a List Box's Data Connection Properties ***115***
Entering the List Manually 117
Try It Out: Creating the List Manually ***119***
Summary **121**
Exercises **121**

Chapter 8: Working with Sections **123**

Overview of Types of Sections in an InfoPath Form **123**
Looking at Choice Sections and the Choice Group Control **124**
Try It Out: Adding a Choice Group Control ***126***
Optional Sections **127**
Try It Out: Adding an Optional Notes Section and Setting Its Properties ***129***
Specifying Filters on InfoPath Forms **130**
Try It Out: Filtering a Repeating Table Using a Drop-Down List Box ***131***
Master/Detail Sections **134**
Summary **134**
Exercises **134**

Chapter 9: Managing Views **135**

Views Overview **135**
Try It Out: Creating the Default View ***136***
Working with View Properties **139**
Reviewing the Views Task Pane 140
Getting to the View Properties 141
Try It Out: Changing the Default View's Properties ***143***
Creating Multiple Views **144**
Try It Out: Adding the Notes and Orders Views ***144***
Try It Out: Switching between Multiple Views ***147***
Custom Task Panes **149**
HTML Web Page Used for Custom Task Pane 150
Try It Out: Creating the Task Pane in HTML ***151***

InfoPath Custom Task Pane Properties 152
Try It Out: Specify Task Pane Files in Your InfoPath Form *152*
Print Views **155**
Try It Out: Creating Print Views *156*
Summary **159**
Exercises **160**

Chapter 10: Publishing InfoPath Forms 161

What It Means to Publish an InfoPath Form **161**
Differentiating Forms to Fill from Their Templates 162
Ways to Distribute InfoPath Forms 162
Publishing to a File Server **162**
Try It Out: Publishing a Form on a File Server *163*
Publishing to a Web Server 167
Try It Out: Publishing an InfoPath Form to a Web Server *167*
E-mailing InfoPath Forms 170
Try It Out: E-mailing an InfoPath Form When Filling *171*
Exporting to a Web Page **173**
Try It Out: Exporting an InfoPath Form *174*
Merging Data from Separate Forms **176**
Try It Out: Merging Data from Separate InfoPath Forms *177*
Summary **180**
Exercises **180**

Chapter 11: Working with Code in Your InfoPath Form 181

When Is Code Necessary? **181**
Choose Your Flavor of Code: Script or Managed Code (.NET) **182**
JScript or VBScript? 182
Try It Out: Setting the Default Script Editor *183*
Managed Code with .NET 184
Try It Out: Downloading the InfoPath 2003 Toolkit for Visual Studio .NET *184*
Looking at Event Programming **186**
What Is an Event? 186
InfoPath Events 187
Try It Out: Creating Your First Scripted Event *188*
Try It Out: Creating Your First Managed Code Event *189*
Summary **192**
Exercises **192**

Chapter 12: Getting Started Using Scripts 193

Introduction to Microsoft Script Editor 193

Try It Out: Creating the Initial Form 195

Working with JScript 196

Working with Custom Functions 197

Try It Out: Creating a Custom Function 197

Try It Out: Calling a Custom Function 198

Using Variables 200

Reference Variables 200

Value Variables 200

XDocument Object 200

Try It Out: Adding References to Fields on an InfoPath Form 201

Performing Operations on Variables 202

Try It Out: Updating the txtFullName Field from Code 202

Try It Out: Displaying LastName, FirstName 203

Conditional Branching 204

Try It Out: Adding an Conditional If Statement 205

Summary 205

Exercises 206

Chapter 13: Working with .NET Managed Code 207

Introduction to the .NET Framework 207

Common Language Runtime 208

.NET Framework Class Library 209

Using Visual Studio .NET 210

Try It Out: Creating a C# Windows Application Project 211

Elements of the IDE 213

Modifying the Project by Adding a Control and Event Code 214

Try It Out: Adding Controls and Code 214

Executing the Application 215

Executing with Debugging (Debug Mode) 216

Executing without Debugging (Release Mode) 216

Try It Out: Running Your Application 216

Developing InfoPath Projects in .NET 217

Review: Installing the InfoPath 2003 Toolkit for Visual Studio .NET 217

Working with the InfoPath Namespaces 217

Try It Out: Creating an InfoPath .NET Project 218

Distributing InfoPath .NET applications 221

Try It Out: Creating the Setup Distribution Project 221

Summary 227

Exercises 227

Chapter 14: Real-World Tasks and Coding Examples 229

Date Calculations 229
  Simple Date Calculations Using Script 230
    JScript Date Object 230
    Creating a Reference to an InfoPath Field 230
    Assigning a Value to a Variable 231
      Try It Out: Creating a Form That Manipulates Dates Using Script 231
  Date Calculations Using C# and Visual Studio .NET 233
    System.DateTime Class 233
    Creating a Reference to an InfoPath Field 233
    Assigning a Value to a Variable 234
      Try It Out: Manipulating Dates Using C# 234
Sending a Form in an E-Mail 236
      Try It Out: Creating a Form That Can E-Mail Itself 237
Providing Context-Sensitive Help 240
      Try It Out: Creating a Context-Sensitive Help Task Pane 243
Summary 246
Exercises 247

Chapter 15: Creating and Working with Web Services 249

Web Services Overview 250
  Web Services Infrastructure 251
  Using Web Services Locally 253
      Try It Out: Setting Up a Web Service Locally 253
Using Web Services for Data Source 255
      Try It Out: Basing an InfoPath Form on a Web Service 256
Creating a Web Service Using ASP.NET 262
  Introducing ASP.NET 262
      Try It Out: Creating an ASP.NET Web Service Project 263
  Looking at the Initial Template 265
    The Using Directive 266
    Namespace and Class Directives 266
    Initialization Code 266
    The Sample Web Service 267
      Try It Out: Creating and Testing Your First Web Method 267
Working with Web Service Methods That Return Data 270
  Introducing ADO.NET 270
    Differences between ADO and ADO.NET 270
    ADO.NET Data Provider Classes 270

ADO.NET Objects 271
Try It Out: Creating the Method to Return Supplier Information **272**
Summary **274**
Exercises **274**

Chapter 16: Implementing Security 275

What Does Security Mean? **275**
InfoPath Security **276**
Form-Based Security 277
Try It Out: Looking at IE's Security Settings **278**
Fully Trusted Forms 278
Try It Out: How to Create a Fully Trusted Form **279**
Using the SDK Regform Utility 280
Try It Out: Creating a Fully Trusted Form Using the RegForm Utility **282**
How It Works **282**
Creating an MSI to Automatically Set Up Full Trust 283
Try It Out: Use the RegForm Utility to Create an MSI **283**
Defining Security with the .NET Framework **284**
Defining Assemblies 284
Assemblies in Web Services 284
User versus Code Security 285
Code-Based Security 285
Role-Based Security 285
System.Security Namespace 285
Digital Signatures **286**
Using Digital Signatures with InfoPath 286
Try It Out: Creating a Test Digital for Testing **286**
Try It Out: Sign the Form with the Digital Signature **287**
Summary **289**
Exercises **289**

Chapter 17: Working with InfoPath and Windows SharePoint Services 291

What Are Windows SharePoint Services? **292**
Windows SharePoint Services Site Features 292
The Difference between Windows SharePoint Services and SharePoint Portal Services 292
Touring a SharePoint Site **293**
Default Lists of the Site 293
Try It Out: Touring the Different Areas **296**
Other Major Areas 296

Customizing the Windows SharePoint Services Team Site 297
Try It Out: Applying a Theme to the Site *298*
Adding Existing Web Parts to Your Site 299
Creating Your Own Web Parts 300
Using InfoPath and SharePoint **300**
Publishing an InfoPath Form on a SharePoint Site 301
Try It Out: Publish a Sales Report to a SharePoint Site *301*
Filling Out InfoPath Forms on the SharePoint Site 306
Try It Out: Working with the Form Library *306*
Summary **308**
Exercises **308**

Chapter 18: Manufacturing Plant Case Study **309**

The InfoPath Document **309**
Creating the Database **310**
The BoilerSystem Data Model 311
BoilersOperatingLog table 311
SystemLog Table 312
Lookup Tables 313
The BoilerSystem Relationship Model 313
Looking at the Boiler Web Service **314**
Creating the Data Adapters 315
Creating the Datasets 316
Creating Typed Datasets 317
Exposing the Datasets 318
Inserting Data 320
Submitting from InfoPath 320
Submitting Forms 321
Situation 321
Summary **322**

Appendix A: Answers to Exercises **323**

Index **327**