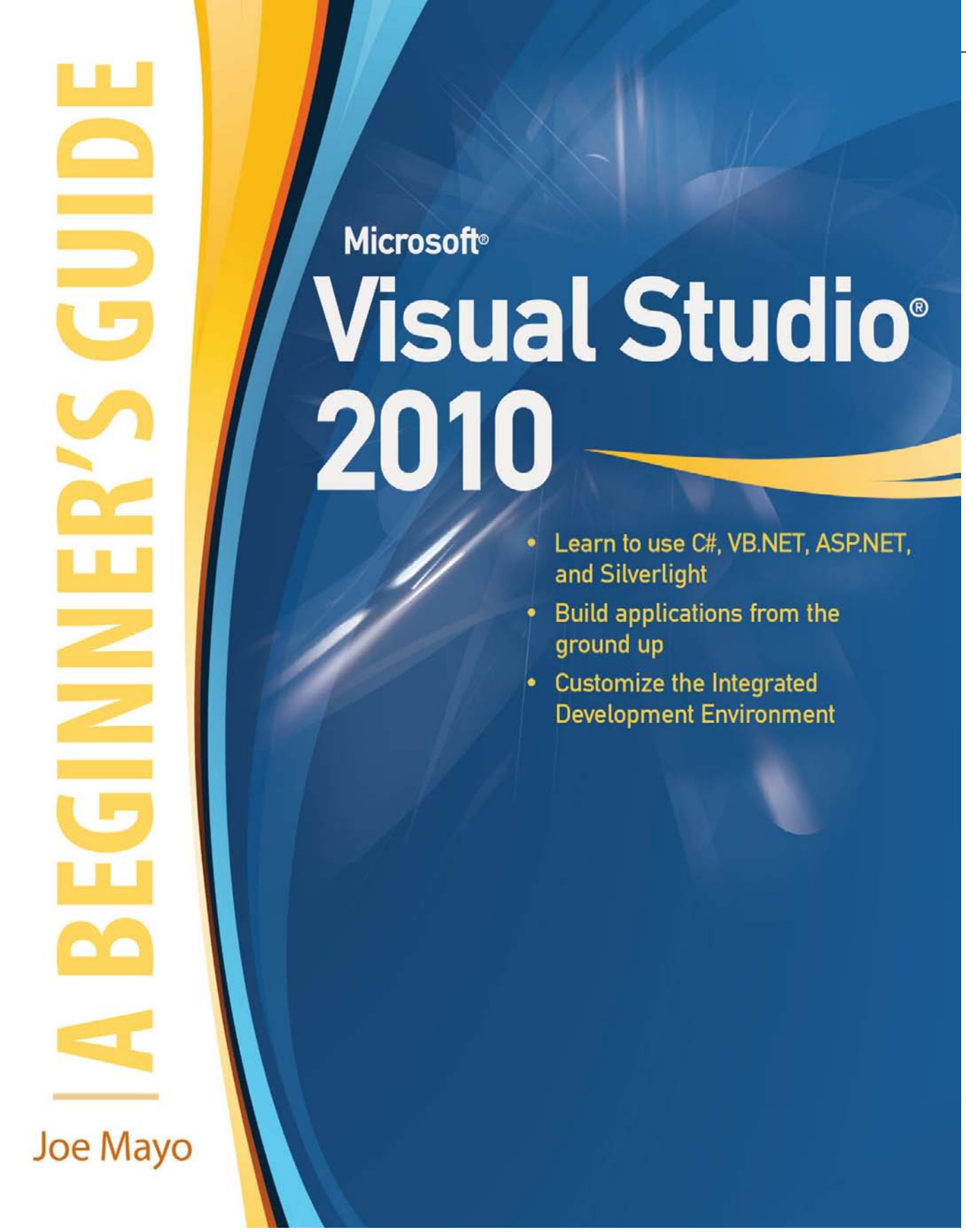
A BEGINNER'S GUIDE
Joe Mayo
Microsoft®
Visual Studio®
2010
• Learn to use C#, VB.NET, ASP.NET, and Silverlight
• Build applications from the ground up
• Customize the Integrated Development Environment

Microsoft® Visual Studio® 2010

A Beginner's Guide

About the Author

Joe Mayo started his software development career in 1986, working on an RCA Spectrum 70 mainframe computer, programming in assembly language where input was via Hollerith card, output was a line printer, and the debugging experience was a light panel where you had to push buttons to load registers and step through commands. Since then, Joe has worked with various mini-computers, workstations, and PCs. The operating systems he's worked on include proprietary, UNIX-based, MS-DOS, and Windows. Besides assembly and dozens of scripting languages, Joe has worked professionally with C, C++, VBA, Visual C++, Forte Tool, Java, VB.NET, and C#. In addition to software engineering, he has worked in many positions, including team lead, supervisor, manager (even running a 24×7 computer operations center with over 50 people). Today, Joe runs his own company, Mayo Software, providing custom software development services and specializing in Microsoft .NET technology. He is the author of *LINQ Programming* (McGraw-Hill Professional, 2008) and other books. Joe is also the recipient of multiple Microsoft MVP awards. You can follow Joe on Twitter: @JoeMayo.

About the Technical Editor

Roy Ogborn has worn almost every hat one time or another during his interesting and continuing career in the Information Technology field. He was systems manager and developer for Texaco Europe Research, Inc., in Moscow, USSR, during the attempted coup. Back in the United States, he has designed and implemented a GIS system for managing oil and gas wells and leases, and has architected and implemented an enterprise workflow system that managed the business process of taking wells from conception to completion. He architected a system for Forest Oil in Denver that linked disparate accounting, lease management, and production tracking systems for business intelligence for senior executives' daily and strategic decisions. Recently he architected and designed a SharePoint-, Silverlight-, and CSLA-based greenhouse gas emissions evaluation, prediction, and decision tool for a multinational environmental engineering firm using the new Visual Studio 2010 Architecture Edition tools. Roy is an independent software architect consultant in the Denver Metro Area specializing in custom solutions that leverage SharePoint. In January 2010 he presented SharePoint 2010 for Developers at the Denver Visual Studio .NET User Group.

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A Beginner's Guide

Joe Mayo

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To my son, Kamo.

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Contents at a Glance

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Roy Ogborn was the technical editor for this book. I've known Roy for several years and was delighted when he agreed to tech edit the book. Besides catching many of my errors, Roy provided valuable insight that made a difference in several areas, continuously asking the question of whether a beginner would understand a concept, what is the proper application of the language to accomplish a goal, and perspective on what parts of a technology needed emphasis. Thanks to Roy for outstanding technical editing and advice.

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Introduction

Visual Studio has been the primary integrated development environment (IDE) for Microsoft software development for several years. Visual Studio 2010 (VS), the subject of this book, is therefore a mature evolution, building upon the success of its predecessors. This book will show you how to leverage Visual Studio 2010 to your advantage, increasing your skill set, and helping you become more productive in building software. The software you will learn to write will be for .NET (pronounced "Dot Net"), which is a Microsoft platform for writing different types of applications.

As the title suggests, this is a book for beginners. However, there are many opinions about who a beginner is, so let's discuss what beginner means in the context of this book. You should probably have some understanding of what programming is from a general perspective. It would help to have at least written a batch file, macro, or script that instructed the computer to perform some task. A beginner could also be someone who has written software with technology, such as Cobol, Dreamweaver, or Java, but who is unfamiliar with Visual Studio. Whatever your background, this book provides a gradual on-ramp to developing applications with Visual Studio 2010.

This book has 13 chapters and is divided into four parts and a couple of appendixes as reference material. The following provides an overview of each section:

- **Part I: Understanding Visual Studio 2010 Essentials** Chapter 1 begins with an explanation of what VS is, its benefits to you, and what type of applications VS will help you build. Hands-on guidance starts at the point of installation, giving you tips as to what is being installed and where it goes on your computer. Chapters 2 through 4 are an introduction to C# and VB, two of the most widely used programming languages supported in VS. Notice that the titles of these chapters include "Just Enough," indicating that you will learn the language features you need throughout this book. As you progress through the book, you'll be exposed to all of the language features discussed and see how they are used. Even if you already know how to program, you might want to peruse the programming language chapters anyway because I've sprinkled in dozens of valuable tips that will make your coding experience in VS much more pleasurable.
- **Part II: Learning the VS 2010 Environment** There are a few universal tasks most developers perform every day, which include working with projects, debugging code, and manipulating data. While Chapter 5 is titled "Creating and Building Projects," there is much involved when working with projects. Pay particular attention to the guidance on assemblies and class libraries, as they tend to become more prominent as your development activities progress beyond simple programs. Regardless of your development philosophy, the need to fix bugs has always existed and will continue to be important in the future. Chapter 6 is designed to help you use the many tools of VS to find and fix bugs. Another common task you'll have is working with data. VS allows you to create databases, add tables, and much more. When the database is ready to use, you'll learn how to write code that works with the database. I chose to cover LINQ to SQL because it's one of the simpler database technologies, yet powerful enough for professional application development.
- **Part III: Building Programs with VS 2010** With the foundations of programming languages and a feel for the VS environment, you'll be ready to use VS to build applications. The .NET platform supports various technologies, and this book takes a forward-looking approach, choosing technologies that were the most recently introduced. The focus in these chapters is not to teach you everything about these technologies, which can fill entire books themselves, but rather to show you how to leverage VS in building applications. You'll get the foundations that will give you a head start in building your own applications. Both Chapters 8 and 10 use a form of

Extensible Markup Language (XML) called XML Application Markup Language (XAML). Considering that this is a beginner's book, I added a couple of appendixes that cover XML and XAML. I recommend that you read the appendixes before reading Chapters 8 and 10. Additionally, you should read Chapter 8 before reading Chapter 10, because many of the same concepts used to work with Windows Presentation Foundation (WPF), a technology for building desktop applications, are applicable to Silverlight, a technology to build Web applications. The other two chapters in this part will show you how to build Web applications with ASP.NET MVC and how to create Web services with Windows Communications Foundation.

- **Part IV: Enhancing the VS 2010 Experience** In addition to all of the wizards, tools, and editing help that VS offers, you can extend VS to make it work even better. Chapter 12 shows you how to create your own project and project item wizards, how to create code snippets that automatically generate code, and how to create macros that automate the VS environment. If the macro capability you learn about in VS isn't powerful enough, read Chapter 13, which shows you how to build an Add-In, a program that you can install to add new features to VS.

From installation to customization of the IDE, VS is a helpful and powerful tool. I hope you enjoy this book and that it helps you learn how to make VS work for you.

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Part I

Understanding Visual Studio 2010 Essentials