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Simulate for Success

Sentara Healthcare uses simulation to get a complex HR portal right the first time.

by Phil Lanzafame

The tried-and-true saying “look before you leap” has an equivalent when building an in-house Web application: “simulate before you build.”

That was our approach at Sentara Healthcare in building our new Personnel Action Request (PAR) Online portal, which links 15,000 employees via the Web with our PeopleSoft HR software.

Why build an employee portal? In a word: growth.

Sentara, an integrated healthcare delivery system headquartered in Norfolk, Va., serves a large area in the southeastern Virginia and northeastern North Carolina region with a broad range of facilities including hospitals, nursing homes, physician groups, home-care organizations and insurance companies.

Where our employees once worked under the same roof, they are now spread over some 80 different locations. That distribution alone made a traditional paper-based HR system costly and cumbersome. A portal could potentially save our employees thousands of hours each year by eliminating the need for manual processing, transporting and re-entering the data from the paper forms. Additionally, it would provide real-time updates to Sentara’s PeopleSoft system, which supplies critical data to many downstream applications.

But if a company-wide employee portal was the answer, its look, feel and functionality posed several critical questions:

- What kind of portal would truly serve the needs of both HR managers and employees?
- What should PAR Online look like?
- How should it function?

- And then there is the question that haunts all Web application development: How do we achieve company-wide consensus about all of this?

We realized that the usual document/spreadsheet/PowerPoint approach would be too time consuming, setting us up for several review cycles and inevitably delaying our delivery date. PAR Online would be a complex, highly interactive application, and few people would be able to look at a set of “specs” and imagine the finished site.

So instead of relying on specs to make the leap with PAR Online, we took a look first at simulating PAR Online before we built it. Using the iRise application simulation platform, our business analysts easily created a fully interactive mockup of the employee portal taking out ambiguity associated with a text-based requirement approach. The simulation, which looked and felt like a real application, was then loaded with actual data, allowing users to test-drive the application before coding even started.

All about the user

Our goal was to provide an extremely simple user interface for what would represent a very complex set of co-dependent HR operations providing a completely different user paradigm — not just a literal translation of the conventional, yet outdated, paper form.

To achieve our objective, we took an iterative approach to define the functional user experience that would then be translated into the technical specifications. This allowed for participation from the various user groups to critique and provide feedback until we had consensus on all aspects of the application. From there, the team began working on the design along with simultaneously collecting user requirements. This process, which took approximately three months, allowed us to model the requirements incrementally without having to build the entire site all at once.

Missing functions, unnecessary features, and process and policy issues were addressed by Sentara analysts during the simulation, where changes were far easier and less costly to make.

Simulation also expedited “corner office” buy-in among senior executives. Sentara business analysts didn't just describe, but demonstrated to our management the proposed design for PAR Online. Doing so ensured there were no nasty surprises from the executive team later on because management thoroughly understood where we were headed with the project.

We then presented the final, consensus-approved simulation to the IT group as a stable reference specification. The end results were dramatic.

In a world where Web designers often make many trips back to the virtual drawing board, our IT group got it right the first time. Phase 1 of PAR Online went live in January 2005. We also got a jump on post-development activities like quality-assurance testing and training, which were done in parallel with development, not sequentially. Training on the simulation also helped to foster early adoption among end users.

Dollars and sense

It is difficult to define cost savings short of actually completing a comparable project without using simulation tools. The empirical result is that the project was completed exactly on-time without having to change one item either in the design or technical specifications.

It was indisputably the most complex and best executed Web project we have delivered. This is one we got right on the first try. Our customers are delighted and the costs will be recovered through process efficiency, user acceptance and reduction in calls to our help desk.

How much did we save? While we don't have before-and-after comparison figures for our project, some observers estimate that rework can inflate IT project budgets by more than 50 percent. Equally important, our HR managers and employees adopted the new PAR Online portal enthusiastically, as soon as it rolled out.

The employee portal was the first application at Sentara to benefit from iRise simulation tools, but it won't be the last. When it comes to highly interactive Web applications, don't let anyone tell you that if you “build it, they will come.” In building a portal, the best way to capture the eyeballs and mindshare is not static specs, but a working simulation.

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