



## Microsoft .NET Framework 3.5 Customer Solution Case Study



### Innovative Solution Developer Provides Value, Boosts Productivity, and Expands Market

#### Overview

**Country or Region:** United States

**Industry:** Professional services

#### Customer Profile

InterKnowledge is a Microsoft® Gold Certified Partner and Microsoft Managed Partner specializing in development using the Microsoft .NET Framework, Microsoft SQL Server®, Silverlight™, and Windows® SharePoint® Services.

#### Business Situation

To take advantage of the momentum of having been named the 2008 Microsoft Partner of the Year, InterKnowledge wanted to deliver even more creative, inventive, and powerful solutions to its customers.

#### Solution

InterKnowledge used Microsoft technologies to develop or port to a new platform a number of intriguing solutions for healthcare, government, logistics, and other sectors.

#### Benefits

- Enhanced reputation as an innovator of unique solutions
- Higher productivity for designers and developers
- Expansion into new markets
- Enhanced competitive edge

“With these rich-client technologies like Windows Presentation Foundation, Silverlight 2.0, and Microsoft Surface, we’re doing great projects for customers all over the world.”

*Tim Huckaby, Chief Executive Officer, InterKnowledge*

California-based InterKnowledge is a Microsoft® Gold Certified Partner with a reputation for delivering highly innovative, custom solutions to customers pursuing endeavors ranging from warehouse management to leading-edge cancer research. InterKnowledge has built its success on the expertise of its designers, developers, and engineers and their enthusiasm for powerful new technologies. In that spirit, the company has used the Microsoft .NET Framework 3.5, Windows® Presentation Foundation, Microsoft Silverlight™ 2.0 browser plug-in, Microsoft Surface™ software and touch-computing platform, and other established and emerging technologies from Microsoft to deliver inventive solutions for its customers. By drawing on those technologies, InterKnowledge can make the most of its own expertise and resources, and thus reach new customers and sharpen its competitive edge.



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InterKnowledge

## Situation

Since its founding in 1999, InterKnowledge has grown rapidly to become a developer of unique custom software solutions for businesses and organizations across the globe. With a work force of 30 people, InterKnowledge has become a global technology leader specializing in the design, implementation, and delivery of innovative solutions employing both current and emerging Microsoft® technologies.

As a result of the groundbreaking use of Microsoft products and technologies, InterKnowledge has been named a Microsoft Gold Certified Partner and Microsoft Managed Partner. In 2008, the company was named Microsoft Partner of the Year. For the designers, developers, and engineers at InterKnowledge, such an award served as welcome recognition for a job well done. It also has motivated them to push their technology, their expertise, and their groundbreaking ideas even further.

## Solution

In keeping with its long-standing practice of developing with the latest Microsoft products, InterKnowledge is embracing Microsoft technologies for building powerful and highly interactive user experiences. These technologies include Microsoft .NET Framework version 3.5, the Visual Studio® 2008 development system, the Silverlight™ browser plug-in version 2.0, the Microsoft Surface™ software and touch-computing platform, and Expression Blend™ design software, among others. InterKnowledge has used these technologies to design, develop, and deliver a number of complex and creative projects for customers in all types of industries.

### **Developing Solutions for Life Sciences and Healthcare**

InterKnowledge developers have used Windows® Presentation Foundation in conjunction with the emerging technology

known as Microsoft Surface to develop solutions for life sciences and healthcare. In one project, InterKnowledge ported a life sciences solution developed for the Scripps Research Institute to the Microsoft Surface platform. Known as the Collaborative Molecular Environment, the solution enables cancer-research teams to collaboratively visualize, annotate, and archive information about cell and protein molecules. Ported to run on a Microsoft Surface-based unit, the solution enables researchers to manipulate representations of molecules in 3-D space.

At the same time, the Collaborative Molecular Environment supports the storage of both 2-D and 3-D models in Windows SharePoint® Services 3.0 libraries so that team members who might not have access to a 3-D client can access the content through a browser.

According to Tim Huckaby, Chief Executive Officer, InterKnowledge, his team was able to port the Collaborative Molecular Environment easily. “We did this in just a single weekend, with just one developer, who simply replaced mouse events with hand-based gesture events.”

In another project, InterKnowledge took a pen-based application for documenting heart surgery that it had developed in Windows Presentation Foundation, and ported it to a Microsoft Surface-based application known as VitruView. With this application, a physician can use his or her hands on a Microsoft Surface-based unit to “peel back” a 3-D representation of the heart and explain to colleagues or patients what will be or has been done in a given surgical procedure.

Developers worked about four weeks to create the Microsoft Surface-based version of VitruView, work that included adding support for hand gestures and creating a custom, trackball-type control with which users can revolve the 3-D heart object.

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Kevin Kennedy, Lead Software Engineer,  
InterKnowlogy

Rodney Guzman, Chief Technology Officer, InterKnowlogy, credits the Windows Presentation Foundation for the ambitious time frame. “This was the kind of thing that used to require significant effort to build,” he says. “But with Windows Presentation Foundation, it was straightforward.”

According to Guzman’s colleague Kevin Kennedy, Lead Software Engineer, InterKnowlogy, VitruView developers took advantage not only of the Windows Presentation Foundation and its support for multitouch user interactions, but also of an XNA® layer supported by Microsoft Surface. “With the XNA layer, we delivered input captured by the cameras underneath a Microsoft Surface-based unit into the solution so the unit could recognize and process various user gestures,” Guzman says.

#### **Porting a New Solution to an Additional Platform**

For the U.S. Library of Congress, InterKnowlogy developed a brand-new solution known as History at Your Fingertips. InterKnowlogy worked with Library of Congress staffers to assemble and integrate vast stores of historical content, and deliver that content in a Microsoft Surface-based solution developed with Windows Presentation Foundation and Silverlight. According to Guzman, the team delivered the solution in just five weeks—in time for the 2008 presidential nominating conventions—largely because Windows Presentation Foundation simplified the assembly of the various digital assets.

After delivering History at Your Fingertips to the Library of Congress, the team made the solution available for Web viewers by porting it to Silverlight, a process that Guzman describes as a smooth undertaking. “Because Windows Presentation Foundation and Silverlight are based on the same XAML [Extensible Application Markup Language]

technology, this porting required little engineering and code conversion,” he says. “In fact, we did the entire porting in just 5 percent of the time it took us to develop the original solution.”

For wholesalers, distributors, and any organizations that need to manage large warehouses, InterKnowlogy developed a solution known as Warehouse Floor Command Center, which is based on Microsoft Surface and integrates with the Microsoft Dynamics® AX business management software. Using data derived from a heat map, the solution shows warehouse operations personnel the movements required for workers to gather and load various products for shipment. “Just by moving the icons on the Microsoft Surface-based unit with their hand, operations directors can try out bin relocation scenarios to determine the optimal placement of product bins,” Guzman explains. “It’s far more intuitive than trying to figure this out by reviewing a transaction-based application.”

#### **Benefits**

Through solutions such as Collaborative Molecular Environment, VitruView, History at Your Fingertips, and Warehouse Floor Command Center, InterKnowlogy is building on its reputation as an innovator by providing unique value to its customers. By delivering these solutions with the help of Windows Presentation Foundation, Silverlight, and Microsoft Surface, InterKnowlogy is boosting the productivity of its talented designers and developers. And because it can deliver unique value through a highly efficient process, InterKnowlogy is able to reach new markets and enhance its competitive edge.

#### **Delivering More Value in a “Fraction of the Time”**

According to Guzman, InterKnowlogy developers used the Microsoft technologies to deliver user experiences that would have

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Rodney Guzman, Chief Technology Officer,  
InterKnowlogy

been “impossible” with earlier or other technologies. “Windows Presentation Foundation helped us to provide dynamic and compelling user experiences that we could not have done with earlier technologies, and with Silverlight we can provide a richness to the user experience that simply cannot be approached using Flash,” Guzman says. “There’s no limit to what we can do with these Microsoft technologies.”

Huckaby concurs. “We are doing the kinds of work with Windows Presentation Foundation that in the past only OpenGL or the DirectX® programmers could do,” he says. “And because Windows Presentation Foundation is part of the .NET Framework, we can do the same work in just a fraction of the time. We’re building software that you could only dream about a couple of years ago, and we’re building it with teams of four people in just weeks, instead of 40 people and two years.”

Having the Microsoft Visual Studio 2008 development system as part of their toolkit is another advantage for InterKnowlogy developers, according to Guzman. “Developers who have worked with previous versions of Visual Studio find Visual Studio 2008 very familiar, so they can just jump right in,” he says.

Kennedy agrees, citing the common file and project format across Visual Studio 2008 and Microsoft Expression Blend design software. “Because the technologies work seamlessly together, designers can focus on layout and graphics, and developers can focus on the business logic, all the while collaborating efficiently,” he explains.

#### **Reaching a Broader Audience, Faster**

As Guzman emphasizes, another big advantage for InterKnowlogy is the ease of porting solutions from one platform to another. “With Silverlight, we can rapidly take what we’ve done on the desktop and bring it

into the Web, including very dynamic user interfaces that were impossible with other technologies,” he says.

Similarly, because of the Windows Presentation Foundation layer in Microsoft Surface, InterKnowlogy can incorporate a Microsoft Surface user experience originally developed in Windows Presentation Foundation into desktop or browser-based solutions with comparatively little effort. This is yet another productivity advantage that InterKnowlogy gains from the Microsoft technologies, Huckaby adds.

“In our business, developer productivity is essential because it translates to time-to-market, and time-to-market translates to reducing costs, reaching more customers, and being there before the competition,” Huckaby explains. “With these rich-client technologies like Windows Presentation Foundation, Silverlight 2.0, and Microsoft Surface, we’re doing great projects for customers all over the world, and those projects are getting bigger and bigger and bigger. Our customers are just ecstatic about the solutions we are delivering.”

## For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: [www.microsoft.com](http://www.microsoft.com)

For more information about InterKnowledge products and services, call (760) 930-0075 or visit the Web site at: [www.interknowledge.com](http://www.interknowledge.com)

## Microsoft .NET Framework 3.5

The .NET Framework version 3.5 is the Microsoft managed-code programming model for developing software on the Windows operating system platform. The .NET Framework 3.5 includes Windows Presentation Foundation, Windows Communication Foundation, Windows Workflow Foundation, Windows CardSpace™ identity selector, and other technologies. It provides a consistent and familiar development experience, bringing new technology to the millions of developers programming in managed code today.

For more information about the .NET Framework 3.5, please go to: [www.microsoft.com/netframework](http://www.microsoft.com/netframework)

### Software and Services

- Microsoft Silverlight
- Microsoft Surface
- Microsoft Visual Studio
  - Microsoft Visual Studio 2008 Professional Edition
- Microsoft Dynamics AX
- Microsoft Expression Blend

### Technologies

- Microsoft .NET Framework 3.5
- Windows Presentation Foundation
- Windows SharePoint Services 3.0