

# Pro Excel 2007 VBA



Jim DeMarco

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*This book is dedicated to my beautiful wife, Marlene, who continually challenges me to excel (no pun intended). I would also like to dedicate it to my two very talented teens, Jimmy and Melanie, who never fail to impress us with their creative powers.*



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# About the Author



**JIM DEMARCO** is Director of Application Development at the Hudson Center for Health Equity and Quality (HCHEQ), in Tarrytown, NY. HCHEQ is a not-for-profit organization whose mission includes advocacy for equitable healthcare policy in government and the development of information technologies to improve healthcare quality, safety, and efficiency. Previously, Jim was a product manager at Sharp Electronics, where his responsibilities included the development of their handheld organizer product line.

Jim has been building Microsoft Office applications ever since he first received a copy of Microsoft Access 1 in the early 1990s. He discovered object-oriented programming when taking a Visual Basic 5 course, and has been a strong proponent of that paradigm ever since. Jim has published numerous articles on this subject and has also published articles on Microsoft Access programming. He has worked as a software trainer for local adult education facilities, a position that has helped tremendously when designing user interfaces.

Jim is currently leading a team of developers using cutting-edge .NET technologies to streamline the processing of Medicaid applications in New York state. He is the software architect for a system that streamlines that process, providing huge cost savings to all users of the system, as well as providing data efficiencies.

Jim is also a working musician and music producer; music from his projects is available locally and nationally.



# About the Technical Reviewer



**MARK ETWARU** is an information technology strategy consultant in New York, NY. Mark originates from Guyana, South America, and currently resides in New York with his immediate and extended family whose roots in New York date back to the 1960s.

Mark holds a BS in information technology and business management from York College, New York, earned in 2002. He is currently pursuing an MBA with a concentration in technology management from the University of Phoenix Online. Mark is a seasoned technology professional, expanding his knowledge through academic and work-related activities. In addition, Mark is a member of PMI, as well as many other acclaimed organizations.

Beyond Mark's passion for technology, he also enjoys reading, traveling, and spending time with his loved ones. His future aspirations include expanding his consulting services into the financial services marketplace, assembling a technology training institution for the underprivileged, and expanding his travels of the world.



# Acknowledgments

I would like to first thank my family for being so understanding and supportive during this endeavor. Over the last three or four months, in addition to my normal (and large) amount of side projects (computer- and music-related), I spent whatever “free” time I had putting together this volume. Their patience is truly appreciated and made a busy period of my life pass with ease.

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And finally, I would like to acknowledge the readers of this book. Thank you for purchasing it and I hope this book helps you understand the power of VBA in Microsoft Excel 2007.





# Introduction

**D**id you ever wonder whether there is more to Excel than data displayed in rows and columns or pretty charts? If you want to learn how to bring data into your Excel 2007 projects, or learn to work with XML, or see how object-oriented programming can be used in Excel 2007, this book will provide you with that information.

I wrote this book because I've always enjoyed writing applications in Excel when it is the required solution. Excel is often overlooked in coding situations, but as you'll see in the pages of this book, it has many, many possibilities, and it is relatively easy to learn. Excel 2007 has expanded XML support. XML data is easily brought into and out of an Excel project so your client spreadsheet data can be shared. Excel UserForms give you the ability to create simple user interfaces for your clients and allow you to create easy-to-use data collection tools. Excel charting and PivotTables have always been a strong suit for data summary, and in Excel 2007, PivotTables are greatly enhanced.

This book also addresses object-oriented programming to a great degree. Just because you're not writing a .NET or even a classic Visual Basic application, there's no reason you can't use object-oriented coding techniques in your projects. It provides you with the same advantages in Excel that you get in the full-fledged programming languages: ease of reuse, easier code maintenance, encapsulation, and more.

You will find sample files and code solutions in the Source Code/Download section of the Apress web site, at [www.apress.com](http://www.apress.com).

## Who This Book Is For

This book is intended for developers who would like to learn to use Visual Basic for Applications (VBA) to extend the power of Microsoft Excel 2007. You should have some knowledge of or experience using the VBA or classic Visual Basic programming languages and their related development environment.

Anyone with VBA, Visual Basic, Microsoft Access, or .NET experience will readily understand the concepts in this book, but anyone with any coding experience should have no problem with the material.

## How This Book Is Structured

This book gives a view into the many features available to today's Excel developer, from a tour of the Visual Basic Editor, where coding is done, to its debugging features. It also provides modern coding techniques, including object-oriented programming. You'll learn about data access, XML, charting, and PivotTables, UserForms, and more.

Chapter 1 is a basic tour of Excel 2007 coding features, from the development environment to other tools you'll use. It begins with an examination of the Visual Basic Editor and

shows some of its features. It then looks at the Excel Macro Recorder and the code it generates for you, talks about the different types of code modules available to you, and discusses the types of code you can write.

Chapter 2 details methods of bringing data into and out of Excel projects. It covers importing from Microsoft Access data, text files, and SQL Server data. It also discusses the many data access options available, including DAO, ADO, and ODBC.

Chapter 3 discusses using the XML features in Excel 2007. Examples include importing and exporting data to an XML file and appending data from an XML file. It shows how to build a custom object in a class module to work with XML files. It also shows how to build a custom user interface component using XML.

Chapter 4 looks at Excel 2007 UserForms and the tools they provide. Its examples show how to build simple and complex data entry forms, and how to use classes to add functionality to the UserForms.

Chapter 5 explores charting in Excel 2007. After examining the code created by the Macro Recorder, it shows how to use the Chart object in code.

Chapter 6 takes a look at Excel PivotTable reports. PivotTables are powerful data analysis tools, and they're easy to create and modify. The code samples show how to create and modify PivotTable reports.

Chapter 7 is an overview of VBA debugging tools and techniques. The Immediate, Locals, and Watch windows are shown in detail. The section on error handling shows how to effectively trap for errors and how to provide positive feedback to the user.

Chapter 8 is all about integrating your Excel solution with other Microsoft Office applications. Its examples include building a chart report in Word 2007 and building a PowerPoint presentation that includes text and charts from an Excel workbook.

Chapter 9 shows how to use components built in Visual Basic 6 and Visual Studio 2005 in your Excel 2007 projects. Examples from earlier chapters are re-created using ActiveX technologies in Visual Basic 6 and .NET assemblies using Visual Studio 2005 and Visual Studio Tools for Office 2005.

## Prerequisites

Microsoft Excel 2007 is required for the examples in this book. For Chapter 8, "Office Integration," you'll need Microsoft Word 2007 and PowerPoint 2007.

SQL Server 2005 Management Studio Express is used in our SQL data examples. This is available for download from the Apress web site ([www.apress.com](http://www.apress.com)), in the Source Code/Download section.

To create the code for Chapter 9, "ActiveX and .NET," you'll need Visual Basic 5 or 6 (for the ActiveX section) and Visual Studio 2005 and Visual Studio Tools for Office 2005 SE (for the .NET section). If you do not have one or both of the above, the compiled components for each example are provided on the Apress web site. The .NET Framework 2.0 should be installed on your PC for the .NET examples to run. If you do not have Visual Studio 2005, you'll be able to run the samples, but you won't have direct access to the code.

## Downloading the Code

The source code for this book is available to readers at [www.apress.com](http://www.apress.com), in the Source Code/Download section. Please feel free to visit the Apress web site and download all the code there. You can also check for errata and find related titles from Apress.

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