

***ASP.NET 3.5***

FOR

**DUMMIES<sup>®</sup>**

**by Ken Cox**



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# *About the Author*

**Ken Cox** is a Canadian writer and programmer. He earned a Bachelor of Applied Arts (BAA) degree in Radio and Television Arts from Ryerson University in Toronto, which led to a 25-year career as an on-air journalist in Toronto and Quebec City. He contributed reports to local stations CFRB and CJAD as well news networks such as CBC, CBS, NBC, and the BBC. His claim to fame is that he has chatted in English and French with Queen Elizabeth II of England.

Ken's passion for computers and things high-tech led him to earn a college certificate in Technical Communications. He then pursued a second career as a technical writer and information developer with companies including Nortel in Toronto. His documentation has won numerous awards from the Society for Technical Communication.

As the Internet and World Wide Web became popular, Ken started tinkering with Web pages. Despite having no formal training in programming, he found himself part of the earliest beta of a ground-breaking Microsoft product that was code-named Denali. Denali became Active Server Pages (ASP) 1.0, which later evolved into ASP.NET with Visual Studio and Visual Web Developer as its primary development tool.

Microsoft has awarded Ken its coveted Most Valuable Professional (MVP) status each year since 1998 in recognition of his volunteer assistance to users in online communities such as the ASP.NET newsgroups.

He currently works as a contract Web applications consultant, programming writer, technical reviewer, author, and as a contributing editor for *Visual Studio Magazine*.

Ken, his wife Vilia, and their dog Goldie (a GoldenDoodle) spend spring, summer, and fall at a peaceful lakefront home in a forest in Nipissing Township, Ontario, Canada. They winter in Victoria, British Columbia.





# *Dedication*

To my wife, Vilia, for encouraging me to pursue my dreams.



# *Author's Acknowledgments*

Thanks to Acquisitions Editor Katie Feltman for showing faith in my abilities by offering me a chance to write a book of my own on a topic I love. To Rebecca Senninger and Blair Pottenger, the project editors: thanks for being my air traffic controllers, troubleshooters, advisors, and all-round publishing resources. Thanks also to my technical reviewer and fellow MVP, Mark Rae, for catching my slips and making valuable suggestions for a better book. The mistakes that remain are mine.

To my wife, Vilia: You've been a tremendous support for over 37 years. This book is just another example of how I couldn't manage without your love and guidance. You've always encouraged me to follow my dreams. I'm a lucky guy to have found you.

Finally, a shake of the paw and a "bikkie" (dog biscuit) for our dog Goldie. Your muzzle nudges and refusal to be ignored guarantee restorative breaks outdoors at 12:30 p.m., 5:30 p.m., and 10:30 p.m. every day, rain or shine. Okay, Goldie, go find your ball!

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# Introduction

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**G**reetings! You just entered the world of *ASP.NET 3.5 For Dummies*. In case you weren't told on the way in, ASP.NET is Microsoft's technology for building dynamic, interactive, data-driven Web pages. The primary tool for creating ASP.NET sites is Visual Web Developer (VWD), which you use throughout this book.

Wait a minute! An introduction to an introduction is not only wordy and redundant, it's superfluous and unnecessary.

## *I Know Who I Am: Who Are You?*

My full name is Kenneth John Cox. I was born in Windsor, Ontario, Canada. I'm a former broadcast journalist (the pejorative term is *spit-collector*) whose hobby (long ago) was playing with computers. Somehow, I learned enough about ASP.NET to get paid for creating Web applications. When they pay you for your hobby, it sure beats working for a living!

Here's what I assume about you, gentle reader:

- ✔ You use a computer and know your way around Windows XP or Windows Vista.
- ✔ You're familiar with the World Wide Web and can connect to the Internet.
- ✔ You've created a Web page in a tool like FrontPage or Dreamweaver and probably know some HTML markup.
- ✔ You grasp basic programming concepts. The terms *variable* and *loop* don't frighten you — but you aren't necessarily a programmer.

You may have any number of reasons for digging into this ASP.NET book:

- ✔ You volunteered to create a statistics Web site for your kid's soccer league.
- ✔ You're putting your home-based business on the Web and need a data-driven page.

- ✔ You develop Web sites on platforms like Java and PHP and want to make yourself more marketable by including Microsoft's technology.
- ✔ You've worked with a previous release of ASP.NET and want to get up to speed on new stuff like AJAX, LINQ, and the `ListView` control.
- ✔ Your boss is dabbling in ASP.NET and might let you play in his sandbox if you talk a good enough game.
- ✔ You collect *For Dummies* books and master each book's subject before moving to the next one.

## Less Code, More Productivity

When I agreed to write a book from scratch on ASP.NET 3.5, I made it clear that I wanted it to be very hands-on and task-oriented. I show you how to use Microsoft's latest graphical tools — designers, editors, and wizards — to their best advantage. Instead of treating new features like AJAX and LINQ as separate add-ons, I integrate them into many samples.

Some professional developers would have you believe that the only effective way to create ASP.NET pages is to write the code by hand. (Do the words *real men* and *quiche* ring a bell here?) Their geeky noses have been stuck to the keyboard for so long they've been left behind. Microsoft has implemented powerful design-time tools in Visual Web Developer, so why not use them to be more productive?

Wherever possible, I favor the drag, drop, choose, and configure methods over typing code. Here's why:

- ✔ **It's faster.** You don't have to know — or even understand — the ins and outs of every object before creating something useful.
- ✔ **You create fewer bugs.** Microsoft's built-in designers write quality code based on your choices.
- ✔ **Pages are easier to maintain.** Programmers are notorious for failing to document what their code performs and many insist that code is "self-documenting." When you revise someone else's code by rerunning a wizard, you spend less time playing catch-up.

That said, in many instances in this book, you do write code. Each time, I explain what the code is performing. Don't fear being overwhelmed if you're not a code jockey. Everyone's a beginner at some point.

The book's code examples are in Visual Basic .NET because Visual Basic is easy to understand, not case-sensitive, and just as powerful as C# when compiled. (Not to mention that I like VB best!)

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## *How to Use This Book*

People have different learning styles. Many are adventurers who turn to manuals only to get out of trouble. They barge into a new programming task like a deer into the forest until some grimy detail stops them in their tracks. Suddenly, progress can't be made until they find an example or fill a knowledge gap. That's when they scout out a likely topic in the book's index, follow a few numbered steps, and snatch a snippet of "just-in-time" information.

In contrast to the adventurers, you might be the organized and methodical type. Perhaps you prefer to get a feel for the subject, ease into it, and analyze examples while you're building skill and confidence. This book accommodates both approaches by including multiple hooks and starting points.

## *How This Book Is Organized*

This book organizes the topics in parts with each part covering a different aspect of creating ASP.NET applications.

### *Part I: Getting to Know ASP.NET and Visual Web Developer*

Part I introduces the technology and contains the information you need to start creating your first ASP.NET pages. The goal is to become comfortable enough with the terminology and tools so you relax in the rest of the book. If you've worked with a previous version of ASP.NET and Visual Web Developer, you might want to skim or skip Chapter 1. Chapter 2 is necessary only if you've never worked in a Visual Studio or Visual Web Developer environment. In Chapters 3, 4, and 5, I introduce key concepts and ensure your initial success in creating pages that work with user input.

### *Part II: Immersing Yourself in Data*

In Part II, I walk you through the integration of data with ASP.NET pages. Chapter 6 covers the basic needs of virtually every data-driven site using the `SqlDataSource` control. Don't miss Chapters 7 and 8, where I cover the new Language Integrated Query (LINQ) features. Chapter 9 digs into other data sources, such as XML and Web services.

## ***Part III: Enhancing the Interface and User Experience***

In Part III, you explore the presentation aspects of Web pages. In Chapter 10, I show you how to use the tools and techniques in VWD to create user interfaces. Every site with more than one page needs navigation, and that's covered in Chapter 11. Chapter 12 looks at HTML standards and how to use a style sheet to divide a Web page into columns. For sophisticated formatting, Chapter 13 walks you through the versatile new `ListView` control. In the remaining chapters in Part III, you add dynamic effects, boost page response with AJAX, and introduce rich content, such as Microsoft Silverlight, into your pages.

## ***Part IV: Tracking Users, Controlling Access, and Implementing Security***

Part IV is largely about security and recognizing returning visitors. In Chapter 17, I show you how easy it is to secure pages by using ASP.NET's built-in authentication and membership features. The chapter offers professional touches that users appreciate. In Chapter 18, you build an e-commerce style shopping cart by using ASP.NET's built-in Profiles feature. Chapter 19 demonstrates ways to ensure that users — friendly or otherwise — provide your application with clean, safe, validated data.

## ***Part V: Getting the Bugs Out and Handling Runtime Errors***

Turn to the chapters in this part to figure out why a page or site isn't behaving the way it should. Chapter 20 shows techniques for checking what's going on deep in your app. Chapter 21 provides defenses to cope with unforeseen errors in a deployed page.

## ***Part VI: The Part of Tens***

In Chapter 22, you copy your ASP.NET pages and associated files to the Internet. The last chapter of the book points you toward helpful resources for when you're stuck or you need to expand your expertise and investigate more complex subjects.