Crystal Xcelsius™ FOR DUMMIES®

by Michael Alexander

Wiley Publishing, Inc.

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About the Author

Michael Alexander is a Microsoft Certified Application Developer (MCAD) with over 14 years experience consulting and developing office solutions. He is the author of several books and the principle contributor at `www.datapig technologies.com`, where he shares free Access and Excel tips to intermediate users. He currently lives in Frisco, Texas where he works as a Senior Program Manager for a top technology firm.

Dedication

For my wonderful family: Mary, Ethan, and Emma.

Author's Acknowledgments

Thank you to Kirk Cunningham for all his help in getting this project off the ground. Thank you to Jaime Zuluaga for all of the wonderful ideas, tips, and tricks. Thank you to the Crystal Xcelsius technical team for answering all my questions. Thank you to Santiago and Santi Becerra for creating this groundbreaking program. A big thank you to Loren Abdulezer, a superb Technical Editor who kept me honest and sparked some great ideas. Thank you to Greg Croy for taking a chance on this book about a new product. Many thanks to Chris Morris and the brilliant team of professionals at Wiley Publishing who helped bring this book to fruition. And a special thank you to my beautiful wife Mary for supporting all my crazy projects.

Publisher's Acknowledgments

We're proud of this book; please send us your comments through our online registration form located at www.dummies.com/register/.

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Contents at a Glance

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Introduction

I like to pretend that I'm a young man, but then I remember that one of my first jobs was typing up orders on a Wang computer. For you spring chickens who don't remember Wang computers, let's just say they don't make them anymore. Anyway, my point is that I've been in the business world a long time. I remember the mad rush to invest in large data warehouses and enterprise reporting tools. These tools came with the promise of business intelligence, affectionately called *BI*. Business intelligence is what you get when you analyze raw data and turn that analysis into knowledge. BI can help an organization identify cost-cutting opportunities, uncover new business opportunities, recognize changing business environments, identify data anomalies, and create widely accessible reports. Unfortunately, data warehouse and enterprise tools of the past had analysis and reporting capabilities that were clunky at best and not very user-friendly. This left many business professionals using tools such as Lotus 1-2-3 and Excel to analyze and report data.

Fast-forward about a decade later, and you'll see that a lot has changed. The Internet is now a cornerstone of business, new technologies have emerged to enhance the quality and performance of Web reporting, and even the previously clunky BI tools can now provide analytical capabilities that are both robust and user-friendly. Nevertheless, even with all these advances in business intelligence capabilities, most of the data analysis and reporting done in business today is still done by using a spreadsheet: that's right, our old friend Excel, which has remained more or less unchanged for the last ten years. Make no mistake — no matter how advanced an IT manager thinks his enterprise system is, Excel is embedded somewhere in that organization's data pipeline.

This is where Crystal Xcelsius enters the scene. Unlike other enterprise solutions, Crystal Xcelsius doesn't try to replace Excel or to take away its need. Instead, Crystal Xcelsius works with Excel to create interactive visualizations by using Excel's data and functionality. With Crystal Xcelsius, users no longer have to feel bad about using Excel in an environment that touts high technology. Crystal Xcelsius allows Excel users to turn their spreadsheets into professional looking dashboards, scorecards, what-if visualizations, or even highly polished PowerPoint presentations. The best thing about Crystal Xcelsius is that with its user-friendly click-and-drag interface, anyone can create highly compelling dashboards in minutes. So ignore SAP for a while. Close out your Crystal Reports, and log off of your Panorama and Cognos portals. Fire up the stalwart Excel and take an in-depth look at this fabulous new program called Crystal Xcelsius.

About This Book

The chapters in this book are designed to be standalone chapters that you can selectively refer to as needed. These chapters provide you with step-by-step walkthrough examples as well as instruction on the wide array of functionality that Crystal Xcelsius has to offer. As you move through this book, you will be able to create increasingly sophisticated dashboards using more advanced components. After reading this book, you will be able to

- Create basic dashboards with charts, gauges, and sliders.
- Add advanced functionality to your dashboards such as alerts, maps, and dynamic visibility.
- Create interactive business calculators and what-if analysis tools.
- Integrate Crystal Xcelsius models into PowerPoint presentations.
- Create Crystal Xcelsius–based Web pages.

The three versions of Crystal Xcelsius are Standard, Professional, and Workgroup. In this book, I focus on the components and functionalities of Crystal Xcelsius Standard and Professional. If you use Crystal Xcelsius Workgroup, you will find that much of the information found here still applies to your version. However, this book doesn't cover the collaboration and the enterprise-level functionality of Crystal Xcelsius Workgroup.

Foolish Assumptions

I make three assumptions about you, the reader:

- Given that you're even reading this book, you've already bought and installed Crystal Xcelsius.
- You are a relatively experienced Excel user familiar with basic concepts, such as referencing cells and using formulas.
- You have enough experience with PowerPoint to add objects, resize objects, and run a presentation.

How This Book Is Organized

The chapters in this book are organized into five parts, each of which includes chapters that build on the previous chapters' instruction. As you go through each part, you will be able to build dashboards of increasing complexity until you're a Crystal Xcelsius guru.

Part I: Say Hello to Crystal Xcelsius

Part I is all about introducing you to Crystal Xcelsius. In Chapter 1, I share with you the various ways you can use Crystal Xcelsius as well as the core concepts that make Crystal Xcelsius components work. In Chapter 2, throw caution to the wind and create your first dashboard — without reading the instructions. At the end of Chapter 2, you will have a firm understanding of the fundamentals of using Crystal Xcelsius, including importing data, working with components, publishing your dashboard, and refreshing your data.

Part II: Getting Started with the Basics

In Part II, I take an in-depth look at some of the basic components that are key to any dashboard. In Chapter 3, I show you how Single Value components work and how to use them to build interactivity into your dashboards. In Chapter 4, I show you how to leverage alerts to enable conditional coloring in your components, allowing your audience to get an instant visual assessment on performance. Chapter 5 is all about creating charts in Crystal Xcelsius. I wrap up this part with Chapter 6, where I show you how to easily build menus and selectors into your dashboards with Selector components.

Part III: Getting Fancy with Advanced Components

In Part III, I go beyond the basics to take a look at some of the advanced components that Crystal Xcelsius has to offer. In Chapter 7, I demonstrate the different ways you can use Map components to add flair to your visualizations. In Chapter 8, I walk you through the basics of dynamic visibility and look at some examples of how dynamic visibility can help achieve focus on the parts of your dashboard that are important. Chapter 9 focuses on the advanced components and functions that are found only in the Professional version of Crystal Xcelsius, discussing how each can be used to enhance your visual models.

Part IV: Wrapping Things Up

Part IV focuses on the last two actions a user takes when wrapping up the production of a dashboard: formatting and distribution. Chapter 10 focuses on the functions and utilities that enable you to show off your artistic side and add your own style to your visual models. In Chapter 11, I show you just how easy it is to take your dashboards to market, and I share a few other tricks on how to share the data in a visual model.

Part V: The Part of Tens

Part V is the classic Part of Tens section found in every *For Dummies* title. The chapters here each present ten or more pearls of wisdom, delivered in bite-sized pieces. In Chapter 12, I share with you ten best practices that will help you design Excel models that allow you to go beyond simple dashboards. In Chapter 13, I share ten of my best Crystal Xcelsius tricks, making ordinary components do extraordinary things. Chapter 14 focuses on answering some of the questions that I hear most often. Chapter 15 covers real-world examples of Crystal Xcelsius in the workplace.

Lastly, the appendix at the end of the book contains an essay by Loren Abdulezer about the significance of the paradigm shift that Crystal Xcelsius represents.

Icons Used In This Book

Sometimes I have to talk about certain technical things in order to keep my guru mystique. These things are interesting but not crucial, so I mark them with this icon. You don't need to read them, but for some of the more tech-savvy of you, they may be useful.

Tips are suggestions to make your life easier. Skim these nuggets for time-savers, tricks, and just plain cool moves.

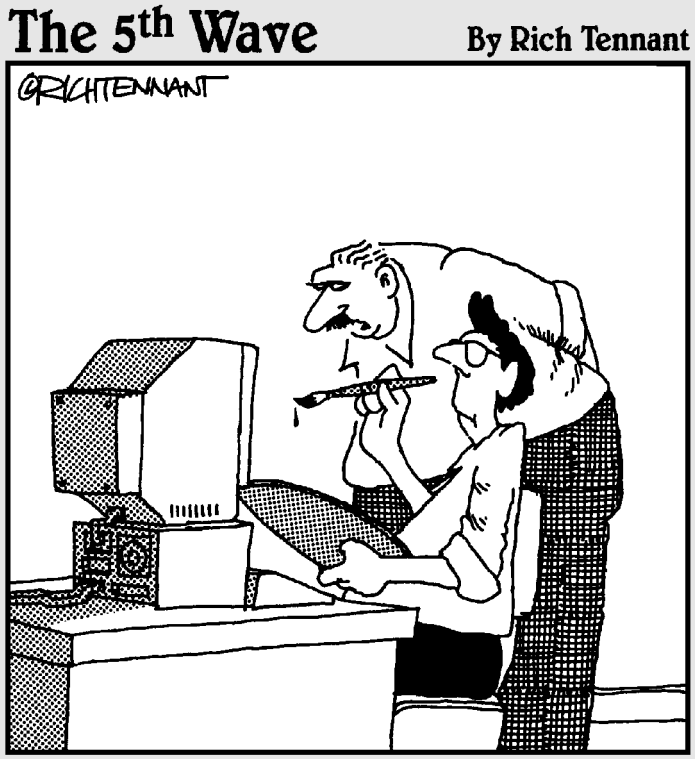
These notes denote info you ought to think about, but they're not going to cause a disaster if you don't pay attention.

Be sure to read text marked with this icon! If you do not follow a warning, bad things can happen: Puffs of black smoke might come out of your monitor, your workspace could be deluged by a plague of frogs, or your program simply won't work right.

This icon denotes subject matter about which you can find more on the World Wide Web. For the most part, the icon is used to point out examples you can download from this book's companion Web site at `www.dummies.com/go/xcelsius`.

Part I

Say Hello to Crystal Xcelsius



"Frankly, I'm not sure this is the way to enhance our data presentation."

In this part . . .

In this part, you are introduced to Crystal Xcelsius. In Chapter 1, I share with you the various ways you can use Crystal Xcelsius as well as the core concepts that make the Crystal Xcelsius components work. In Chapter 2, throw caution to the wind and create your first dashboard — without reading the instructions. By the end of this part, you should have a firm understanding of the fundamentals of creating dashboards in Crystal Xcelsius.

Chapter 1

Introducing Crystal Xcelsius

In This Chapter

- Overcoming static cling
- Seeing beyond fancy graphics
- Checking out Crystal Xcelsius under the hood

So here you are with this new software application — Crystal Xcelsius — in your hand, ready to read this book, hoping to see how to make some really cool dashboards that organize and present your data in a brilliant new way. Little do you know that you are on the cusp of a revolution. It's true! I sit here writing one of the first chapters ever written about Crystal Xcelsius, which is fast becoming a force to be reckoned with in the world of business intelligence.

Using cutting-edge technology, Crystal Xcelsius bridges the gap between data analysis and data presentation, empowering anyone who can point and click a mouse to create professional and compelling dashboards. Gone are the days of deferring to the local Excel guru to help analyze your data or calling the local PowerPoint guru to help you build your presentations. Crystal Xcelsius simplifies even the most complex functionalities, enabling even a beginner to play the part of the guru, creating stunning presentations with just a handful of basic techniques. So as you sit there with your copy of Crystal Xcelsius, don't look so worried. Steady your hand, lift your head, and say with me, "I am the guru. I am the guru!"

This chapter is all about gaining some familiarity with Crystal Xcelsius before creating your first dashboard. Here, I give you an overview of the concepts behind Crystal Xcelsius, how Crystal Xcelsius works, and how you can use Crystal Xcelsius as an integral part of your daily operations.

Overcoming Static Cling

I love the TV show *Little House on the Prairie.* One of my favorite characters on the show is Doc Baker, who is the old country doctor fighting illness armed with nothing more than a stethoscope. (Sometimes I wonder just how effective he is with that stethoscope. I mean, how much information could he, or

any other doctor in the 1880's for that matter, possibly gather with a stethoscope?) That's a long stretch from today, where technology provides doctors with an unprecedented amount of data with dynamic visualizations of the human body that are interactive, real-time, and 3-D. *Visualization* transforms data into a form that is comprehensible to the eye, allowing you to analyze data through the sense of sight. This allows surgeons and medical students to see the breathing patterns of an asthma patient or the beating human heart in rhythm with an EKG output.

However, these advances in visualization technology aren't limited to the medical field. Many industries have striven to move away from static data environments by using interactive visualization technologies. Consider some of the other industries that have taken advantage of interactive visualization technology:

- **Aviation:** In the early 1900s, pilots would spend the first weeks of flight training in a rocking fuselage with mock instruments. Pilots today train in flight simulators that use animation and interactive visualization to replicate a wide array of atmospheric scenarios.
- **Sports:** Professional athletes have the benefit of computer models that interactively capture their movements with animation, helping them pinpoint their problem areas and maximize their kinetic potential.
- **Meteorology:** Meteorologists use interactive visualization systems to model the effects of wind force from storms and hurricanes.
- **Toy industry:** Even popular board games that are inherently visual, such as chess, *Monopoly,* and *Risk,* have been augmented with technology that offers imaginative animations that enhance a player's gaming experience.

What's the point of all this visualization talk? Well, the question that you and I should be asking is what happened to the business world? Although tools like Excel and PowerPoint have brought us a long way from the days of using paper spreadsheets and overhead projectors, by no means have they come close to the interactive visualizations that other industries have benefited from. We still sit through hours and hours of boring meetings where we point to static charts like one you see here in Figure 1-1.

The question is, why are we still clinging to static technologies? Why hasn't anyone moved us forward? This is the same question that Santiago Becerra, Sr., and his son Santi Becerra, Jr., asked each other before they developed Crystal Xcelsius.

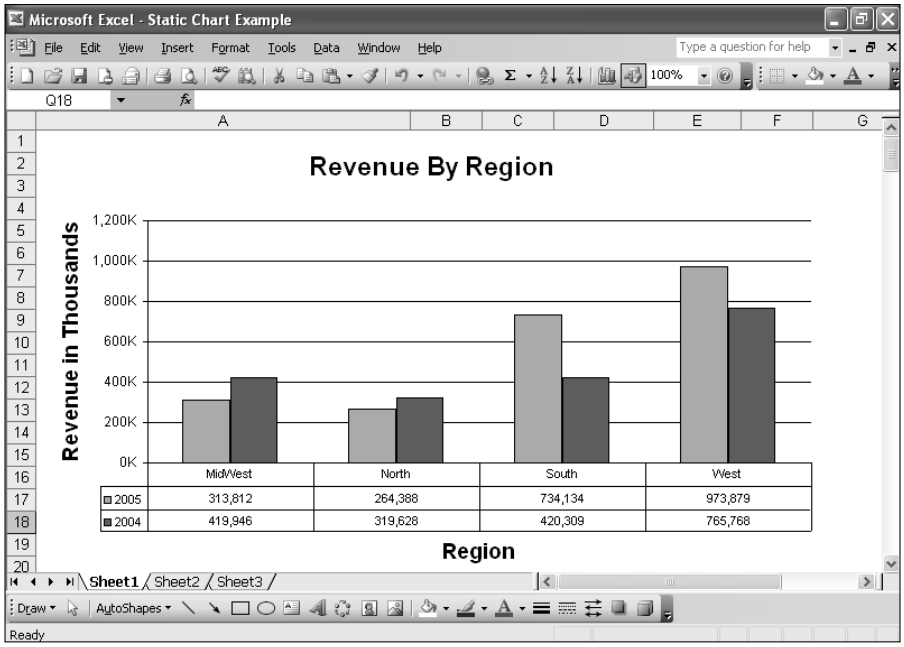


Figure 1-1: Why are we stuck in a static world of drab static spreadsheets and dull static charts?

Like many of us in the corporate world, Santiago Becerra, Sr. has first-hand experience with the dull data environments that leave many managers and key decision-makers ill-equipped to manage their businesses. In his various roles in the business world, he knows that the problem he constantly faces is the same problem that many organizations suffer from — that too much information is lost in the transition between data analysis and data presentation. That is, after a presentation is put on paper, managers are automatically boxed into the thought processes of the presenter, often forcing them to either take the data analysis at face value or to ask for more analyses, which naturally takes up more critical company time. The question was how to provide a compelling presentation without losing the ability to interactively change the direction and scope of the data analysis behind the information being presented.

Becerra eventually joined forces with his son who had spent his career creating many popular video games such as *Midtown Madness* and *Midnight Club.* Together, they used video game technology in conjunction with practical business concepts to create Crystal Xcelsius. With Crystal Xcelsius, the Becerra father-and-son team provided business professionals with something few

have had access to in the past: affordable, interactive visualization of business data that could be delivered in easy-to-create dynamic presentations. For the first time, managers could bridge the gap between data analysis and data presentation without the need for expensive enterprise solutions. Figure 1-2 illustrates this bridge.

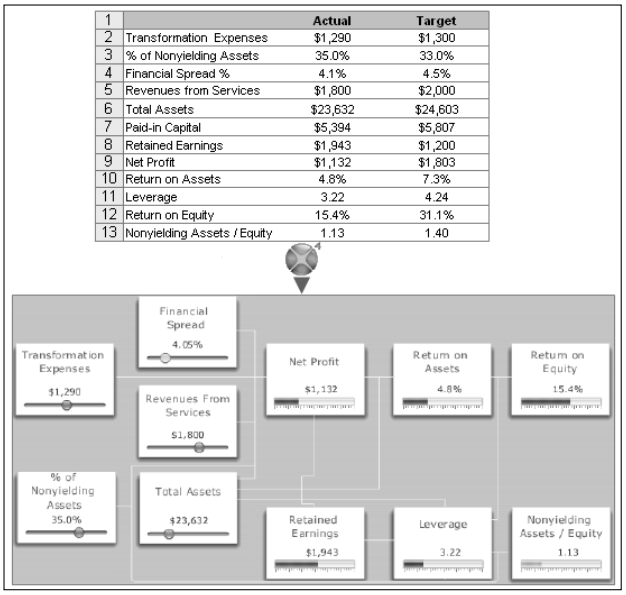


Figure 1-2: Crystal Xcelsius bridges the gap between data analysis and data presentation, converting dull spreadsheet tables into interactive dashboards.

More Than Just Fancy Graphics: The Benefits of Using Crystal Xcelsius

I've actually met people who use Crystal Xcelsius simply for the slick look and feel of the graphics. Face it: Many of us were initially attracted to Crystal Xcelsius because of the sleek graphical components, such as the gauges shown here in Figure 1-3.

And there is nothing wrong with that at all. The truth is that when many people see the slick and easy-to-use components in Crystal Xcelsius, they tend to lift some of the restrictions they have subconsciously placed on their presentations. For example, before Crystal Xcelsius, I would never even *have thought* about creating the gauge-based dashboard shown in Figure 1-3 because I didn't know how to create one in Excel or PowerPoint. Indeed, the stunning graphics alone undoubtedly fosters ideas about new and exciting ways you can present your data.

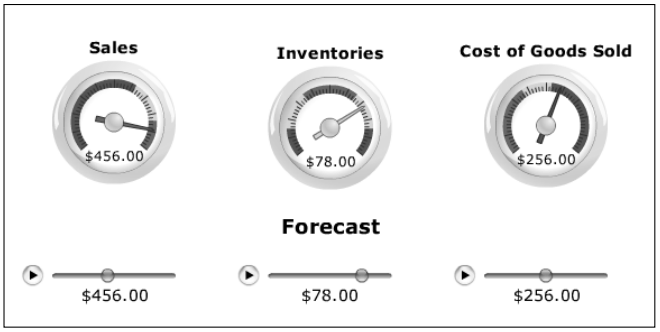


Figure 1-3: Many people use Crystal Xcelsius for the sleek, fluid graphics.

Although you can easily get lost in the stunning graphics, remember that Crystal Xcelsius is a versatile tool that allows you to do more than just create fancy-looking presentations. Take a look at some of the other things that you can accomplish with Crystal Xcelsius that you might not have thought about.

Creating more robust presentations with interactive summary and detail layers

I exported a sample dashboard into a PowerPoint file called `Chapter1 - Example_A`, which you can find at the companion Web site for this book. To follow along with the demonstration in this section, go to this book's companion Web site. (The exact address appears in the Introduction.) Open the `Chapter1 - Example_A` PowerPoint presentation, found in the `C:\Xcelsius Sample Files\Chapter 1` directory, and run the slide show. Figure 1-4 shows the interactive dashboard that you see in the slide show. The idea is to select a Sales Rep from the list to see the key metrics for that Sales Rep.

To run the slide show in PowerPoint, go to the menu and choose Slide Show➪View Show. I show you how to export Crystal Xcelsius dashboards into PowerPoint in Chapter 12.

What is the point of this demonstration? Think about how much data is contained in this one-megabyte presentation. For 14 Sales Reps, you are showing the metrics around each rep's actual revenue, budget target, and revenue forecast. Not for 1 month, mind you, but for 12 months! Consider how many slides it would take to present something similar to this dashboard in a standard slide show. You can imagine that this would take, at a minimum, 14 slides to produce similar results — with less appealing graphics.

Figure 1-4: Select a Sales Rep from the list to see the metrics for that Sales Rep.

What about Excel? Could you fit all this information on an Excel spreadsheet? Sure, but as you can see in Figure 1-5, this data in an Excel spreadsheet is somehow not as compelling.

Microsoft Excel - Monthly Sales Report

File Edit View Insert Format Tools Data Window Help

Type a question for help

X26

	A	B	C	D	E	F	G	H	I	J	K
1		November			December			January			Febr
2		Revenue	BUDGET	Actual vs Budget	Revenue	BUDGET	Actual vs Budget	Revenue	BUDGET	Actual vs Budget	Revenue
3	Sales Rep 1	$ 48,230	$17,984	$30,245.8	$ 21,759	$15,809	$5,949.9	$ 29,430	$ 7,807	$21,622.9	$ 13,415
4	Sales Rep 2	$ 19,966	$27,274	($7,308.9)	$ 41,247	$49,713	($8,465.8)	$ 40,592	$41,422	($829.7)	$ 23,937
5	Sales Rep 3	$ 36,305	$24,371	$11,933.9	$ 16,826	$37,857	($21,031.1)	$ 31,274	$38,720	($7,445.8)	$ 24,823
6	Sales Rep 4	$ 33,574	$49,257	($15,682.4)	$ 38,094	$33,548	$4,545.9	$ 30,028	$ 3,381	$26,646.4	$ 20,876
7	Sales Rep 5	$ 20,175	$32,600	($12,424.9)	$ 41,948	$37,934	$4,014.3	$ 40,892	$15,263	$25,628.5	$ 41,007
8	Sales Rep 6	$ 34,748	$41,708	($6,959.6)	$ 15,487	$18,696	($3,209.3)	$ 16,352	$17,911	($1,559.2)	$ 28,800
9	Sales Rep 7	$ 18,791	$ 4,583	$14,208.6	$ 38,587	$30,478	$8,109.6	$ 44,985	$10,134	$34,850.4	$ 22,509
10	Sales Rep 8	$ 24,666	$13,450	$11,216.6	$ 12,772	$24,764	($11,992.9)	$ 35,382	$ 2,633	$32,748.9	$ 25,815
11	Sales Rep 9	$ 48,459	$48,194	$265.5	$ 26,478	$35,196	($8,717.4)	$ 43,564	$47,636	($4,072.4)	$ 25,578
12	Sales Rep 10	$ 19,080	$49,468	($30,387.4)	$ 18,167	$23,192	($5,025.0)	$ 43,179	$16,732	$26,447.3	$ 18,589
13	Sales Rep 11	$ 22,569	$25,778	($3,208.6)	$ 27,967	$29,766	($1,798.7)	$ 47,631	$45,147	$2,483.3	$ 46,232
14	Sales Rep 12	$ 20,687	$44,644	($23,957.8)	$ 25,649	$15,218	$10,430.9	$ 16,851	$30,380	($13,529.4)	$ 22,438
15	Sales Rep 13	$ 10,972	$28,180	($17,207.4)	$ 10,996	$13,951	($2,955.0)	$ 37,405	$45,019	($7,613.8)	$ 20,867
16	Sales Rep 14	$ 15,708	$42,962	($27,253.6)	$ 14,156	$17,969	($3,813.3)	$ 29,487	$17,682	$11,805.4	$ 32,829
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Sheet1 Sheet2 Sheet3

Draw AutoShapes

Ready

Figure 1-5: Showing the same data in an Excel spreadsheet is not as effective.

You can see that with Crystal Xcelsius, you can create multiple layers of summary and detail data in visually appealing dashboards. And because the average Crystal Xcelsius output is around 1.5 megabytes, you won't inundate clients with unnecessarily large files.

Because of Crystal Xcelsius's ability to produce presentations in relatively small files, you'll likely notice something different happening in your presentations. I bet you start consolidating information that you would normally parse into separate presentations. This not only gives your dashboards a more robust feel, but it also allows you to present lots of data without breaking the flow of your presentation. In addition, because you can easily build interactivity into your presentations, you won't have to worry about showing too much information at one time.

Building what-if analyses into your presentations

We all have an analytical side to us that feels compelled to question and analyze what we see. Everyone is a data analyst on some level. This is usually a good thing, but it can be a nightmare if you're the one giving a presentation to a roomful of inquisitive people playing the role of analyst. How many times have you given a presentation, only to be challenged with questions about the variables that you use in the analysis? In these situations, you probably do one of two things: fumble through papers as you try to answer the question, or turn to the ever-embarrassing standby, "I'll get back to you on that," followed by an awkward pause as you try to get back into the flow of your presentation.

Crystal Xcelsius can help you better prepare for these situations by enabling you to build what-if analyses directly into your presentation, allowing you to literally change your presentation on the fly. To demonstrate this, I exported a sample dashboard into a PowerPoint file called `Chapter1 - Example_B`, which you can find at the companion Web site for this book. To follow along with the demonstration in this section, go to this book's companion Web site. Open `Chapter1 - Example_B`, found in the `C:\Xcelsius Sample Files\Chapter 1` directory, and run the slide show. Upon opening, you'll see the table shown in Figure 1-6.

Imagine that it's the end of FY (fiscal year) 2004 and you're presenting the budget plan for FY 2005, which is based on the assumption that gross sales will grow by 7 percent. When you present this plan, a few managers are disappointed at the fact that the planned net income for FY 2005 is less than the net income for FY 2004, so they ask you what the net income would look like if gross sales grew at a rate of 12 percent. In a standard presentation, this is

where everything falls apart. Even if you are some mathematical genius who could quickly calculate the net income at the new growth rate, you wouldn't have visual backup for your explanation of how the change would ripple through the other parts of the budget.

In this situation however, I don't worry because I used Crystal Xcelsius to build myself a little insurance policy. Click the What If button to reveal a set of sliders that allow you to change the makeup of the analysis.

Now simply slide the vertical Gross Sales Growth Rate slider up to 12%, as illustrated in Figure 1-6. At this point, your presentation actually changes to reflect the new analysis!

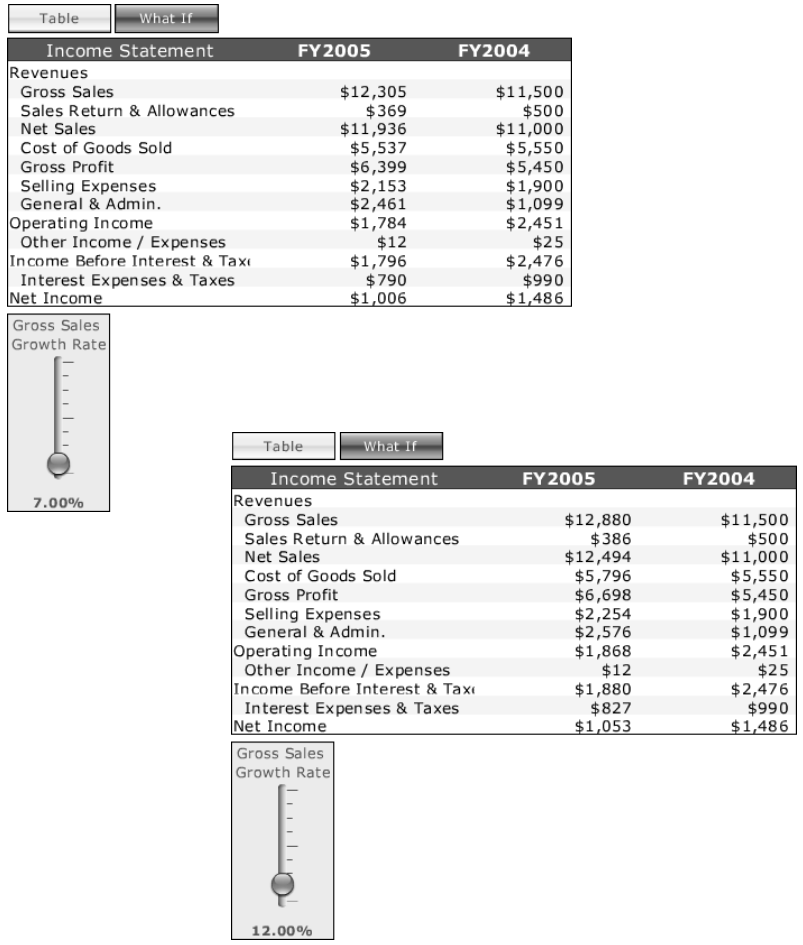

Figure 1-6: Crystal Xcelsius makes it possible to make on-the-spot changes to the analysis behind your presentation.