

Intranet Design Annual

The 10 Best Intranets of 2001

By: Kara Pernice, Jakob Nielsen, and Candice Goodwin

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Executive Summary

In the 1990s, corporate intranets were severely underfunded and viewed more as a playground than as a serious business tool that could drive employee productivity. As a result, intranets were an utter mess in most companies — lacking interface design standards, unified information architecture, and task support for collaboration and other activities — and employees wasted hours every time they tried to find something. Employees did not gain the intranet's potential benefits of improved communication, collaboration, and awareness, because they were not very motivated to locate information on poorly designed and confusing intranet pages.

In 2001, intranets are generally not much better. But, we have seen a greater emphasis on increasing productivity and on making technology pay for itself. Most marketing-oriented websites have now abandoned "cool design" and embraced simplicity as a goal (though they don't always achieve it in practice). By comparison, intranets have been slower to improve. The main reasons are that intranets continue to be poorly managed and lack the budgets required for a redesign that would let them reach the entire company and properly accommodate its applications and mass of online content.

We expect 2002 to be the year that most companies start taking their intranets seriously, improving their usability to boost employee productivity. To expedite this trend, we are publishing 10 case studies of intranets that were done well in 2001. We selected the 10 intranets based on submissions we received after calling for nominations earlier this year. The 10 winners, in alphabetical order, are:

- Andersen: Business Radar 3.0
- BC Hydro: HydroWeb
- Cisco Systems: I-deal (tristream)
- Fidelity Investments Canada
- Interactive Applications Group: Community [apps]
- Luleå University of Technology, Sweden
- Pearson Technology Centre
- Science Applications International Corporation (SAIC): ISSAIC
- silverorange
- United States Department of Transportation: DOTnet

It is obvious from the list that good intranets can be found in many places: huge companies, small companies, university departments with almost no budget, government agencies, and non-profits (Community [apps]) as well as in several different countries. In fact, we had runners-up from two other continents that almost made it into the top 10.

After selecting the 10 winners from more than 50 nominations, it is clear to us why most design annuals focus on the graphical appearance of designs. It's easy to pick designs that look good. It's a lot of work to dig beneath the surface to assess features and usability. Our selection process required many months of effort because we wanted to showcase intranets that both look good and work well for employees.

DESIGN PROCESS: FAST AND ITERATIVE

The good news is that it is possible to do a good job and pay attention to usability on a small budget. The bad news is that even our 10 winning intranets had resource

constraints that prevented them from devoting enough attention to the full user-centered design process that we recommend. Shortcuts were frequent, and many of the steps we recommend (such as up-front field studies) were often skipped or abbreviated.

As the case studies show, iterative design offers clear benefits, as do even the shortest and cheapest usability activities. Many project teams showed great resourcefulness at getting user input in multiple phases of the design process, even when deadlines were tight or budgets were limited.

For example, ISSAIC conducted 10-minute user tests that let them get fast data from employees who couldn't leave their jobs for the traditional, hour-long studies. BC Hydro organized a scavenger hunt to get early feedback from employees. Several project teams also went the extra mile to collect data from employees at remote locations, who often have different needs than headquarters-based staff. As a simple example, many off-site employees stressed the importance of having a design that works over slow modem connections.

It is definitely possible to do a good job on intranet usability on a tight budget. Even though we view all 10 featured intranets as winners and great designs, we did single out one company as having the overall best design: silverorange, a small company in Canada. Although they do have the unfair advantage of being a design firm, even so, this small company's intranet stood out, even in comparison to much bigger projects.

It is also notable that Luleå University of Technology made it to the top 10, despite being designed by a bunch of graduate students. Though small and lacking a lot of resources, this design team focused relentlessly on user needs and on simplifying their design through many fast iterations. Some of the Luleå features underwent up to 50 iterations before they reached their current usability level. "I thought my initial design for the calendar application was really easy to use — in fact, I was quite proud of it," says one of the developers. But, the design didn't hold up when professors and other staff members used it, so it was changed. User needs triumphed over the designer's initial pride. That's the hallmark of a truly great designer. On a small budget, the way to achieve high-quality design is through fast, cheap iterations and a willingness to do what users need.

DESIGN TRENDS: SIMPLIFICATION AND STANDARDIZATION

In our 2001 design annual, two important trends in the case studies stand out: Good intranet projects focused on simplification, and on creating unified navigation and user-interface design across multiple business units or departments.

To highlight the most important fields, designers cut forms that were a hassle in previous intranet versions. They simplified *Search* and featured it prominently. They reduced or moved features that didn't apply to most users to secondary screens. They also toned down graphics and aimed for clean design in the general look and feel.

INTRANET AS COLLABORATION AND COMMUNICATION TOOL

We saw a greatly increased emphasis on the intranet as a collaboration tool that lets employees exchange information through discussion groups and other features. The intranets also emphasize communication by encouraging departments to post news and other information of interest to different groups.

In the past, people without specific technical skills often found it very difficult to post information on intranets. Several of our top 10 projects introduced easier ways to let employees contribute.

It's also been common practice in the past for employees or departments to place information on the intranet in unstructured ways, and thus nobody else could find it. Many of the profiled projects have introduced ways to integrate this valuable information into the intranet and make it easier to find.

CONTENT MANAGEMENT

One of the key ways to make it easier for average employees to contribute to the intranet is to use a good content management system (CMS). Instead of having everybody design their own web pages, a CMS handles the mechanics of posting and lets people focus on their content and message.

In addition to making collaboration easier, these solutions also enforce design standards and thus enhance user-interface consistency and reduce confusion and training costs. If everyone has to design and build their own pages, you can be sure that the pages will be very different and confusing. Plus, they'll often be poorly designed, since most employees don't know much about designing for online interactive media.

Our most dramatic case study of an automated solution is Community [apps] from Interactive Applications Group. Community [apps] is a fully hosted ASP solution that provides intranets for non-profit organizations. By focusing on a specific market segment, Interactive Applications Group can provide a "just-add-water" intranet that both supports the needs of its target group and is better designed than what most resource-constrained non-profits could build on their own.

98% INCREASED USE

It is very hard to assess the business value of the improved intranet designs described in this report. Most of the value probably comes from better and more informed decisions, which result from increased knowledge dissemination through the collaboration features and news areas. Productivity gains can also be huge from streamlined applications, such as the Cisco sales force tool. If every sales person can save a few minutes on every lead they enter into the system, then the annual savings will be in the multimillion-dollar range. Even so, the gains from better management of the sales process and more informed deals could easily be even bigger. Unfortunately, exact numbers and measurements to quantify these gains are not available, and would be somewhat costly to collect with any degree of accuracy.

We do have one data set that offers an estimate of improved usability: the usage statistics reported by several of the intranets. On average, use increased by 98% after redesigning the intranets to make them more usable. In other words, companies can approximately double the benefits from their intranet investment if they spend a small amount of that investment improving the design's usability.

Selection Criteria and Process

We held this contest to find examples of intranets that are easy to use and meet users' needs. We posted the call for submissions on www.useit.com in the spring of 2001. More than 50 companies of different sizes and from various industries and countries submitted intranet designs. These submissions included:

- screenshots of the intranet;
- explicit descriptions of the design and how the intranet works;
- notes about the design process, including which usability methods they employed;
- explicit information about the users and potential users; and
- their goals for the intranet.

We used a three-step judging process for the competition: 1) initial design reviews; 2) follow-up interviews; and 3) rating, sorting, and more thorough design reviews.

INITIAL DESIGN REVIEWS

Based on the initial submission information, the three judges (identified in the *About the Authors* section of this report on page 111) conducted simple design reviews and whittled down the submissions to tier one, the top twenty-five intranets.

FOLLOW-UP INTERVIEWS

After choosing tier one, we asked the design teams many follow-up questions about the site and their design decisions, usability evaluation methods, and lessons learned. We asked each of the selected teams several more specific questions, some of which were generic and others exclusive to their particular intranet. Some of the more generic questions were:

- What was the business reason for setting up the intranet?
- What does it do, and what kind of information does it contain?
- Whose idea was it, and what goals did they want to achieve?
- What were the constraints, for example, on time, budget, and language?
- How did you develop the intranet, and what were your usability findings?
- Who was involved in the project, and what role do they play in the organization?

RATING, SORTING, AND MORE THOROUGH DESIGN REVIEWS

After extensively collecting information from site designers about their users, goals, and usability evaluation findings, we thoroughly reviewed the intranet designs. We evaluated them based on usability, look and feel, and elegance. We considered the target users, their tasks, and how well the site's applications might help users complete their tasks.

In addition to offering written commentary, we rated each site numerically. We gave each design a score ranging from zero to three (three being the best rating) on the following eight criteria, which are typically very important in intranet usability:

1. Simple look
2. Simple navigation
3. Consistent navigation across pages
4. Visible search bar (or button)
5. Simple search
6. Limited (and well-presented) page text
7. Clear labels
8. Clear links (name and marks)

Finally, we chose the top 10 sites and the single best intranet of 2001.

Most design annuals purely consider the visual appeal of the nominated designs, but since intranets exist for the purpose of supporting employees in doing their jobs, we believe that usability is of crucial importance for judging intranet designs. We still do consider aesthetic appeal as part of our judging process since there are certainly some benefits from supplying employees with a pleasant working environment. Still, most of the emphasis in our design award relates to employees' ability to easily understand the intranet, easily navigate it, and efficiently perform their jobs.

Overview of the 10 Winners

COMMON THEMES ACROSS THE WINNERS

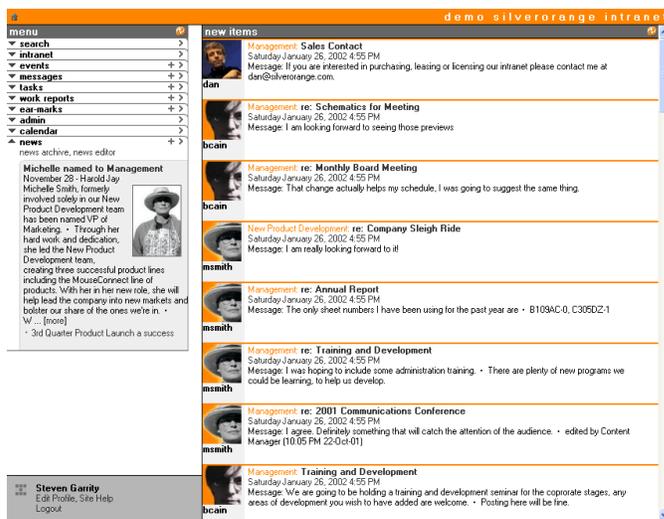
The 10 intranets in this report were all designed well, with the users and their tasks in mind. Some noteworthy commonalities across all or most of these first-class intranets include:

- **Iterative design process**
These intranets are testament to how iterative design combined with imagination and talent can succeed. Each of the winning intranet designs emerged from an iterative design process. (Two of the 10 winners used similar four-step development processes. At Pearson, the steps were: inform, discover, design, and develop. At Cisco, they were: clarify, discover, dream, and design.)
- **Employees are encouraged to update intranet content**
We were surprised and pleased that the winning intranets let users easily update content. Gone are the days of employees searching for the anonymous webmaster and begging to get their content online. The winning designers and organizations recognize the value of having fresh content posted by all employees who have something to say. Moreover, posting that content is not only possible, but it's also simple to do.
- **Limited use of graphics**
Notice the minimalist use of graphics on these intranets. In lieu of useless stock art, these designers created elegant pages using creative layout, colors, and fonts. Most use graphics sparingly, which is nice.

SUMMARY OF THE WINNERS

The following tables give a brief overview of the 10 best intranets.

Silverorange



WINNER: Although all 10 intranets are noteworthy, this one rises to the top.

INSIGHT: Build something that you won't get sick of looking at or using, even 20 times a day.

The silverorange intranet sports a very simple look and innovative tools. The design succeeds at managing vast content without being sterile or impersonal. The collaboration features utterly support ever-changing content for both a small set of internal users and the company's external clients.

The following nine winners are listed in alphabetical order.

Andersen: Business Radar 3.0	Insights: 1) Relentlessly cut items you don't need. 2) When you decide to outsource content management, find the best partner, commit to them, and trust them. The navigation controls and sparingly used pictures and graphics make this site simple. The extensive, ultra-current content is what keeps the users of the Business Radar 3.0 site coming back for more.
BC Hydro: HydroWeb	Insights: 1) Include users in both the design and site-updating processes. 2) Make all pages load very quickly. This site is the product of both resourcefulness and inspired methods of collecting usability information. Considering what a massive repository it is, the site design is uncomplicated.
Cisco Systems: I-deal (tristream)	Insights: 1) Convince clients to try usability activities; once they do, they'll be sold on them. 2) Before you code, collect usability feedback and conduct field studies. 3) Have the courage to make big changes, as long as you have good reasons for them. For designers, it's always a scary prospect to revamp an interface in a new release. In this case, they courageously opted to make a drastic change, and everyone was rewarded with a winning design.
Fidelity Investments Canada	Insights: 1) Make it easy to keep material updated. 2) Recreate the homepage to draw people into the site and offer a compelling user experience. This design works for many different kinds of users, from those who use it all day long to those who refer to it only periodically. The beauty is in the content, which is drawn from many different sources and frequently refreshed.
Interactive Applications Group: Community [apps]	Insights: 1) To really learn about usability, watch real users in the field. 2) Iterate your design based on what you learn. This intranet template collects most of the essential elements users seek in an intranet, and combines them nicely in an easy-to-use package.
Luleå University of Technology	Insights: 1) What users say they want isn't necessarily what they really want. Put a prototype in front of them to learn the truth. 2) Developers are typically poor usability critics, even when they're the site's primary users. With up-front features and an uncomplicated look, this site is proof that even with few resources, you can build a simply designed, effective solution for a small organization.
Pearson Technology Centre	Insights: 1) Organize the site based on user tasks, not on organizational structure. 2) Even if it's grueling, convince contributors that a single design will radically improve usability. Site designers used a systematic, four-stage development methodology to achieve this usable design. They reorganized various unique sites into a cohesive whole.
Science Applications International Corporation (SAIC): ISSAIC	Insights: 1) Harness information that's already out there. 2) Help users aptly direct comments and suggestions to the right people. This site harvests and delivers information from many sub-sites in a straightforward way. Their novel approach to collecting and directing feedback helps organize this huge enterprise.
U.S. Department of Transportation: DOTnet	Insights: Promote information exchange in a way that makes people visit the site and keep coming back. This site offers a new twist on productivity-specific applications. The <i>Work Tools</i> and <i>Communities</i> are designed to help people get work done.

Andersen: Business Radar 3.0

Andersen is a large accounting and professional services firm with 85,000 employees in 390 offices spread across 84 countries.

DESIGN TEAM:

Combination: In-house Andersen employees worked with Factiva Consulting, who built and maintain the site.

Pictured: homepage

Business Radar[®] ANDERSEN

Home Manage My Topics Search Browse News By Source Business Newsstand Quick News News To Go Country Information E-mail Address Help/Tutorial

Take control of the news

Use Business Radar to track news about your clients, your competitors, your industry or your profession. Business Radar offers more than [1,100 news sources](#). No time to read it now? Use our [News to Go](#) feature and read the articles later.

My Topics

Business Topics:
E-Commerce/E-Business
Information Technology (General)

Companies:
ADC Telecommunications Inc.
Arthur Andersen
Knight Ridder Inc.
Medtronic Inc.
Rockwell International Corp.
Sysco Corp.

Manage My Topics
Add, edit or delete the topics you want to monitor.

News To Go
E-mail articles to yourself to read later.

Search
Search pre-set topics and company names, or search all Business Radar publications at once using keywords. Keyword searches can also be saved as topics.

Country Information
Get reports from The Economist Intelligence Unit about business conditions in specific countries.

Browse News By Source
Browse through individual publications for articles of interest, or search a single publication using keywords.

E-mail Address
Change the e-mail address Business Radar uses to forward your News to Go.

Business Newsstand
Browse headlines from major newspapers and magazines.

Help and Training
Learn more about Business Radar's features to improve your search for relevant news.

Quick News
View the most recent news by geographic region and for each of your topics.

factiva..

SUMMARY

While some designers consider guidelines and standards to be constraints, in this case, the designers recognized that Andersen's new corporate branding guidelines could actually help them create a usable intranet. In reviewing this team's design process, we see a rare ability and willingness to relinquish control when appropriate. We acknowledge this because even when giving up control is the best decision, it's never an easy one and always takes courage.

The other rare and courageous design decision this team made was to leave out many features and functions intentionally in the name of simplicity. While we do not always agree that "one-click access" is the answer, keeping this as their goal reminded them to cut unneeded items.

This case study also demonstrates how usability evaluations can help clarify strategy and other major business decisions. Andersen solidified some agreements with their information provider, Factiva, after conducting usability evaluations.

As for the intranet design, the site is simple but not boring. The extensive content keeps users coming back. And, that content is readily accessible due to simple navigation controls and a notable paucity of pictures and graphics.

With adequate white space between them, categories and headings are well named and well indicated. Text is a bit small in most places, however. In terms of accessibility, the text and background color of the horizontal top navigation bar needs more contrast; it will present a problem for people with low vision.

Also, branding probably takes up more space on the site than is necessary (the "Business Radar" title and Factiva logo are too big and appear too often, for example). But, all in all, the site has a usable and elegant design.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2.5	2.5	2.5	2	2	2	2	3

INTRANET

Business Radar is Andersen’s internal news application, which delivers articles drawn from more than 1,100 sources to all Andersen personnel via the firm’s intranet. Supported tasks include searching for news by company, topic, and content source; changing topic preferences; scanning headlines; emailing information to colleagues or clients; and printing or downloading information into Microsoft Word.

BACKGROUND

Having up-to-date market information is an important part of business survival for a professional services firm like Andersen. The company has used news clipping services for many years, and its Business Radar internal news service has been in existence since January 1997. A second version went live in September 1998.

Business Radar 3.0 is the application’s most recent incarnation. However, the new version, which went live in January 2001, differs significantly from previous versions in several ways, including design, functionality, how information is delivered, and the amount of usability testing involved in its development.

The application has an updated look reflecting the firm’s new corporate branding, but apart from that, the most significant change is probably the move to a single outsourced information provider. The provider, Factiva Consulting, also built the site to Andersen’s design specifications, maintains it, and delivers the content.

Andersen was previously known as Arthur Andersen — a name that can be seen on some of the early screenshots in this report. The company is different from the group previously known as Andersen Consulting (now called Accenture).

GOALS AND CONSTRAINTS

“To live up to the challenge of getting people’s behavior to change, we needed a tool that was very intuitive to use. We also had to ensure that users felt confident that the online application would include a very broad range of content,” explains Michael–John Saunders, partner in charge of content.

Working with representatives of the firm’s 15 or so industry and functional groups, Andersen’s Business Radar team identified users’ top three requirements, which were 1) to get information on: their target industry, clients and competitors, and international markets ; 2) to steer people away from the labor-intensive and difficult to manage news clippings services they used previously; and 3) to encourage them to get all their background information from a single, central online source.

The task of quickly producing effective and acceptable designs was made vastly easier by Andersen’s new corporate branding guidelines. Launched in January 2000, the guidelines contain clear parameters of how the firm should present itself across a range of different media, from business cards and brochures to the Web. The branding sets out rules for a consistent look and feel across Andersen’s public website, its general intranet, and specialized intranet applications such as Business Radar.

For example, the branding guidelines specify which colors and typography can be used, where the corporate logo should be placed, and recommends features such as large page headlines that are intended to convey the company’s “think straight, talk straight” philosophy.

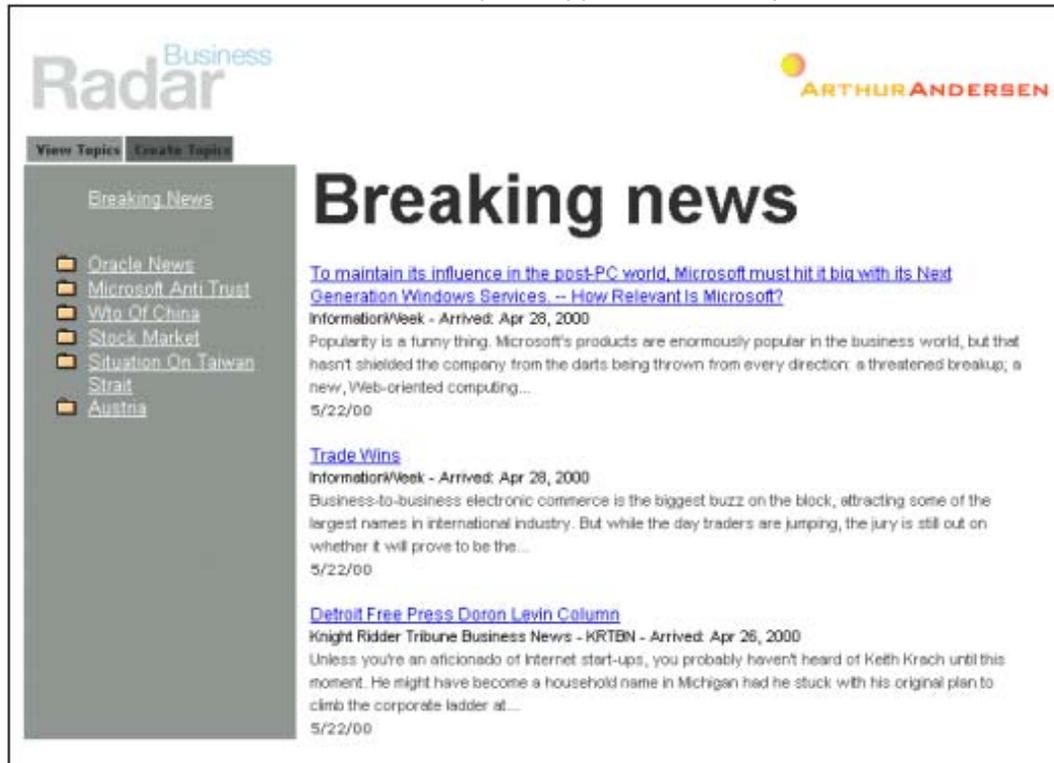
PROCESS

In early 2000, the design team started work on Business Radar Version 3.0, the first version to reflect the new corporate branding. In addition to changing the design, the team’s other major change was to move away from in-house content management; content is now provided through an Application Service Provider deal with Factiva. The Business Radar team also acted on user requests, making various functional improvements.

In developing the new version, the team had to balance their desire for the best possible result with the business objective of getting the improved re-branded version out to users as soon as possible. Rather than submitting a range of different designs to test users and letting them choose, the designers showed users a single design, based on usability best practices, and continually refined it on the basis of user feedback.

The design for Business Radar 3.0 went through just three major iterations: a low fidelity prototype showing the basic concept, design, and layout; the conceptual prototype, with more detailed layout and new branding features; and the interactive prototype showing the navigation flow from the homepage to sub-pages.

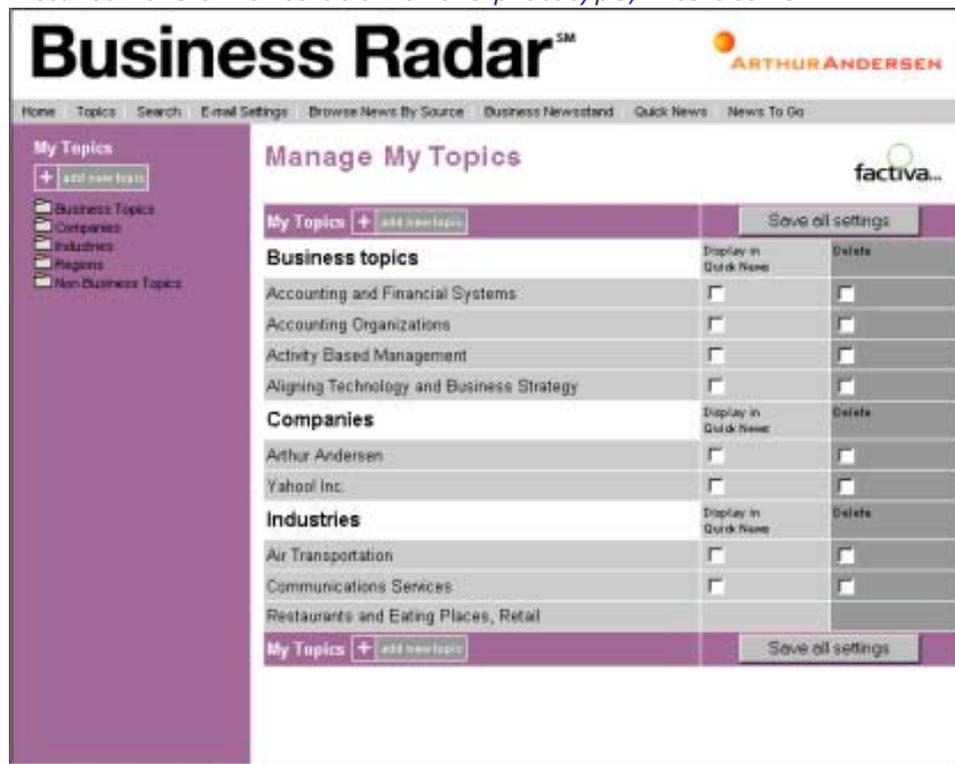
Pictured: the first iteration of the prototype, low fidelity



Pictured: the second iteration of the prototype, conceptual



Pictured: the third iteration of the prototype, interactive



USABILITY

The content and design for previous Radar versions was developed through brainstorming sessions with representatives of the firm's various groups, who also offered feedback during the development process. For Business Radar 3.0, the team added to this process a more wide-ranging usability evaluation.

Before starting development on version 3.0, designers solicited suggestions and feedback on the old version via email surveys. They also handed out surveys at events and other places where large numbers of employees were likely to congregate, including the firm's main training center. Over 1,000 surveys were completed.

The insight they gained into employees' preferences, combined with feedback from earlier versions of Business Radar, led the team to incorporate several new functions into the application. For example, printing functions have been improved, and articles include links to related information and can easily be emailed to other people.

Pictured: a news item

The screenshot shows the Business Radar website interface. At the top left is the 'Business Radar' logo. At the top right is the 'ANDERSEN' logo. Below the logo is a navigation bar with links: Home, Manage My Topics, Search, Browse News By Source, Business Newsstand, Quick News, News To Go, Country Information, E-mail Address, and Help/Tutorial. On the left side, there is a 'My Topics' sidebar with a '+ add new topic' button and lists for 'Business Topics' (E-Commerce/E-Business, Information Technology (General)) and 'Companies' (ADC Telecommunications Inc., Arthur Andersen, Knight Ridder Inc., Medtronic Inc., Rockwell International Corp., Sysco Corp.). The main content area displays a news item titled 'Cambior Inc.: Announcement'. Above the title are links: 'Return to Headlines', 'Email to a friend', 'Format for Print', and 'Download to MS Word'. Below the title, it shows '178 words', 'Aug 02, 2001', and 'CCN Disclosure (Canada)'. The main text of the news item begins with 'LONGUEUIL, QUEBEC--Mazarin Inc. and Cambior Inc., co-owners of the Niobec mine announce that the hourly employees of the Niobec mine, located in St-Honore in northeastern Quebec, went on strike yesterday following the tabling of the Company's final offer. The co-owners consider their offer to be generous considering the actual economic context. The hourly employees are represented by the United Steel Workers of America and the collective agreements are expired since April 30, 2001. The Niobec mine is operated by Mazarin and Cambior is responsible for the marketing of the ferroniobium. Mazarin is a natural resource company specialized in the development and processing of minerals for the production of value-added products that meet both high performance standards as well as the environmental concerns of its customers worldwide. Mazarin's shares trade on the Toronto Stock Exchange (TSE) under the symbol "MAZ". Cambior Inc. is an international gold producer with operations, development projects and exploration activities throughout the Americas. Cambior's shares trade on the Toronto (TSE) and American (AMEX) stock exchanges under the symbol "CBJ".' Below the text are the same navigation links as above. On the right side, there is a 'factiva...' logo and a 'Related Information' section with the text 'No related information for this search.'

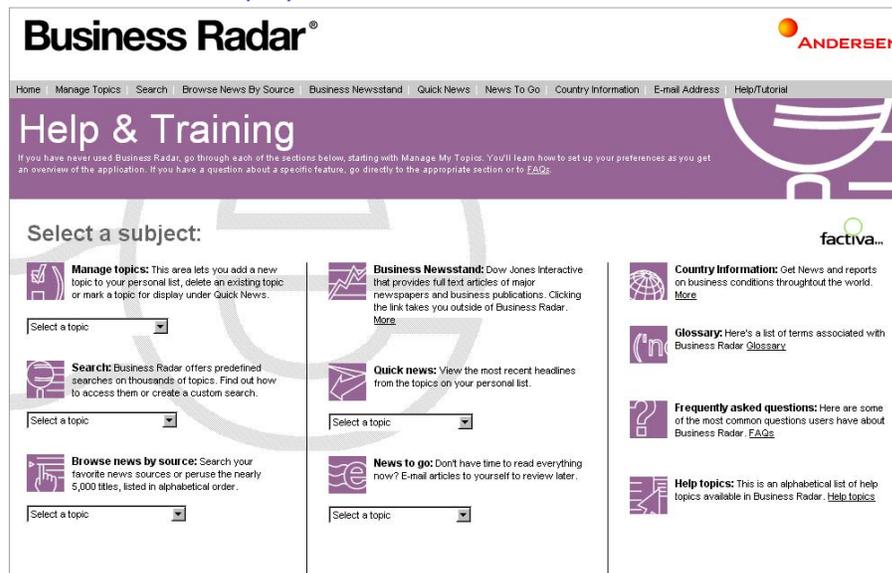
The team tested the interactive prototype using a walkthrough approach. About 25 test users, representing different areas of the firm, were given a series of tasks to perform using the prototype. Tasks included: finding a company, selecting a topic and saving it, and doing a custom search. Test facilitators observed participants and asked them to talk through what they were doing.

A team of Andersen information professionals developed the walkthrough script. This same team, who had worked on previous versions of Business Radar, observed the testing. Based in three locations in the U.S., they were able to provide a wide participant sample. They used an electronic survey to collect feedback from users outside the U.S.

"We sat with people and observed them as they went through the tasks on the script and noted the areas that seemed to confuse them," explains Kathleen M. Swantek, a research and technical development manager. "For example, we originally presented predefined and user-defined searches on separate pages, but people told us that when they wanted to find information, they just thought of both these functions as a search. So, we ended up putting them both on the same page."

Another improvement that resulted from the walkthroughs was to clarify the process for forwarding articles to other people. Several users were confused about the legal and contractual position on forwarding material, so the team added an explanation to the *Help* section.

Pictured: the Help system



This particular user issue also had effects beyond the intranet itself. As a result of the user feedback, the firm clarified its contract with Factiva to ensure that there were no unnecessary restrictions on the amount of material users could forward.

LANGUAGE ISSUES

Dealing with language issues on a multinational site remains a challenge. At the moment, all articles matching a given query are displayed; the user cannot choose to receive articles only in a particular language. Future development will focus on a solution that delivers content based on a selected language and gives users more choices about how results are presented.

“People whose mother tongue is not English prefer to read articles in their native language,” says Kathleen. “But the interface itself is still English, which is the standard language of the organization, and we’re still looking at the best way to deliver non-English content.”

Non-native English speakers in more than 80 countries use Business Radar. Though the user interface is in English, it’s important that the language used be clear and as universal as possible. Although developers might consider this a constraint when designing an application, it has the positive effect of imposing a simple, pared-down writing style that is more understandable to all users.

DESIGN

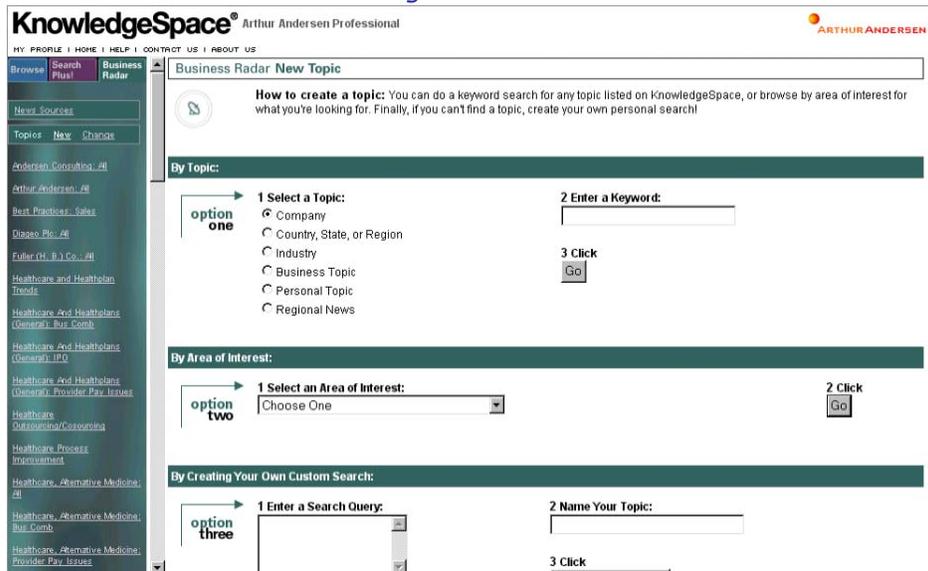
Although many of Business Radar 3.0’s design features reflect Andersen’s new corporate image, the differences between versions 2.0 and 3.0 reflect more than just a change in branding. The screenshots of the old and new versions show the designers’ aim of producing a less cluttered layout with what Michael–John describes as the “extraneous noise” removed to provide more intuitive, focused choices for users.

The team replaced the textured background to the left-hand menu panel with solid color, increasing legibility. They also used color to enhance legibility elsewhere, such as to differentiate items in a list.

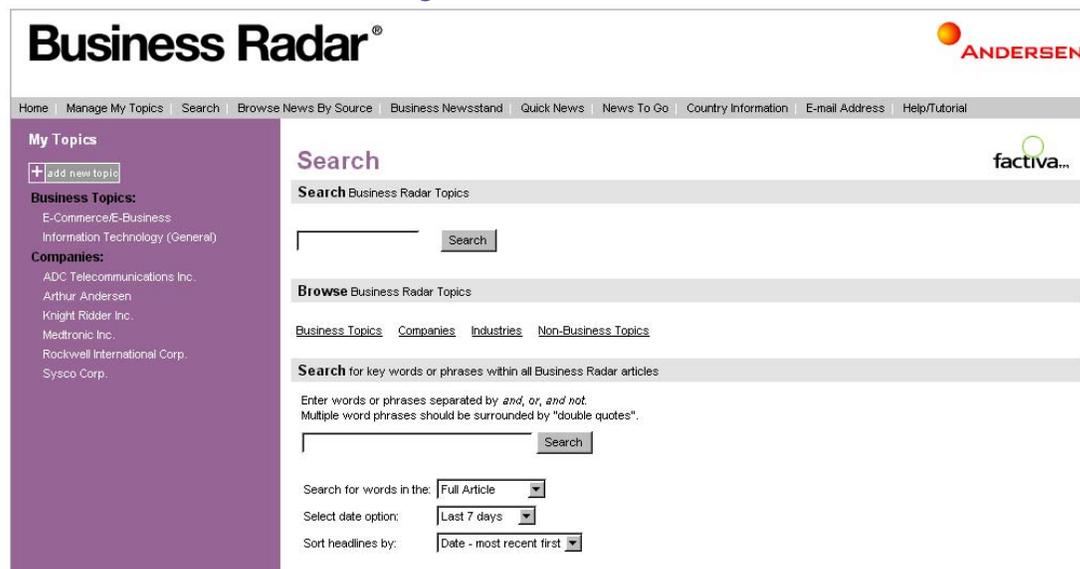
They designed the homepage to provide one-click access to all the site's key features, and indeed to 90% of the tasks supported by the site. To achieve this, the development team had to be fairly ruthless about what they left out. "It's always a challenge to ensure everything is just one click away without turning the page into a huge laundry list," says Experience Design Manager Todd Germann.

Comparisons of the *Search* page before and after the update illustrate this increased simplicity.

Pictured: the old search design



Pictured: the new search design



Andersen's decision to outsource maintenance and content delivery for its intranet is still a fairly unusual one, driven by the firm's desire to offer a wider range of information. "We decided to outsource this application to tap Factiva's vast information sources," explains Kathleen.

Following a survey of content vendor offerings, Andersen concluded that Factiva could provide the widest array of non-English news and business content. Another benefit is that users can access a more comprehensive list of company names in the corporate taxonomy than Andersen could offer in house. Outsourcing maintenance of the site also frees Andersen staff to work on other projects.

There were, however, some drawbacks to relinquishing total control over the project, such as having to work within another company's schedule. Andersen also had to resolve some contract issues such as pricing, content distribution rights, number of users, and definition of ongoing maintenance.

RESULTS

Since Business Radar 3.0 went live, the team says there have been many benefits to the business, some of which are difficult to measure. The number of employees regularly using Radar has increased from around 20,000 for version 2.0 to around 37,500 for 3.0. The firm has also saved money by consolidating their content purchase, leading to eventual savings of several million dollars. And, Michael-John says that having rapid access to information has generally increased users' awareness of events affecting their market areas and has improved efficiency. Some benefits, however, are even more tangible.

LESSONS LEARNED

KEEP AN OPEN MIND

For Todd Germann, the project's most valuable lessons were in the importance of rapidly iterating the emerging design and keeping an open mind about the direction it should take. "We tried not to come up with the perfect solution on the get-go. Instead, we let user input shape the direction of the final solution."

SPREAD THE WORD

Project manager Holly Seguire discovered that it's not necessarily enough to come up with a good, usable solution. You also have to make sure people know about it. "You have to tell them it's coming, tell them it's here, then remind them regularly," she says. One of her approaches is to send out targeted emails telling employees about Business Radar items of specific interest to them.

LISTEN TO YOUR USERS

Debra Vorderer, technical development manager, has been impressed by the power of user feedback. "The input we've had from users and the impact of their suggestions has been very beneficial," she says. "And the positive comments we've had following the launch of version 3.0 have made it clear that listening to our users has been a major factor in making the system a success."

BC Hydro: HydroWeb

BC Hydro is Canada's third largest electric utility, with approximately 6,500 employees in British Columbia.

DESIGN TEAM:

In-house
(Westech Information Systems, an IT solutions company wholly owned by BC Hydro)

Pictured: homepage



hydroWeb Home Search Feedback Help

Friday July 27, 2001

Business Units News Employee Resources A to Z Activities

Featured sites

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Find a person
(by name, number, location)

GO

...or find [fax numbers](#)
...or find [addresses](#)

Find a web page
(by [command](#) or [keywords](#))

Search Only

GO

...or try the [advanced search](#)

Contact [Web Services](#), (78674)

SUMMARY

This site's designers were resourceful and inspired in their choice of methods for collecting usability feedback. Not only did they abandon the generic lab in favor of going to users' desks and collecting feedback remotely, but they dreamt up and executed a scavenger hunt to attract people to the study. When testing with internal employees, offering an honorarium doesn't always do the recruiting trick. Making it easy and fun for people to participate in studies, while still collecting valid data, is the sign of a true and valuable usability professional.

Considering that this site is a massive repository that supports varied information and applications, the basic look is uncomplicated and navigation controls are surprisingly orderly and consistent.

The site encourages constant change, and makes it easy for users to upload their own content, stories, and images. The front-page graphic, which promotes current organizational events, changes to show one of four five main images each time the page loads. Despite this, the site's overall use of graphics is kept in check, and designers met their goal of rapid page loading (especially important for employees accessing intranet via a 56K dial-up line).

The *Find a Person* feature, which is crucial for medium and large companies, is taken to a new level on this site, enabling users to also find fax numbers, addresses, and telephone numbers.

The site's biggest weaknesses are in menu design; the alpha list menu is a little confusing. And, the site overuses cascading menus, which are difficult to navigate, especially for people with low vision and motor skill disabilities.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2	2	2.5	2.5	2.5	2	2	2

INTRANET

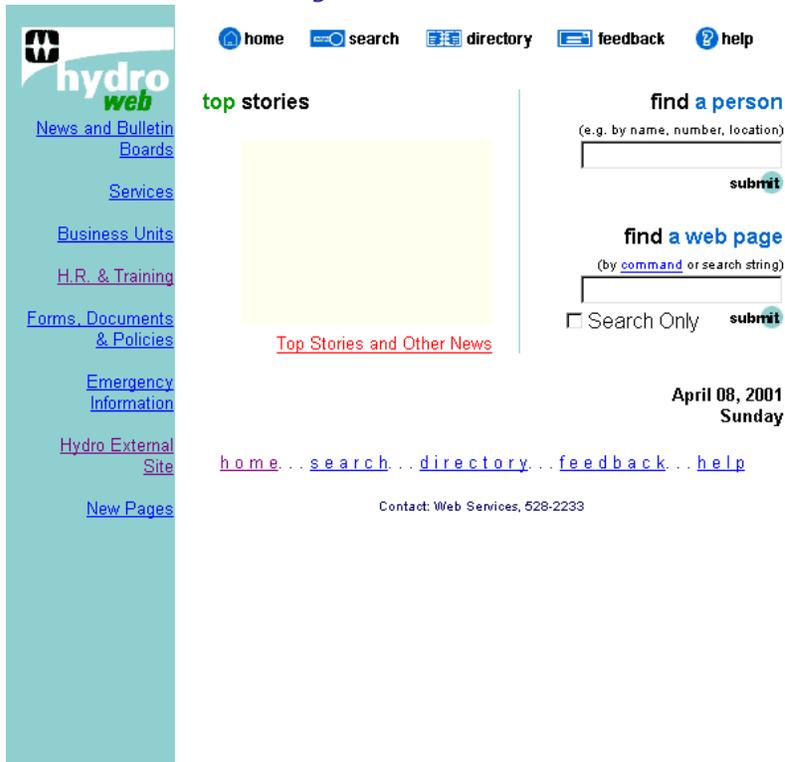
HydroWeb provides employees information that they need to do their jobs. First implemented in 1994, it has been through four revisions. Content now includes forms, policies, and procedures, along with information on advertising, safety, and human and computer resources. The intranet also hosts three applications: *Employee Online*, where employees can look up pay and vacation information and edit their personal details; *Manager Online*, where managers can find employee information; and *Expenses Online*, where employees and managers can review and approve expenses. Other typical tasks include finding phone numbers, looking at job postings, and checking the weather.

The intranet's initial specification was drawn up by a steering group coordinated by Andrew Baker, BC Hydro's corporate webmaster, and consisting of eight BC Hydro employees who represented various departments, including corporate affairs, transmission and distribution, marketing and communications, power supply, human resources, and information systems.

BACKGROUND

HydroWeb has been evolving since 1994, from a relatively simple Web-based phone directory and database of policy statements, to a more complex system using graphic design elements. The intranet was extensively redesigned in 1997, but the company still felt that content was too difficult to find.

Pictured: the site design in 1997



“We were getting complaints that information was buried in the old design,” says Andrew Baker. “We wanted a way to bring important sites higher in the structure.”

HydroWeb, which contains over 60,000 pages and documents, is a huge repository of corporate information including everything from employee contact details to customer service information. It also delivers a range of human resource features, such as letting employees file expense reports online, and offers general information on things like job openings and the weather.

To capture users’ attention, the alternating front-page graphics promote company events such as a blood donor drive in Prince George, a Hydro Hockey Tournament in Vancouver, or a new Corporate Strategic Plan. Staff can submit their own stories and accompanying images, though to keep graphics manageable, they must select them from a repository of 50 stock pictures.

GOALS AND CONSTRAINTS

BC Hydro had three main goals in redesigning the site: make content easier to find, make content faster to find, and lay the groundwork for future content management and portal-type services.

They also wanted the new version to be an obvious improvement over the last version. “People here don’t like change unless it is better than before. So we had to make it a lot better or we would have gotten a lot of flak,” explains Andrew.

These goals implied several design constraints. All information had to be three clicks at most from the homepage. Another constraint was that the design had to support easy maintenance and make it possible for employees to load their own content.

Because some of BC Hydro's more remote sites have to access the intranet via a 56K dial-up line, pages had to be 30K or less to allow rapid loading.

PROCESS

After the steering group drafted the initial specification, the new site was designed and built by the Web consulting team from Westech Information Systems, an IT solutions company wholly owned by BC Hydro. The Westech team was also represented on the steering committee, which held four formal meetings during the design process. Several informal meetings were also held by Andrew and various individuals, and a steering committee sub-group met with Westech three or four times to review the site's progress.

In drafting the specification, the steering group had to decide the site's main categories and plan the specification. There was plenty of existing material at their disposal. Usability testing on BC Hydro's Internet and intranet sites had already provided good feedback on what employees liked and didn't like in a website; for example, they didn't like pick lists, and they had different ways of searching for information.

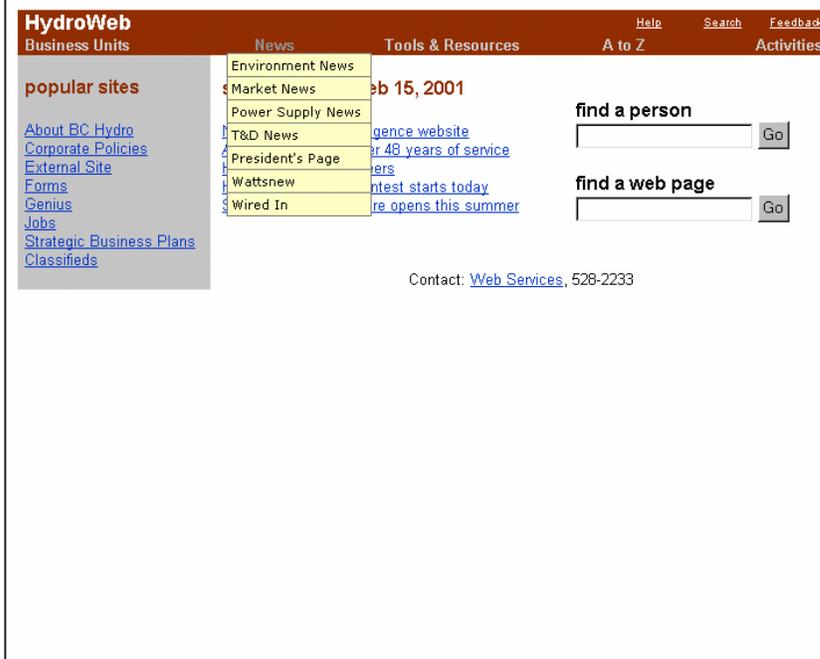
Feedback was also available from the previous version of HydroWeb, indicating that — apart from the general difficulties in finding information — users' biggest complaint was that the search engine didn't work well. "That was so loud that it drowned out all other complaints," Andrew recalls.

Using this information, the committee planned the basic site structure, working through the site's existing list of topics and trying to define five or six categories that they'd all fit under.

They also talked about the design elements they wanted to include. At this point, the concept of drop-down menus was first raised, and they discussed new elements, such as an electronic notice board for announcements.

The Web consulting team, led by Westech project manager Stacey Dong, took the steering group's ideas and created a "protosite," a click-through website without graphics to illustrate navigation and labeling. "People found it was a lot easier to find information using the protosite," Stacey recalls. They tested the prototype with seven employees.

Pictured: the "protosite."



Westech presented Andrew with three sketches showing possible directions for the interface design. From these, Andrew selected two design options to present to the committee. These two design options were then redeveloped with feedback from the committee. Each design included the same navigational elements and features, but had unique layouts and colors for the interface.

Pictured: a design option

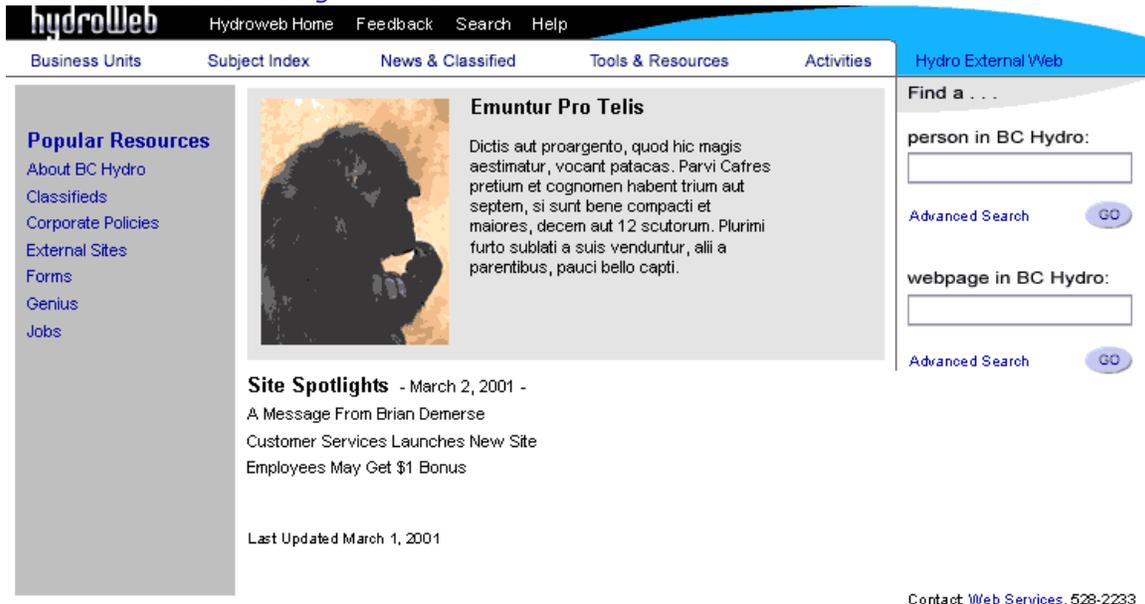


Pictured: a second design option



Westech worked through several design variations to ensure that the graphical elements promoted intuitive navigation and aided rather than detracted from ease of use. The final design was well received by the committee and was tested with eight employees.

Pictured: another design variation



USABILITY

Stacey carried out two rounds of user testing, at the prototype stage and at the final design stage, using small groups representing each business unit. The test users were selected to include a range in age, business unit, years at the company, and levels of Web experience.

Users were given a list of 10 task-oriented questions, such as finding a specific website, and a list of 10 general questions about navigation, labeling, functionality,

and suggestions for improvement. Where possible, Stacey went to users' desks and observed them while they worked through the questions. Regional users were interviewed over the phone. A remote access program (Timbuktu) let the tester observe remote users' actions.

The main issue to emerge from both rounds of usability testing was that the wording of the five navigation tabs across the top was not intuitive enough. User feedback suggested that they should change: "Tools & Resources" to "Employee Resources"; "Subject Index" to "A-Z"; and "Social" to "Activities."

Test users indicated that they were able to use the drop-down menus, which helped familiarize them with the menu categories and let them see at a glance the items classified under each category.

A week after the site was first launched, BC Hydro ran an innovative competition to encourage users to offer site feedback. The intranet team developed a scavenger hunt where employees had to look through different sections of the intranet to find the correct answers. For example, one question asked: "Who is the contact for the Customer Services web page?"

The team also asked employees general questions about the new site and provided a text box for feedback. Employee responses were entered into a drawing for prizes.

DESIGN

"In our design, we ensured that there were multiple ways to get the content that was used most often. This meant that employees could efficiently access content via different routes." Stacey says. The top menu bar items were pared down from seven to five high-level categories that let people find content based on organizational structure (*Business Units*), content areas (*News, Employee Resources, or Activities*), and a subject index (A-Z).

To hold users' attention, the front-page graphic changes to show one of four or five main images that promote company events. Staff can submit their own stories and images, though the latter must be drawn from a stock of 50 generic filler pictures.

The new design removed the scrolling news headlines from the front page, though this wasn't a universally popular decision. Of the few people who complained about the new design, most said they missed the scrolling headlines!

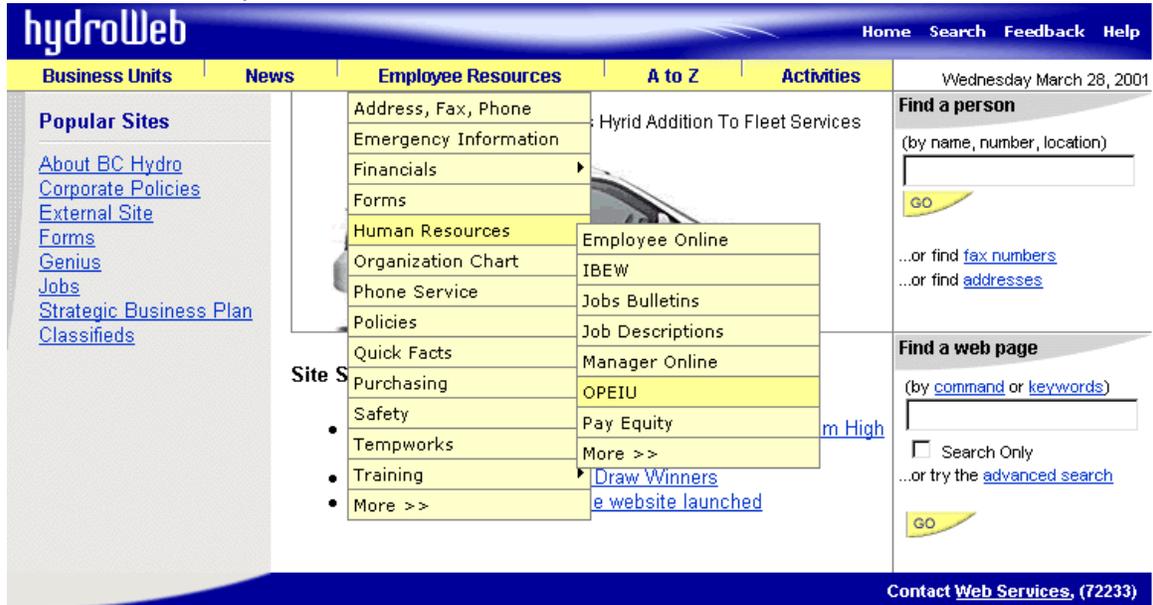
To address employees' complaints about search facilities, they supplemented the overall site *Search* by using keywords and focused search tools on specific pages. For example, the *Directory* includes a *Find an org chart* search.

All pages have a standard navigation bar that gives quick access to homepage *Search, Feedback, and Help*.

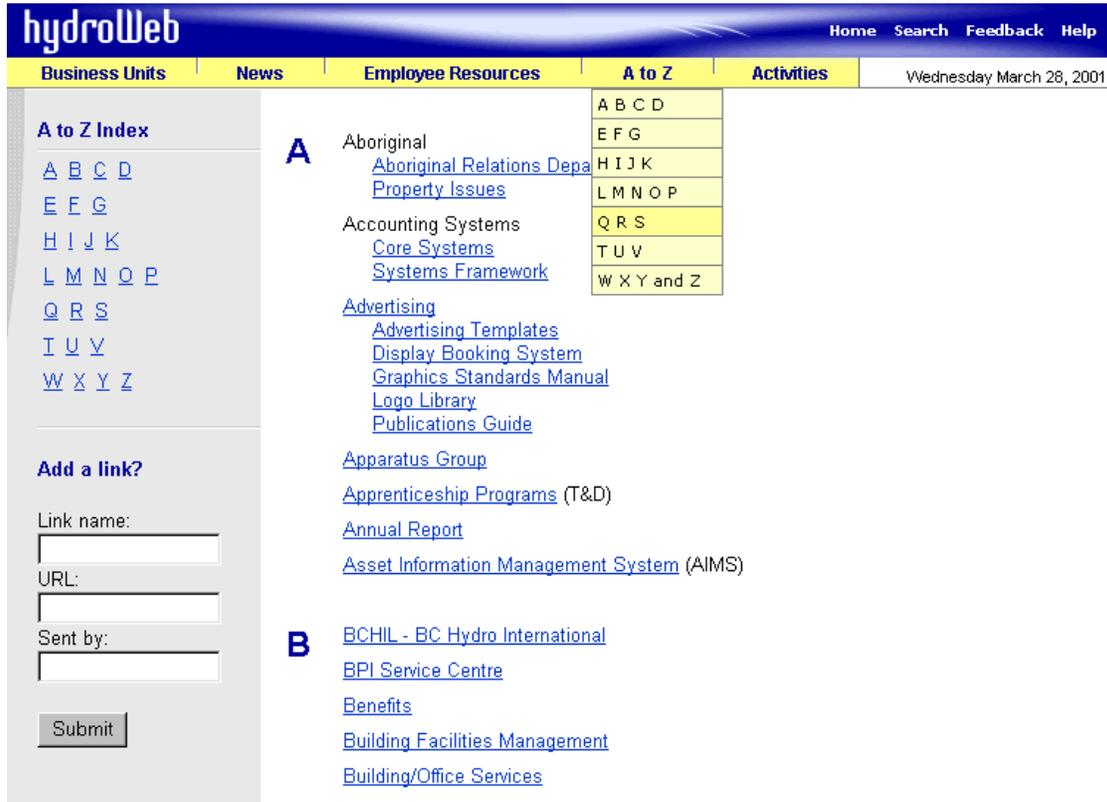
Drop-down menus on the homepage let users see what information is available in different categories and lower-level pages while retaining a simple, uncluttered design. The drop-down menus work as mouse-overs; no clicks are required. "One of the basic principles of the site is, you click on something, you go somewhere," Andrew explains. The drop-down menu design also has the advantage of

accommodating growth, since new items can be added to the drop down without disrupting the basic page design.

Pictured: the drop-down menus



Pictured: A-Z list



The alphabetical list lets users jump to anywhere in the site in three clicks. “We’ve had a lot of anecdotal evidence that people like the A–Z list because they can find what they want without having to search by categories when they aren’t sure which category the information they’re looking for is in,” Andrew says.

RESULTS

The number of page views has gone up significantly since the latest version of HydroWeb was launched, from 1 million a month in January to 1.5 million in June. The number of daily users has also increased from 3,000 in June 2000 to 4,000 a day in 2001. Of the employees who replied to a post-implementation survey, 95% liked the new design better than the previous version. The majority of respondents were pleased with the new HydroWeb, commenting that it seemed intuitive and easy to use — though it would take some time to get used to. They, overall, saw the new design as a positive change and a step in the right direction.

A clearer layout appears to have made content easier to find, since the Helpdesk is receiving fewer calls asking how to find information. Of BC Hydro’s survey respondents, 41% said that using the new version helped them find information they hadn’t known existed before.

TIMELINE

- 1994: Basic Web version of old mainframe information system, containing a phone directory company policies and manuals.
- Early 1995: News, a more detailed directory, Web links, and feedback facilities added. Graphic elements start to appear.
- Late 1997: Common navigation across the top of the page and a left-hand menu bar introduced for the first time, along with scrolling news headlines. Human resources, training, and emergency information also added, as are new links.
- April 2001: Latest version goes live.

LESSONS LEARNED

OFFER A CHOICE

“People think in different ways, they have different ways of looking for things, so you need to offer them alternative navigation methods,” says Andrew.

Cisco Systems: I-deal (tristream)

Cisco Systems is a major supplier of Internet networking solutions, selling its products in about 115 countries through a direct sales force, distributors, resellers, and system integrators. Its headquarters are in San Jose, California.

DESIGN TEAM:
tristream

Pictured: homepage

The screenshot shows the homepage for Cisco's Offer Integration (OI) system. At the top, there is a navigation bar with links for CEC, CCO, SEARCH, INDEX, SUPPORT, FEEDBACK, and DIRECTORY, followed by a search box and a 'Go' button. Below this is a banner for 'Offer Integration' with the tagline 'from open to close, how deals get done.' and the Cisco Systems logo. A secondary navigation bar includes links for 'Contact Us', 'Cisco WON Gateway', 'Go to i-deal', and 'Proposal Toolkit'. The main content area features a 'Welcome!' section with a circular icon and placeholder text. To the right, there are three news snippets: 'OI News' with a '205 deals registered in Q4 \$1.4 billion in new contracts' headline, 'Big Wins' with a 'John Smith Scores \$450M contract with AT&T...' headline, and 'OI Newsletter' with a 'AMs are using i-deal to make more \$ in less time...' headline. At the bottom left, there are two more sections: 'What is OI?' with a magnifying glass icon and 'Registering: How and Why' with a '5 minutes' icon.

SUMMARY

For designers, revamping the interface for a new release is always a scary prospect. Users do not like change. In this case, designers were facing a total alteration of the old system's model. A single activity in the old system made much more sense as two separate activities. Although making this division was a drastic change, it turned out to be the right decision, as the new design was far superior and much simpler to use.

Before writing even a line of code, the design team collected extensive feedback through interviews, field studies, and usability evaluations with several prototypes. The resulting design is testament to what you can do when you commit to collecting feedback before you code. The design manages and advances the process of creating, editing, and approving sales proposals, one of the company's core business practices. They came upon the design after practicing the field studies usability method in one of the best possible ways: People were not using the old system, so the designers focused on how people actually did their jobs.

Many design consultants face some resistance when recommending usability evaluations. These designers also encountered this challenge. But, once they cleared

that hurdle, the client company was hooked on usability, learned, and actually had fun.

As for the site design, the look is subtle and appealing. The category links and tabs make navigation easy to understand, and the links and text are legible and prominently placed.

Search is always available, though they do not present it as the simple, open field we recommend. The *Directory* field, however, is presented as a simple, open field, and is always available. This is a very important feature for an intranet that supports so many different sites and people.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2	1.5	1.5	2	1.5	1.5	2	2

INTRANET

Cisco’s Offer Integration (OI) division uses the I-deal intranet tool, which lets sales staff and staff from many business divisions (finance, manufacturing, engineering, and so on) register deals, view deal status, modify information, and analyze and approve sales opportunities.

BACKGROUND

Every day, Cisco Systems makes thousands of product sales through its sales force and dealer networks. Many of those deals, especially higher-value contracts with Internet Service Providers, are very complex. Sometimes, various aspects of the deal, such as the system specifications, pricing, or accompanying support services, must be tailored for the specific client. Before it can be signed off on, all the departments involved must agree.

“When Cisco gets a big, nonstandard deal, the sales people initiate it, but they then need to get approvals from other divisions. For example, finance, legal, manufacturing, and engineering might need to get involved,” explains Michael Coombs, director of the Experience Design Group at Web firm tristream. Cisco’s OI division was set up to coordinate deals of this kind.

The OI group had an existing intranet system, launched in March of 2000, which sales staff could use to register deals and ask for support in coordinating them. But only about 40 to 70% of deals were being registered through the intranet tool itself, a percentage far lower than the company wanted. Though the intranet is strategically very important to the company, Cisco’s company philosophy is to offer support tools to its staff but not to mandate their use. Thus, tristream’s brief was to redesign the system so that it would draw users in.

"It was a perfect challenge for us as experience designers because our mandate was to design a system that was so valuable, intuitive, and easy to use that everyone would want to use it," Michael says.

GOALS AND CONSTRAINTS

Cisco had several reasons for wanting better information about the deals its sales force had in progress. It wanted to ensure that deals got the highest possible return on investment in relation to resources committed to them, to ensure that there was no undesirable legal exposure, and to provide a base of information for future data mining. Cisco's top goal for the project was to get all deals registered on the site, and especially the nonstandard, higher-value deals. Keeping these goals in mind, Cisco also wanted to design a simple, five-minute registration process that would let the sales staff register quickly while providing some kind of high-level information about every deal in progress.

This redesign involved separating out two different activities that the existing system combined into one: the process of registering a deal, and the more detailed process of working out approvals with each of the business groups involved. "Sales people would have to sit down for an hour and a half and fill out unbelievable forms that required a lot of information that they didn't have at the time," Michael explains. "There was high resentment among the sales force towards this tool."

Pictured: old, tedious registration tool

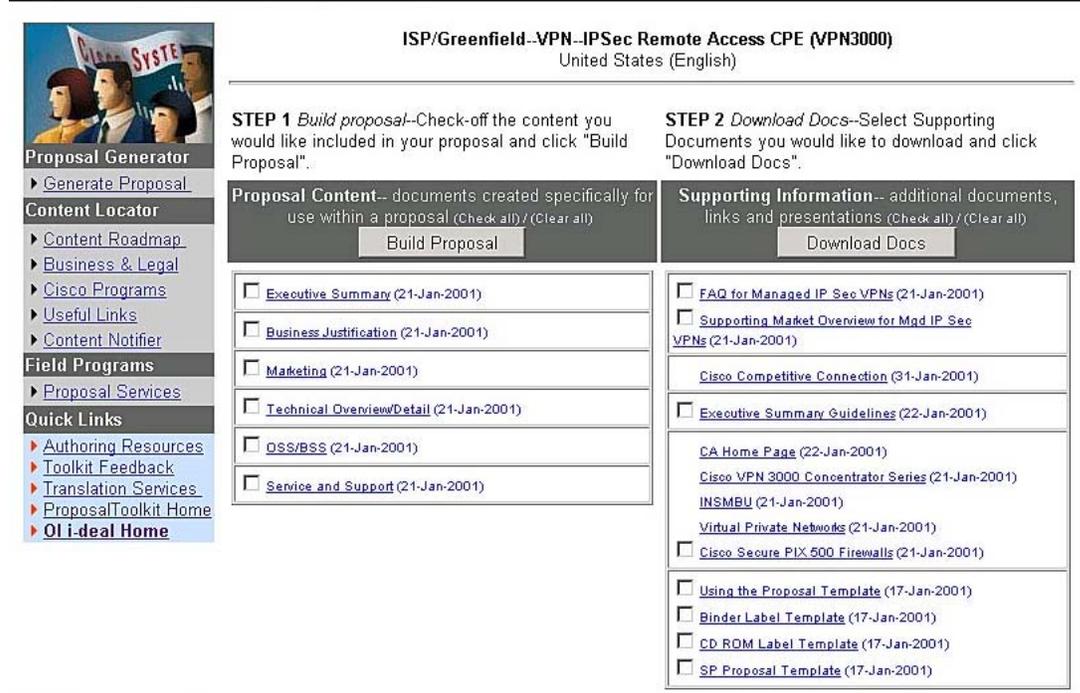
The screenshot shows the top navigation bar of the 'i-deal' system with links for CEC, CCO, SEARCH, INDEX, SUPPORT, FEEDBACK, and DIRECTORY. Below this is a banner for 'Offer Integration' and the 'i-deal' logo. The main heading is 'Opportunity Registration'. A secondary navigation bar includes 'Home', 'Register Opportunity', 'Status Dashboard', 'Search', and 'Help'. A note states: 'Note: Special characters like double quotes (") are not allowed.' The registration form is titled 'General Registration' and includes a sub-section for 'US Service Provider'. The form contains several fields: 'Submitter Name' (tesperas), 'Account Manager Name*' (with a 'Confirm' button and a 'help' link), 'Regional Manager Name' (dropdown), 'Operations Director (OD)' (dropdown), 'Area VP*' (dropdown), 'System Engineer' (dropdown), 'GSM Name*' (dropdown), 'Engineering Manager*' (dropdown), 'Opportunity/Project Name*' (text input), and 'Customer/Account Name*' (dropdown). A note at the top right of the form says 'Fields marked with an * are required fields.'

A second goal was to provide a more effective mechanism for requesting and delivering sales support in terms of personnel resources (such as managers, deal consultants, and technical writers), proposal production, customer presentations, and

so on. Ideally, the sales force needed immediate feedback as to whether or not they were going to get help, or, at the very least, feedback on the status of their deal within the approval process itself.

Sales people also needed effective online access to existing material that they could use to shorten the time-consuming process of putting together a proposal. The existing toolkit on the intranet was put together from several items with different navigation and a different look and feel, and sales people found it hard to use.

Pictured: old intranet, tools with inconsistent look and feel

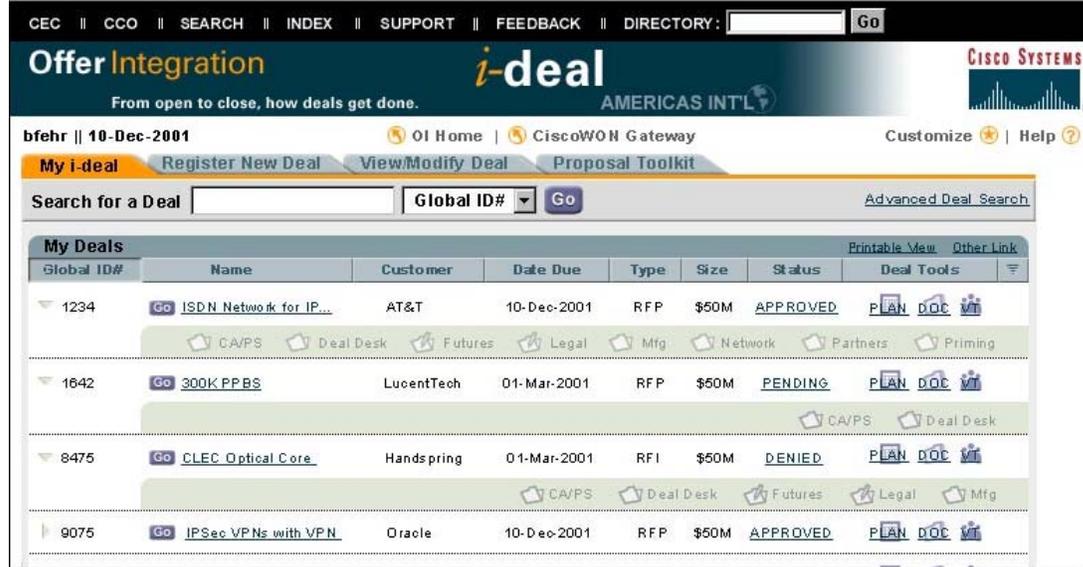


The aim was to create a single, scalable, database-driven navigation system that could be personalized for different roles in the organization.

Cisco itself did not have a user experience group, and it realized that to produce a compelling application it needed to call in information design professionals. But tristream did not have a completely free hand in designing the look of the finished application. Various Cisco divisions were responsible for different page elements, which the new design had to retain.

For example, the OI division owned the I-deal banner on the front page, and it had to stay.

Pictured: required I-deal banner



The black navigation bar across the top of most pages is a feature of the Cisco intranet, and was mandated by the company's business rules. "We couldn't stop all that screen real estate from being used up, but we did the best we could to simplify the design," Michael says.

PROCESS

To transform I-Deal from a massive kludge of navigation into a usable intranet tool, the six tristream designers had to find a way to present its functionality in a more manageable way.

The tristream process has four phases: 1) Clarify: Meet with stakeholders to define business requirements. 2) Discover: Talk to users and stakeholders to establish the organization's audience and their goals. 3) Dream: Work with the organization to develop innovative solutions to business problems. 4) Design.

During the Discover phase, the tristream team carried out contextual and phone interviews with users representing each user segment. They created spreadsheets summarizing each user's goals, tasks, and procedures. These were then combined into a master spreadsheet of user-based features and requirements.

"We went through the site, listing every feature methodically, documented them as a Word document and a spreadsheet, and broke them down into goals, motivators, and procedures," Michael says.

The tristream team also did a series of stakeholder interviews with representatives from each of the functional groups involved. Their goal was to understand fully the new system's required business features. These interviews started in mid-December 2000 and ran for about two weeks, culminating in a summary of findings, which the team presented to Cisco in early January 2001.

Moving into the Dream phase, 11 Cisco staff members participated in a three-day offsite brainstorming session. Participants included IT analysts, business

development managers, trainers, and representatives of various functional groups. Staff were presented with various user-oriented core scenarios and encouraged to brainstorm features and innovations for the site and write them on sticky notes. For instance, if tristream proposed that a sales manager needed to register a deal but was short of time, the sticky notes might suggest improved forms with reduced fields for quicker registration, or a PDA version of the registration form that automatically synchronized to the intranet tool, so the manager could enter the registration info on the road.

The tristream team took the innovative and revised feature list gathered from users, and added in the core existing tool features and features gathered from business requirements and goals.

Using techniques like affinity clustering, the team took the sticky notes and created a rough first-pass information architecture for the site (major areas and sub-areas), and then created a master spreadsheet with all the potential features.

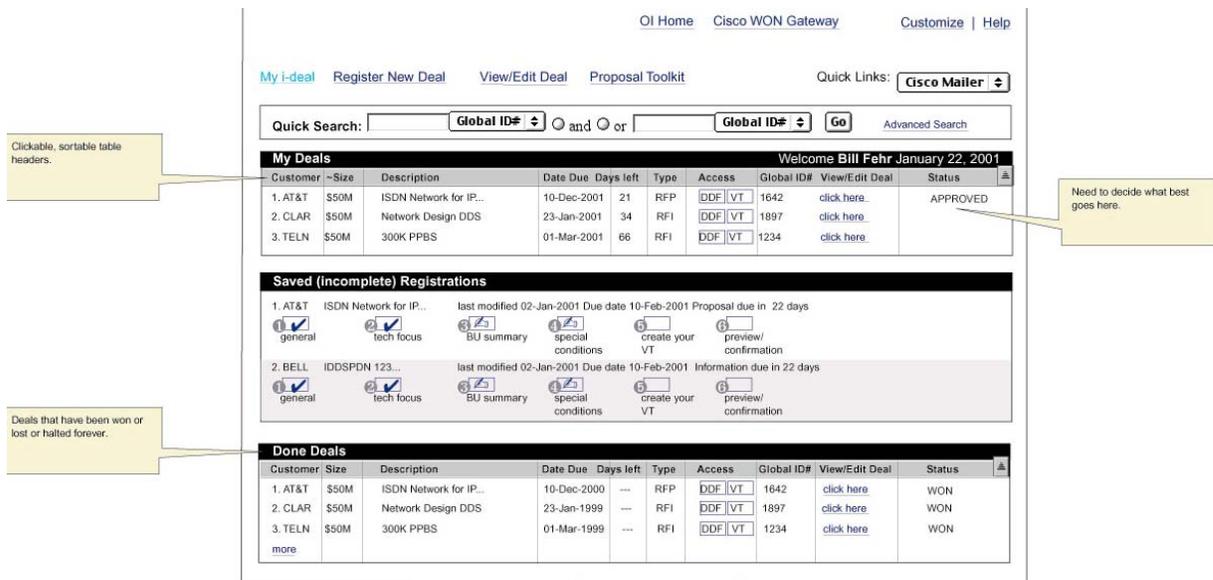
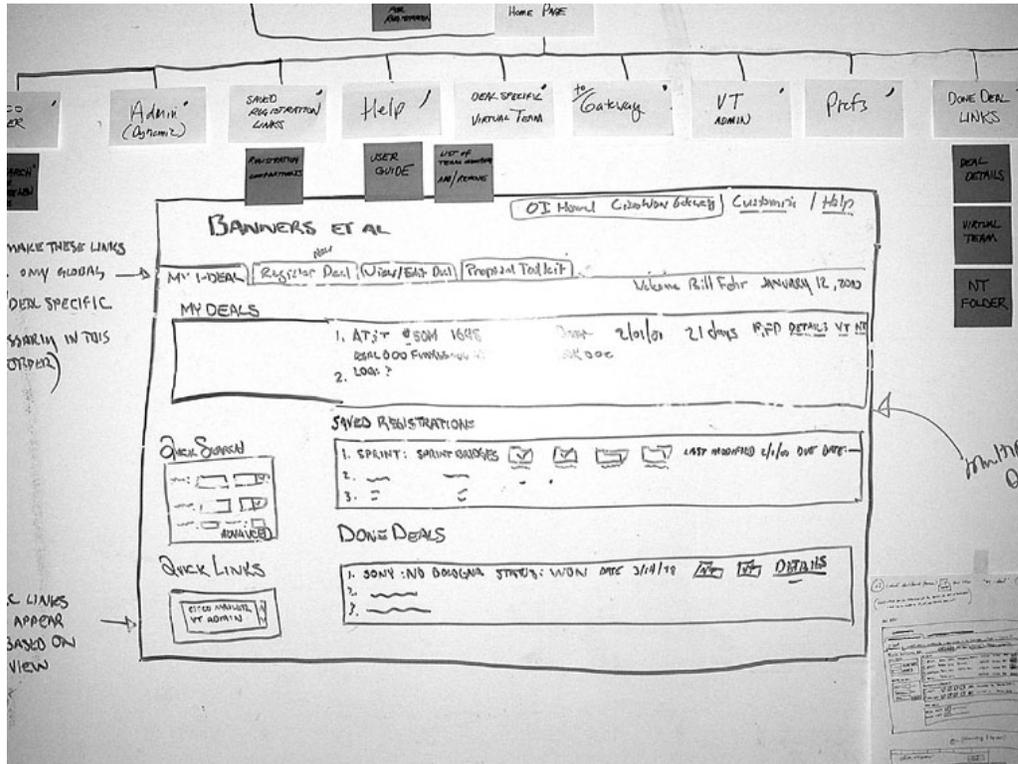
Each potential feature was then weighted from the user perspective on a five-point scale, then Cisco's OI and IT group members weighted their feature ratings in terms of ease of implementation and the return on investment.

Pictured: features matrix

	A	B	C	D	E	F	G	H
	Features by Functional Area	Phase I Potential Feature	User Type	User Value		Ease Of Implement		
1	Registration							
2	On-line Registration	Ability to indicate unified messaging response on registering	Field	1		3		per IT - very complex
3	Proposal help Requests at Registration	Ability to request quick response from DC (call today, weblines, IM, etc)	Field	1		1		ADD BUTTON/BOX? PART OF REG?
4	On-line Registration	Delegated via email via forwarding	Field	1		3		per IT - very complex
5	On-line Registration	Flexible entry/fields - modular reg. Form (5min - Xmin registration option)	Field	1		2		
6	Registration Results/Responses	Intelligent: push of relevant toolkit documents	Field	1		1		
7	Registration Entry Modes	Phone in registration to call center enterer	Field	1		1		FOR REAL?! REV 1?
8	Registration Results/Responses	Push link to send document folder shortcut to desktop	Field	1		1		
9	Registration Results/Responses	Response with contact info for immediate person to person contact	Field	1		2		
10	On-line Registration	Roll over explanation for standard/non standard FGs	Field	1		1		
11	On-line Registration	Troubleshooting questions	Field	1		1		
12	Registration Results/Responses	Save registration in process with return capability	Field	1		3		
13	Registration Results/Responses	Ability to indicate unified messaging response on tool	FG	1		1		
14	Registration Results/Responses	Ability to request quick response from OI	FG	1		1		ADD BUTTON/BOX? PART OF REG?
15	Registration Results/Responses	Delegated via email via forwarding	FG	1		3		
16	Registration Results/Responses	Push link to send document folder shortcut to desktop	FG	1		1		
17	Registration Entry Modes	Offline Registration Tool	Field	2		4		
18	Registration Results/Responses	Push link to notify virtual team of changes, etc	Field	2		3		per IT - UM. IT will get education on UM
19	On-line Registration	Revisional opportunity entry (IE, Proposal rev 1, near Win Proposal rev 2, after WIN Proposal rev 3, etc)	Field	2		3		per IT - complex bus rules, long development
20	Registration Results/Responses	Push link to notify virtual team of changes, etc	FG	2		3		
21	Registration Results/Responses	Revisional opportunity entry (IE, Proposal rev 1, near Win Proposal rev 2, after WIN Proposal rev 3, etc)	FG	2		3		
22	On-line Registration	Ability to duplicate users' past registrations, rename, modify fields and submit	Field	3		2		
23	On-line Registration	Ability to modify/update unified messaging information	Field	4		3		

"We ended up skimming the top-rated 'must-have' features — the ones and twos in our five-point scale. We tossed the fours and fives out for future implementation, or deleted them from the list altogether. Then we worked together and decided whether or not to implement the threes," says Michael.

Pictured: prototype, first sketched on a whiteboard, then as a "wire-frame"



Having decided on the features that the revision must include, tristream moved into the Design phase. The team produced a series of site prototypes, starting with wire-frame sketches and moving to more detailed Photoshop layouts, and sometimes an HTML file prototype. The wireframe sketches showed all the main sections and their navigation, and were tested for completeness by running various core user and core task scenarios such as: "I am a networking engineer assigned to a registered deal"

supporting sales in the field. I need to find the RFP for this project and also find any networking specifications that have been done for similar projects.”

Although these “wireframes,” or structural designs, can be produced electronically, tristream has found through experience that it’s often more effective to use a whiteboard or paper sketch at this stage.

“The idea of the wire-frames is just to get people to understand the basic navigation paradigm and agree to the features and functionality,” says Michael. “However, we’ve found that no matter how many times you tell them, if it’s presented as a Web page the client will insist on seeing it as a visual design. For example, we used a vector tool to do a sketch to show the hierarchy of information, and one of the team members at Cisco started propagating it around as an actual design.”

The final stage was to produce a series of design mockups in Photoshop; once approved, they could be used to export graphics for the final HTML prototypes. Cisco had appointed two project managers: one from the IT side and one from the business side. Each day, tristream presented on its project extranet a series of Photoshop screens representing core screens that the Cisco IT department would need to build out the intranet. The Cisco project managers then took them to a few stakeholders for approval and revision. A couple of meetings were also held at tristream to speed up the process.

The mockups went through five or six revisions until the basic navigation shell and basic table and header styles were agreed on. Once those elements were in place, the final designs generally took only another two or three revisions at most. “The more we detailed, discussed, and jointly understood the screen sketches before moving to visual design, the quicker that process would go,” Michael points out.

USABILITY

The tristream team originally wanted to carry out user interviews at two points: at the information design stage and graphic design stage. In the end, tristream and Cisco agreed on a three-week, fast-track usability project to establish initial requirements.

“For everything you read about usability, in reality the biggest challenge is convincing the stakeholders involved in the project to provide time and money in the proposal to do it,” says Michael. “And generally, the issue is the business rules: Unless you’re sitting in the room with the CEO and he’s tasked you with redoing the entire intranet, you have to balance your ideal usability goals for the site with the ‘Don’t touch the existing business rules’ factor.”

The tristream staff interviewed 23 core users about their work processes and requirements for the site. They carried out some interviews on the telephone. They did others during on-site visits while sitting with users and observing their daily work habits or watching them use the existing intranet tool. Interviewees included a complete range of user types — account managers, sales managers, sales engineers, offer managers, field marketing managers, people from functional groups, and so on — as well as staff representing users from many different countries.

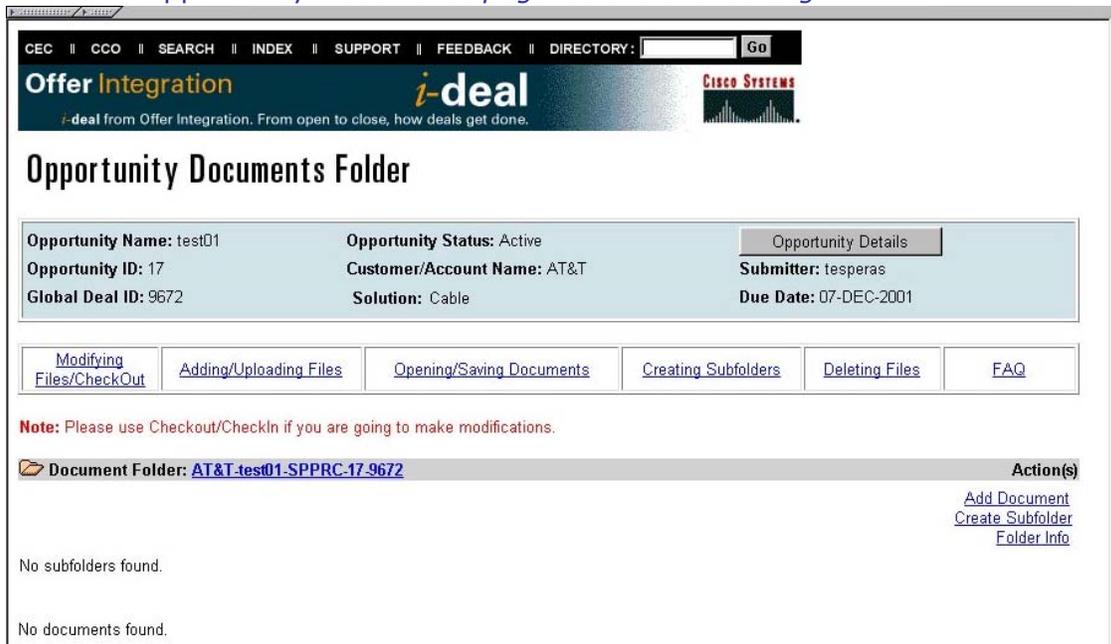
Before carrying out the interviews, tristream worked with Cisco to develop a set of questions specific to each user type. These covered their work and their role, asked

them to describe wins and frustrations, and asked them to walk through the processes involved in setting up a deal, such as getting approval from the functional groups.

“We didn’t just interview them about their use of the current intranet. We knew a lot of them simply weren’t using it, so we wanted to know about their workarounds,” says Jeffrey Philpott, Experience Designer in the tristream Experience Design Group. “We mainly focused on how they actually did their job, so that we could find out how to design something that worked better than using their cell phone or email, or asking the guy in the next cubicle.”

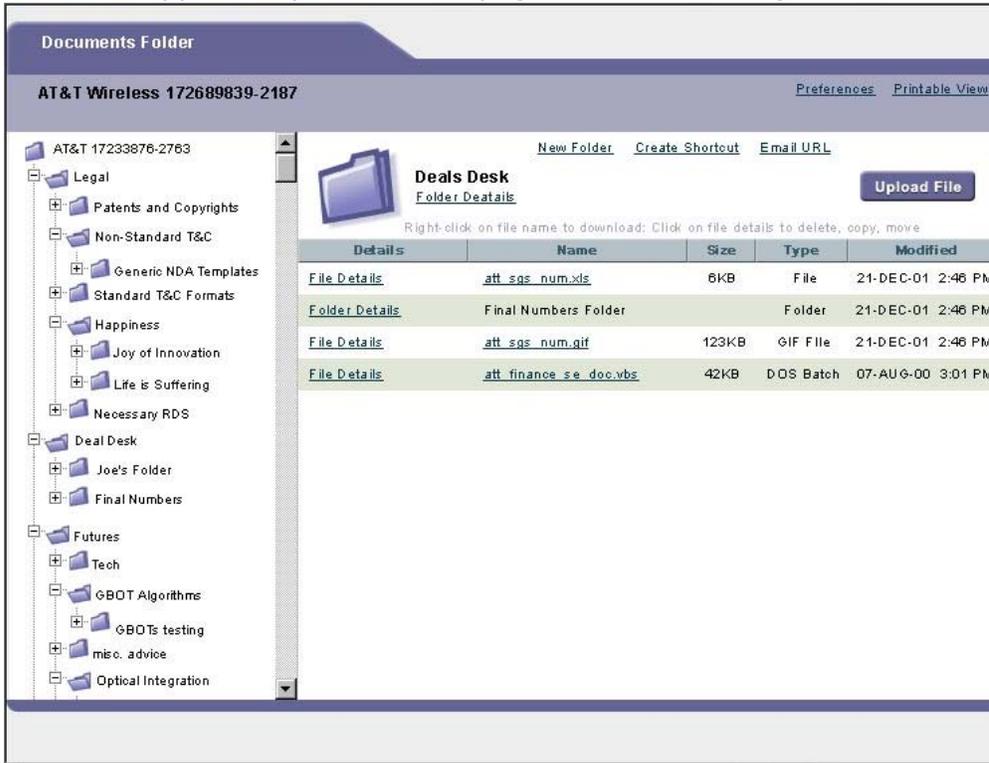
Before and after screenshots show the impact of usability research on the finished design. For example, users complained that the old *Opportunity Documents* page was confusing and difficult to use because it failed to show the available resources visually.

Pictured: Opportunity Documents page before the redesign

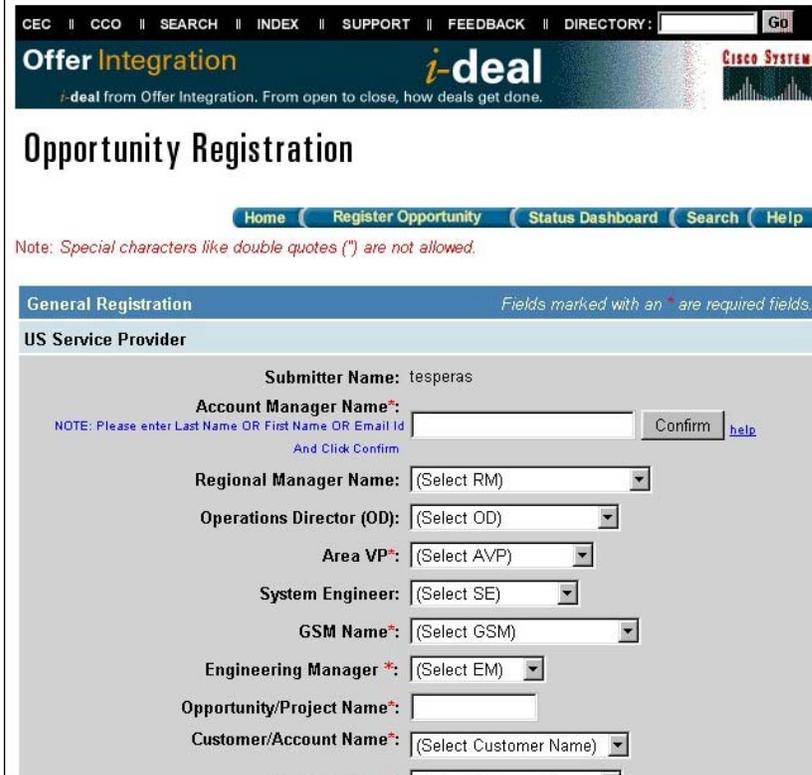


The new version makes use of the well-understood Windows Explorer paradigm with a navigation tree for the folder on the left and details on the right, plus clickable tables to re-order the view. A one-click button is available for the user’s main activity: uploading files to the folder.

Pictured: Opportunity Documents page after the redesign



Pictured: Register Deal page before redesign



The old *Register Deal* page contained a massive form that required excessive scrolling and had required fields that demanded information users might not yet have. The form also confused two activities: registering a deal and providing information to functional groups.

Pictured: Register Deal page after redesign

The screenshot shows the 'Register New Deal' form in the i-deal system. The form is organized into three main sections: General Information, Technology Focus, and Business Focus. The General Information section includes fields for Account Manager Name, System Engineer (a dropdown menu), Project Name, Customer / Account Name (a dropdown menu), and Territory / Country (a dropdown menu). Below these are radio buttons for Opportunity Type (RFP, RFI, Unsolicited) and Opportunity Advanced Notification? (Yes). The Technology Focus section includes a dropdown menu for Market Segment, and three text input fields for Service, Technology, and Competition. The Business Focus section contains several yes/no/unknown questions: Is this a CAP Account?, Would your customer like to explore financing with Cisco Capital?, Future technology (not shipping today) required?, Partner products and/or services required?, Is PRIMING required for Cisco to win? (not recommended), Any non-standard manufacturing requirements? (i.e. unique labeling, staging, configuration/testing), and Are non-standard pricing/terms and... The form is clean and uncluttered, with clear subheads and a logical flow of information.

In the new version, the task Cisco wants all users to complete is quick and easy. The form has been reduced to 18 fields, few of them obligatory and many allowing for free text entry. Color and subheads help users group information, and the uncluttered layout reinforces the idea that this is a straightforward process. *Register New Deal* is available as a main navigation item throughout the program, reinforcing the fact that this is the tool's main point and giving users easy access to it. The word

“Opportunity” has been replaced with “Deal,” which is the word employees actually use.

As tristream discovered, the basic problem with the toolkit was that users had two very different ways to find content, each with its own links, and with conflicting titles: *Generate Proposal* and *Content Roadmap*. “We found that users thought *Generate Proposal* was a proposal creation tool, and that *Roadmap* was a plan for where development of content was going,” explains Michael. “But users basically thought of it all as just finding content.”

The tristream team’s solution was to rename the commands and put them both on one page, titled *Proposal Content*. The page includes two modules: *Content Finder* and *Content Index*. *Content Finder* is a hierarchical tool that immediately shows users if content exists for their needs before they even press *Go*. The *Content Index* shows users graphically and immediately what content is available in what category. After choosing their content category in either tool, users are then given the option to have the tool build a proposal for them or simply to download existing documents and repurpose them.

Before the redesign, the intranet homepage made the mistake of mixing the look and feel and navigation for the OI homepage with that of the actual I-deal tool.

With the new design, tristream created a separate look and feel for the homepage, with navigation into the tool using a simple icon format, along with an underlined link and a brief description in the body of the page. It emphasized the value of registering deals, and also added an area of news and headlines that OI could use to market their services, pique user interest, and show their value.

Pictured: the Search Results page before the redesign

CEC || CCO || SEARCH || INDEX || SUPPORT || FEEDBACK || DIRECTORY: Go

Offer Integration **i-deal** CISCO SYSTEMS
i-deal from Offer Integration. From open to close, how deals get done.

Opportunity Search

Home Register Opportunity Status Dashboard Approvals Dashboard Search Help

Opportunity Number	Global Deal ID	Opportunity Status	Opportunity Name	Customer Name	Country	Submitter	Due Date	Platform Names	Operations
17/US/SP/tesperas/12102000	9672	Active	test01	AT&T		tesperas	7-DEC-2001	10000 3640	Access Opportunity Docs Subscribe to Email Alias

Cisco Systems, Inc. Internal Use Only
If you have any questions, issues or enhancement suggestions, please [open a request](#) or call : 408-526-8888 or 800-800-1180 ext. 68888. Select Option 4 , then Option 4.
Last Modified on Oct 22, 2000

Before the redesign, the *Search Results* page presented several usability problems, including a hard to read table heading, no clickable re-sorting facilities, confusing instructions, and inconsistent navigation features.

In the new version, *Search* and *Results* come in the same pop-up window so users don't lose their place in the tool. Instructions have been improved, along with navigation features such as a one-tab switch between *Results* and *Search*, one-click entry into multiple tools for a deal, and a *Go* button to remind users they can go straight to details of the deal.

Pictured: the Search Results page after the redesign

Global ID#	Project Name	Customer	Due Date	Country	Submitter	Deal Tools
1234	Go ISDN Network for IP...	AT&T	10-DEC-2001	USA	bfehr	PLAN DOC M
1642	Go 300K PPBS	TELN	10-DEC-2001	USA	bfehr	PLAN DOC M
9075	Go CLEC Optical Core	CLAR	10-DEC-2001	USA	bfehr	PLAN DOC M
1234	Go ISDN Network for IP...	AT&T	10-DEC-2001	USA	bfehr	PLAN DOC M
1642	Go 300K PPBS	TELN	10-DEC-2001	USA	bfehr	PLAN DOC M
9075	Go CLEC Optical Core	CLAR	10-DEC-2001	USA	bfehr	PLAN DOC M
1234	Go ISDN Network for IP...	AT&T	10-DEC-2001	USA	bfehr	PLAN DOC M
1642	Go 300K PPBS	TELN	10-DEC-2001	USA	bfehr	PLAN DOC M
9075	Go CLEC Optical Core	CLAR	10-DEC-2001	USA	bfehr	PLAN DOC M
1234	Go ISDN Network for IP...	AT&T	10-DEC-2001	USA	bfehr	PLAN DOC M
1642	Go 300K PPBS	TELN	10-DEC-2001	USA	bfehr	PLAN DOC M
9075	Go CLEC Optical Core	CLAR	10-DEC-2001	USA	bfehr	PLAN DOC M

46 Deals Found Result Page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [Next](#)

[Cancel](#) [Search Again](#)

LANGUAGE ISSUES

Through their usability work, the tristream team discovered that some of the old version's use of language was making it hard to understand how the tool worked. Part of their work with the stakeholders during the Discover and, especially, the Design phases involved convincing them to modify some of the site's terms.

For example, Cisco encouraged use of the word "opportunity" for both potential deals and those in progress. The tristream team suggested simply using "deal," since it was the natural language that employees used themselves, as well as being shorter and taking up less navigation space. Cisco was reluctant to abandon the "opportunity" term completely, but they reached a compromise and let the team use "deal" for navigation links.

The old version also used different language for different user segments doing similar tasks, complicating training and tool use. For example, the link to modify details on a deal in the approval process was *Approvals Dashboard* for functional groups and

Modify Opportunity for sales groups. The new version is labeled *View/Modify Deal* for everyone.

Also, the previous link language confused users by conjuring up the wrong mental model. For example, the index for locating and viewing proposal content was previously called *Solutions Roadmap*. To users, this sounded like a business plan or projection rather than a document index. In the new version, it was renamed *Content Index*.

RESULTS

The new version of I-deal views the OI process as four separate activities: registering a deal, viewing a deal's status, modifying information about a deal in progress, and using a toolkit to build a proposal.

Pictured: proposal-building toolkit

The screenshot shows the 'i-deal' proposal-building toolkit interface. At the top, there is a navigation bar with 'Offer Integration' and 'i-deal AMERICAS INTL' logos. A search bar is located at the top right. The main content area is divided into several sections:

- Content Finder:** A section with five steps for selecting content:
 - Step 1: Select Theater: All Theaters
 - Step 2: Select Language: Any Language
 - Step 3: Select Market Segment: CLEC/Metro
 - Step 4: Select Service:
 - Step 5: Select Technologies:
- Content Index:** A section with tabs for 'Current Content' and 'Upcoming'. It is divided into three categories:
 - CLEC/Metro:** Complete Proposals (Data Communications Network, CLEC Optical Core, Managed MPLS VPNs, IP Sec VPNs with VPN3000, Integrated Access: GR 303 Gateway, Integrated Access: MultiService Access..., Fixed Wireless: CLEC 3.5 GHz WLL) and Partial Proposals (Internet Data Center, Content Networking, CLEC Basic DSL, VoATM, Tandem Switching, Core ATM, Core IP + ATM, Unified Communications).
 - IX C/AC:** Complete Proposals (Data Communications Networks, Managed MPLS VPNs, IP Sec VPNs with VPN3000, Integrated Access: GR303 Gateway, Integrated Access: MultiService Access Platform) and Partial Proposals (Config Express).
 - ISP/Greenfield:** Complete Proposals (AS5800, RPMS, SC2200, Access Register, IP Sec VPNs with VPN3000, NSP Optical Edge) and Partial Proposals (Fixed Wireless).
- Right-hand Sidebar:** Contains links for 'Proposals' (Business & Legal Docs, Cisco Program Docs), 'Proposals Tools' (Content Notification, Plug-In, Gap Analysis Tool, FAQ, Best Practices Library, RFP Search Engine, Partner Locator Tool, Useful Links), and 'Field Programs' (Technical Writing &...). It also includes a 'Register New Deal' button and a note: 'If you came to this toolkit searching for Content, make sure you have registered your deal first.'

The tristream team's involvement ended when it handed the finished HTML intranet prototypes and all associated Photoshop comps and image files over to the Cisco IT team to implement the dynamically generated site. Therefore, it's been difficult for tristream to measure the I-Deal tool's subsequent success. However, Michael believes that there were significant gains simply from bringing people together to work on the project.

"One of highest values we brought to Cisco was in bringing together the OI and IT groups, which had previously had a more distant working relationship," says Jeffrey. "Because of our process of holding multidisciplinary sessions, we essentially created what they didn't have before, which was a very interactive, fun working relationship

between the two groups. A lot of the wins we achieve are in converting people to user research, and those are major wins indeed.”

LESSONS LEARNED

IT'S A LEARNING PROCESS

“Of course you want to build a great solution,” says Michael. “But there are other victories too, such as building relationships within the clients’ teams, and helping them to work more interactively together.”

DON'T BE DOGMATIC

“It’s important to work the way the client works, and not force your process on them,” says Jeffrey. “You need to look at how they operate — Are they more visual or rational? What’s the political environment? — You want everyone to be a winner.”

USABILITY IS FUN

“In the beginning, there was a lot of tension at Cisco about the project. We wanted to bring in a certain lightness, because we believe that people can only be creative in that type of environment” Jeffrey adds.

Fidelity Investments Canada

Fidelity Investments Canada, part of the Fidelity Investments group, is Canada's fourth largest mutual fund company. With headquarters in Toronto, the company has 950 employees in regional offices in Halifax, Montreal, Ottawa, Winnipeg, Calgary, Vancouver and a distribution facility in Markham, Ontario.

DESIGN TEAM:

In-house
(Employees at Fidelity Investments Canada)

Pictured: homepage

home | fidelity.ca | fgpc | fnw | who's who | search inSite | feedback | site map

WORKING WITH THE BEST MINDS, LOOKING FOR THE BEST OPPORTUNITIES.

HELP DESK | FIDELITY@CANADA | FRONTLINE | LEARNING | PEOPLE & CULTURE | DEPARTMENTS | TECH & DEV

Good Morning Ingrid!
Monday, March 5, 2001

SEARCH inSite

Advanced Search

MY LINKS

- Phone List (doc)
- Career Opportunities
- Daily NAVs
- FICL Funds
- Fund Performance (pdf)
- Positions Library
- Reports
- HotStats
- Client Events
- Forms
- Acct Inquiry/WebRSYP
- Xcelerate
- Online Paging
- NetBenefits
- myLearning

[CUSTOMIZE MY LINKS]

The Fidelity Institute Launches Online Continuing Education for Investment Professionals

Since 1997, The Fidelity Institute has been offering Investment Professionals relevant, ongoing educational and business-building solutions to help them remain competitive in the industry. Now, we are pleased to offer them valuable continuing education courses through interactive web-based instruction. In partnership with CE network, an emerging leader in accredited online continuing education, Fidelity **Online Continuing Education** offers Investment Professionals a full curriculum of interactive one-hour courses on topical investment and financial planning issues.

Investment Professionals now have the flexibility to earn mandatory CE credits where and when it is most convenient for them. All courses are accredited by major industry associations. Investment Professionals who sign up for Online Continuing Education will also benefit from a number of business-building tools available exclusively from Fidelity. For a limited time only, The Fidelity Institute will pay the \$40 CE network course fee as part of its special introductory offer.

- www.fidelity.ca
- [Marketing Guides and Brochures](#)

MORE IN SITE FEATURES:

EAC Help the homeless and have a chance of winning a very special evening (March 12th) with the Toronto Maple Leafs! More info at the link below.

- [People and Culture](#)

BREAKFAST CLUB Please join us at our next **Breakfast Club** on Thursday, March 22, 2001 featuring **Mike Wallis, Director of Sales and Distribution Services.**

- [Fidelity@Canada](#)
- [Breakfast Club RSVP](#)

NEW ISSUE! The latest issue of the **Fidelity Exchange** paper version is now available in the green newspaper boxes. Watch for the FICL article: **Front-end Imaging Work Flow** by

MARKET UPDATE:

Net Sales (000's)	2,756	CDN\$
05/03/2001 08:19	-3	US\$

Index	Last	Change
TSE 300	8006.85	- Closed
Dow Jones	10466.31	- Unch
S&P 500	1234.18	- Closed
NASDAQ	2117.63	- Unch
FTSE 100	5895.70	↑ 37.10
Hang Seng	14135.26	↑ 168.83
Nikkei	12322.16	↑ 60.36

Quotes are delayed at least 20 minutes.

FIDELITY NEWS:

- [National Post: AGF Surge Bucks Trend \(Mar 2, 2001\)](#)
- [Fidelity Investments Moves International Funds to February Year-End \(Feb 27, 2001\)](#)
- [InvestorCanada.com Speaks with Bill Eizen \(Feb 27, 2001\)](#)
- [Investment Executive Article: Big Fund Companies Have Big Sites \(Feb 15, 2000\)](#)
- [Bellcharts Quartile Rankings \(Jan 31, 2001\)](#)
- [Morningstar Quartile Ratings \(Jan 31, 2001\)](#)
- [PalTrak Quartile Rankings \(Jan 31, 2001\)](#)

EMPLOYEE CORNER:

- [Processing Department \(TAOC\) Celebrates significantly Improved Accuracy Rates](#)
- [809 Area Code Alert](#)
- [Welcome & Congratulations](#)

DOW JONES NEWS FEED:

- [Best and Worst Fund Families Canadian mutual funds are a mixed bag, ROB CARRICK writes, The... \(Mar 5, 2001\)](#)
- [Amvescap looks to score where funds have yet to thrive \(Mar 5, 2001\)](#)
- [C.I. Fund Management Inc - CI Mutual Funds February sales increase 30% \(Mar 5, 2001\)](#)
- [CI Funds reports net sales for February \(Mar 5, 2001\)](#)
- [Investors Group Inc - Mackenzie recommends directors accept Investors' offer \(Mar 5, 2001\)](#)

MORE NEWS >>>

“ The man who does not read good books has no advantage over the

SUMMARY

One great challenge this intranet's designers faced was providing an appropriate interface for the different user groups and varied tasks the site needs to support. This site is used by many people, and some of these people, like the frontline call-center staff, live in this intranet, using it as a knowledge base to help answer customers' questions. Others use it less frequently, for things like looking up generic corporate information. Designing for these two very different groups, with different needs, goals, and deadlines, is very difficult. But, these designers did a nice job presenting all items in a way that is easy to understand.

Another challenge the design team faced was migrating the data from the old site into a database to drive the new content delivery system. They approached the problem by designing a new information architecture, while simultaneously collecting user feedback. We would typically recommend usability evaluations and heuristic reviews at this stage instead of the focus groups they employed, but the card-sorting methods they used proved invaluable in naming and categorizing commands.

The designers acknowledged that eye-catching design is important in getting people to visit the site for the first time. But they also realized that interesting, necessary, and fresh content are the most important attributes. Thus, the most ingenious design consideration was to encourage users to post their own information on the site and make it easy for them to do so. So, unlike some intranets, this one is not a morgue for old human resource forms and documents. Instead, it's a living testament to the happenings and inner-workings of Fidelity Investments Canada.

As for the usability, the site is simple to navigate, with expected controls on the top and left side. Links are clearly marked. Text is legible, albeit a little small. There is a little too much text on pages, but it is still manageable. Colors are not distracting, and there is adequate contrast between the backgrounds and the text. *Search* is visible and very simply presented.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2	2.5	2.5	3	3	1.5	2	1.5

INTRANET

Every day, the inSite intranet provides corporate information to about 1,000 employees and acts as a knowledge base to help call-center staff answer customer questions. Typical tasks might include looking up corporate information and industry news; filling in online forms to claim dental or medical benefits; and recording human resources information, such as a change of address or marital status.

BACKGROUND

In 1999, Fidelity faced a problem familiar to many large organizations: It had an existing intranet site (launched in 1997) that provided a central repository for

company information, but usage was low and users complained that it was hard to find what they were looking for.

“The site was very departmentally focused,” says Jacquie Morin. “This meant that if, say, a call-center operator was looking for product information related to a particular fund, it might be scattered around various areas of the site, and people wouldn’t necessarily know where to find it.”

The site lacked user appeal; the front page contained only links, with little to entice people in. Employees were free to publish information on the site using the Web tools of their choice, with patchy, inconsistent results. Furthermore, because there were no consistent page descriptions for the content, the search engine had little metadata to work on, making searching a waste of time.

Backed by senior management, the corporate communications department in charge of the site decided it was time for a redesign that would turn the site into a genuine online community and make employees want to use it.

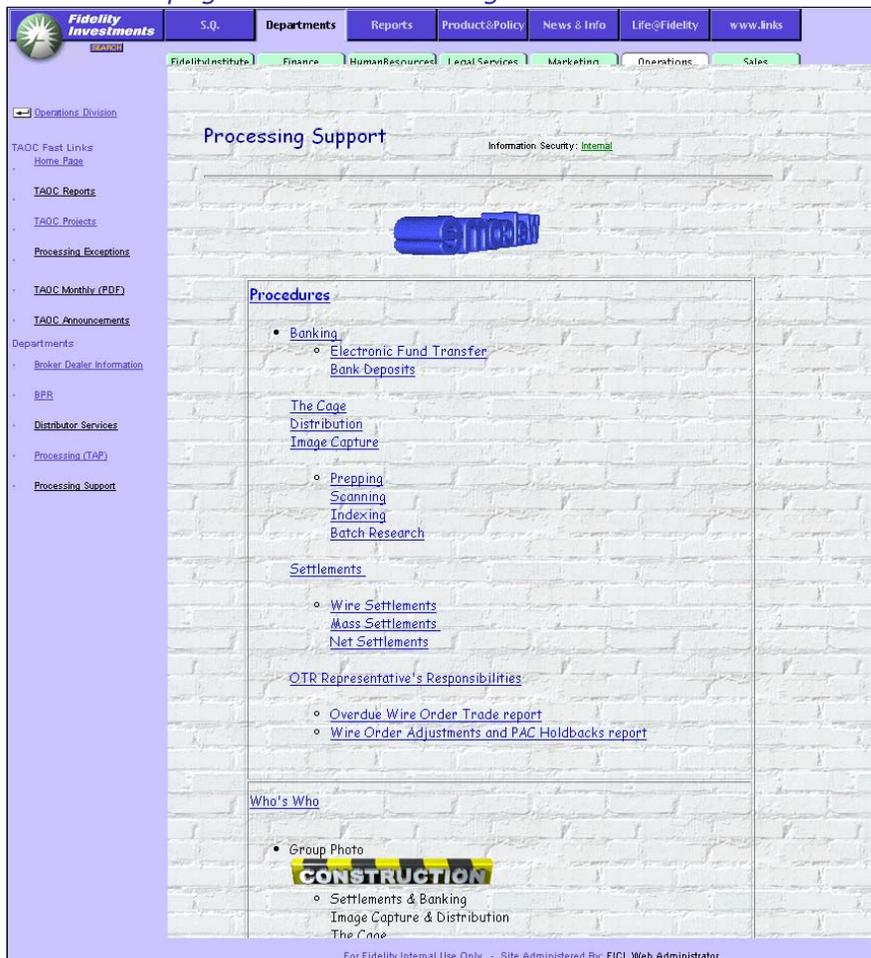
GOALS AND CONSTRAINTS

Fidelity decided that the existing intranet represented a lost opportunity. Designers wanted to promote the site as a one-stop shop for company information and use it to help create a greater sense of community within the company, starting with the homepage — which at the time consisted of an uninspiring series of links.

Pictured: the homepage before the redesign



Pictured: a page before the redesign



One of the main goals for the new site was to reinvent the homepage to make it a compelling experience for users and draw people into the site.

Another goal was to encourage more employees to use the Web regularly, to better position the company to exploit new business technologies. "From a technology leadership point of view, we wanted to make it easy for people to communicate online," explains Jacquie.

Since Fidelity's call-center staff use inSite as an information source when dealing with the public, it was particularly important from a business viewpoint to ensure that the product, policy, and procedure information was accurate, up to date, and easy to find. Fidelity aimed to achieve this goal by introducing a CMS that would make it easy to keep material updated.

"Our philosophy is to have a site that's centrally managed, but with decentralized content," Jacquie says. "We wanted to take out the need for employees to worry about designing pages and make this into a business tool."

There were few constraints on the actual design, though the steering group was keen to incorporate Fidelity's corporate colors — green and gold — to identify the site

more closely with the company. The site also had to work in an early version of Netscape (4.5) and on a wide range of different PCs and monitors.

PROCESS

The project got underway in June 1999, co-sponsored by the IS and corporate communications departments, with the company president as executive champion. Most of the development work was carried out by a team of seven, with skills in project management, business analysis, information architecture, web user interface design, business operations, and systems development and architecture.

Because the IS team had to plan data migration from the old site into a database to drive the new content delivery system, the first step was to develop a new information architecture. "We spent a lot of time on information design first, looking at the content on the old site and seeing how it would port over to the new version, then slowly worked up to the design from there," recalls Ingrid van der Zande.

In July, the team held a focus group with 60 employees drawn from throughout the company. Part of this was a card-sort exercise, a technique borrowed from Fidelity's human interface design group, which develops interfaces for the company's online systems. Designers put all of the old intranet's subject areas on index cards, and asked participants to sort them into logical groups, and classify and label each group.

The card sort was followed, in September through December, by a formal audit of all the site information. "We went through an exercise to determine who owned each piece of content, who the target audience was, and how often it had to be updated," Ingrid says. "Then we had each business unit audit the content to determine what was going to move on to the new site."

While those activities continued, the team was also doing user research to get a picture of what people used on the old site and what they wanted to see in the new one. They sent out questionnaires by email and carried out a series of face-to-face interviews with three or four representatives from each of the 40 or so business units.

The information analysis led to the design of the database that would drive both the CMS and the new system's navigation.

It was not until January 2000, when the information design had fallen into place, that the team started work on the visual design. Ingrid produced four or five designs, showing them first to the project team and then to a group of six company executives. The new designs retained some elements of the previous inSite version, with departmental menu tabs across the top and the "fast links," which user feedback had shown were popular, down the left-hand side. To the front page, the designers added a news feature and stock market information; they made the overall design more eye-catching with a strategic use of graphics.

"The idea of the main feature was to attract attention and pull people into the site, and that was also why we started using the main graphic," Ingrid explains.

They relabeled menu tabs to reflect major subject categories, which users had defined in the focus group the previous year. They also simplified tab labeling and reduced the number of tabs from eight to seven.

Pictured: the tab order before the redesign

www.fidelity.ca | fgpc | fidelitynet@work | search inside | feedback | site map

WORKING WITH THE BEST MINDS. LOOKING FOR THE BEST OPPORTUNITIES.

HELP DESK FIDELITY@CANADA DEPARTMENTS THE FRONTLINE LEARNING PEOPLE & CULTURE PROJECT CENTRE WEB APPS

Good Morning Jacquie!
29 February, 2000

SEARCH INSITE
GO

MY LINKS
Career Opportunities
Daily News
Hor State
Welcome & Congratulations
FICL Corporate Positions Library
Online Paging
FICL Phone List
Fidelity Worldwide Who's Who
My Own Personal Link
Another Personal Link

CUSTOMIZE MY LINKS

Here is the featured item of the site!

New Investment Professionals will have 24 hours a day, 7 days a week access to the information they need, whenever they need it, through Fidelity Access: internet and voice-activated telephone account access.
This promotional flyer on Fidelity Access, outlines three key scenarios to illustrate how Investment Professionals can use Fidelity Access to easily get the information they need, by the Internet or by telephone. Fidelity Access is another solution from Fidelity to help Investment Professionals save time and help them build their business.

FIDELITY NEWS:

- ▶ [\\$30 Billion Contest - Predictions for Feb. 29th](#)
- ▶ [Industry Sales For Jan. 2000 \(IFIC Update\)](#)
- ▶ [Corporate Dashboard Report - January 2000](#)
- ▶ [Week in Review - Week Ending February 18, 2000](#)
- ▶ [True North Café Opens Its Doors](#)

MARKET UPDATE:

Hot Stats **Date**
Net 4,460 ↑ 25/02/00

FICL Key Stats **Date**
Assets 29,651,679,814 ↑ 23/02/00

Index	Last	Change
TSE 300	9315.00	↑ +120.14
Dow Jones	10225.73	↓ -79.11
S&P 500	1360.69	↑ +8.52
NASDAQ	4550.33	↑ +168.21
Hang Seng	16376.79	↑ +121.62
Nikkei	19519.55	- Closed

DOW JONES NEWS FEED:

- ▶ [Fund Distributors Face Tougher Oversight](#)
- ▶ [New Fund Products - Guaranteed portfolio cuts into returns - Protection seen unlikely to benefit fund investors](#)
- ▶ [Mackenzie chief douses takeover bid rumours](#)
- ▶ [Getting value for your MER: No free ride: Canadian equity fundfees can eat up 45% of your nest egg](#)
- ▶ [RRSP Foreign-content Rules: Eved Broadening of limit could come as soon as February, federal official says](#)
- ▶ [RRSP foreign content calculated on cost, not value - Mutual Fund Q&A](#)
- ▶ [Canada's Corporate Elite 1999](#)

EMPLOYEE CORNER:

- ▶ [Canadian Opera Company Offer for Fidelity Employees](#)
- ▶ [True North Café Opens Its Doors](#)
- ▶ [Third Employee News Article in the list of Links](#)
- ▶ [Fourth Employee News Article in the list of Links on the Home Page](#)
- ▶ [Fifth Employee Corner News Article in the list of Links](#)

QUOTE OF THE DAY:
It is not in the stars to hold our destiny but in ourselves.
- William Shakespeare

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Important Legal Information
Information Security: Internal

Fidelity Investments

Owner: Corporate Communications
Last updated: Feb 29 2000

They introduced the green left-hand navigation bar early on to provide structure for the page and reduce the amount of white space. "We felt the all-white design had too many small sections and nothing holding the areas together," Ingrid says.

Pictured: the site's navigation, before the green navigation bar was added

inSite
FIDELITY CANADA'S INTRANET
www.fidelity.ca | fgp | fidelitynet@work | search insite | site map

HELP DESK | DEPARTMENTS | FIDELITY@CANADA | THE FRONTLINE | LEARNING | PEOPLE & CULTURE | WEB APPS | PROJECT CENTRE

SEARCH INSITE:
[input] GO

FAST LINKS:
 >> Career Opportunities
 >> Welcome & Congratulations
 >> Daily Navs
 >> Hot Stots
 >> FICL Corporate Positions Library
 >> Online Paging
 >> FICL Phone List
 >> Fidelity Worldwide Who's Who

MY LINKS:
 > My link to my favourite page
 > My link to my second chosen Page in the list
 > My link to a page
 > My link to my chosen page

MARKET UPDATE:
 9:54 AM ET, 2/8/2000
 Dow Jones Industrial Average
 11,000
 10,975
 10,950
 10,925
 DJIA 11,012.20 +106.41
 NASDAQ 4,400.73 +78.96
 S&P 500 1,440.33 +17.33

FEATURE ITEM:
 Here is a **Featured Item of the Site!**
 Short intro or description of the content – provides a link to the story and related items

FIDELITY NEWS:
 > First Fidelity News Article in the list of Links
 > Second Fidelity News Article in the list of Links on the Home Page
 > Third Fidelity News Article in the list of Links
 > Fourth Fidelity Home Page News Article in the list of Links on the Home Page
 > Fifth Fidelity News Article in the list of Links

INDUSTRY/MARKET NEWS:
 > First Industry News Article in the list of Links
 > Second Industry News Article in the list of Links on the Home Page
 > Third Industry News Article in the list of Links
 > Fourth Industry Home Page News Article in the list of Links on the Home Page
 > Fifth Industry News Article in the list of Links
 > Sixth Industry Home Article in the list of Links

EMPLOYEE CORNER:
 > First Employee Corner Article in the list of Links
 > Second Employee Corner News Article in the list of Links on the Home Page
 > Third Employee News Article in the list of Links
 > Fourth Employee News Article in the list of Links on the Home Page
 > Fifth Employee Corner News Article in the list of Links
 > Sixth Employee Home Article in the list of Links

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 Important Legal Information
 Information Security: Internal

Owner: Corporate Communications
 Last updated: Sep 30 1999

The human interface group in Boston carried out a heuristic review of the prototype. The design has evolved further since the new version was launched. For example, the *More inSite Features* section has been added in response to user demand. "Initially we thought that the main news story on the homepage would change three times a week," Jacquie says. "But we were getting so many employees demanding space that the front-page slot was soon booked up a month in advance. We created the *More inSite Features* section to accommodate all the new content that people were sending in."

RESULTS

The intranet team collects monthly inSite usage statistics, and early figures indicate that the site's new look is fulfilling the aim of attracting more users. As of March 2001, almost a year after launch in April 2000, usage was up by 155%. A recent survey found that 82% of employees used the intranet as their primary source of information and 83% said it made their jobs easier.

Future plans for inSite include increased personalization and more interactivity.

LESSONS LEARNED

CHOOSE THE RIGHT TEAM

“We used a fairly small team of seven people with a wide range of skill sets,” says Ingrid. “We were fortunate that our technical team worked very closely with the group. In some Web projects, the technical team is very much removed, and you have to hope and pray that the result they come back with is what you were hoping for.”

START WITH THE RIGHT INFORMATION

“It helped that we took huge care with the information design up front, making sure that the content would go into the content management system and come out in a way that was very usable,” notes Ingrid, “and that has paid off in the finished site.”

Interactive Applications Group: Community [apps]

Community [apps] is an ASP service that allows foundations and nonprofit organizations to create a private, password-protected website for their participants. Users pay a monthly subscription fee that includes hosting, access to software, technical support, usage reports, and ongoing consultation about community building.

DESIGN TEAM:
Interactive Applications
Group (iapps)

Pictured: homepage

The screenshot shows the homepage of the 'My Organization' web application. At the top, there is a navigation bar with links for 'Home', 'Calendar', 'News', 'Discussion', 'Library', and 'Directory'. Below this, the user is logged in as 'Eve Smith'. The main content area is divided into several sections:

- My Inbox:** A list of messages including a new member waiting for authorization, meeting invitations for 'Discuss test group criteria' and 'AAM Annual Meeting', and a private discussion invitation.
- Community News:** Two news articles. The first is 'Foundation Center Announces Estimates for 2000 Foundation Spending' (3/29/2001). The second is 'Sim-Foundation: The Real Game in Town' (1/17/2001), which describes a CD-ROM game developed for business leaders.
- community[apps] Updates:** A section with three updates: 'General Service Updates' (3/5/2001), 'Just Added! Private Discussion Tool' (3/5/2001), and 'More Ways to View Library and News Items' (3/5/2001).
- Calendar:** A section titled 'UPCOMING EVENTS' listing three events: 'Training session' (4/3/2001, 9:00 AM), 'Club Meeting' (4/7/2001, 7:00 PM), and another 'Training session' (4/10/2001, 9:00 AM).
- DISCUSSION RECENT TOPICS:** A list of discussion topics, including 'Quia Praedicti Dissepitores' (1) and 'Nullam Habebunt Exceptionem Teneae Seisinae' (1).
- LIBRARY NEW ITEMS:** A list of new items, including 'secure link' (3/29/2001), 'apple' (3/29/2001), and 'link link link' (3/15/2001).
- DIRECTORY NEW MEMBERS:** A list of new members: 'Sara Lepsch' (3/29/2001), 'Robin Sukhadia' (3/29/2001), and 'Sandra Brue' (3/19/2001).

At the bottom, there is a search bar with the text 'Search the Community' and a 'SEARCH' button. Below the search bar is a 'SEARCH HELP' section explaining how to use the search engine. The footer contains navigation links, a copyright notice for 2001 Interactive Applications Group, Inc. (iapps), and the 'community [apps]' logo with the tagline 'collaboration without boundaries'.

SUMMARY

This winner is not exactly an intranet site; the creators' idea is to build an intranet template that collects good design practices, and sell it to customers for less than the cost of a custom solution. Their experience and usability evaluation techniques have indeed led them in the right direction, as this packaged solution includes some well-designed features that organizations often seek out in an intranet solution.

The site covers most essential intranet areas, including news, calendar, directory, and discussion. It also lets the purchaser add minimal customization, such as putting the company logo in the upper-left corner. As for application design, overall they are nice looking and clear-cut.

The discussion area presents the author, main topic, and body of the message in a cohesive way. Text is legible, and delete and edit tools are right at your fingertips. A clearly placed drop-down menu lets users re-sort the messages easily.

The calendar, in particular, is very powerful and feature-rich for an intranet offering. The entry form is somewhat long and complicated, however. Also, presenting it in a tab breaks the tab model, using it in the entry form and dropping the main navigation tabs.

The email entry form is similar to other Web mail applications, so users can transfer their existing knowledge to this design, which is helpful.

Pictured: the email entry form

The screenshot shows a web application interface for sending an email to community members. The page is titled "Send Email to Community Members" and is part of a "MANAGER TOOLBOX". The interface includes a navigation bar at the top with links for Home, Calendar, News, Discussion, Library, and Directory. A sidebar on the left contains various management tools such as "Members & Groups", "Send Email", "Content Categories", "Settings/Options", and "Usage Reports". The main content area features a "To:" field with a list of recipients including "[All Community Managers]", "[All Colloquium Managers]", and individual names like "Astaire, Fred". There are "Add >>" and "<< Remove" buttons. The "From:" field is set to "bot@communityapps.com" with a secondary email "sara@apps.com". The "Subject:" field contains "community[apps]". A "Message:" field is empty, and a "Send Email" button is at the bottom.

The *Search* feature is a simple, open field accompanied by a *Search* button, which is a design we recommend. Unfortunately, it's located at the bottom of the homepage. It does not appear to be available on all pages, and when it is, it moves to different locations. Also, there is a little too much instructional text accompanying the search.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2	1.5	2	1.5	2	2	2	2

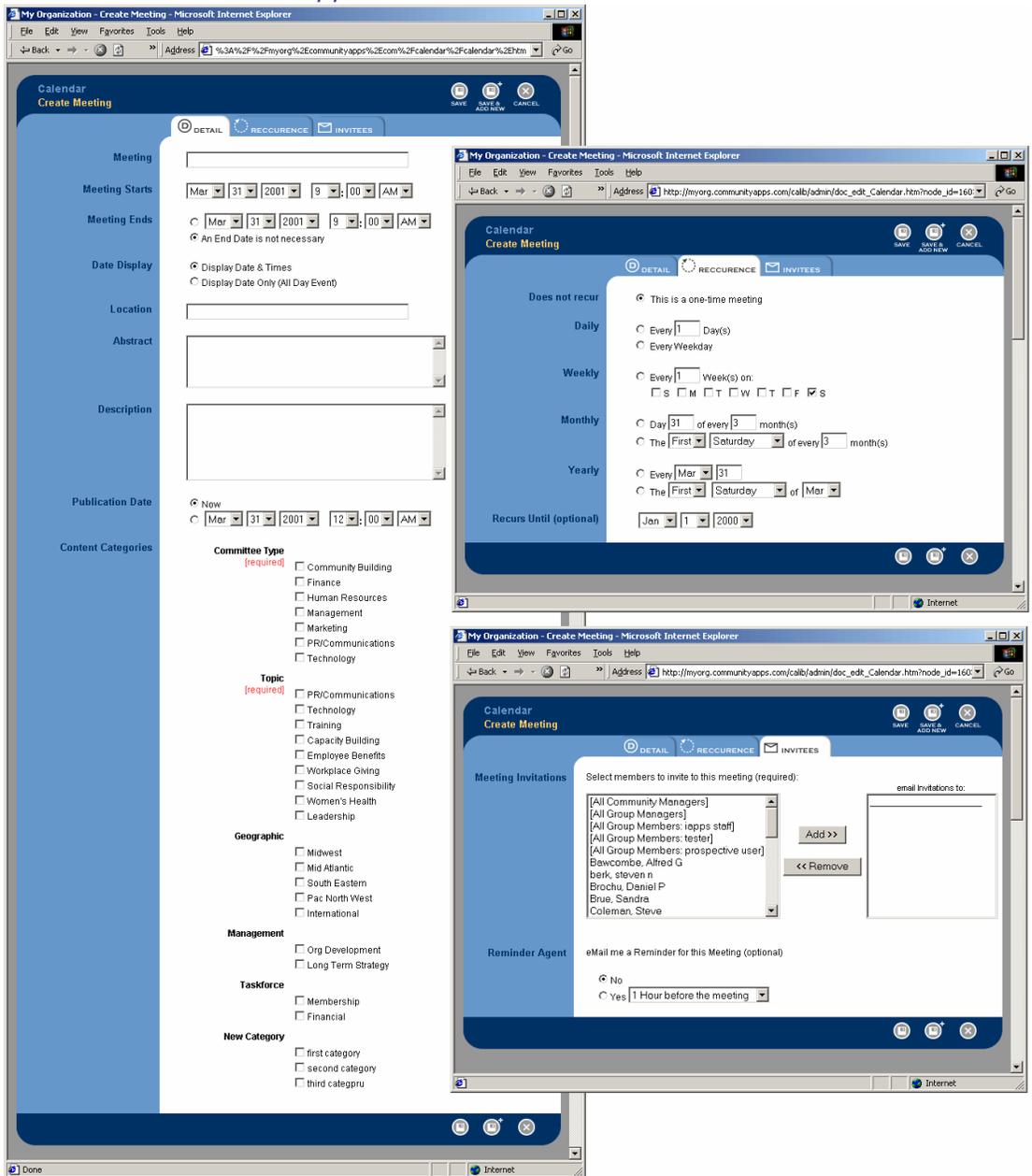
BACKGROUND

Web design company Interactive Applications Group (iapps) has done many intranet and extranet projects for foundations and nonprofit organizations. Through its work, the firm has developed a set of standard requirements and best practices for intranet development for the foundation and nonprofit community. In early 2000, iapps embarked on a development project to leverage its experience and library of technology solutions, designing a packaged ASP service that included all the basic features its target organizations were looking for, at a lower cost than a custom solution.

GOALS AND CONSTRAINTS

iapps knew from experience that nonprofit and foundation customers consistently asked for the same core set of features: a homepage, news section, calendar, discussion section, library, and a contact directory. That feature set would form the heart of the product.

Pictured: the calendar application



Most nonprofit organizations operate on a tight budget, so it was important that service customers be able to maintain their own content easily. "The nonprofit community is traditionally not very Web savvy," says Alf Gracombe, vice president of research and development at iapps. "They demand a straightforward and intuitive approach to content management."

At the same time, they must be able to personalize the site with their organization's identity. Striking a balance between personalization and the discipline needed for easy maintenance was one of the iapps team's major constraints.

“It needed to be configurable, but not necessarily customizable,” explains Alf. “The challenge was to develop and deploy one type of design and code base that would work for many different types of applications.”

The team had no particular deadline to meet in bringing out the service. The project was self-funded, which meant limited resources. Just three developers and two designers worked the project. “It would have helped to have one more of each, and we would probably have been able to bring the application to market faster,” says Alf. “But I think the pace we went at did enable us to address design issues more gradually and thoroughly.”

PROCESS

Their previous work for nonprofit organizations had already taken iapps through the requirements-gathering phase, giving the team a pretty clear idea of the application’s main navigation elements and tasks. The next step was to focus on more detailed navigation, likely content use, possible additional tools, and the visual design.

“We pride ourselves on information architecture and design. For us, there’s a real synergy between the two,” says Alf. “When we’re designing, we want our designs to reflect how content and data are stored behind the scenes and reinforce the way content is managed.”

Starting in April 2000, the team produced the design in several iterations over four or five months.

DESIGN

Community [apps] is an ASP service that lets foundations and nonprofit organizations create a private, password-protected website for their participants. Users pay a monthly subscription fee that includes hosting, access to software, technical support, usage reports, and ongoing consultation about community building. Supported tasks include publishing content, uploading files, participating in discussion groups, listing and reviewing calendar events, reading community news, and managing user profiles and access privileges.

“In terms of the general look and feel, it fell into place quite early on,” recalls Sara Lepsch, senior information architect at iapps. One of the early mockups shows the design’s basic shell, with the main navigation across the top of the page already in place, and an area to feature the community name or logo. The Community [apps] branding is built discreetly into the design so as not to interfere with the community’s focus.



Welcome [username]!

Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter iniustum initium feodum neque liberum tenementum. Sed re vera licet talis iniuste possidens nullam haberet actionem contra veros dominos, habebit tamen querelam et remedium per assisam contra tales qui ius non habent propter commodum possessoris, et ipsi.

Featured Member/Content



Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter iniustum initium feodum neque liberum tenementum. Sed re vera

licet talis iniuste possidens nullam haberet actionem contra veros dominos, habebit tamen querelam et remedium per assisam contra tales qui ius non habent propter commodum possessoris, et ipsi contra tales nullam habebunt exceptionem tenerae seisinæ vel liberi tenementi. Propter commodum possessoris dico quia si tales qui ius non habent extra seisinam peterent, numquam recuperarent versus possidentem quamvis iniuste, cum actionem competentem non haberent, et ita remaneret suo loco possessio. E

Upcoming Events

Date, Time

Propter commodum possessoris dico quia si tales qui ius non habent extra seisinam peterent, numquam

Date, Time

Propter commodum possessoris dico quia si tales qui ius non habent extra seisinam peterent, numquam

The Latest Meyer News

Headline Goes Here

Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter.

Headline Goes Here

Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter.

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Headline Goes Here

Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter.

Headline Goes Here

Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur sufficientem exceptionem, videlicet quoddisseisitus non habuit nisi teneram seisinam, vel quia habere non potuit propter.



In the next version, navigation was placed at both the top and bottom of the design, creating a contained area for the content. The final design (most recent) shows the use of icons to highlight menu functions. "This came about through working with a client who found that icons helped users understand the application better, and the concept has served us well ever since," says Sara.

Another goal was to make the design's width flexible so users could adjust the size to their preference and it would work even on the lowest resolution monitors. The team rejected the first, four-column design as being too cluttered and hard to scale down to 600 pixels.

Pictured: the first, four-column design, which the team rejected

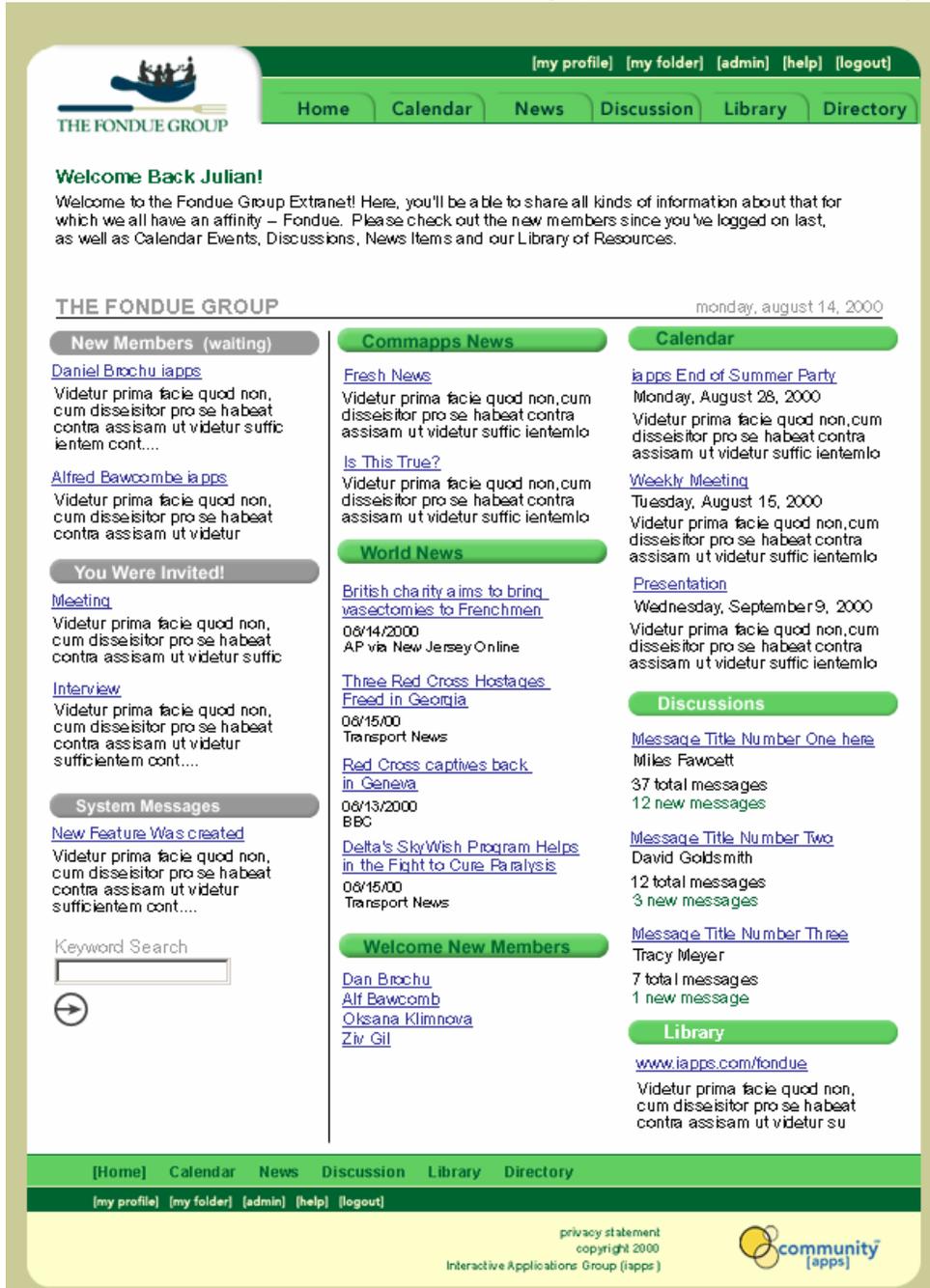
The screenshot shows a web interface for 'THE FONDUE GROUP'. At the top left is a logo with a fork and a bowl of fondue. To the right of the logo is a navigation bar with links: [my profile] [my folder] [admin] [help] [logout]. Below this is a secondary navigation bar with buttons for Home, Calendar, News, Discussion, Library, and Directory. The main content area is divided into four columns:

- Column 1 (Left):**
 - monday, august 14, 2000
 - New Members**
 - [Daniel Brochu iapps](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - [Alfred Bawcoombe iapps](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - You Were Invited!**
 - [Meeting](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - [Interview](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - System Messages**
 - [New Feature Was created](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
- Column 2 (Middle-Left):**
 - News**
 - [Fresh News](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - [Is This True?](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - Calendar**
 - [iapps End of Summer Party](#)
 - Monday, August 28, 2000
 - iapps DC Office
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
 - [Weekly Meeting](#)
 - Tuesday, August 15, 2000
 - Conference Call
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem cont...
- Column 3 (Middle-Right):**
 - New Members**
 - [Dan Brochu](#)
 - [Alf Bawcoomb](#)
 - [Oksana Klimnova](#)
 - [Ziv Gil](#)
 - Discussions**
 - [Message Title](#)
 - Miles Fawcett
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem contkdfu dguiels alsiele
 - [full topic discussion](#)
 - [Message Title](#)
 - David Goldsmith
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem contkdfu dguiels alsiele
 - [full topic discussion](#)
 - Library**
 - [www.iapps.com/fondue](#)
 - Videtur prima facie quod non, cum disseisitor pro se habeat contra assisam ut videtur suffic ientem contkdfu dguiels alsiele
- Column 4 (Right):**
 - News Around the World**
 - [British charity aims to bring vasectomies to Frenchmen](#)
 - 08/14/2000
 - AP via New Jersey Online
 - [Delta's SkyWish Program Helps in the Fight to Cure Paralysis](#)
 - 08/15/00
 - Transport News
 - [Three Red Cross Hostages Freed in Georgia](#)
 - 08/15/00
 - Transport News
 - [Red Cross captives back in Geneva](#)
 - 08/13/2000
 - BBC

At the bottom of the page, there is a footer with navigation links: [Home] Calendar News Discussion Library Directory, [my profile] [my folder] [admin] [help] [logout], and copyright information: privacy statement copyright 2000 Interactive Applications Group (iapps) and the community [apps] logo.

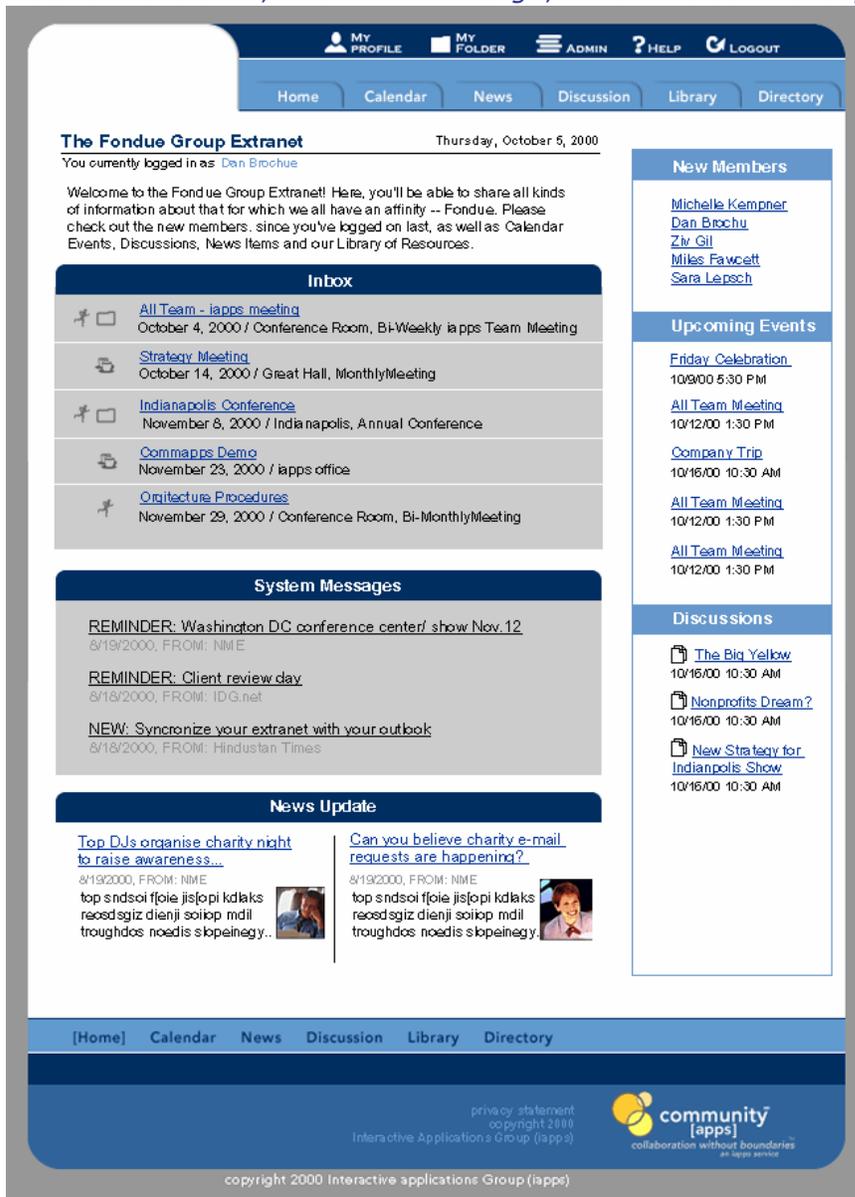
The next design was three columns, and also felt too cluttered and lacking in focus.

Pictured: the second, three-column design, which the team also rejected



“After several discussions around prioritizing the content based on what the user needs to see and where best to place that on the page, we moved into a two-column approach,” says Sara.

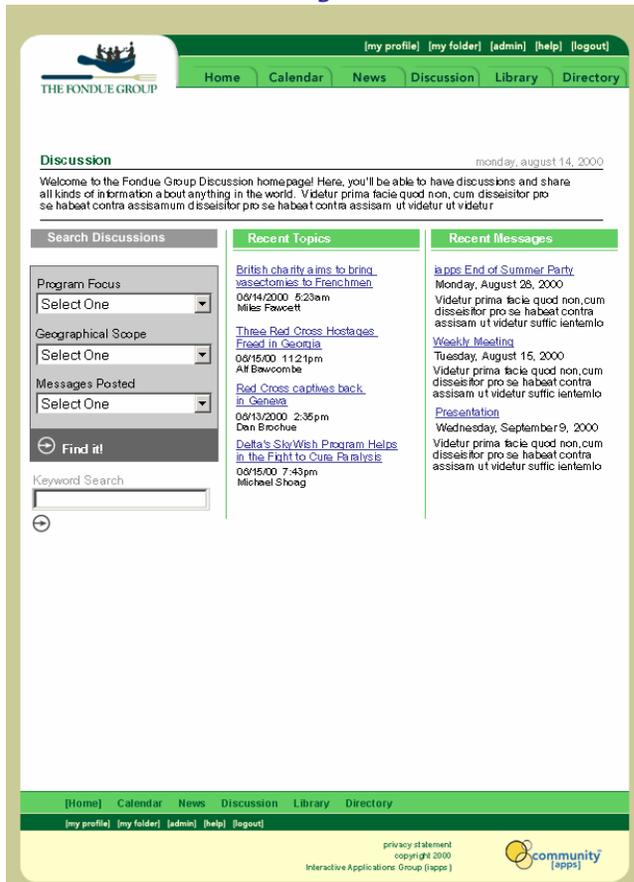
Pictured: the third, two-column design, which the team accepted



The two-column layout provides more room for user-specific messages on the left and highlights new content in the right column. The team continued to refine this two-column approach, focusing on the most important things users need to see when first entering their community site. They also added keyword search and introduced some icons.

“Less is more” was also the conclusion the team came to when designing the discussion area. “We originally tried to list all the topics as well as recent postings of messages,” says Sara.

Pictured: the first design for the discussion area



“We simplified that, and now list just the topics in a structure, which allows the number of topics to grow without overwhelming the first page. Topics can also be sorted by predefined categories, which are located in the left-hand navigation column,” says Sara.

For most of the site, they’ve used a traditional left-hand menu bar for navigation within the site’s sections. The exception to this rule is the homepage, which pulls user-specific notifications and recent content from all parts of the site into a two-column layout. “We wanted to have the information users really wanted to see, the most immediate and relevant things on the homepage,” says Alf.

In designing the intranet, iapps had to walk a fine line between allowing customers to personalize the intranet with their own identity, and preserving its easy management and low development cost. Users cannot alter the code, but the system gives them many options for configuring and personalizing how content is managed and displayed.

Customers can place their logo in the top left-hand corner, choose the site’s color scheme, and organize information by content categories. But the same basic templates are used throughout the site, defining the layout for how news, discussions, and other features should look.

USABILITY

Prior to autumn of 2000, the team developed the design using mainly internal feedback provided at iapps' weekly internal meetings. In October, 2000, the team issued an early beta version of the application to the first test organization, the Ford Foundation. The team moved into more formal beta testing from January to April. The beta testing involved a total of 160 test users, drawn from eight groups of existing and prospective clients. The users worked with the application for four months, trying out many different functions.

The iapps team also beta tested the application internally, to help coordinate the work of developers who are spread across its offices in New York, Boston, Washington, and San Francisco.

To recruit test organizations, iapps sent out an invitation to participate in the beta test in December 2000, offering to waive fees during the beta period as an incentive. "For a lot of groups, it came at the right time: they had some kind of immediate need, such as a project deadline or board meeting their community needed to address," says Eve Smith, Community [apps] product manager. Several groups were very geographically distributed, and were looking for a better alternative to email communication.

The iapps team had certain criteria for picking beta testers. To ensure they would make active use of the application, the test users had to have some kind of communication network already in place, whether it was an organizational newsletter or email bulletin. "We knew that if they weren't already formed as a community, they would have trouble transferring to the Web environment," Eve comments.

Beta testers also had to commit their site administrators to giving some time to the project, including three initial one-on-one training sessions in which iapps showed the community manager ways to use the tool, set up an online community, and encourage participants to come online. "It's still human-to-human contact that really sells a community. Technology is great but it only gets you so far," says Eve.

Usability testing was fairly informal, and users were not asked to carry out any specific tasks. "We were interested in how external people wanted to use the site, and how the concept would play out in reality," says Eve. "There was a lot of communication between the test site managers and me. I checked on their sites every couple of days, and had weekly contact with them, plus the managers could contact me whenever they came across tweaks or problems. Any issues they came across went straight to the developers." To ensure enough attention to each test site, all the testers started at different times on staggered schedules.

At the end of the beta test period, the team carried out a formal survey, and got a 25% response from testers. Several key points emerged from the usability testing. Feedback indicated that the library or central repository was the most popular and widely used feature of the site. Early on, the team had to deal with the issue of allowing the library to scale with growing information volumes. Library items can now be sorted in several ways: by title, topic, oldest or newest items, geographical area, and so on. The site can be configured to show just links or just resources.

Pictured: the library or central repository

The screenshot shows the 'My Organization' library interface. At the top, there is a navigation bar with links for 'Home', 'Calendar', 'News', 'Discussion', 'Library', and 'Directory'. Below this, a sidebar on the left contains a 'LIBRARY' section with a search bar and a 'LIBRARY ARCHIVE' dropdown. The main content area features a welcome message and a list of resources. The resources listed include 'FC Stats: Private and Community Foundation Statistics', 'iapps Glossary of Terms', 'ASPNews.com', 'TechSoup', 'The Benton Foundation', and 'The Foundation Center'. Each resource entry includes a title, date, and a brief description. At the bottom of the page, there is a footer with contact information and logos for 'community [apps]' and 'Interactive Applications Group, Inc. (iapps)'.

My Organization

MY PROFILE MY FOLDER MANAGER TOOLBOX ? HELP LOGOUT

Home Calendar News Discussion Library Directory

LIBRARY

ALL ITEMS

VIEW LIBRARY BY

Committee Type

- Community Building (1)
- Management (2)
- Technology (3)

Topic

- Technology (3)
- Training (3)
- Capacity Building (2)
- Workplace Giving (1)
- Social Responsibility (1)

Management

- Org Development (1)
- No Category (2)

LIBRARY ICON KEY

- A Library Resource.
- A Link, such as a Website or Listserv.

Search the Library:

SEARCH

LIBRARY ARCHIVE

-Select-

Welcome to our Library. Here's where you'll find links to useful Web sites in our field, links to our grantees' sites and listservs you may wish to join. Feel free to add to this list, or to add comments to any of these resources.

Show: Links Resources UPDATE

Items 1 - 8 of 8

Order: - By Post Date (Newest First) - 1 page(s) of items in this View:

FC Stats: Private and Community Foundation Statistics 1/17/2001
FC Stats is a free online resource that provides users with ready access to a wealth of statistical data on U.S. private and community foundations and their funding patterns. FC Stats currently offers 520 data tables available only from the Foundation Center. These tables and ranked lists provide the most frequently requested types of summary financial data on foundations. FC Stats is produced from the Center's research database, the authoritative national statistical data source on grantmaking foundations.

iapps Glossary of Terms 1/4/2001
From September 1999, definitions of common technology and Internet terminology.

ASPNews.com 1/4/2001
<http://www.aspnews.com>
Global news and analysis for application service providers.

TechSoup 1/4/2001
<http://www.techsoup.org>
Powered by CompuMentor, one of the nation's oldest and largest nonprofit technology assistance agencies, TechSoup.org offers nonprofits one-stop shopping for their technology needs. While TechSoup is aimed at the 650,000 small to midsize nonprofits, we are confident that staff from larger nonprofits will find useful information here as well.

The Benton Foundation 12/12/2000
<http://www.benton.org>
The Benton Foundation works to realize the social benefits made possible by the public interest use of communications. Bridging the worlds of philanthropy, public policy, and community action, Benton seeks to shape the emerging communications environment and to demonstrate the value of communications for solving social problems.

The Foundation Center 10/11/2000
<http://fdncenter.org/> (Foundation Resources)
The mission of the Foundation Center is to foster public understanding of the foundation field by collecting, organizing, analyzing, and disseminating information on foundations, corporate giving, and related subjects. Our audiences include grantseekers, grantmakers, researchers, policymakers, the media, and the general public.

Items 1 - 8 of 8 1 page(s) of items in this View:

ADD RESOURCES ADD LINKS EDIT TEXT

Home Calendar News Discussion Library Directory

MY PROFILE MY FOLDER MANAGER TOOLBOX ? HELP LOGOUT

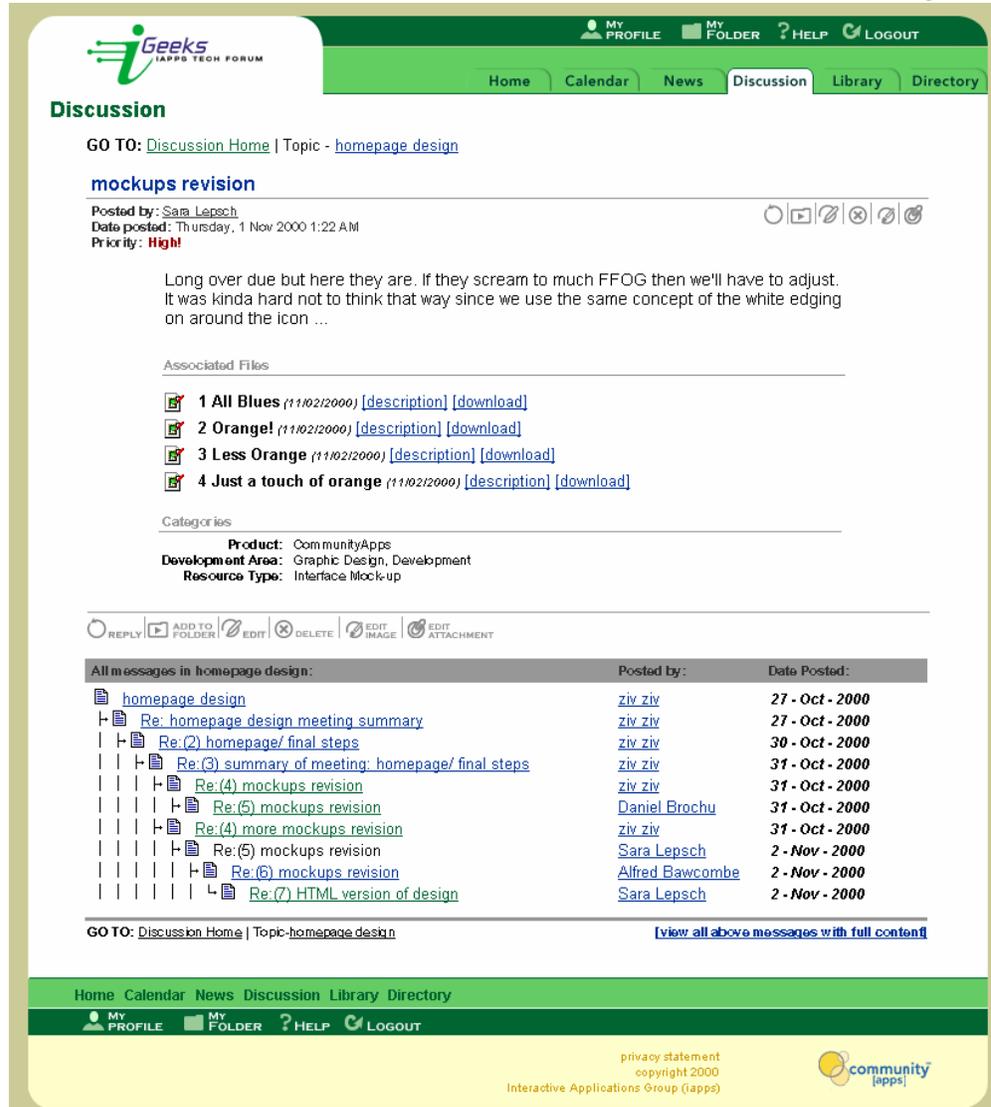
Beta Tester Feedback privacy statement

community [apps] collaboration without boundaries an apps service

copyright © 2001 Interactive Applications Group, Inc. (iapps)

The discussion boards were another popular feature. However, testers were frustrated by the threaded view within a topic, which meant they had to select one title at a time to read the full message, and then click on another title to read the next message.

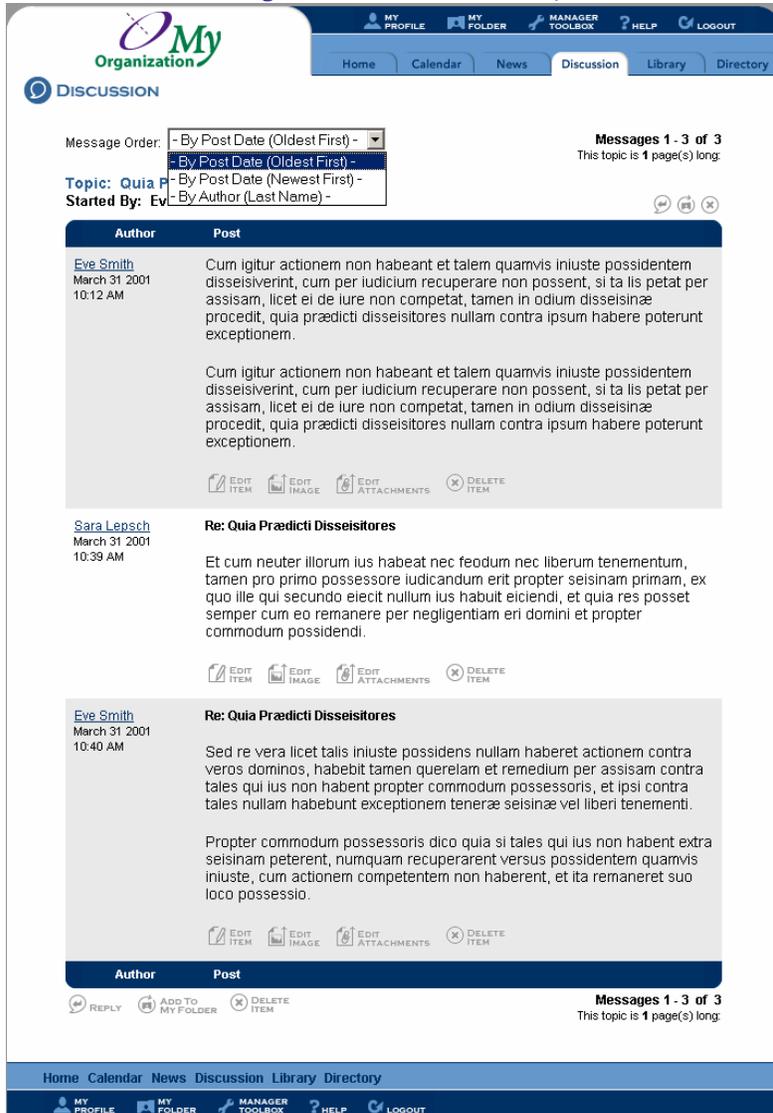
Pictured: the discussion board with the threaded view, later changed



The team took the controversial step of removing the threaded view and replacing it with a simple list of messages that can be ordered by author, date, and so on. "It was a tough decision for us, because we'd been using the threaded version for years, and this seemed like a backward step," says Alf. "But, less experienced users don't necessarily structure their discussions in a way that lends itself to threading. They'll just decide to post a message on a new subject in the middle of an existing thread. The simplified version scales better, is more intuitive for users, and is easier for them to organize — it's more like reading their email inbox."

Users no longer have to decide based on the title whether to click for more, and can sort the messages in any order (most recent first, for example) and browse all the messages.

Pictured: the changed discussion board, without the threaded view



Testers also requested the ability to create private discussions accessible only to invited members. The team incorporated this feature in April 2001.

Another major user request was for better administrative tools that let community managers invite new members into the community, manage user profiles, and better access site statistics.

RESULTS

About half of iapps' test organizations became paying clients following the beta test phase. Three months after the service went live, it had attracted 12 paying clients with active communities and more than 500 users, including iapps staff. Feedback from users is that the application's design is clean and easy to use.

Community [apps] uses the application internally, and is finding it can plan and program through the website instead of via costly conferencing calls.

TIMELINE

- April 2000: First design iteration produced.
- April to October: Design evolved with two to three weeks between iterations.
- October 2000: First beta adopter.
- January 2001: Full beta test started.
- April 2001: Service went live, went to market.

LESSONS LEARNED

NO SUCH THING AS “TOO INTUITIVE”

“You can’t make an application intuitive enough,” says Alf. “There’s always more that can be done to make it easier to use. We continue to evaluate everything, from the icons to the language used on the site.”

PROVIDE DIFFERENT ROUTES TO INFORMATION

“It’s important to give the user multiple ways to find the same content,” according to Sara. “No user moves through site the same way; that was something that really came up a lot while we were developing the service.”

TEST IT ON THE GROUND

“Learn to use the application with the people who have to use it,” advises Eve. “When we had people on the ground testing Community [apps], that brought forward a lot of issues we hadn’t addressed. The reality of using the application in the field was what helped.”

Luleå University of Technology

Division of Computer-Aided Design, Luleå
University of Technology, Sweden

DESIGN TEAM:

Doctoral students
(Andreas Larsson, Tobias
Larsson, and Peter Törlind)

Pictured: homepage

LULEÅ UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

L   

Division of Computer Aided Design: Intranet Saturday, February 17, 2001 | 10.26
Andreas Larsson | [Logout](#)

[»» Home](#) | [Publications](#) | [Conferences](#) | [Address book](#) | [Files](#) | [Admin.](#)

News

2001-02-16
Lic. and Ph.D preparations...
Documents concerning Licentiate and Ph.D preparations are now available on the 'Files' page.
/Andreas

2001-02-07
More new staff
Mikael Andersson, research engineer from 1st of February. He will soon become Ph.D student. Advisor is Mikael Jonsson.

2001-02-02
Deletion of bookings possible...
I have added a function which lets you delete the bookings that you are responsible for.
/Andreas

[News archive](#)

Digital dictation recorders

We have bought two digital dictation recorders, which lets you dictate notes, memos and reports anywhere, at anytime.



The dictation recorders can also be used together with our high-quality microphones from Sony. This makes the recorders very useful when recording meetings and interviews etc.

The memory card will hold up to 75 minutes of continuous speech, and it is easy to organize the content in up to 99 file folders containing up to 99 separate recordings. The files are easily transferred to your PC, where you can listen to the sound files, as well as edit and catalogue them.

Just contact me for a demonstration!

[Andreas Larsson](#) 2001-02-01 | [Article archive](#)

Resources

[Article archive](#)
[Book the Polhem Laboratory](#)
[Book the Studio](#)
[Event calendar](#)
[Netmeeting](#)
[Public web pages](#)
[Send SMS](#)
[Statistics](#)
[Telephone list](#)
[Webmail](#)

Tasks

Deadline: 2001-02-27
Introduktionsutbildning för nyanställda 14-15 mars kl. 08.30-15.00. Anmäl er till Majvor ni som inte gått utbildningen.

Submission deadlines

[TMCE 2002](#) | 2001-03-16

Out of town

[Andreas Larsson](#), Karlskrona
Returns on 2001-02-22

Events

[Today...]
Dr Mabogunje is visiting...
Dr Ade Mabogunje from CDR at Stanford University is visiting. Dr Mabogunje will participate in the S&CC conference.

Conference: Science & Cyber Community
People from the Polhem Laboratory are participating in the conference.

[Coming up...]
2001-02-22
Lic. seminar, Anders Jönsson

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SUMMARY

With up-front features and an uncomplicated look, this site design proves that even with few resources you can build a nice solution for a small organization. This intranet supports collaborative features and enables communication among 40 staff members located around the world.

The calendar feature is done very well. Users can effortlessly add or edit an event, and all users can update content.

The address book's presentation of items is very good. Each person's information is laid out pleasingly.

Spacing between words is ample, and categories, headings, and sections are prominent. Some text presentation is a bit problematic, however. For example, the red text links are distracting and difficult to read. Some pages have a little too much text on them, and the fact that it's small and gray makes it strenuous to read.

Search is indicated as a magnifying glass icon with an "s" on it. This indicator is not as easy to recognize as it should be. We recommend labeling search features with the word "search" and presenting it with an open text-entry field. The designers noted, however, that the three buttons in the top left-hand corner (including the search button), are standard to all Luleå University websites. Although they were not obliged to use these buttons, they felt that familiar features would help make the intranet more accessible to new users. In this context, we agree with their choice in the very short term.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2.5	2.5	2	2	1.5	2	2.5	2

INTRANET

The intranet lets staff check each others' schedules, book meeting rooms, look up contact information, and share departmental news and other information about publications, work in progress, funding applications, and conferences and other events.

BACKGROUND

There are 40 staff members in the Computer-Aided Design division at Sweden's Luleå University of Technology, but it's rare for them all to be in the same place at one time. More often than not, research students are working with the industrial partners involved in the department's research center, while faculty members might have positions at other universities and be based elsewhere for much of the year. For example, Tobias Larsson, one of the three developers, is based at Blekinge Institute of Technology, 1,400 km away in Karlskrona.

"You might get eight people out of 40 at a staff meeting," says Andreas Larsson, another of the developers. The department's highly distributed way of operating made it hard for its members to share information.

In June 2000, Andreas and two other PhD students in the department — Tobias Larsson and Peter Törlind — came up with the idea of building an intranet to make it easier for people to stay in touch with departmental news and events and also make it easier to accomplish routine tasks, such as book a meeting room.

The head of the CAD department was enthusiastic, and the idea was well received at one of the regular staff meetings. The department agreed to buy a server for the project and the students began work on the application in their spare time.

GOALS

"We wanted the system to enable people to share information, not just store it like on an FTP site," says Andreas. "So, as well as being easy to find, information had to be easy to access and use, and easy to publish. We wanted all the staff to participate."

Also, the developers did not want the intranet to require any control from a central webmaster. They imagined it as a truly democratic system that everyone could use to publish information. This goal suggested the use of standard templates to generate pages automatically, and a simple data entry process that even staff members with little interest in the Web could come to grips with.

A third important goal, given the scattered location of department staff, was to design the intranet with the needs of off-site staff in mind. This influenced the type of tasks it would support. "Onsite staff get to talk to people every day, so they get to know them and what they're doing. People working off site may only come in once every two or three months; they don't even get their mail directly. So they needed a way of seeing where everyone in the department was, and how to contact them in various different ways — phone, email, SMS, ICQ, and so on," Andreas explains. Department members also needed to access information over the Web when they were away from the university network.

PROCESS

"We didn't have a fixed deadline for completion; our approach has just been to gradually evolve the basic design," Andreas says. The first step was for the team to present their initial ideas at a departmental meeting in August 2000, to which staff had been urged to bring their ideas and suggestions.

Preliminary discussions among the developers and other staff meant there was already a clear concept of what the application should include, and the team had already designed a system framework. As a result, they were able to produce the first prototype a couple of days after the meeting.

They published the evolving design on the department network and invited comments. Andreas estimates that some site features have gone through around 50 iterations, with feedback from most users, while other features have not changed much since day one. "We have gone through a constant refining of functions, so we can't really say that we have launched separate prototypes," he says. "Basically, we have tried to make every function as good and easy-to-use as possible, using as many iterations as were needed."

Some design features, such as the horizontal banner across the top and the three buttons in the top left-hand corner, are standard to all Luleå University websites. The team elected to use these familiar features to make the intranet more accessible to new users. Thus, whether you're on the intranet or the public university website, the *L* button takes you to the university homepage, the *S* button takes you to the university *Search* page, and the *@* button takes you to contact information.

Because there was no comprehensive, up-to-date source of departmental contact information, the team decided that an online address book would be a good initial feature. The first version also included a publications and conferences section.

Pictured: an address book entry

LULEÅ UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

Division of Computer Aided Design: Intranet Saturday, February 17, 2001 | 10:23
Andreas Larsson | [Logout](#)

[Home](#) | [Publications](#) | [Conferences](#) | >>> [Address book](#) | [Files](#) | [Admin.](#)

Tobias Larsson

Ph.D Student
Tech. Lic.



Work

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371 31 Karlskrona

Images

[Tobias_Larsson_Low.jpg](#)
[Tobias_Larsson_Medium.gif](#)
[Tobias_Larsson_High.jpg](#)

Documents

[Tobias_Larsson_Projectdescription_Endrea.pdf](#)

Publications

[Complete publication list](#)
History: 2001: 0, 2000: 2, 1999: 2
Type: Conference: 2, Journal: 2, Other: 3, Total: 7

Latest publications

Modelling and Simulation of Catenary-Pantograph Interaction
Drugge, Lars., Larsson, Tobias.
2000 | Journal paper | [More info](#)

Industry Demands on Vehicle Development - Methods and Tools
Stensson, Annika., Larsson, Tobias., Merkt, T., Schuller, J., Williams, R. A., Mauer, L.
2000 | Journal paper | [More info](#)

The Nonlinear Behaviour of a Pantograph Current Collector Suspension
Drugge, Lars., Larsson, Tobias., Berghuvud, Ansel., Stensson, Annika.
1999 | Conference paper | [More info](#)

Faculty

[Häggblad, Hans-Åke](#)
[Isaksson, Ola](#)
[Jeppsson, Peter](#)
[Jonsson, Mikael](#)
[Karlsson, Lennart](#)
[Lindgren, Lars-Erik](#)
[Näsström, Mats](#)
[Oldenburg, Mats](#)

Ph.D Students

[Alberg, Henrik](#)
[Andersson, Mikael](#)
[Berghuvud, Ansel](#)
[Berglund, Daniel](#)
[Brännström, Oskar](#)
[Bvlund, Nicklas](#)
[Eriksson, Magnus](#)
[Fuxin, Freddy](#)
[Hedblom, Erika](#)
[Hermann, Madeleine](#)
[Hvun, Jimmy](#)
[Johansson, Henrik](#)
[Jonsén, Pär](#)
[Jönsson, Anders](#)
[Kalhori, Vahid](#)
[Larsson, Andreas](#)
[Larsson, Tobias](#)
[Lindbäck, Torbjörn](#)
[Lindeblad, Mats](#)
[Lopez-Mesa, Belinda](#)
[Lundblad, Mikael](#)
[Lundbäck, Andreas](#)
[Ma, Haoxue](#)
[Nilsson, Annika](#)
[Nyström, Mattias](#)
[Törlind, Peter](#)
[Åström, Peter](#)

Administration

[Aidanpää, Margareta](#)
[Nilsson-Lavonen, Anna](#)
[Svanberg, Majvor](#)

Research Assistants

[Granström, Jan](#)
[Karlberg, Magnus](#)
[Lindkvist, Göran](#)

NIELSEN NORMAN GROUP WWW.NNGROUP.COM 70

Another early feature was the meeting-room booking facility, an important step forward in encouraging department-wide use of the system. For a long time, the only method of booking rooms had been to scribble your booking on a paper chart stuck to the administrators' office door. This method had been replaced by an Excel spreadsheet in a shared folder on the university network. However, the spreadsheet was clumsy to use, and, like the piece of paper, was accessible only from within the university. "It ended up with people just not bothering to book," Andreas says.

Pictured: the meeting room scheduler

LULEÅ UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

Division of Computer Aided Design: Intranet Saturday, February 17, 2001 | 10:31
Andreas Larsson | [Logout](#)

»» [Home](#) | [Publications](#) | [Conferences](#) | [Address book](#) | [Files](#) | [Admin.](#)

February 2001
S M T W T F S
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28

Studio: Schedule
[Book](#) | [Polhem Laboratory Schedule](#)
[Printer friendly version](#)

2001-02-14	2001-02-15	2001-02-16	2001-02-17	2001-02-18
10.00 - 18.00 <i>Booked by:</i> Peter Törlind <i>Info:</i> S&C Konferens Edit Delete	08.00 - 10.00 <i>Booked by:</i> Andreas Larsson <i>Info:</i> Anders Larsson & Lars Karländer redovisar sitt xjobb Edit Delete 10.00 - 19.00 <i>Booked by:</i> Andreas Larsson <i>Info:</i> S&C Konferens Edit Delete	08.00 - 24.00 <i>Booked by:</i> Peter Törlind <i>Info:</i> S&C Konferens Edit Delete	08.00 - 18.00 <i>Booked by:</i> Peter Törlind <i>Info:</i> S&S Konferens Edit Delete	

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www-dmk@cad.luth.se

The university was also building a new SEK 10,000,000 multimedia studio that the CAD division would be responsible for, and they needed a good, easy-to-use booking system to make the most of this investment. All in all, then, the booking system was something of a killer app for the intranet, drawing administration staff into the system. The first booking using the intranet system was made in September 2000.

The first live version of the entire intranet appeared in January 2001.

USABILITY

Though the developers did not carry out formal usability testing, they continuously refined the design based on feedback, which they collected from the department's 40 members at both regular departmental meetings and in informal email and face-to-face discussions.

They also launched a temporary, threaded discussion board to provide a forum for discussing the intranet, and this proved to be a good way of collecting short-term feedback. The developers floated the idea of having a permanent discussion forum, but users were not enthusiastic. "Many of the intranet users say that they prefer

synchronous interaction to asynchronous when it comes to discussions,” says Andreas. “Email and discussion forums introduce a delay; you have to wait, sometimes more than a day, for feedback. ICQ, SMS, and the up-to-date contact information are highly appreciated services for those reasons, letting people contact each other in a fast and easy way.”

Most department members participated in the usability feedback process in some way. The developers made a conscious effort to get feedback from users with different technical backgrounds, ages, and levels of Web experience, actively approaching them rather than waiting for comments. When possible, they called on people in their offices, watching them use the application and talking it through with them. Some of the quietest and least forthcoming staff members turned out to have the best ideas for improving the system.

User feedback resulted in many important changes. One was a pared-down design that emphasized only important information on the front page and was fast to download, even over a dial-up link. Another was simplification of the site to accommodate users with only the most basic technology experience.

The calendar application was also changed radically based on user comments.

Pictured: the calendar design before collecting user feedback

August 2000

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Monday, August 14, 2000
Department meeting in the Polhem Laboratory
at 09.00
[Click for more info.](#)

Pictured: the changed calendar design, after responding to user feedback

LULEÅ UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MECHANICAL ENGINEERING

Division of Computer Aided Design: Intranet Tuesday, July 24, 2001 | 11.11
Andreas Larsson | [Logout](#)

[»» Home](#) | [Publications](#) | [Conferences](#) | [Funding](#) | [Address book](#) | [Files](#) | [Admin.](#)

Event Calendar
[Add event](#) | [Polhem Laboratory Schedule](#) | [Studio Schedule](#)
[Printer friendly version](#)

June 2001						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

2001-06-11	2001-06-12	2001-06-13	2001-06-14	2001-06-15
Studio tutorial Peter Törlind will hold an introduction to the Studio at 13.00. After that you are welcome to try out the different features yourself. Edit Delete		Workshop Starts: 2001-06-13 Ends: 2001-06-15 This workshop is focused on creativity, and each of the three days has a special theme. Lunch at Wibergsgården every day at 12.00. Please let Majvor know if you can't join us. Edit Delete	Workshop Starts: 2001-06-13 Ends: 2001-06-15 This workshop is focused on creativity, and each of the three days has a special theme. Lunch at Wibergsgården every day at 12.00. Please let Majvor know if you can't join us. Edit Delete	Workshop Starts: 2001-06-13 Ends: 2001-06-15 This workshop is focused on creativity, and each of the three days has a special theme. Lunch at Wibergsgården every day at 12.00. Please let Majvor know if you can't join us. Edit Delete

.....

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www-dmk@cad.luth.se

For one thing, users found the dynamic HTML functionality confusing. Initially, when opening the calendar application, users had to position their mouse over a certain date in order to bring up a new layer containing summary information about an event. If they wanted more detailed information, they had to click on the date. A typical comment was, "...just when I was about to click, something popped up. When I clicked, the information changed. That confused me..."

Use of DHTML also made the application incompatible with certain browsers.

Andreas admits that "As developers, we probably got caught up in a technological frenzy — basically, we felt that the DHTML solution was neat. The use of layers gave us the possibility to give users a short version if they needed that, and an extended version if that was what they needed. In real use, however, users didn't really care about the short version."

A second usability problem was that the original calendar version opened in a new window, and no event information was displayed until you positioned the mouse over a date. Many users felt that they had to do too much in order to get the information they wanted: "I think it's too much clicking going on. Couldn't we have a better overview from the start? I guess it would also be easier to print."

"At first glance, the two systems do not seem that different," Andreas comments. "The big thing is that the new calendar design uses a whole page, while the old design used only a small pop-up window. Initially, we thought that the space-saving

design would be liked because it would show just the information that the users requested, and nothing else. We later found out that people thought that it was nice to be able to see what was going on during the next few days, just by having a quick look at the event calendar.”

The decision to present five events at a time was a trade-off between available space and the amount of information that users wanted to receive; most users said that 4–5 days ahead would be enough.

In an ideal world, given more development time and users with plenty of time on their hands, the student team would have liked to run a more structured usability study and spend more time working through the system with people individually. “But, at the moment, people just have too much to do — and we have our doctorates to work on,” he says.

CONTENT MANAGEMENT

The site design does not require a webmaster to collect and publish information. There are no guidelines and no manual — and so far, they haven’t been needed. To add information, users simply fill in a form for the item they want to produce (news, conference notification, and so on), and the application generates a page from a set of standard templates. The front-page news list simply shows the three latest additions, with older items moving into the news archive.

Images are uploaded directly from the Web interface, by selecting the article the image is related to, then selecting the relevant image file on the hard drive. When the user submits the form, an ASP upload component transfers the image onto the Web server.

“We say on the upload page that the image should be of a certain size in order to look good, but if people upload an image that is too big, it really isn’t a big problem. The article might look a bit strange, but it will still work,” says Andreas. “If they don’t know how to scale the image, we will help them with that.”

LANGUAGE ISSUES

Though Luleå is a Swedish university, most of the intranet is written in English, with only occasional notes in Swedish. "We're a global organization now — though most of us are Swedish, we have staff members who are English, Korean, Spanish, and Chinese," says Andreas. "English is the language of research; all the lectures are in English and everyone in the department is used to reading it." Although some people still prefer to write their entries in Swedish, basic information is in English. Transitioning between the two languages has not, for this particular user group, proved to be a problem.

Pictured: some file information, written in English

LULEÅ UNIVERSITY OF TECHNOLOGY		DEPARTMENT OF MECHANICAL ENGINEERING		
				
Division of Computer Aided Design: Intranet		Saturday, February 17, 2001 10:29 Andreas Larsson Logout		
Home Publications Conferences Address book >>> Files Admin .				
Administrative				
• PowerPoint presentation template including logo, suitable for computer presentation	oh_mall_dator.ppt	[196 KB]	2000-09-05	Tobias Larsson
• Document for domestic travels.	inrikes_reserakning.doc	[35 KB]	2000-09-04	Tobias Larsson
Software & Hardware				
• NetMeeting 3.01 for Windows	netmeeting_3_01.zip	[2 MB]	2000-12-04	Tobias Larsson
• Primer for DV editing in general.	dvprimer.pdf	[2 MB]	2000-09-04	Tobias Larsson
CAD presentation material				
• Zipped file of "Simuleringsbaserad produktframtagning - Teknikfronten idag och om fem år?" including movie files.	dmk_demo.zip	[43 MB]	2000-09-06	Tobias Larsson
Meeting notes				
• Avdelningsmötet 2001-02-05	minnesanteckningar_20010205.doc	[11 KB]	2001-02-05	Tobias Larsson
Licentiate preparations				
• Innehåller länk till webregistrering av avhandling.	epubl.doc	[23 KB]	2001-02-15	Tobias Larsson
• Förslag på examinator samt tid och plats.	licsemexaminator.doc	[20 KB]	2001-02-15	Tobias Larsson
• Intyg om presenterat lic-seminarium.	intvalicsem.doc	[19 KB]	2001-02-15	Tobias Larsson
• Anhållan om lic-seminarium.	anhlicsem.doc	[20 KB]	2001-02-15	Tobias Larsson
• Tillvägagångssätt inför Lic.	ganqenlic.doc	[23 KB]	2001-02-15	Tobias Larsson
Ph.D preparations				
• Innehåller länk till webregistrering av avhandling.	epubl.doc	[23 KB]	2001-02-15	Tobias Larsson
• Instruktioner för opponent	opponent.pdf	[15 KB]	2001-02-15	Tobias Larsson
• Protokoll fört vid disputation	protdisp.doc	[19 KB]	2001-02-15	Tobias Larsson
• Förslag på opponent, betygsnämnd samt ordförande vid seminariet/examinator samt tid och plats.	anhdisp.doc	[20 KB]	2001-02-15	Tobias Larsson
• Anhållan om PhD-seminarium.	ganqendisp.doc	[13 KB]	2001-02-15	Tobias Larsson
• Tillvägagångssätt inför PhD.				
Temporary				
No files in this category.				

RESULTS

The CAD department intranet at Luleå is used by nearly all department members, though different users concentrate on different features. Administrative staff members use the *Admin* page daily, and the site is making it easier for staff to find and publicize information about their daily work.

Although they have not quantified the time saved due to the intranet, Andreas believes that the most interesting result has been a change in mindset. "People have started to think about information in a different way," he says. "Now that information about their projects isn't hidden away in an Excel spreadsheet, they're getting more interested in spreading the word about their research. They're waking up to the fact that it's not just about research, it's about communication, going out and selling what we do."

TIMELINE

- August 2000: Team presents initial ideas at a departmental meeting.
- August 2000: First prototype published on the department network.
- September 2000: First meeting room scheduled using the intranet system.
- January 2001: Internet released for general use.

LESSONS LEARNED

MAKE IT FUNCTIONAL, NOT FANCY

“Initially, we tried to make the design look really nice, with lots of images and mouse-over effects,” says Andreas. “This design, however, did not go down well with departmental users, who complained that it was OK if they were on the university network, but took too long to download if they were dialing in from, say, a hotel room. They said, ‘You don’t have to sell anything to us, so don’t worry about making it look cool. We just want to get at the information quickly!’ ”

STICK TO WHAT’S IMPORTANT

“At first, we tried to pack too much information into each article, and it was hard to read,” says Andreas. “Now, the homepage just contains brief summaries. We’ve aimed at a clean and tidy design that lets people see just the information they want, without unnecessary clutter.”

DEVELOPERS MAKE BAD CRITICS

“I thought my initial design for the calendar application was really easy to use — in fact, I was quite proud of it,” says Andreas. “But the users didn’t like it at all, and I had to completely remake it. I realized that a professor who only uses a PC for word processing has a different view of usability from a PhD student who’s been programming all his life.”

PEOPLE DON’T ALWAYS KNOW WHAT THEY WANT

“We noticed quite early on that what people said they wanted wasn’t necessarily what they really wanted once they had the prototype in front of them,” says Andreas. Letting the design evolve gradually let the developers tease out the real user requirements.

Pearson Technology Centre

Pearson PLC is an international media company providing education, strategic business information, international television production, and consumer publishing products, including Penguin Books and the U.K.'s *Financial Times*. The Pearson Technology Centre is the focus for technology resources and expertise across the Pearson companies.

DESIGN TEAM:
Electronic Ink

Pictured: homepage

The screenshot shows the Pearson Technology Centre homepage. At the top left is the Pearson Technology logo. To its right is a search bar with a 'Go' button. Further right is the date 'Mon. April 2, 2001 9:25 am' and an 'Employee Search' bar with another 'Go' button and a 'search help?' link. A vertical navigation menu on the left lists: Home, Organizations, Directory, Services, Employee Info, News & Announcements, Events, Projects, Forms & Documentation, Search, and FAQ. The main content area is divided into several sections: a green header with 'Welcome to the Pearson Technology Centre Intranet'; a 'breaking news' section with three paragraphs of placeholder text and 'more' links; a 'today's events' section listing 'Donations', 'Hall Painting', 'Blood Drive', and 'Training Session'; a 'featured links' section with 'New Hire Orientation' and 'New ID Card'; an 'other related links' section with 'Pearson Education Intranet' and 'Pearsonville'; a 'weather' section for 'Our Town, NJ' showing 'Today' weather and 'Considerable cloudiness. High 44.'; a 'stock quote' section for 'PSO' showing 'Last 25 3/8' and 'Change +7/8'; and a 'ceo corner' section with a 'video' player and 'ceo newsletter' and 'team leadership' links.

SUMMARY

To achieve this usable design, the Electronic Ink team collected usability data and employed a systematic, four-stage development methodology: Inform, Discover, Design, and Develop. Their achievement was no small feat, as PTC's existing organizational culture and politics were initial barriers to creating a central design. In design discussions, the team realized that the previous site design was difficult to use because it was arranged by organizational structure, rather than technology services. Thus, users needed to be very familiar with each group's particular services in order to locate the service they needed.

We often see this exact issue and similar issues in our Internet website reviews, where different parts of the site are obviously designed by different teams, and organizational politics dictate the overall website structure. In this situation, the designers succeeded in persuading all 16 service groups that a single, simple design would surpass their many unique offerings.

This site does an admirable job pushing current information to the users, as exemplified by the *Today's Events*, *Stock Quotes*, and *Weather* sections. The navigation is straightforward, with well-named headings in the navigation bar on the left side. Also, the area currently selected is clearly denoted by a prominent color change. Breadcrumbs help users note their history and jump back to previously visited pages. Also, both the site search and employee search are clearly presented and always visible.

The *Organizations* section of the site is (what else?) very organized. Starting with the group name and the group leader's name and picture really personalizes the information — far better than the traditional org chart boxes.

Pictured: Organizations section



The navigation items are labeled well, which makes it easy to make the right choices. The site does use too many cascading menus, however, which can be tedious to navigate, especially for users with low vision or motor skill issues.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
3	1.5	2	2.5	2.5	2	2	1.5

INTRANET

The intranet contains information about PTC services. Typical tasks carried out on the intranet include searching for and requesting services, sharing technical information and IT project metrics and data, and finding general company information.

BACKGROUND

In 1996, PTC launched an intranet to provide employees with information about the center's services. The intranet failed to attract enough users, however, and the information in it gradually became outdated. Furthermore, service groups were free to publish content using any tools they liked, with results ranging from basic layouts created with FrontPage to quite elaborate designs. The head of PTC wanted to replace the outdated site with a consistent, well-designed, up-to-date site that would provide true value to the company and promote PTC's offerings to existing and new Pearson staff.

GOALS AND CONSTRAINTS

One major goal was to create a redesigned intranet with a coherent look and feel that would both unify PTC's diverse groups and be used by employees on a daily basis. A second goal was to give content providers a content management tool to help them keep content up-to-date and consistent with style guidelines. To achieve these goals, designers needed to carefully consider the political issues involved. The 16 service groups that contributed content to the PTC intranet were used to having complete control over their information. The design team had to persuade them of the value of centrally agreed-upon design standards. "The service groups were used to doing their own thing; they felt pride and uniqueness in what they were offering," says Jenny Smith, human factors director of Electronic Ink.

PTC wanted the project completed on a fairly short deadline, with just nine months between the September 2000 start date and going live in May 2001. From a design point of view, Pearson had an established identity and logo that had to be integrated with the site's overall aesthetic. The company browser standard was IE 5.0 and above.

PROCESS

Electronic Ink uses a four-stage development method. The first stage, Inform, involves spending time getting to know the client's business, strategy, and design requirements. During the Discover stage, the team talks to the system's target audience to find out what they need and want, and to tease out any new business opportunities the intranet could support. Then, in the Design stage, the team designs the site, and finally, in the Develop stage, it builds and implements it.

USABILITY

During the first stage, which lasted about two weeks, Electronic Ink talked to the vice president of Pearson's e-commerce/e-business division and the site's prospective webmaster and developers. The Pearson team already had some ideas for changing the site based on its own "town hall" survey.

In the second stage, which lasted about a month, Electronic Ink set up a series of interviews with a total of 36 employees, representing a range of users, including end users and representatives of Pearson's 16 content provider groups. The designers then held a two-day brainstorming session.

The most important finding from these meetings was that the previous site didn't work well because it was based on the group's organizational structure rather than technology services. "You really had to know the groups well in order to locate the services you needed," says project manager Kate Fierce. "If you were new to the company, or from a subsidiary it had recently acquired, you didn't know who to call or how to get the information." A decision was made to design the site around services, but also to give users the option of browsing the old organizational model as they had previously done.

Following these discussions, Electronic Ink spent two weeks developing a site map (which it calls a "product map"), showing the site's information hierarchy and the links between the different levels. Using the product map as a foundation, it spent a further three weeks building a series of structural designs (which it calls "wire-frames") in PDF format. These showed the pages' shell and structure, the knowledge hierarchy, and the type of language that would be used, but without such elements as color, specific typefaces, or graphics.

These structural designs were then taken to five end users representing a cross-section of the company and tested in a series of structured walkthroughs, using typical tasks identified in the initial interviews. The tasks ranged from looking up information about the company's dental benefits plan to checking out the canteen menu. Users were also asked to verify the language used on the "wire-frame" prototype pages. For example, the team asked the users about the type of information they'd expect to find behind specific labels.

At this stage, Electronic Ink also gave a presentation to the content provider groups to sell them on the idea of a site structured by services rather than by organizational division.

The wire-frame designs formed the basis for the aesthetic page designs, which were presented to the client in four stages. The first stage was to show the client a selection of three concept boards, which design director Sandy Greene describes as "visual experiments to capture the essence of a company brand." These were presented both on screen and on paper (for easy comparison) and represented three possible visual flavors for the site.

The team then used the client's preferred concept to create the initial page layouts, which they refined in three further stages.

An important part of the project was to build a template-driven content publishing system and an associated content management solution. Together, these would let various PTC content managers (who had varying technology skills) maintain more than 300 unique intranet pages. "We have users ranging from people who know nothing about anything apart from writing prose, to developers who can write code," Sandy explains.

Electronic Ink realized that usability was key to ensuring that the CMS met its goals. "One reason the old site was not widely used was that it wasn't kept current," points out Greg Picarelli, Electronic Ink's technology director. "So our human factors team looked at the language and instructions very carefully. We paid a lot of attention to making sure the content management tool was not intimidating and to ensure that the jargon of people who use those tools all the time was not creeping in."

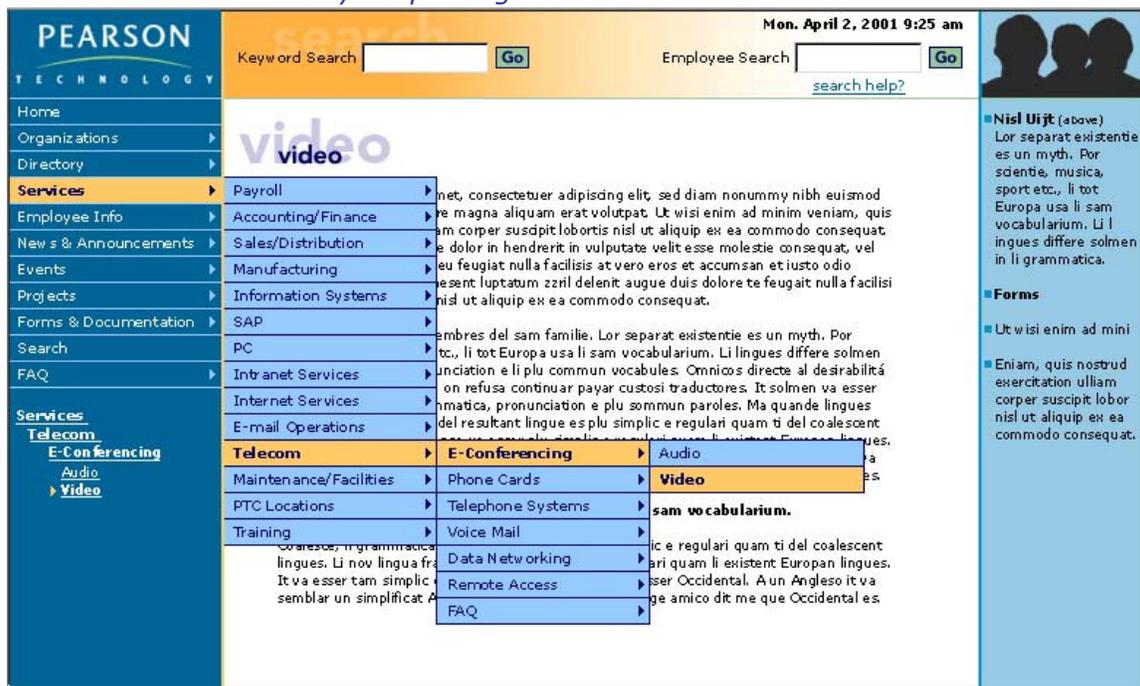
DESIGN

The final design is understated and functional. Pearson had a number of existing design standards covering colors, typography, and so on, but they were basically print-based and had to be adjusted for Web presentation. "For example, we had to enlarge the 'technology' part of the Pearson logo, which was originally in four to five point type that wouldn't show up well on screen," says Sandy. "The subtle pastel-like colors Pearson used in its printed material didn't hold in this medium, so we had to work with the saturation and contrast. We had to create some totally new elements, like the headlines the *Breaking News* section."

The homepage includes real-time information such as weather and stock prices to draw users to the site. "Part of our user study was to find out what kind of information would be of value on the homepage," Sandy says.

One of the design issues was to make it easy for users to navigate through the site's voluminous content. Exploding menus let users see the total content of each site section in a single mouse movement.

Pictured: a hierarchically "exploding menu"



The bold, underlined white links beneath the left-hand navigation function as a breadcrumb trail that appears as soon as the user navigates to a sub-section of the site, showing the user's location on the site. All parts of the trail were clickable so that users could jump back through the trail.

To make it easy for employees to publish content that fits with the site design, there are 16 different templates aimed at different types of information. These create consistency across groups while still being flexible enough to accommodate individual group identities. To enhance the feeling of ownership and identity, Electronic Ink also created zones of information where employees could post any information they

wanted, including their own imagery. “The right-hand columns pretty much belong to the group,” says Sandy.

The team also created a set of design guidelines to help ensure the intranet stayed consistent. Training PTC content providers to use the content management tool was an important part of the implementation phase.

RESULTS

The new intranet has been greeted with a very positive reaction from users and content providers alike, and the client is convinced that having a single look and feel across the intranet has helped strengthen the organization itself.

TIMELINE

- August/early September 2000: Project started late.
- First half of September: Inform.
- Mid-September to mid-October: Discover.
- Mid-October to March: Design.
- February to May 2001: Develop/Implement/Train.

LESSONS LEARNED

WORK WITH THE CONTENT PROVIDERS

“From a usability perspective, getting the content providers onboard and continuing to talk to them throughout the development was important,” says Kate. “There were change management issues to deal with; even though the content providers had signed off the new designs and aesthetics, they sometimes still wanted to use the old page, and we had to remind them of the change and reinforce the notion of moving to a new structure.”

“The users were our fourth partner in all this,” says Sandy. “Their data helped convince the client to be confident in the new design and move it along in a short timeframe. We could have been struggling with internal approval, but the client felt confident because usability data was behind the redesign.”

Science Applications International Corporation (SAIC): ISSAIC

Science Applications International Corporation (SAIC) is the largest employee-owned research and engineering company in the U.S. The company provides IT solutions and services internationally, and has 41,000 employees in 150 cities worldwide. ISSAIC is the Information Source for SAIC.

DESIGN TEAM:
In-house
(employees at SAIC)

Pictured: homepage

issaic The Information Source for SAIC Contact ISSAIC Tips

People Search
[Search Box] GO
Update My Info
employee link

Navigate ISSAIC
Search ISSAIC... [Search Box] GO
Browse ISSAIC...
Alphabetical List
Category List

ISSAIC Top Ten
1. [AJOBB](#)
2. [EON](#)
3. [The Commons](#)
4. [Ethics Committee](#)
5. [Meetings Week](#)
6. [Forms Library](#)
7. [Per Diem Rates](#)
8. [SAIC University](#)
9. [Expense Reports](#)
10. [Help Desk](#)

Organization Intranets
The Commons (Martin Sector)
EEMG (Craver Group)
ELS3 Online (Singley Sector)
Energy Source (Slotkin Sector)
Spectrum (Foley Sector)

iNews Add My Story to iNews
Virus Alert - Server Administrators:
SAIC has noticed an increase in e-mail traffic from systems affected with the Code Red Worm. SAIC considers this to be a high priority concern for the safety and security of our network. Users with systems outside of SAICnet on SAIC controlled networks (such as the DMZ), are required to update their servers with the patch provided on the Virus Alert page immediately.

Tuesday, 07/24/2001
2:00 AM, PT
Last Chance to Enroll in Business Development Workshop Scheduled for August 10 & 11 in McLean
Deadline to Participate in July Stock Trade, Friday, July 27, 2001
McLean Employees: Attend July 24, 2001, Foundation Workshop, "Pension Changes in the Economic Growth and Tax Relief Reconciliation Act"
Foley Sector Changes Name to Reflect Intelligence Business
GIS Training Opportunity in McLean: New Dates Added for ArcView GIS Training Course

Monday, 07/23/2001
2:00 AM, PT
All Taxable and Non-Taxable Expense Reports Now Processed by Corporate Accounts Payable
McLean Courses: Attend Information Session on Accelerated M.S. Program in Telecommunications and Computers, by SAIC and George Washington University
SAIC University McLean Class: Seats Still Available for Introduction to Java and Object-Oriented Programming Class, July 30 and 31, 2001

Friday, 07/20/2001
2:30 PM, PT
July 18, 2001, Norton AntiVirus Definition Update for Windows Now Available
8:30 AM, PT

Employee Self Service
SETS: Time-Recording Login (Find out more about SETS.)
Personalize My ISSAIC

SAIC Today
Stock Price 07/13/01 **\$31.37** ▲ \$1.17
Employee Count 41,748
Revenues 01/31/01 **\$5.9 billion**
SAIC Stock Prices per Share
Yearly Averages to Date
93 94 95 96 97 98 99 00 01

Web Services cWb
Add My Story to iNews
Create an ISSAIC Web Site
Promote Business on saic.com
Update Existing Web Site
Contact Web Team

saic.com [Public Web Site]
Straight Talk About ASPs
An interview with Ray Cline, CTO of SAIC's Energy Solutions
view article...
Latest Wins:
\$1.5 Million deal results from saic.com business lead more...
Federal Contract Vehicles:
Want your contract vehicle advertised on saic.com? CWD can build your site. See

SUMMARY

This massive site, with 87,000 pages indexed in its search engine, incorporates more than 350 sub-sites for different departments and communities. The homepage's *Organization Intranets* area is a good attempt at consolidating the company's various group intranets. And, in an ingenious effort to point the contact and complaints in the right direction, site designers created the *Contact Page Owner* feature,

encouraging users to contact the person in charge of a specific page. This minimizes the need for the webmaster to constantly redirect questions and updates, which is extremely important when dealing with a site this large. The designers' usability testing experience with this feature demonstrates how watching real users work in even very fast and simple evaluations can drastically improve a site's design.

On this site, the designers used color tastefully, and placement of category headers is very well done. The use of graphics is appropriate. For example, a small stock performance chart helps to communicate data instantly.

On the homepage, the *People Search* field is in an ideal place, considering that is one of users' main reasons for using the site. The site *Search*, just below it, is well presented. ISSAIC also offers a browsing capability for those who prefer it to searching, which is nice.

News items are well presented by current date first, keeping the main items for the previous few days, which is also handy. Assuming that with so many users, at least a few might be in Europe or Japan, we recommend that the article date be presented in a better international format, by writing out the month, which makes dates unambiguous.

The page's otherwise elegant look is marred somewhat by the number of lines of links. The sheer number makes it difficult to read individual links and difficult to distinguish among links.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2.5	2	2	3	2.5	2	2	2

INTRANET

ISSAIC, the corporate intranet, integrates information from 280 sub-sites and provides a wide range of online resources from news and webcast events to corporate publications and human resource services. Typical user tasks include filling an electronic timesheet, updating human resource information, and reading company news.

BACKGROUND

First launched in 1997, the ISSAIC intranet provides a range of applications and information resources to SAIC employees round the world. It's a huge site, with nearly 300 sub-sites and 87,000 pages indexed in its search engine. The sub-sites have their own page owners who are responsible for generating content using guidelines provided by the intranet team. Individual employees can also generate content about one-time events, news items, and so on. The front page is updated daily, and the whole site receives around 100 updates per week and 5,000 updates per year.

In April 2000, the company released version 2.0 of the intranet, which featured major changes in design and navigation over the previous version 1.6.

Pictured: version 1.6 of the site

the INFORMATION SOURCE for SAIC **ISSAIC**

SAIC Directory

 GO [Directory Home](#)

Search ISSAIC

 GO [Advanced Search](#)

[ISSAIC Help](#)
[ISSAIC Feedback](#)

IMPORTANT NOTICE!

For your convenience, this version of the ISSAIC Home Page will remain available.

The new [ISSAIC 2.0 Home Page](#) features iNews and lists all ISSAIC web sites in the:

- Updated [Category List](#)
- New [Alphabetical List](#)

See [Tips for Using ISSAIC 2.0](#) for information about all the useful new ISSAIC features!

Company Resources	Employee Resources	Information Library
Departments & Services	Employee Ownership	Web Résumés
Computer Services	Employee Perqs	SAIC Overview
eStore	Jobs	Process, Tools & Technology
Policy, Procedure & Standards	Training	External Hot Links
Business Development	Hotline Listing	Forms Library
Commercial Business	Meetings Week	Database Library
Proposal Resources & Research Support	SAIC Web Publishing	SAIC Publications
International Business	issaic.saic.com	Advisory Boards, Committees & SIGs
SAIC Systems	ISSAIC Updates	SAIC Locations
SAIC Organizations	Publishing Guide	Downloadable Documents
Corporate, Sectors, Groups & Divisions	Developers SIG	
Subsidiaries, Companies & Equity Partners	www.saic.com	
	SAIC's External Site	
	Publishing Guide	
	Customer Sites	
	Customer Site	
	Hosting	

SAIC The information contained within these pages may be proprietary to SAIC, and is principally intended for employees of SAIC and its subsidiaries only. SAIC. This site best viewed by Netscape Navigator 4.5. ISSAIC, Version 1.6

The update added, for the first time, company news to the homepage (which was previously just a list of links). Other new features included an alphabetical list of SAIC sites, links to employee self-service facilities, and the ISSAIC Top 10, a list of links to the most visited SAIC sites.

“The top 10 was an idea introduced as a result of employee feedback, because the most-used links vary with the time of year,” says Anna Davison, new projects manager. “For example, four times a year we have a stock trade, and when that happens we include links to the latest stock information and online tools.”

Also for the first time, they provided a consistent banner on each page that had a homepage link, search facilities, links to the page owner, and a feedback button. They also added metadata to the site, improving search effectiveness.

Version 2.0 was well received, but some aspects of the site didn't work as well as they should. At the start of 2001, the team began an update to ISSAIC to address these issues.

GOALS AND CONSTRAINTS

User feedback and the team's experience with version 2.0 generated two main goals. First, increase the visibility of the online guide to publishing information on ISSAIC to encourage employees to use it rather than calling the team for help. "People tended to call us first before finding information for themselves on the site," explains David Tillson, SAIC's intranet manager. Second, increase usage and awareness of the *About This Page/Feedback* feature, designed to encourage employees to contact the person in charge of a specific page with questions or updates.

Though SAIC is a major organization, it wasn't prepared to throw resources at an intranet update, and the team had to implement the new version on a limited budget, without jeopardizing day-to-day site maintenance. The team's goal is to spend 80% of its resources on day-to-day work, leaving only 20% for special projects.

The design also had to be generic enough to work with both PCs and Macs, with 800 x 600 resolution monitors, and, as David puts it, "every kind of browser invented."

PROCESS

Work started on version 2.5 in January 2001. David Tillson and art director Craig Goebel first looked through employee feedback, which was collected both online and through face-to-face conversations. "We get a lot of good suggestions from the workforce — people are not shy about telling us what they like and don't like," David says.

Using this feedback, they drew up a list of major and minor goals for the new version, which was signed off in late February. They then produced a series of mockups, which were reviewed by the whole Web group.

Mindful of maintaining employees' productivity when using the site, the intranet team aimed for incremental changes for version 2.5 rather than a quantum leap in site function, and they rejected an early mockup that was too big a departure from version 2.0.

Pictured: a mockup for version 2.5 (top). The team rejected this because they felt it was too different from version 2.0 (bottom), which employees were used to.

ISSAIC
The Information Source for SAIC

About this Page | Contact/Feedback | Help

People | ISSAIC

Search

Find it by Category: Category List...

Find it Alphabetically: Alphabetical (A-Z)...

Put your info on ISSAIC
Put your info on www.saic.com

iNews Add your story to iNews

Dr. Beyster Receives "Spirit of San Diego Award"
Last evening, the San Diego Regional Chamber of Commerce honored Dr. Beyster by presenting him with its prestigious "Spirit of San Diego" Award. This annual award is given to individuals who exemplify the true spirit of giving to their community. Dr. Beyster's entrepreneurial achievements in building SAIC over the past 32 years, educating other companies about employee ownership, and his community involvement were cited as reasons for the selection.

SAIC Today 02.10.01

Stock Price: **\$30.83** - \$.04
Employee Count: **41,448**
Revenues: **\$5.5 billion**

Public Web Site www.saic.com

Feature Article:
Martin Sector Shows Success with Marketing on saic.com.

Products:
Fully-digital portable x-ray equipment (RTR-4™) available to EOD pros. [visit site...](#)

How do I put my info on www.saic.com

ISSAIC Top 10

1. [SETS - SAIC Electronic Time Recording System](#)
2. [AJOB](#)
3. [The Commons](#)
4. [SAIC Ethics Committee](#)
5. [EDN](#)
6. [Forms Library](#)
7. [Per Diem Rates](#)
8. [SAIC University](#)
9. [Expense Reports](#)
10. [Meetings Week](#)

Did You Know?

Stock History

Wednesday, 02/07/2001

2:00PM, PT

- Secure Solutions Group's Security Analysis Expertise Featured in San Diego's "the T Sector" Magazine

10:00AM, PT

- Telcordia and Vitria to Seamlessly Integrate Customer Care Solutions with Telcordia (TM) Exchange Link

2:00AM, PT

- Retirement Programs Present "FLEXability: Diversify Your Plan" on Feb. 8 and 9 at SAIC-New Orleans Locations
- III Net Users: Mac Phone Access Linkin (DAI) No Longer

v 2.5 (mockup)

ISSAIC
The Information Source for SAIC

Category | Search/Archive | Submit News

People | ISSAIC

Search

ISSAIC Sites

- Alphabetical List
- Category List
- Employee Self Service

Organization Intranets

- The Commons
- Publishing Guide

ISSAIC Tools

- Help
- Feedback
- Publishing Guide

Public Web Site

- www.saic.com
- Publishing Guide

ISSAIC 1.6
Available for Your Convenience

iNews

Virus Alert - Server Administrators.
SAIC has noticed an increase in e-mail traffic from systems affected with the Code Red Worm. SAIC considers this to be a high priority concern for the safety and security of our network. Users with systems outside of SAICnet on SAIC controlled networks (such as the DMZ), are required to update their servers with the patch provided on the Virus Alert page immediately.

SAIC Today

Stock Price - 04/13/01
\$30.20 ▼ - \$.63
Employee Count - 05/04/01
41,478
Revenues as of 01/31/01
\$5.9 billion

Did You Know?

Web Publishing is Easier on ISSAIC 2.0
SAIC Web Publishing contains all the resources and guidelines you need to publish information on either SAIC's external web site (www.saic.com) or on ISSAIC 2.0. Also, a link to on-line request forms for iNews announcements, and additions or updates to our corporate web sites are provided.

ISSAIC Top 10

1. [SETS - SAIC Electronic Time Recording System](#)
2. [AJOB](#)
3. [The Commons](#)
4. [SAIC Ethics Committee](#)
5. [EDN](#)
6. [Forms Library](#)
7. [Per Diem Rates](#)
8. [SAIC University](#)
9. [Expense Reports](#)
10. [Meetings Week](#)

Tuesday, 07/24/2001

2:00AM, PT

- Last Chance to Enroll in Business Development Workshop Scheduled for August 10 & 11 in McLean
- Deadline to Participate in July Stock Trade, Friday, July 27, 2001
- McLean Employees: Attend July 24, 2001, Foundation Workshop, "Pension Changes in the Economic Growth and Tax Relief Reconciliation Act"
- Foley Sector Changes Name to Reflect Intelligence Business
- GIS Training Opportunity in McLean: New Dates Added for ArcView GIS Training Course

Monday, 07/23/2001

2:00AM, PT

- All Taxable and Non-Taxable Expense Reports Now Processed by Corporate Accounts Payable
- McLean Courses: Attend Information Session on Accelerated M.S. Program in Telecommunications and Computers, by SAIC and George Washington University
- SAIC University McLean Class: Seats Still Available for Introduction to Java and Object-Oriented Programming Class, July 30 and 31, 2001

Friday, 07/20/2001

2:30PM, PT

- July 18, 2001, Norton AntiVirus Definition Update for Windows Now Available

8:30AM, PT

- Obtain Approval Before Planning Travel to the Middle East

2:00AM, PT

- EDN News: Convert Your Stock Account to Book-

v 2.0

The new design added buttons for contacting the page owner and adding information to the site. The team also added front-page sections for employee self-service and Web services. One of the main initial changes was a move away from image links, which users appeared to be overlooking. After reviewing usability literature, the team also thought terminology might be a problem, so they replaced the image links with clearly labeled text links.

By late March, the team had come up with a version they were happy with. They showed the prototype system to users, carrying out three iterations of testing.

Just before the site's final version went live in May 2001, they ran the new and old versions in parallel for three weeks. They'd used this same approach when moving from version 1.6 to 2.0. "We've found it really useful, before a new site goes live, to put up a link to it so people can get used to how it works," says Anna. "People use this system every day for their jobs, we don't want them to be startled by it."

USABILITY

Version 2.5 of ISSAIC was the first to have formal usability testing; the team developed previous versions using the Web team's expertise, combined with informally gathered feedback from the user community. Formal testing turned out to be a valuable exercise, pointing out several prototype features that needed to be changed.

The team asked employees to volunteer to help test the site. They screened volunteers with a questionnaire asking for information such as their role in the company, current ISSAIC usage, and general Internet experience. They selected 20 test users representing a cross-section of job roles and technical expertise.

The team asked each volunteer to carry out three or four tasks and talk through what they were doing. The tasks focused on site areas that had not worked well in version 2.0, such as updating information and contacting the person responsible for a page's content. Each test lasted about 10 minutes. "We were asking people to take time out of their day, so we wanted to keep it fairly short," Anna explains.

Designers reviewed results of the test and made amendments. They then carried out a second round of testing on specific issues that emerged in the first round. Nine users participated. They made further changes and carried out a final check with four users. As a result of this usability testing, the team made several significant changes. One was to the *About This Page* feature, which was intended to put users in direct contact with the page owner.

Pictured: usability testing found that the feature for contacting the page owner (upper right corner) was often overlooked in this early design

issaic

The Information Source for SAIC

[About This Page](#)
[Feedback/Contact](#)
[Help](#)

Navigate

People
 ISSAIC

Search

Browse ISSAIC by...

- [Alphabetical List](#)
- [Category List](#)

ISSAIC Top Ten

1. [SETS: Time-Recording](#)
2. [AJOB](#)
3. [The Commons](#)
4. [Ethics Committee](#)
5. [EON](#)
6. [Forms Library](#)
7. [Per Diem Rates](#)
8. [SAIC University](#)
9. [Expense Reports](#)
10. [Meetings Week](#)

Organization Intranets

- [The Commons](#)
- [Energy Source](#)
- [Spectrum](#)

iNews

[Add my story to iNews](#)

Wednesday, 03/28/2001

2:00 AM, PT

- [SAIC Signs Strategic Alliance Agreement with Consilient, Inc.](#)
- [Project Managers: April 2001 Project Management Quarterly Bulletin \(PMQB\) Now Online](#)
- [Missing a Package? San Diego Facilities \(SDF\) Shipping and Receiving Dept. May Be Able to Help!](#)
- [New FedEx Money-Back Guarantee Policy Effective April 1, 2001](#)
- [Meetings Week Training: Business Development Workshop on April 11-12 Provides Marketing "How-To's" for Technical Staff](#)
- [Intelligence Solutions Group \(ISG\) Offers a Variety of Upcoming Technical Training in Hampton and McLean, VA and San Diego, CA](#)
- [SAIC- Hampton, VA Hosts American Red Cross Blood Drive Today](#)

Tuesday, 03/27/2001

2:00 AM, PT

- [New, Revised Treatment for Repurchases of Immature Option Shares at Termination](#)
- [April Meetings Week: Ambassador of Bahrain to Speak at the Middle East and Africa \(ME&A\) Business Meeting - April 10](#)
- [Meetings Week Training: Improve Your Communication Style with Three Courses Offered April 10 and 12](#)
- [Contract and Program Managers: Updated General Services Administration-Information Technology \(GSA-IT\) Schedule Available via \[www.saic.com\]\(http://www.saic.com\)](#)

Monday, 03/26/2001

4:00 PM, PT

- [SAIC's Advanced Information Technology Division Achieves SEI Level 3](#)

10:00 AM, PT

- [March 23, 2001 Norton AntiVirus Definition Update for Windows Now Available](#)
- [BellSouth Selects Telcordia Technologies to Provide Number Pooling Solutions](#)

8:00 AM, PT

- [SAIC Wins U.S. Joint Forces Command Contract](#)

2:00 AM, PT

- [www.saic.com Highlights SAIC's Converged Voice and Data Solutions for Enterprise Customers](#)
- [Wash. D.C.- Area Employees: Join the Technical Environment Committee \(TEC\) All-Employee Briefing on March 27](#)

Employee Self Service

[Time-Recording: SETS](#)

[EMAIL: Web-Access](#)

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Products:

The Vehicle and Cargo Inspection System (VACIS) is a new technology for non-invasive imaging.





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SAIC Today

Stock Price

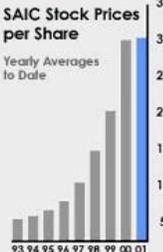
01/12/01

\$30.83

▼ - \$.04

SAIC Stock Prices per Share

Yearly Averages to Date



Employee Count

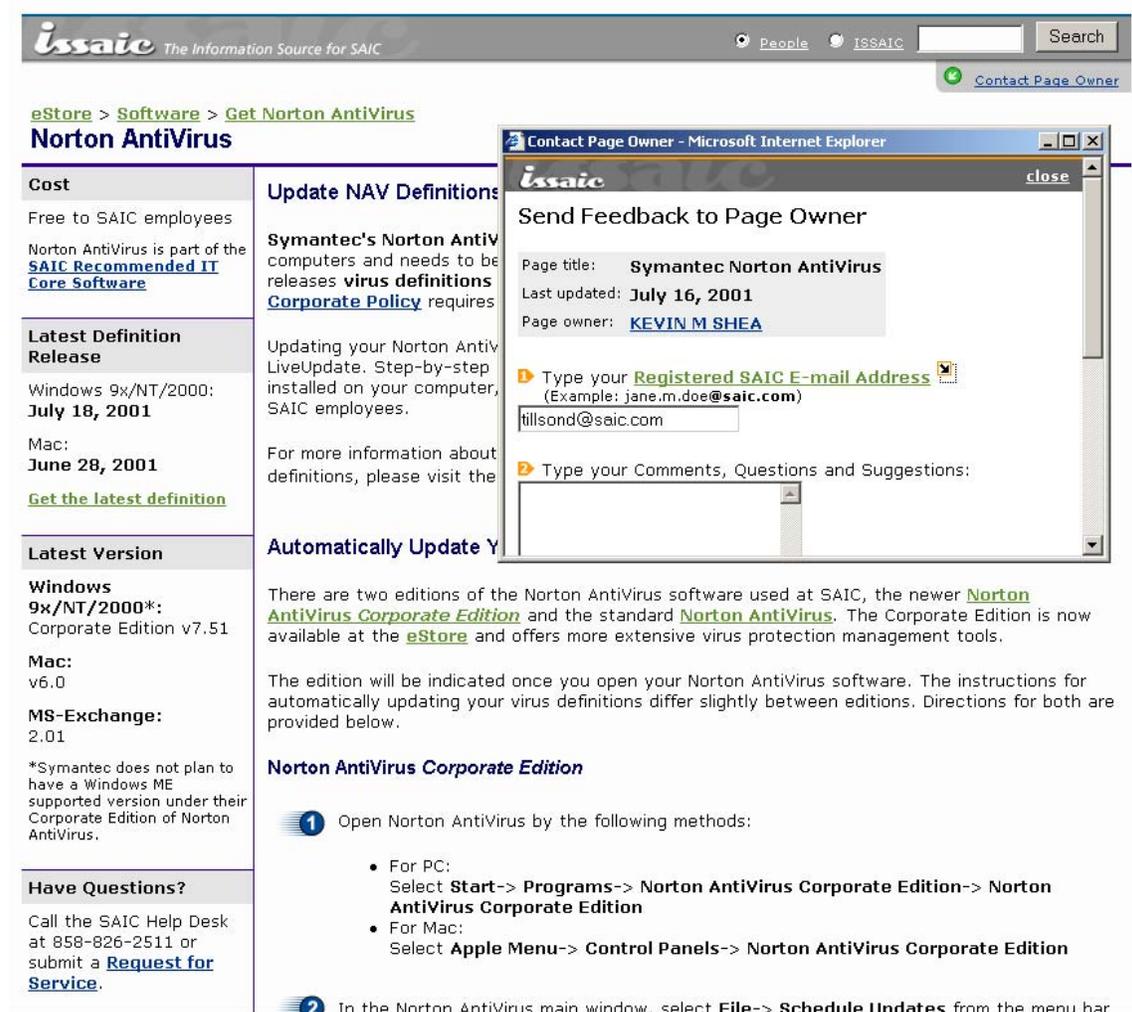
41,448

Revenues

01/31/00

\$5.5 billion

Pictured: the design for contacting the page owner after changing the button to read "Contact Page Owner"



In version 1.6, the *About This Page* feature was a graphic button, with italicized lettering. "We changed it to plain Arial text, underlined; we thought people would see it and all would be well," says Anna. "But we found they were scanning the page and still missing it, because they were looking for the word *contact*. We moved to a button called *Contact Page Owner*, and suddenly people saw it."

Another change occurred with the search box. Originally, they combined the people search and site search in a single dialog with radio buttons to select between the two, the default being a people search. When they asked users to carry out a site search, the team found that users would often fail to change the radio button selection, and thus conducted a people search by mistake. "People were saying, 'Oh shoot, I always do that!'" David recalls. "We realized that every time someone said 'I always do that!' they were taking a couple of extra seconds to do their search, and if we could avoid that we were going to save the company a lot of time."

RESULTS

“Probably 95% of initial feedback on version 2.5 has been very positive, though there are always a few people who don’t want change,” David says. The team also has quantifiable evidence that the application is achieving their goals.

One of the goals was to make it easier for staff to contact page owners directly. Page owner feedback has more than doubled since they released version 2.5. Another goal was to encourage more staff to submit material for the intranet. Since they introduced the features *Add My Story to iNews* and *Create an ISSAIC Website*, requests to submit information have also doubled.

Future versions of ISSAIC will include more personalization features, a popular request. For example, employees would like to be able to pick their own top 10 sites and personalize the front page’s news to cover only their own location.

In the future versions, the employee self-service facilities that version 2.5 introduced are likely to be extended.

TIMELINE

- April 1, 1997: Version 1.0b.
- May 5, 1997: Version 1.0b1.
- July 1, 1997: Version 1.0.
- September 8, 1997: Version 1.1.
- November 17, 1997: Version 1.2.
- January 16, 1998: Version 1.3.
- March 30, 1998: Version 1.4.
- May 6, 1998: Version 1.5.
- September 21, 1998: Version 1.6.
- February 2, 1999: Version 1.7.
- May 17, 1999: Version 1.8.
- November 1, 1999: Version 1.9.
- April 24, 2000: Version 2.0.
- May 22, 2001: Version 2.5.

LESSONS LEARNED

DON'T CHANGE THINGS TOO MUCH

“When we made the major change to version 2.0, we had people telling us ‘I can’t find any stuff I used to be able to find!’” David says. “This time we’ve aimed for incremental change, to let people adjust gradually. You’ve got to keep employee productivity in mind.”

STUDY USABILITY. IT REALLY WORKS.

“After releasing version 2.0, we had become much more aware of reading usability reports and seeing how we could apply them to ISSAIC,” says Anna. “We started

having biweekly usability meetings with the whole team, where people would take turns doing research on particular issues and doing a short presentation to the group. Some of those usability issues, such as labeling and use of graphics, have been really key to improving the site this time around.”

WORDING MATTERS

“We have a number of employees in remote locations, and they look to the company news section on the homepage to keep them in touch with what’s going on in the company. It’s our *iNews* editor’s job to come up with headlines that are really specific and intuitive, because if headlines are vague then 40,000 employees could be taking time to read something they don’t need to know.”

silverorange: Winner

silverorange is a small Web development firm based in Prince Edward Island, Canada. It has a core team of six. It works for clients throughout Eastern Canada.

DESIGN TEAM:

In-house
(employees at silverorange)

Pictured: silverorange homepage

The screenshot shows the 'demo silverorange intranet' interface. On the left is a 'menu' with categories like search, intranet, events, messages, tasks, work reports, ear-marks, admin, calendar, and news. A news item titled 'Michelle named to Management' is visible. The main area shows a list of messages from users like dan, bcain, and msmith. At the bottom left, a user profile for Steven Garrity is shown with options to edit profile, get site help, or logout.

SUMMARY

In the usability field, we often remind ourselves and the developers we work with that "You are not your user." In the case of silverorange design, however, this is not true. These designers found themselves in the unique situation of designing a system for themselves. The user group for this system is small, and the profile is relatively experienced, with the possible exception of some of their clients. Still, this site is straightforward, mostly uncluttered, and has some pleasantly original functions, such as the picture tool.

This site has the cleanest and most simple look of all those submitted. The navigation is straightforward, and the ever-present breadcrumbs help user stay oriented. The left-side navigation bar has clearly named categories and is always visible. The *Search* function looks simple, yet is advanced enough for those who want to refine search queries.

The team's approach to collaboration actively facilitates getting work done. The method they use for managing projects and discussions is innovative, and their calendar tool has a usable implementation.

Even though this was the number one intranet, there are still some usability issues we noted — we believe every design has at least a few. In this case, when looking at pages, it's difficult to tell which items are links and which are not. As the designers themselves noted, they should improve their nonstandard representation of links. With some interaction, however, a user can overcome this issue relatively quickly. The expand-collapse icons in the left-side navigation bar are also somewhat difficult to understand.

In terms of very basic accessibility, the contrast in color between most text and page backgrounds is very good. The spaces between links, as well as text size, however, are mostly very small, problems that impact both people with low vision and people with motor skill impairments. It's difficult for people with low vision to decipher this kind of text, and it's frustrating and tiring for people with motor skill impairments to hit such tiny targets.



*Left: Jakob Nielsen presents the award for best intranet design to Dan James from silverorange during the **User Experience 2001/2002** conference in Washington, DC*

Right: silverorange design team with members of Nielsen Norman Group.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2.5	2.5	2.5	2.5	2.5	2.5	2	2

INTRANET

The intranet is an internal communications tool for silverorange and its clients. It enables people to post messages, events, tasks, work reports, and news.

BACKGROUND

As a small firm of just six developers, silverorange had never found day-to-day communication a particular problem until three of its developers went to work on a project in New Zealand for eight months. Since all six people are partners in the company, they needed a way of holding discussions on major company decisions, but found email wasn't up to the job. "We tried to make decisions by email, but you run into problems as soon as more than one or two people are involved – you end up having to send everything to everyone, and people get out of sync," says Steven Garrity, the firm's creative director. The intranet evolved from this need for a better communication channel for the silverorange partners, their employees, and clients.

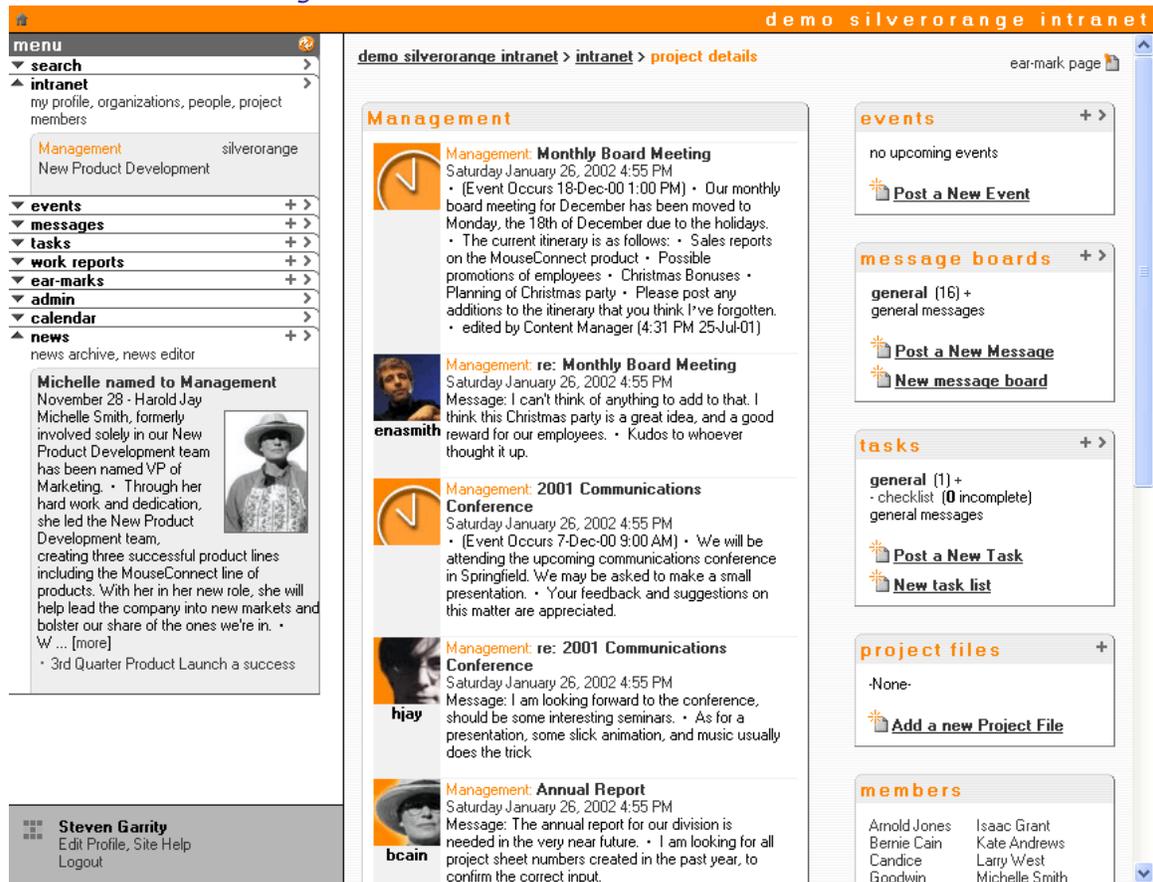
PROCESS

In October 1999, silverorange built a basic electronic discussion board system to supplement email by providing a forum for threaded group discussions. Initially, all discussion threads were accessible to all users. In the following January, they added some horizontal access control, enabling the partners to have private discussions.

Use of the discussion groups took off rapidly and silverorange decided to add more functions to the application. In June 2000, the full version of the intranet was launched. It built on the existing discussion boards by introducing the ability to post messages, tasks, news items, and work reports, edit user profiles, and record events in a group calendar.

The discussion group metaphor is used throughout; any item posted can start a thread, have replies, or contain attachments. At this stage, the intranet was reorganized as a potential communication tool for projects. Information is attached to a particular project, with vertical and horizontal access control, so that only users with access to that project will see it. With the appropriate permissions, a user can become a member of any number of projects.

Pictured: Project page, offering an overview of recent items as well as access to all subcategories



Any user can be given authorization to be a content manager for a particular project. Content managers can modify project posts, add new message boards and task lists, and create new users.

More powerful access control has meant that the discussion groups have largely replaced email for company communication. The ability to have multiple permutations of projects and users gives silverorange considerable flexibility to, for example, open up the intranet to clients who then see only information relevant to their particular job.

silverorange is a small company, and the site has been designed mainly for internal use. The system has evolved gradually, influenced by constant input from the partners and other users. "Part of the reason it's gone so well is that we're not trying to come up with ideas for some other audience — we're building something we want and need ourselves," Steven says. "Ideas just bubble up from the team as we work, or the whole team will sit down and discuss an idea. That helps us avoid including features that aren't particularly useful."

New features introduced since the main version was launched include earmarks, which work rather like a bookmark. For example, users can earmark the checklist for key projects they're working on and go straight to it.

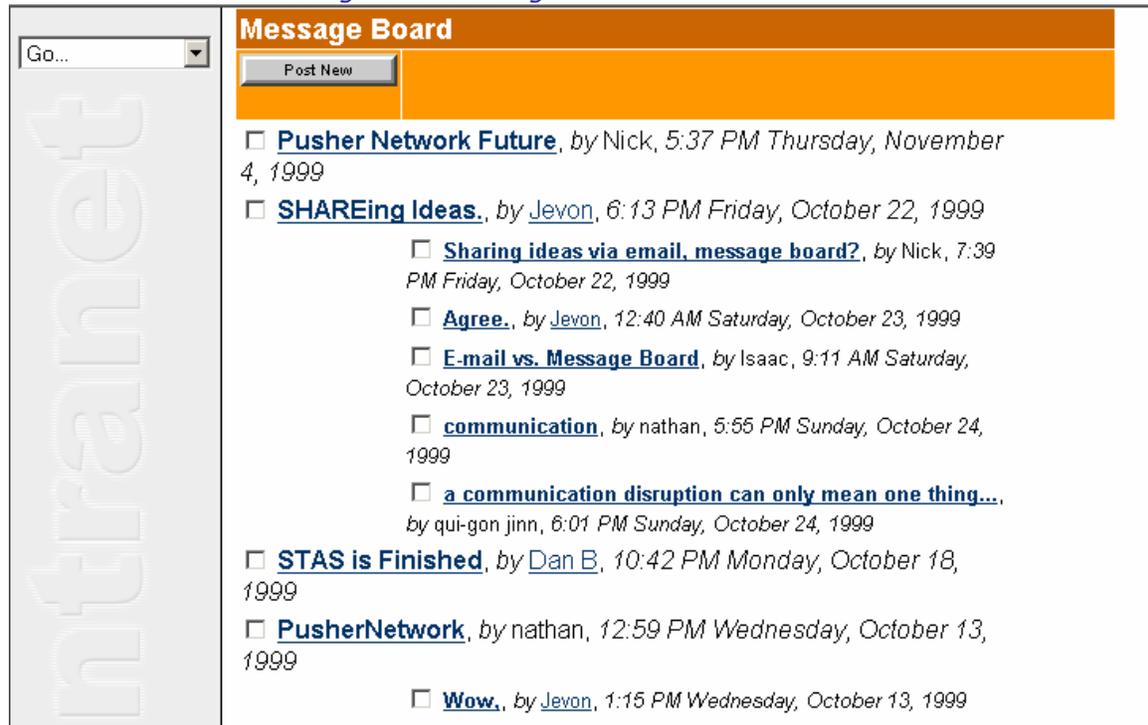
The company also stepped back every six months or so and completely reviewed the overall design. "As we used it every day, if there were features we wanted, like the ability to attach files, we just added them one by one. That's not always the most efficient way of building a system — it can end up like just a bundle of tools, with a design that's not optimized for the content," Steven says.

DESIGN

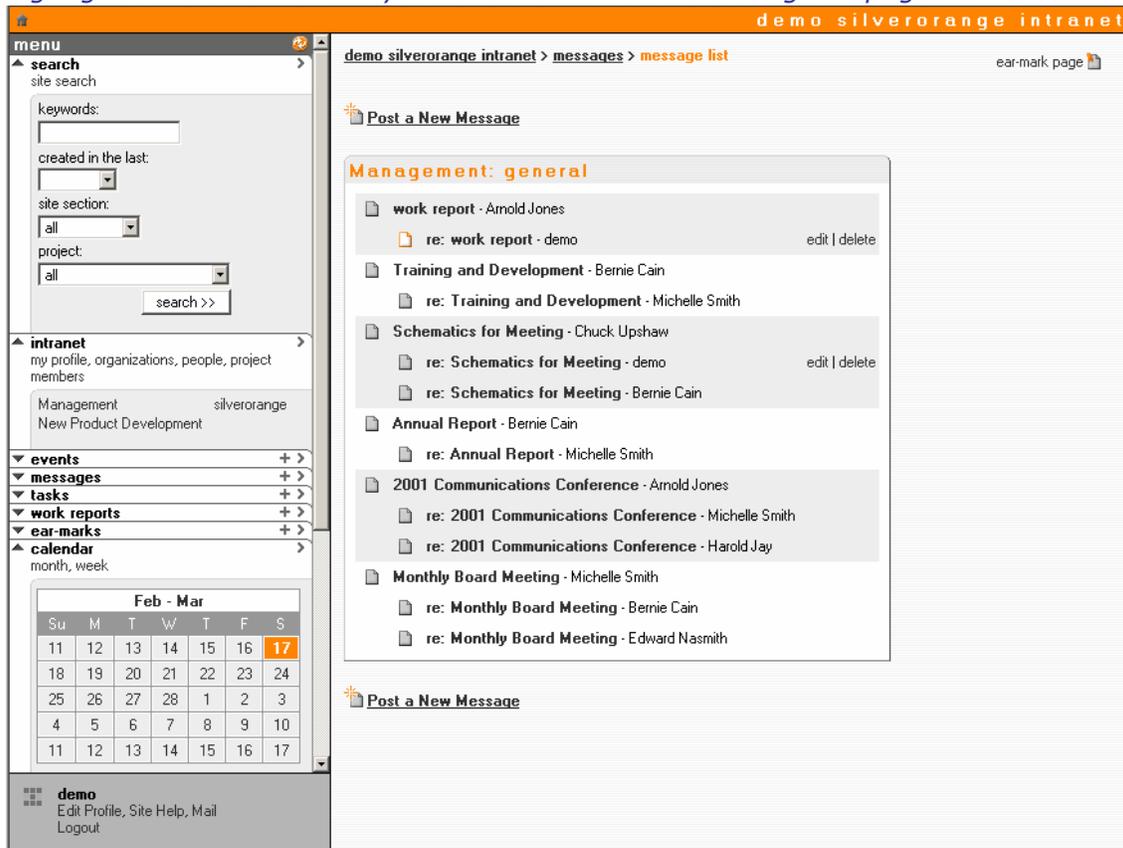
"Our main guiding principle for design and usability was to build something that we wouldn't get sick of looking at 20 times a day," explains Steven. The intranet was intended to be a tool that silverorange staff would use as an integral part of their work, and some of the team members keep it open in their browser all the time.

Because of this, busy design is out; unobtrusive simplicity has been the key. "Looking at previous versions of the intranet, what we thought was simple at the time doesn't look simple at all now," Steven points out. "Though most of the key elements remain, there's a very clear progression in the design, which gets simpler and simpler."

Pictured: the old message board design



Pictured: the new silverorange message board design. Recent items highlighted. Search is always available without reloading the page.

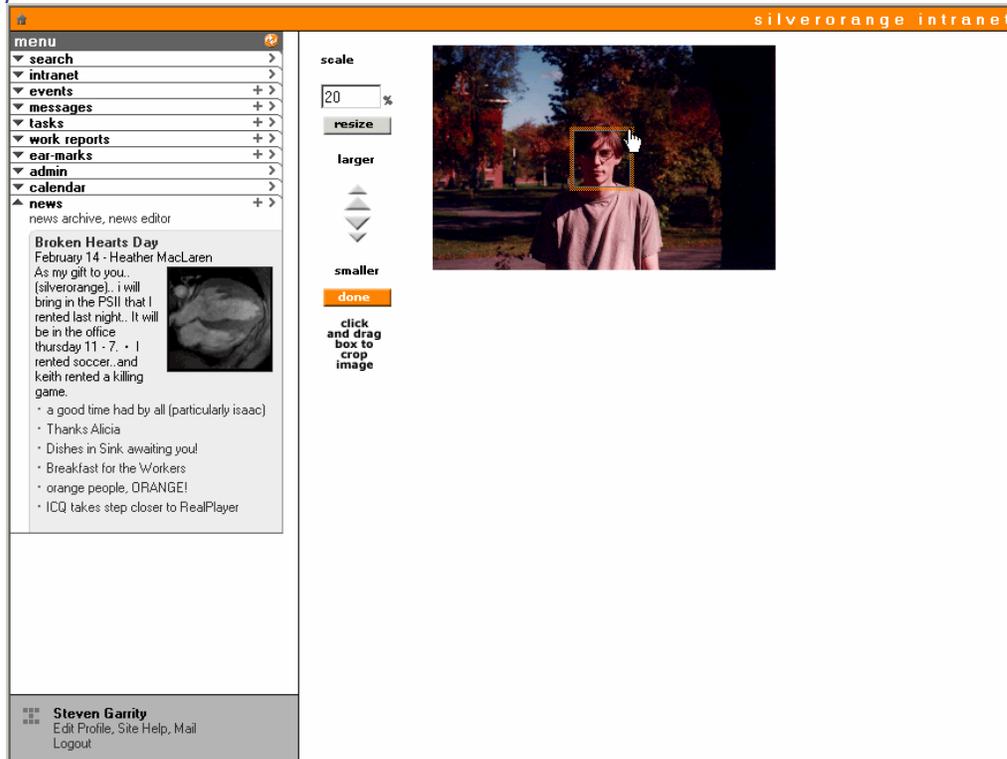


The site's basic color scheme is obviously suggested by the company name, but silverorange had another reason for choosing it. "We initially built it with one highlight color that can be changed throughout the entire site. The thinking was that if we decided to try and sell the product outside the company, it would be easy to customize," Steven says.

However the company is starting to feel restricted by the single highlight color. They are now considering a broader palette that would let them use color throughout the site in a more intuitive way.

One of the intranet's innovative features is a simple tool that lets users upload photos of themselves, scale, and crop them to fit a 50 x 50 pixel frame. It may sound gimmicky but, says Steven, "It really adds a personal element to communication, and also provides a visual cue to associate posts with the people who've made them. When we first introduced it, everyone just uploaded joke photos. Over time, however, they've been replaced with actual photos because people have found them useful."

Pictured: the picture tool. Visual aids are used to help associate postings with their authors. A simple utility to crop and size images simplifies the process.



silverorange opted to deliver the left-hand navigation menu as a frame, with sections that pop open using dynamic HTML. Once the frame is loaded, it's resident in the browser window, avoiding the need to reload the whole navigation each time the page changes. Using frames also makes it easy to change the left-hand column's default width to fit computers with different-sized monitors.

The team initially optimized the intranet for a specific user group with the same browser (IE 5.0 or higher), high-resolution monitors, and a fast network connection. Part of the benefit of having a corporate intranet tool be Web-based rather than LAN-based, however, is that the team can keep in touch while on the road, using varied computers, browsers, and bandwidth. The system therefore has to work well on a dial-up connection and a small monitor.

Until recently, most of the intranet's users have also all been highly Web-aware. "When people are using a system every day, you don't have to keep things that obvious," says Steven. "We were aiming at efficiency and convenience of use."

Thus, on the front page, rather than conventional news stories, users simply see the most recent messages posted on any topic, listed in chronological order. "That helps avoid things slipping through your fingers because they were hidden deep in the message board," Steven explains. To see a message's context, users move to the discussion area.

Pictured: the Beta version of the News page.

The screenshot shows the 'silverorange intranet' interface. On the left is a navigation menu with categories like 'search', 'intranet', 'events', 'messages', 'tasks', 'work reports', 'ear-marks', 'admin', 'calendar', and 'news'. The main content area is titled 'silverorange intranet » news »' and features a 'Reply' button. Below this, there are two news items. The first item, 'Tunc uitula innumeros lustrabat caesa iuencos' by Steven Garrity, includes a bar chart showing data for four quarters (1st Qtr, 2nd Qtr, 3rd Qtr, 4th Qtr) across three regions: East (blue), West (red), and North (yellow). The second item, 'Agnae cadet uobis, Quam circum rustica' by M.J.F., is also visible.

Since the team extended the application to clients, however, they've had to make concessions to less expert users. To help people who don't use the system daily, a new feature sends out email notifying users each time there's a new post in projects they have an interest in.

They've also added the option of viewing discussion threads as a long thread view, which shows only one post at a time with links to other posts in the thread, rather than showing all posts at once. This view permits quicker downloads of long threads. "When people outside the company started to use the intranet, we found that their posts and threads were often quite a bit longer than our own," Steven explains. "As a result, some conversations led to pages that were quite enormous."

In the next version of the intranet, silverorange will replace the current subtle link style with a more consistent and traditional link convention: all links will be blue and underlined. "It's not a problem for us, we know exactly where the links are, but it's not as obvious as it could be for users," Steven admits.

RESULTS

About 72 people use the intranet, though most of the activity comes from a core group of 10 to 12 frequent users.

"Having the intranet has made it possible for us to work with clients that we couldn't otherwise have worked with," says Steven. Increasingly, the company is taking on projects where the client is at a distance and face-to-face communication is expensive and time consuming. One client, for example, is in Newfoundland — a few hours' flying time away.

Using the intranet as an extranet enables silverorange to keep in touch with its clients without having to get on a plane and is opening up business opportunities as far abroad as New England and central Canada. The discussion boards provide a flexible way of communicating within a group, particularly since users have been able to attach files to any message.

"Clients can easily see the progression and change in the mockups we show them, and that's been a very powerful communication tool," Steven says. "The intranet has basically replaced email for communication within the company and with clients."

Having a well-designed intranet that's accessible to clients has the spin-off benefit of providing a tangible demonstration of the firm's ability to design effective, usable Web tools.

For silverorange, the system also acts as a repository of its work in progress and its communication with clients, archived and searchable by data, type, user, project, and so on.

Pictured: an old version of the horizontal access control

Logged in as Nick frames logout edit profile		search
upcoming events +	strob box	news +
1. August 18, 2001- Frisbee Golf Tournament 2. September 16, 2001- New Site Luanch 3. September 17, 2001- Creative Team Lunch 4. October 13, 2001- Meeting with George 5. November 16, 2001- Tech Session	 nrf silverorange: Cropping Wednesday July 18, 2001 5:08 PM Message: This might be a known error, but I've found that the thumbnails sometimes have white space at the edges even if they're cropped correctly. This might be misleading to customers who think that [more...]	creative director puts his head on the chopping block - July 18 - Nick I wrote the following article to submit to Jefferey Zeldman's web-developer web-magazine, A List Apart (read this weeks articles, they are pertinent to our situation). Before I submit it, please pick it apart (grammar, spelling, content, ect.). The Past, the Present, and the Problem A year ago, clients had to be sold on the wonders of dynamic database-driven websites. The pitch went something like this: While requiring a larger investment up-front when compared to static HTML sites th... [more]
messages +	 steven silverorange: Dbase Tables Wednesday July 18, 2001 5:07 PM Message: I see the problem. Actually we only need to tie in the CUS_OREC and CUS_RREC. Once these are brought to the invoice or credit stage we are just recording the values of what was in the order. [more...]	Bananas are way cool - July 18 - Steven I was at the Ken's Corner Petro Can doing some grocery shopping tonight (I barely escaped with my life) and I picked up some bananas. They were in suprisingly good shape for being at a Gas station for [more...]
diversions- Senheisser 580s rule!... diversions- Car Broken diversions- Why do packages get opened?... work- merx system work- Work Reports Part 2 office- Dan's Monday	 dan silverorange: re: Launch Dates Set Wednesday July 18, 2001 4:36 PM Message: I'll have the database setup and running well in advance. Isaac, can you get the code ready for the admin login?	Bananas are way cool - July 18 - Steven I was at the Ken's Corner Petro Can doing some grocery shopping tonight (I barely escaped with my li... [more]
my tasks +	 nick silverorange: Launch Dates Set Wednesday July 18, 2001 4:36 PM	Launch Dates Set - July 18 - Steven The new website will be launched on Wednesday the 25th. This means all development and consultation... [more]
silverorange technical- Compile php on Zest silverorange technical- Install mail server software silverorange		

TIMELINE

- October 1999: Initial message board went up.
- Late December 1999/January 2000: Horizontal access control added, major overhaul to the (now gaudy looking) silver version.
- June 2000: Current version launched, most significant overhaul to date; took the intranet to version 2.0 and added the majority of current functionality, with news, calendar, and vertical and horizontal access (minor features like earmarks added since).

LESSONS LEARNED

KEEP IT SIMPLE

“The major lesson we’ve learned is keep it simple — the simpler the better — and subtle,” says Steven. “When we redesign it, it will be even simpler.”

U.S. Department of Transportation: DOTnet

The U.S. Department of Transportation is the government department charged with implementing and maintaining the country's transportation system. It encompasses 11 different agencies dealing with transportation by air and on land and water, and has over 100,000 staff throughout the U.S. Its headquarters are in Washington, D.C.

DESIGN TEAM:
Burke Consortium

Pictured: homepage

The screenshot shows the DOTnet homepage with a blue header and navigation menu. The main content area is divided into several sections:

- MY DOT:** Includes links for Edit My Profile, My Notes, My Calendar, My Groups, My Modules, Admin Tools, Log Off, Visitors Center, and Privacy Statement.
- WHAT'S HOT @ DOT:** Lists top stories such as Managerial & Operational Flexibility, Secretary Mineta's Nam, Administrator Training, and Content porting.
- FIND THE GOOD & PRAISE IT:** Features a story about Christina Cooksey - FAA, who was awarded the Golden Wing award for her creation of the latest Air Traffic Control manual. Includes a photo of Ms. Cooksey.
- FEATURED NEWS:** Announces that Secretary Mineta has named John A. Flaherty as Chief of Staff.
- HEADLINE NEWS:** Lists various news items including aerospace firms, GAO report, Philippine military, Canadian volunteers, Bin Laden, and East Timor activists.
- MY WEATHER - ALEXANDRIA VA US:** A weather widget showing today's weather (HI 46°, LO 37°) and a forecast for the next four days (THU, FRI, SAT, SUN).
- FACT OF THE DAY:** States that the number of passengers carried by airlines around the world doubled to 750 million in 1998.
- ONE DOT SPOTLIGHT:** Promotes the Managerial & Operational Flexibility Flagship Team website.
- SURVEY:** A survey titled "What Screen Resolution Are You Using?" with options: 640x480, 800x600, 1024x768, and 1280x1024.

SUMMARY

The DOTnet intranet has a very clean look, with graceful color choices, clear headings and categories, and easy-to-decipher links. Graphics are used appropriately and sparingly. The personalization features help employees find the information specific to them quickly. Some of these features include bulletin boards, communities, chat rooms, and local news, weather, and traffic.

DOTnet also has several productivity-specific offerings. For example, the site's *Work Tools* section offers various applications and information sources people need to do their work. The *Communities* are a nice way to present information, and allow access restrictions for specified content for particular users. The community calendar,

What's Hot, the number of members, and access levels are visible. And, the *Visitor Center* is a nice way of camouflaging the same old *Help* feature.

Overall, data entry on DOTnet is simple. For example, the search feature is presented as an open field in the upper-left, followed by a *Go* button. The login function has two fields labeled *Logon* and *Password*. This simplicity is very good.

The DOTnet site also makes good use of information on several other government sites. It's smart to link to these, leading readers right to the source and not duplicating data. The info-message that pops up every time you are leaving the DOTnet pages, however, does interrupt your train of thought, is a bit annoying, and can be an accessibility issue. A better option might be to note the source at the link, so people know then that they are leaving the site.

There is a little too much text on some of the pages, and the clutter makes it difficult to read. Some of the text is very small, and there is not enough contrast between the text and the page background, which probably create accessibility issues for people with low vision and motor skill issues.

Scoring							
Simple look	Simple navigation	Consistent navigation across pages	Visible search bar (or button)	Simple search	Limited (and well-presented) page text	Clear labels	Clear links (name and marks)
2	2	2	3	3	2	2	2

INTRANET

DOTnet is an intranet for all the DOT staff, providing features such as an employee directory, library facilities, and electronic calendars, as well as role- and organization-specific communities.

BACKGROUND

The U.S. Department of Transportation is not lacking for intranets: 10 out of its 11 operating administrations — such as the U.S. Coastguard and Federal Aviation Authority — have developed their own systems. The DOT, however, is keen to improve efficiency by sharing best practice across departments. They see the introduction of a single, department-wide intranet as a way to achieve this aim. Last year, the department hired a services company, Burke Consortium, to build a new DOT-wide intranet to replace the existing system, which was built a year earlier by the DOTs internal IS team.

As for the existing intranet version, few staff had been persuaded to use it in addition to (let alone instead of) their own agency-specific systems. To be successful, the new version had to look appealing and offer employees features they couldn't get elsewhere.

GOALS AND CONSTRAINTS

Information exchange was the number one goal for the new DOT intranet, called DOTnet. The IS team wanted it to include online communities with community tools

for each group to make information sharing easier. For example, they wanted the staff involved in enterprise architecture or procurement within the various functional areas to be able to exchange examples of best practices and share resources common to them all.

At the same time, the DOT didn't want employees to regard DOTnet as a monolithic system that didn't reflect their individual needs. So, another priority was personalization tools that let users adapt the system to their own requirements.

The third important goal was that the system be easy for the DOT IS department to maintain internally, without ongoing service costs. The system design had to reflect that goal, and the application needed a built-in CMS.

Not only did the designers have to complete the intranet in a short timeframe, but they were also limited by some political decrees. For example, designers were required to use the official DOT color scheme: blue and yellow. Further, the design had to be sufficiently generic to not exclude or appear to favor any one of the DOT's individual agencies. An early prototype design featured a rotating logo that showed a truck, then a plane. The DOT rejected this as too specific.

To be compatible with all the DOT's workstations, the design had to be optimized to work well with screen resolutions of 800 x 600 and older versions of Netscape. This constraint limited the length of screen items such as form fields.

The application also had to comply with Section 508 of the Americans with Disabilities Act, which specifies that all information presented on a public site must be accessible to people with hearing or visual disabilities. "This makes it difficult to include media such as video or audio because, for example, a hearing-impaired person can't benefit much from video on Web. You have to limit the number of graphics to ensure the page is accessible to everyone," says information designer Matt White.

However, this constraint has also had the benefit of making it easier to create a multilanguage version of the application, if required. "Though the application is all in English now, because of Section 508 we give the ability to upload an alternate version of every bit of content — which means we could put in a Spanish version at the same time as the English version," Matt says.

THE REDESIGN PROCESS

In November 2000, the project kicked off with a day-long meeting among the five staffers responsible for maintaining the old intranet in the DOT's Central Information Office (CIO), and the four members of the Burke development team. The DOT had already provided Burke an outline of the existing intranet system, what it thought worked and what didn't, and new features — such as communities — that it wanted in the updated version. Burke's team had analyzed the site, and used log data to find out what information was viewed most regularly. They came to the meeting prepared to present ideas for desirable features, such as an employee directory and a calendar for department-wide and organization-specific events.

Pictured: employee directory

The screenshot shows the DOTnet employee directory interface. At the top, there's a blue header with the DOTnet logo, the date 'FEBRUARY 21', and navigation links: 'home | employee info | directory | communities | calendar'. Below this is a 'Directory' section with a search bar and a table of employee information. A pop-up window shows a detailed profile for Timothy Powell, including his title, address, and contact information.

EMPLOYEE DIRECTORY SEARCH

Name or Email: All Depts.

Last Name: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

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DOTnet - profile for: - Microsoft Internet Explorer

profile for: **TIMOTHY POWELL**

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Following the initial meeting, Burke prepared a basic information design and the two teams met and conferred again. Once the DOT approved and modified the design, Burke started to prepare visual designs and functional templates, outlining what the pages would look like and how they would work. The Burke team submitted three designs to the DOT team, who in turn selected a combination of two designs, which Burke used to create the final version.

DESIGN

To facilitate easy maintenance, the DOTnet design is entirely template-driven, with around 30 templates in all. Most of the templates are three columns, with a few two-column pages. Within these templates users can customize their screen layouts using various arrangements of the two basic design modules: a single narrow column and a double column.

Navigation, too, has been kept simple, with the aim of one-click access to most areas. It includes a *Home* button and four tabs to take users to the main areas: *Employee Information*, *Employee Directory*, *Communities*, and *Calendar*. Some areas, such as *Communities*, provide sub-navigation. The *My Dot* area gives users access to personal modules, such as a private calendar and library, plus personalized weather, notes, and news.

PERSONALIZATION

Because the DOT consists of multiple agencies, one obvious approach would have been to provide users with a personalized agency site view driven by their login, so that coastguard users would see a coastguard view, and so on. There were two reasons, however, why the DOT wanted to avoid this. First, the organization wanted

to promote the idea of department-wide information and resources, and felt that taking users straight into an agency view would dilute this message. Second, employees may belong to multiple communities: they might work in procurement, and also be a highways expert. Having community areas within a standard intranet makes it possible to reflect this diversity.

Pictured: community page

The screenshot shows the DOTnet community page for the NJ Community. The page layout includes a header with the DOTnet logo, the date 'FEBRUARY 23', and navigation links. The main content area is organized into several sections:

- MY DOT:** A section for user customization with links for 'Edit My Profile', 'My Notes', 'My Calendar', 'My Groups', 'My Modules', and 'Admin Tools'. It also includes links for 'Log Off', 'Visitors Center', and 'Privacy Statement'.
- FEATURED NEWS:** A section titled 'SECRETARY MINETA NAMES FLAHERTY CHIEF OF STAFF' with a brief article about the appointment of John A. Flaherty.
- TRANSPORTATION NEWS:** A list of recent news items, including 'Aerospace Firms Find "Lean" Leads to More Product', 'GAO Report on the Army's WRAP Initiative', and 'Afghan court sets deadline for Bin Laden proof'.
- COMMUNITY TALK:** A section for community interaction with links for 'Chat', 'Bulletin Boards', 'Ask An Expert', and 'View Members'.
- SURVEY:** A section titled 'How many days a month do you travel?' with radio button options for 1-6 days, 7-14 days, 15-22 days, and 22-30 days.
- JOIN A GROUP:** A table listing available groups and their access levels.

JOIN A GROUP		members	access level
ASP_Coding		5	public
Private_Coding		4	private

Users can customize their homepage by adding personal modules such as weather, personal notes, and a calendar, and arranging them as they see fit. Screen layout is customized using the *My Modules* option in the *My Dot* section.

In addition to this customization, community leaders and administrators can set the screen layout for the site areas they are responsible for maintaining. For example, the procurement community's leader can arrange the *Procurement Community* homepage. This type of customization is carried out from within the CMS.

Pictured: content management system

CMS MENU	
CREATE AND MODIFY CONTENT (ADD, EDIT, DELETE)	
Create General Content	Add new content
Create a Calendar Event	Add an event to your community/group
Create a Link	Add a link to your community/group
Modify/Delete My Content	Modify & Delete content you have created.
GROUP AND COMMUNITY TOOLS	
Content Management	Approve, Modify, Remove or Extend content in your area.
Create a Group/Community	Create new Communities/Groups, etc.
Create a Survey	Create new Surveys.
Create Employee Recognition Article	Create an Employee Recognition article.
Select Content for your Group/ Community	Select the content to use in your modules.
Modify the Screen Layout	Select and Arrange the modules used in your area.
User/Group Management	Manage your Community/Group members.
Bulletin Board Management	Remove items in your bulletin board area
Review Feedback	Review feedback, questions for an expert, etc.
Content Statistics	Statistical data about your area.
SITE ADMINISTRATION TOOLS	
Create a Fact of the Day Article	Create a Fact of the Day
Create an H.R. Corner Article	Create an H.R. Corner article.
Create a Promotional Module	Build a custom info module.
Modify Module Names	Modify global, community, and user module names

USABILITY

The DOT planned to decide on the intranet’s content and structure simply using input from its CIO team. “They didn’t see the need for much user testing, but we convinced them we needed to go through one round of it,” White recalls. “Most of the challenges didn’t come up until we gave the application over to users to look at.”

Around 20 test users were involved in the usability and functional testing, which started in February 2001 on the first iteration of DOTnet. Most of the test users were employees who’d expressed interest in the intranet project along the way; in cases where agencies weren’t represented, the team asked for volunteers to fill the gaps. They varied widely in their IT experience. “Some had used the old intranet quite a bit, others didn’t even know what a scrollbar did. So the whole thing had to be very easy to use,” Matt says.

Users were given several tasks to carry out using the CMS, which was seen as the most complex part of the application. For example, users had to enter a news article along with its headline and summary. The team designed the tasks to ensure that test users would work with most of the intranet’s features.

The team tried to observe as many of the test users as possible as they worked through the tasks, and got comments from all of them. “From that, we got a whole slew of proposed changes to work through,” Matt says. “People were having trouble understanding the method behind CMS — it was very foreign to them that they could put content on the site themselves.” Burke incorporated the user feedback and change requests from the DOT CIO team into a second version.

Because many of the DOT's users were fairly inexperienced Web users, Burke carried out a training program just before the launch. They held a one-day crash course in using the system for 20 core staff members who could then train others. Staff members were also given a number to call with any questions, and Burke had someone standing by for the next two and a half weeks to deal with inquiries. Burke team members set up a bulletin board, and also dropped by occasionally to check on how users were getting on with the system.

RESULTS

Because of the limitations of the DOT's network infrastructure, DOTnet usage is still restricted to the 50,000 employees in its Washington, D.C. headquarters, but the aim is to make it available to regional offices and home workers via a virtual private network. Burke has provided for this with features such as regional weather reports based on ZIP Code.

DOTnet went live in June, and attracted three to four thousand users in its first week. Although it's too early to judge its ultimate success, community use appears to be burgeoning, and one community already has 20 private groups within it.

TIMELINE

- November 2000: The project began.
- Requirements definition: 5 days.
- High-level information design: 7 days.
- Visual design (three design studies): 25 days.
- Functional template design: 18–25 days.
- Build prototype: 34 days.
- Testing and documentation: 16 days.
- Launch: 5 days.
- June 2001: The intranet went live.

LESSONS LEARNED

Burke Consortium is now applying the lessons learned from building DOTnet to creating a general-purpose community tool. According to information designer Matt White, they learned three specific lessons from the DOTnet project.

AVOID POP-UP WINDOWS

"While it worked for the DOT — because they wanted to maximize screen space and do a lot of multiplexing — we don't feel they are the most usable thing and we have eliminated them in newer versions of our own tool."

KEEP MENUS SHORT

Because long lists are difficult to manage, they often have to modify news items. They learned from their focus groups that they needed to break longer stories into more manageable chunks.

PROVIDE LOCALIZED SEARCH

DOTnet had just one general search engine, and although it could be categorized by news, calendar events, surveys, and so on, users were still faced with a long list to wade through. Burke now offers the option of localized searches in key areas, such as a calendar search.

Design Process Recommendations for Future Intranet Projects

Understanding the lessons learned from these well-designed intranets will help you create a better intranet for your own organization or your client's organization. Also, there are several process-related things you can do to improve intranet usability. Based on these cases and other experiences, the following are a few key recommendations for designing your own usable intranet.

1. Create user profiles and analyze user tasks.

One of the great benefits to designing a website or application for internal users versus external users, is that you can really find out who your users are, even if you work at a very large organization. Use this benefit to your advantage. Find out about the people who will be using the intranet, including their experience levels, their job function and tasks, what tools they use, and how the intranet might streamline their work. Visit them and watch them work.

2. Consider accessibility.

Many companies either do or will employ people who use assistive technology. Almost every intranet submission we received suffered from accessibility issues for users with low vision, no vision, or motor skill challenges. The trends toward having many graphics, tiny text, limited space between links and text, and small click targets are a bit scary, as these are chief accessibility offenders. (On the positive side, while many submissions do overuse graphics, most of the selected winners use graphics sparingly, and when they do use them, they are well placed for users with low vision.)¹

3. Allow users to edit content — keep information fresh.

The most well-received intranets are those that have fresh information that people need and want. One way to keep information updated and interesting is to make it easy for employees to add and edit information.

4. Conduct many simple usability evaluations on design iterations — watch people work.

We noticed a surprising lack of consistent usability testing and field study in the design submissions. Even busy development teams with tight deadlines should take the time to watch people use their design to complete basic tasks

¹ For more information on how to design intranets to maximize usability for users with disabilities, please see the 75 guidelines in our report *Beyond ALT Text*, <http://www.NNgroup.com/reports/accessibility>



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