



## Hospital Speeds Time-to-Market for Web Site, Delivers Compelling Consumer Experience

### Overview

**Country or Region:** United States

**Industry:** Healthcare—Providers

### Customer Profile

Cleveland Clinic, based in Cleveland, Ohio, provides integrated medical care to patients in the United States, Canada, and abroad. It has 41,000 employees.

### Business Situation

To extend its brand and better serve the public with information, products, and services that promote wellness, Cleveland Clinic needed a Web presence that would deliver a compelling user experience.

### Solution

Using Microsoft technologies, the organization adopted an end-to-end solution that integrates deep content with a user-friendly e-commerce capability, wrapped in a highly attractive Web site.

### Benefits

- Speeds time-to-market
- Facilitates frequent site updates
- Provides a compelling consumer experience

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Scott McFarland, President, Wellness, Cleveland Clinic

Cleveland Clinic is rated by *U.S. News & World Report* as one of the best hospitals in the United States. To raise its profile and to better serve the public, Cleveland Clinic wanted to make a major entry into the field of wellness education, products, and services. Therefore, it needed to quickly establish a compelling Web presence that integrated deep content with a consumer-friendly e-commerce site in a visually attractive package. With help from solution provider Bennett Adelson, it created 360-5.com, a Web site based on Microsoft technologies from end to end—from content authoring, e-commerce, and virtualized hosting, to the highly visual user interface. The site was launched on an aggressive six-month schedule and, three months later, has a conversion rate of visitors into customers that is exceeding the hospital’s expectations.

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## Situation

Hospitals aren't just for sick people any more.

That is the thinking at Cleveland Clinic, ranked by *U.S. News & World Report* as one of the best hospitals in the United States. Cleveland Clinic is also among the largest healthcare providers in the world, with facilities in Canada, Florida, and the United Arab Emirates in addition to its base in northeastern Ohio. Altogether, it has 1,300 beds and handles more than 3.3 million patient visits per year.

Both to promote its brand and to better serve the public, Cleveland Clinic wanted to significantly expand its programs and education offerings. Such a move would extend the organization's services beyond a population currently needing medical care to encompass the far broader population of Cleveland Clinic employees, other employers and their employees, and the public at large. Furthermore, Cleveland Clinic wanted to lead nationally, if not internationally, in this endeavor. The field of wellness is already a crowded one, so the organization looked for a way to differentiate its offering.

“Wellness is a co-opted term that can mean anything from diet supplements to a fitness center,” says Scott McFarland, President, Wellness, Cleveland Clinic. “But the common denominator we saw in the existing wellness products and services was a lack of medical expertise and oversight. No one had developed a thoughtful approach to how all the wellness offerings out there could be used for optimal health. That would be our differentiator.”

Cleveland Clinic started planning for a retail wellness store on its main campus. It added plans for an online store, online education programs, and online content, all wrapped

in a comprehensive Web site. Cleveland Clinic had big ideas for that Web site.

“The site had to be interactive, educational, edgy, spiffy, smart, sticky, catchy,” says McFarland. “It had to be totally focused on the consumer. We wanted a fully functional e-commerce site that also included dynamic content, videos, e-coaching programs, and more. We wanted to reach the broadest range of consumers in ways that are most convenient to them, so we wanted to extend the wellness experience to the mobile space. And, oh yes, we wanted to launch in six months.”

## Solution

“A lot of what we wanted to do was new ground for Cleveland Clinic,” says Tom Gubanc, Director of IT, Cleveland Clinic. “We were moving away from an EMR [electronic medical records]–centric environment, where patient decision-support and order entry were driving decisions, to a consumer model, where transactions and e-commerce were driving decisions. So, we decided to create a new infrastructure rather than take advantage of what we already had.”

### Custom End-to-End Solution

Cleveland Clinic considered its options—including off-the-shelf modules for online learning, Linux for the operating system, and Flash to help deliver the user interface—and chose a custom end-to-end solution based on Microsoft technologies. “We knew the Microsoft platform could scale, that it was reliable, and that everything we needed could interoperate without a problem,” says Gubanc. “There was no reason to go elsewhere.”

Along with the decision to base the solution on the Microsoft platform, Cleveland Clinic decided to engage a solution provider with demonstrated expertise in

The 360-5.com Web site uses a highly visual and dynamic design to present a "mind, body, food" approach to total wellness.

Microsoft technologies. It chose Bennett Adelson, a Microsoft Gold Certified Partner based in Cleveland. "Bennett Adelson understood both the technologies we wanted to use and how to apply them to commercial, consumer-oriented Web sites," says McFarland. "They turned out to be a great partner for this project."

### Complete Platform for Complete Wellness

The result of the efforts by Cleveland Clinic and Bennett Adelson is 360-5.com. "The idea behind the name is that there are 360

degrees of wellness and 365 days in a year," says McFarland. "We want people to enjoy complete wellness every day."

To create the site, Cleveland Clinic and Bennett Adelson developers used a variety of Microsoft tools, including Microsoft .NET Framework 3.5, Microsoft Expression Blend, and Microsoft Visual Studio Team System 2008 Team Foundation Server (part of Visual Studio Team System 2008 Team Suite). Microsoft Office SharePoint Server 2007 for Internet Sites provides the Web content management and search capability.

The screenshot shows the 360-5.com website in a Windows Internet Explorer browser window. The browser title is "Total Wellness: Mind, Body, Food. The best health solutions at 360-5.com." The address bar shows "http://www.360-5.com/Pages/default.aspx". The website header includes the 360-5 logo, navigation links (About Us, Contact Us, Rewards, My Bag(0)), and a search bar. Below the header is a main navigation menu with categories: MIND, BODY, FOOD, CONDITIONS, PROGRAMS, SHOP, VIDEO, HOLIDAY. The main content area features a central message: "Total wellness on every page" with the subtext "Get the perfect blend of wellness knowledge through integrated mind, body and food articles." Below this is a circular diagram with "YOU" in the center, surrounded by "Mind" (lightbulb), "Body" (hand), and "Food" (apple). Three buttons are present: "Live a happier life", "Have more energy", and "Enjoy what you eat". On the left sidebar, there is a "Cleveland Clinic" logo and a list of health conditions: A New You, Why 360-5?, Total Wellness, and Stress Free Now. Below the sidebar is a "WELLNESS FOR:" section with a list of conditions: Asthma, Breast Cancer, Depression, High Cholesterol, and IBS. At the bottom, there is a green banner for "Do you have insurance against a less-than-healthy diet?" featuring "Sustener", "Roizen's Fab5", and "alpha" products. The Windows taskbar at the bottom shows the Start button, several open applications (Microsoft Office, Internet Explorer), and the system tray with the time 9:44 PM.

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Tom Gubanc, Director of IT,  
Cleveland Clinic

The developers found the commercial and transactional capabilities they needed in Microsoft Commerce Server 2009, out of the box. The Web site uses a clustered environment of databases based on Microsoft SQL Server 2008 Enterprise data management software. To create the dynamic and eye-catching visuals on the site, and to enable the site to play videos, the developers used the Microsoft Silverlight 3 cross-browser plug-in.

To extend the site’s reach, 360-5.com can be sent to consumers who choose to receive a wellness tip of the day. Messages can be sent in any of three ways: as an e-mail message, as a text message to the consumer’s phone, or through a downloadable application to a Windows phone.

#### **Virtualized Platform**

Instead of hosting the site in its own data center, Cleveland Clinic chose to use a third-party hosting service. “The focus on commerce and transactions is different from the emphasis in our own data center on EMRs and decision-support, so we wanted a specialized environment and personnel that reflected that difference,” says Gubanc.

The site is supported on server computers running the Windows Server 2008 operating system with Hyper-V virtualization technology and Microsoft System Center Virtual Machine Manager 2008. The virtualized environment gives Cleveland Clinic the ability to scale the site quickly and cost-effectively with additional virtual servers in response to demand. The servers are configured and updated through Microsoft System Center Configuration Manager 2007.

Development on the site started in March 2009, and the site went live in September 2009.

#### **Benefits**

With the help of solution provider Bennett Adelson and Microsoft technologies, Cleveland Clinic succeeded in creating a compelling consumer Web site that extends its brand into the wellness field—and in bringing that Web site to market in just six months.

#### **Speeds Time-to-Market**

Cleveland Clinic succeeded in meeting its six-month deadline to launch 360-5.com without sacrificing any of its version 1.0 requirements; in fact, the scope increased as the project progressed. McFarland and Gubanc credit the combined Cleveland Clinic and Bennett Adelson development team, as well as the Microsoft tools and application platform that the team used. “I’ve been in IT for more than 20 years,” says Gubanc. “This was an aggressive schedule, and Microsoft tools helped us to meet it.”

That help started with the use of Expression Blend to design the site. “Using Expression Blend, we were able to extend our modified agile development process back to the design phase,” says McFarland. “We could quickly create a design, get feedback, make quick changes, and put the design out again for more feedback. We definitely did more iterations in less time, which helped us to consider more of our options and still meet our time-to-market schedule. Expression Blend also helped to tightly couple our design and development teams for faster, smoother coordination; that wouldn’t have happened if we’d made a choice to use Photoshop Studio and Flash.”

The developers also took advantage of Team Foundation Server to coordinate and expedite simultaneous development work among multiple teams. The development team was divided into subsets, with each tackling a different area of functionality on

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the site. Using Team Foundation Server, the teams were able to track task assignments, ensure that they were working with current code, and stage the code for production.

The choice to use Microsoft technologies expedited development in other ways as well. Commerce Server 2009 provided many of the capabilities that developers wanted, out of the box, such as a loyalty program, storage and display of personal account information, and tracking of site traffic, eliminating the need for developers to create code for those functions. Office SharePoint Server similarly contributed a wealth of ready-made capabilities, including the portal, Web content management, search, workflow, and team sites. The natural interoperability between the two products helped speed the development of a Web site with tightly integrated content and transactional capabilities.

#### **Facilitates Frequent Site Updates**

The 360-5.com Web site is far from static. Content is added several times a week, seasonal content is introduced regularly, and updated site features are introduced continually. Cleveland Clinic speeds and even automates many of the processes behind these changes using Microsoft technologies.

“Perhaps the biggest benefit of Microsoft technologies is the way they make it possible for us to add content and improvements to the site at a fast pace without making any missteps,” says McFarland. “The flexibility and ease of use of the technologies is quite positive.”

He points to Office SharePoint Server 2007 as an example. The interoperability of the technology with Microsoft Exchange Server 2007, the .NET Framework, and Windows Mobile makes it possible for Cleveland Clinic to store its “tips of the day” once in

Office SharePoint Server and then have those tips distributed on the Web site, in e-mail, through a Windows Mobile-based application, and as a text message.

SharePoint team sites on the back end of 360-5.com provide an intuitive environment in which editors, writers, and health-care professionals can collaborate on content. That collaboration is further aided by a SharePoint workflow that automates the process of notifying participants when content is ready for editing, rewrites, or medical team review and approval. The editorial team also uses Office SharePoint Server to schedule the publishing of content generated to coincide with a specific time or event—such as content on personal resolutions for a healthier lifestyle, timed to appear on New Year’s Day.

#### **Supports a Compelling Consumer Experience**

“We wanted a site that presented a compelling consumer experience,” says McFarland. “Microsoft helped us to deliver that experience.”

For example, developers used Silverlight to take advantage of visual effects, which are not available in alternative technologies such as Flash. The ease of use associated with Silverlight also makes it possible for the in-house design staff at Cleveland Clinic to implement updates on its own, without the aid of outside consultants.

The reusability of Silverlight code for both the Web and Windows Mobile facilitated the development—and, now, the continuing maintenance—of the 360-5.com Windows phone application. Looking ahead, Cleveland Clinic has the option to extend 360-5.com to include devices such as biofeedback machines that consumers might attach to their PCs. This is possible to do because Silverlight can access shared

## For More Information

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[www.microsoft.com](http://www.microsoft.com)

For more information about Bennett Adelson products and services, call (877) 328-7122 or visit the Web site at:

[www.bennettadelson.com](http://www.bennettadelson.com)

For more information about Cleveland Clinic products and services, call (888) 820-3605 or visit the Webs site at:

[www.clevelandclinic.org](http://www.clevelandclinic.org) and  
[www.360-5.com](http://www.360-5.com)

memory on a local PC, which the devices would need to communicate with 360-5.com.

Cleveland Clinic also sees using Office SharePoint Server to enhance the consumer's experience of 360-5.com. For example, the technology could be used to deliver a personalized mix of content that reflects a consumer's preferences. It could be used to support blogs by medical staff on developments in their fields, and by consumers on their experiences with 360-5.com wellness programs.

Just three months after the launch of 360-5.com, McFarland measures the success of the site by the conversion rate at which it turns site visitors into customers of its programs and products. That conversion rate is 0.6 percent and rising steadily. "The conversion rate we're seeing is well ahead of projections, and confirms the value of the site and its offerings to consumers," says McFarland. "The validation by consumers is very comforting to us."

## Microsoft Web Platform

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  - Microsoft System Center Configuration Manager 2007
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- Microsoft Visual Studio
  - Microsoft Visual Studio Team System 2008 Team Suite
- Windows Mobile 6.5
- Technologies
  - Hyper-V
  - Microsoft .NET Framework 3.5
  - Microsoft Silverlight 3

### Partners

- Bennett Adelson