

# Application Design Showcase

10 Best Application UIs

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1st edition



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## Executive Summary

The winners of the first competition to identify the 10 best-designed application user interfaces are:

- **Campaign Monitor** by Eyeblaster (Israel): Integrated management of multiple advertising campaigns for media buyers.
- **CMSBox** by CMSBox (Switzerland): Content management system.
- **FotoFlexer** by Arbor Labs (USA): Photo editor.
- **PRISMAPrepare** by Océ (The Netherlands): Print shop software.
- **Seating Management** by Magellan Network and DesignMap (USA): Hostess-stand reservation book for restaurants.
- **SQL diagnostic manager** by Idera (USA): Database performance monitoring and diagnostics.
- **SugarSync** by Sharpcast (USA): Synchronizing files across multiple computers.
- **SuperSaaS** by SuperSaaS (The Netherlands): Creating and hosting scheduling and reservation systems.
- **Wufoo** by Infinity Box, Inc. (USA): Online forms, surveys, invitations, and payments.
- **Xero** by Xero (New Zealand): Accounting for small businesses.

As with all our design competitions, winners came from around the world, covering 4 continents. In this competition, we had our first winner from the Middle East, as well as a strong showing from The Netherlands, given its size.

Of the winning applications, 70% are Web-based and 40% are locally hosted. Yes, this sums to 110%—we counted SugarSync twice because it's both Web-based and PC-/Mac-based. In fact, like several other winners, it also has a component for mobile devices.

Although dedicated mobile apps are not yet good enough to win in their own right, it was striking how many of this year's winners have a mobile *component*. Mobile is definitively the trend to watch for next year, and any application owner should think hard about whether and how to add mobile features in 2009.

### BUSINESS-ORIENTED INTERACTION

You'd think that there would be little common ground between marketing managers overseeing advertising campaigns and database administrators overseeing SQL servers. And you'd be right, as indicated by the many differences in the detailed design of the 2 winning applications for these distinct business users.

You can't just plop a "dashboard" design pattern into your app and expect it to support business users; they have highly domain-specific needs.

Still, the similarities are amazing when comparing the Campaign Monitor and the SQL diagnostic manager. Both need alerts, and both must avoid issuing too many alerts because doing so could cause users to overlook the most-important emergencies. Both also need drilldowns. Finally, both display selected forms of

current status in a single overview, which lets users see the health of their ads or servers in a glance.

The general challenge of managing large amounts of information and giving users a single view of complexity was addressed across many of the winning applications. Seating Management, for example, shows which tables are expected to be vacated (and when), as indicated by color-coding on a floor plan of the restaurant. A very different UI tied into a physical space, and yet one that also offers an overview-at-a-glance.

Most winners also use progressive disclosure to great effect. It's a simple idea that improves usability across a very broad range of contexts.

## FREEFORM VS. LINEAR TASK FLOW

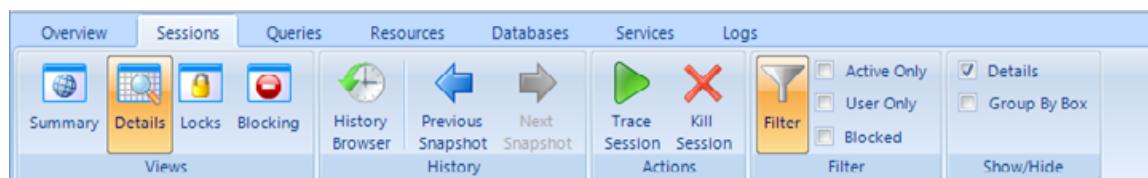
Many of the winning applications target a broader audience than similar apps have aimed for in the past. That's of course why they emphasized usability, and why they achieved an award-winning user experience.

A primary challenge in simplifying the initial experience for less-expert users is that you might create something that's too restrained for your traditional users. Many of our winners addressed this dilemma by emphasizing a linear task flow for the newbies, while also offering a more traditional open-ended set of commands for the experts.

Wizards abound this year as the preferred approach for guiding users through the application. But these wizards are more flexible and less dumbed-down than the restrictive wizards we've seen in the past. So, having witnessed this improved user experience, we now declare that it's time for a wizard renaissance. (Still, in most cases, you should also provide a non-wizard UI for expert users or people who prefer a freeform task flow.)

## OFFICE 2007 RIBBON SEES FAST UPTAKE

Several winners employed a ribbon as their main control, taking a lead from Microsoft Office 2007's new user interface. Considering how revolutionary it is to abandon traditional pull-down menus, having additional applications implement this idea only a year after it was introduced is very fast indeed.



*Ribbon from SQLdm.*

For decades, we've heard enterprise users say, "just give me a UI that looks like Office." There is definitely much to be said for familiarity and for leveraging users' existing knowledge and expectations, but we've been a bit cautious about following this request for several reasons.

First, it's a basic tenet of usability that you shouldn't listen to what users *say*; you should watch what they *do*. End users are not interaction designers, so the specific dialog elements they request are usually not what's best for them.

Second, Microsoft user interfaces have not always been shining examples of good usability; the company has embraced usability in a big way only in recent years. About 10 years ago, the main design criterion was to pass a Bill Gates review, and Billg's definitely not an average user.

Third, even as Microsoft's designs improved, it wasn't a given that the Office UI would transfer to enterprise apps. After all, Office is a productivity suite consisting mainly of document editors (text editing, slide editing, spreadsheet editing). While enterprise apps have some editing, most tasks are very different than Office-style tasks.

Based on this year's winners, however, it seems that **the ribbon has legs** and transfers beyond its document-editing origins.

### MODAL DIALOG BOXES: YES OR NO?

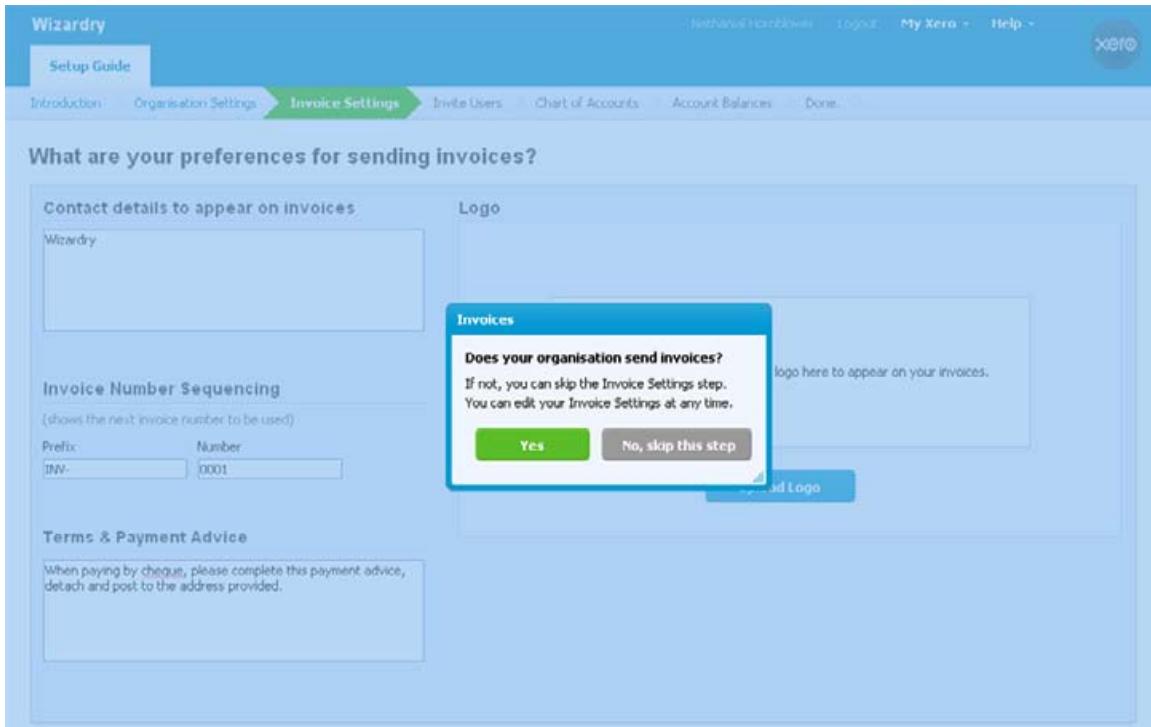
When it comes to modal dialog boxes, our winners have very distinct ideologies. At one extreme is Seating Management. As a real-time application monitoring a physical environment, Seating Management didn't set out to interrupt hostess work in any way. If a hostess wants to seat 5 guests at a table that the database says has a capacity of 4, the system won't halt the running of the restaurant by saying that it can't be done. Maybe that party looked friendly enough that they can squeeze in an extra chair.

At the other extreme, several apps use modal dialog boxes—and plenty of them—in ways that clearly stop users in their tracks and require them to do something before they can proceed. As discussed below, the lightbox was a preferred technique to this end.

So, what's the answer here? There is none. Generally, a user experience feels more accommodating if modal dialog boxes are avoided or downplayed. But, when something does need fixing, it's better to make sure that the user knows about it.

### LIGHTBOX: INTERACTION DESIGN TECHNIQUE OF THE YEAR

In UI terms, a lightbox draws the user's attention to a dialog box, error message, or other design element in the middle of the screen by dimming the rest of the screen. The following screenshot from Xero shows a typical lightbox design:



We've seen lightboxes in some interfaces over the last 4 years, but so many of this year's winning applications employed the idea that we've named the lightbox the dialog design technique of the year for 2008.

The lightbox benefit is obvious: it's impossible for users to overlook the only bright part of the screen. This is in stark contrast to many traditional designs, where users often remain blissfully ignorant of notifications that are camouflaged within busy pages.

Lightboxes do have downsides, however, and they shouldn't be used everywhere.

- A lightbox is a blunt instrument that hits users over the head and causes them to stop everything they're doing. Don't use them for low-priority items or background information.
- Talk about modal dialog boxes. A lightbox takes that concept to the extreme. (Even though it's theoretically possible to enable interaction with the dimmed parts of the screen, in practice this just isn't done because something that's dimmed *should* be inactive.)
- Users often have to refer to information on the background display to resolve the situation in the foreground dialog box. If the background is dimmed too much, such information can be hard to read.

## DOUBLE USABILITY CHALLENGE

Several winners were construction kits that let users create something for a different set of end users:

- In CMSBox, the user creates Web pages for others to browse.
- In SuperSaaS, the user creates reservation systems so that other users can make bookings.

- In Wufoo, the user creates online forms for other users to fill in.

Such apps face a double usability challenge. First, the user interface must be easy enough for the direct users to create their desired outcomes. But second, these outcomes must be easy for the ultimate users to use. This second issue is particularly difficult because the ultimate users don't use the application; instead they use the direct user's creation.

The solution in all cases was the same: Make it particularly easy for direct users to create highly usable designs. True, users might hang themselves by going beyond the defaults and thus creating a miserable experience for their end users. But most people are lazy and stay with the defaults as much as possible.

## USER ASSISTANCE

User assistance ran the gamut from applications with no help or manuals, to fully described applications with extensive online help, knowledge bases, and other elaborate forms of user assistance.

Mostly, the trend is to downplay user assistance as a separate feature. Most applications integrate helpful hints and descriptions with the main user interface, using on-screen instructions, beefed-up super-tooltips, and click-tips. (The difference between tooltips and click-tips is that the user has to explicitly request a click-tip by clicking, whereas a tooltip appears when the mouse hovers over a design element.)

## EMOTIONAL DESIGN

Applications are about features, but they are also about connecting with users. Several applications explicitly targeted emotional design that puts users at ease and projects a sense of playfulness.

Wufoo is the most prominent example of this approach, with its bold graphics and humorous assistance text. For that matter, their tagline is "making forms easy + fast + fun." (For once a tagline that makes sense and explains what the site does in 5 words.)

But Xero might be a more interesting example, simply because it targets the traditionally dry domain of accounting. One of its main features lets users automatically reconcile bookkeeping entries with bank account transactions. As a match is made, the 2 matching entries are removed from the list of stuff to be reconciled. Users compared this interaction to playing Tetris and described it as fun and addictive. Come on, making accounting fun? That's an award-winning design.

## USABILITY METHODS: CHEAP BUT CONTEXTUAL

The winning *designs* are revolutionary, but there's nothing revolutionary about the *usability methods* employed to ensure their quality. The teams used well-known and long-established usability methods that we've advocated for decades.

These winning methods deviate from most companies' usability efforts in two key ways:

Most winners used a very rapid approach to usability, emphasizing small-N user testing and paper prototypes to generate user feedback before investing in coding. Several teams squeezed a large amount of usability work into a budget of only 80

hours. This is perfectly reasonable, and proof that good results can come from small investments—as long as the designers actually follow the user research findings.

Many winners conducted field studies or other forms of contextual research in the workplace. After all, when you’re designing mission-critical software for print shops, you need to move your precious behind out of the office and into some real print shops.

## Overview of the Winners

Diverse applications and design team structures are represented in this year's winning group.

### FIVE COUNTRIES

A highly international set of submissions resulted in winners from Israel, The Netherlands, New Zealand, Switzerland and the USA. The products developed by these teams are used in many more countries again.

### DOMAINS

Applications ranged from online photo editing for occasional users through to document setup software for professional print shop employees. Small business owners wanting a simple accounting package are catered for, as are marketing executives controlling massive online advertising budgets. Three of the winners are not just applications in their own right, but are application creation environments aimed at allowing end users to build their own interfaces.

The one common thread was that each of the winning teams had thoroughly investigated their intended domain, extracted the key tasks and designed for their vision of the key users. In each case, this clear focus on users, task and environment contributed to their winning designs.

### TEAM SIZES

One-person teams can still produce winning software. Indeed four of the applications were developed by teams ranging from one to five people total. At the other end of the spectrum, one application had a design and modeling department of 24 people in an organization of 24,000.

### IN-HOUSE OR DESIGN CONSULTANCY

Sometimes a team will realize that they don't have all the resources they need on their staff. At least two of the winners worked with outside companies to bring in design expertise at stages of the process.

Several of the entrants—including a few of the winning designs—took this outsourcing one stage further, involving third parties in the development work as well. This approach requires very clear communication between the designer and the contract developer in order to ensure that the interaction and interface behave as originally envisaged.

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## THE 10 WINNERS *in alphabetical order*

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<a href="#"><u>Campaign Monitor</u></a> by Eyeblaster (Israel)	Presents a wealth of information from online advertising campaigns in one concise dashboard-style interface to empower media buyers to plan, create, serve, manage and measure online campaigns.
<a href="#"><u>CMSBox</u></a> by CMSBox (Switzerland)	Content management system that combines user freedom where it matters (creating content) with guided constraints that keep users out of trouble for other aspects of page design.
<a href="#"><u>FotoFlexer</u></a> by Arbor Labs (USA)	A full-featured photo editor, delivered over the Web with no installation, no configuration and no footprint on a user's hard drive.
<a href="#"><u>PRISMAprepare</u></a> by OCE (Netherlands)	Allows print shop employees to take customers' content and turn it into professional print packages using the metaphors from their physical environment.
<a href="#"><u>Seating Management</u></a> by Magellan Network and DesignMap (USA)	Replaces the reservation book, wait list and floor plan typically found at the hostess stand in restaurants. Tracks the habits of specific customers and the patterns of dining in the restaurant to produce increasingly accurate estimates of dining time and wait time
<a href="#"><u>SQL diagnostic manager</u></a> by Idera (USA)	Performance monitoring and diagnostics for information technologists using Microsoft SQL Servers. Proactively notifies SQL administrators about the health, performance and capacity of their SQL Server environments
<a href="#"><u>SugarSync</u></a> by Sharpcast (USA)	Allows all of a user's devices and the web to work as one. It keeps the user's digital media and files automatically in sync across multiple computers, backed up online, and remotely accessible from mobile phones and Web browsers.
<a href="#"><u>SuperSaaS</u></a> by SuperSaaS (Netherlands)	A Web-based application used to create and host online scheduling and reservation systems which are then used by the creator's customers or user base.
<a href="#"><u>Wufoo</u></a> by Infinity Box, Inc. (USA)	Lets users easily create online forms, surveys, invitations and simple payment orders, then manage and analyze the data entered by customers.

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[Xero](#) by Xero  
(New Zealand)

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Xero is a full-function accounting program for small businesses and those who balance their books. It provides multiple tools toward this end, including cashbook, general ledger, invoicing and reporting.

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## Common Themes Among the Winners

### DESIGNED TO BE QUICKLY COMPREHENSIBLE

Comprehension here means understandable to their target audience. For some, this means easy for anyone who has ever used a computer to pick up. For others, this means their specific, defined, domain-aware users.

### TELLING A SIMPLE STORY, AND COMMUNICATING WELL

By making the goals of the application clear and then providing an easy and well signposted path to achieving these goals, the winners demonstrate that the narrative flow of the application is a defining factor in how usable it is for its target audience. A good story which sticks to consistent metaphors and unambiguous feature names makes applications easy to learn, remember, and then teach to others. The easier the learning process, the less users will have to rely on the crutch of help systems.

### USING INTERFACE ELEMENTS IN THE WAY THAT USERS EXPECT

Innovation is wonderful, but it has to be introduced in a way which makes sense to the target audience. This is typically achieved by using common widgets to perform a novel task. The familiarity of the common widgets enables users to see how the novel story unfolds without losing them in unfamiliar interactions.

### HELPING USERS LEARN

Leading users through novel areas and then giving them control in areas they are familiar with ensures that they are never bewildered but also never frustrated with a badly paced interface. Users often feel lost when approaching an unfamiliar task, so they need guidance. However, this same level of guidance can be irritating for frequent tasks. Many of the applications in this annual show a good balance between leading users through unfamiliar or infrequent tasks and then letting users define their own flow through the interface for more common tasks.

# Campaign Monitor

## COMPANY INFORMATION

**Company:** Eyeblaster

**Application:** Campaign Monitor

**Headquarters:** Ra'anana, Israel

**Number of employees:** 200+

**Design motto:** "Keep it simple."

**Design team:**

**Product Planning and User Research:**

- Yael Tolub, Nir Shiloni and Gefen Lamdan
  - Program Management
- Ran Sarig and Gil Dikovski
  - R&D Project Managers: Amichai Kidron and Tsufit Naor

**U.I. and Graphic Design:**

- Amihay Rotter (Member of UPA Israel)

**Technology Research:**

- Chen Bekor

**Development Project Team:**

- Amir Chervinsky, Giri Berenstein, Hadas Or, Helena Belyakova, Ilan Avigdor, Ilanit Molayem, Jermy Hoffman, Lena Bernstein, Meital Kankazil, Rany Shochat, Rinat Sherzer, Ruven Yusupov, Thierry Sitbon.

## OVERVIEW

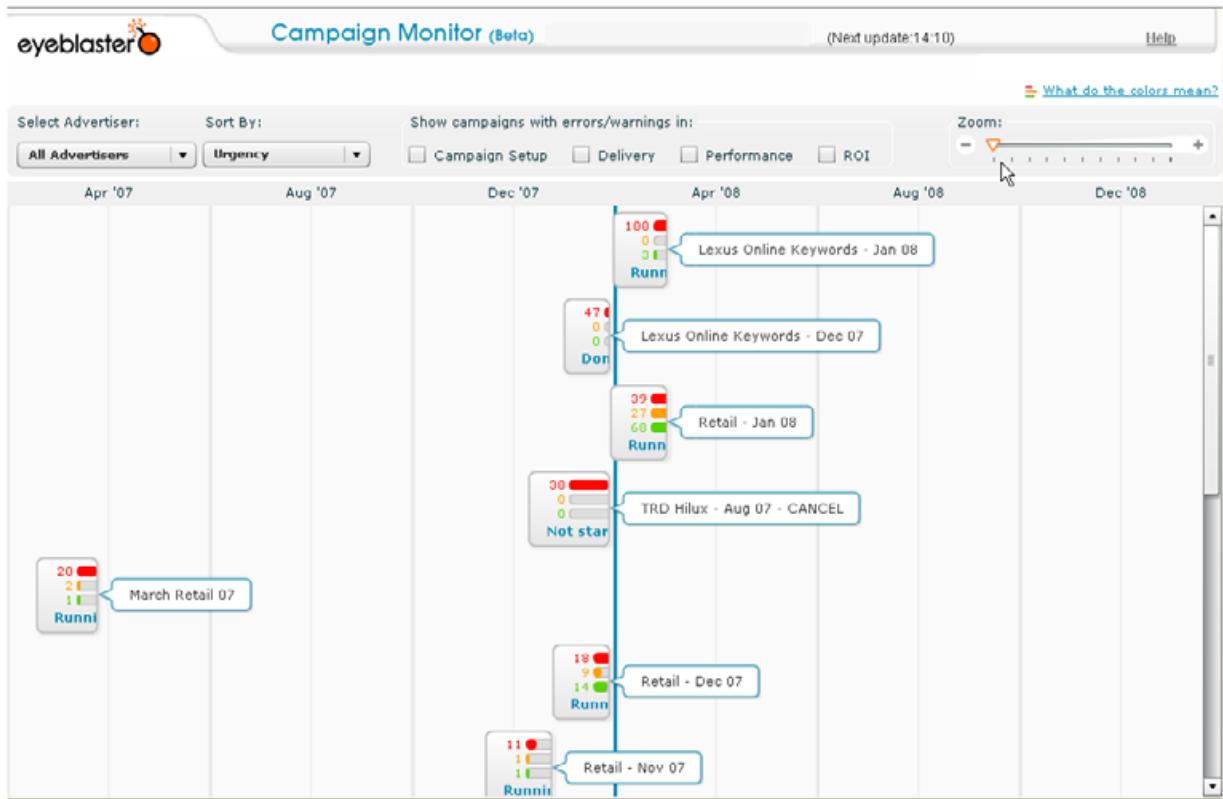
Eyeblaster's Campaign Monitor is designed to present a wealth of information from online advertising campaigns in one concise dashboard-style interface.

The company's focus is empowering media buyers (including media agencies, creative agencies and advertisers) to plan, create, serve, manage and measure online campaigns. Involved in digital media advertising since 1999, Eyeblaster aims to provide advanced management tools—and Campaign Monitor is just that.

A Web-based application, Campaign Monitor can track multiple ads and multiple campaigns, presenting metrics from several different sources in a unified view, directing users to campaigns which show problems so that they can be fixed. Campaign performance data is refreshed every 15 minutes (except for revenue, which is calculated daily).

The design team's slogan was "Keep it simple." But with so much data flowing into the application, making a simple interface was an incredibly complicated task.

"When it comes to presenting data it is very tempting to 'show it all' to the user," says Amihay Rotter, Eyeblaster's user experience design manager. Instead, the team decided on a strategy of progressive disclosure, in which each user action (mouseover, button click, etc.) serves up an increasing portion of the data and creates new opportunities for action.



*Campaign Monitor shows the effectiveness of online advertising campaigns in real time, so that clients can manage their online spend and react quickly to pull underperforming advertisements. This is the primary Gantt or timeline view.*

## WHAT DOES IT DO?

Key metrics provided by Campaign Monitor include setup, delivery, performance and return on investment. In addition to providing raw data, the application calculates error warnings and evaluates campaign status according to predefined levels of performance (characterized as thresholds) for each available metric.

Typical Campaign Monitor users are media planners or traffickers at digital media agencies, responsible for running large, complex campaigns generating vast quantities of metrics that are constantly in flux.

The main thrust of the design, therefore, is empowering users to identify problems without drowning them in information about aspects of the campaign that are running smoothly.

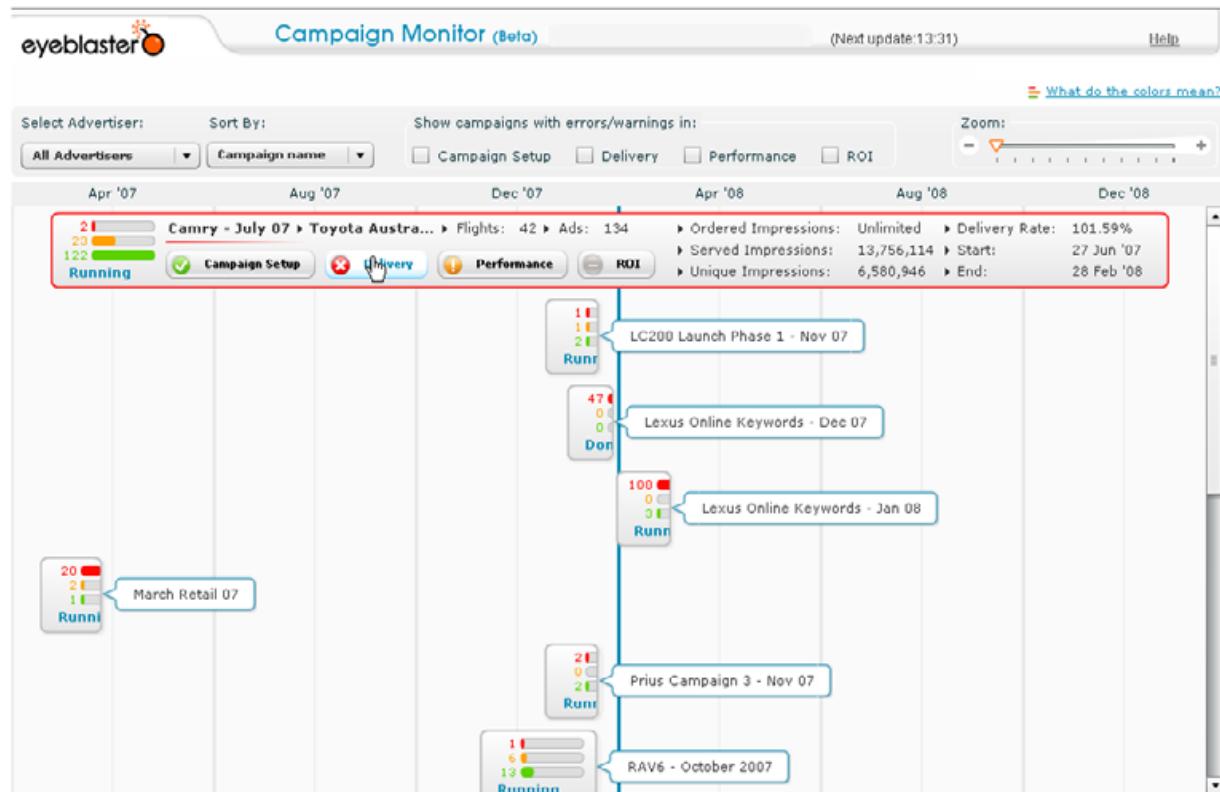
The dashboard view presented at sign-in offers a list of all current campaigns displayed in a Gantt timeline view. Inside each Gantt bar are three additional performance bars for the specific campaign.

Campaigns are sorted according to their health, with the most urgent cases highlighted in the default sorting scheme. The dashboard is customizable, and campaigns can be sorted or filtered according to various criteria.

The performance bars show the number of issues categorized as errors (in red), the number of issues at a warning level (in orange), and the number of normally behaving flights or ads (in green). The color scheme allows for a quick intuitive glimpse at the overall health of the campaign.

"The Campaign Monitor was planned with one aim in mind—to troubleshoot problems or errors that may appear in a campaign," says Rotter.

Mousing over the campaign bar expands it in the first layer of progressive disclosure—a more detailed overview, including ordered impressions, served impressions, unique impressions, flights, ads, delivery rate, and campaign start and end dates.



Gantt view, with campaign bar highlighted.

The expanded campaign bar features buttons to access four categories of metrics classified under campaign setup, delivery, performance and ROI.

The buttons are also indicators following the same red-orange-green color scheme established in the opening view. Here, the colors are a distillation of a wide range of metrics, such as click rates, impressions and other interactions.

Clicking on the button drills down to the next level of disclosure, opening a detailed screen of finely grained data concerning campaign specifics.

Status	Publisher (Section,Section'Details)	Flight ID	Flight has Approved Ads	Eyeblaster ID Signed	Flight Started Running
Running	News.com australia (Network,RON Expanding Le...	<a href="#">238432</a>	✓	—	✓
Running	Sensis (Sensis Network,RON - frequency cap 4 L...	<a href="#">312305</a>	✓	—	✓
Running	Fairfax Digital AU (DRIVE,ROS Expanding Leade...	<a href="#">238446</a>	✓	—	✓
Running	Fairfax Digital AU (DRIVE,ROS Bonus Leaderboa...	<a href="#">238449</a>	✓	—	✓
Running	News.com australia (Carsguide,Run of Site Expa...	<a href="#">238428</a>	✓	—	✓
Running	Sensis (Autotrader,ROS - frequency cap 4 Exp...	<a href="#">238417</a>	✓	—	✓
Running	News.com australia (Carsguide,ROS Expanding ...	<a href="#">238429</a>	✓	—	✓
Running	News.com australia (Network,Run of News Expa...	<a href="#">238427</a>	✓	—	✓
Running	News.com australia (news.com.au,Breaking New...	<a href="#">238424</a>	✓	—	✓
Running	Sensis (Redbook,New Car Section Medium Rect...	<a href="#">238410</a>	✓	—	✓

*Drill-down view showing campaign setup in graph view.*

Continuity runs all the way through the various views. In drill-down mode, users can select from graph or grid views, which can be sorted according to preference. Items are highlighted in color, with an icon that mirrors the campaign bar button indicators.

Issues identified in the grid view can be dismissed or selected. Selecting a problem item takes users to Eyeblaster's Campaign Manager, a separate application where modifications can be made to the campaign. For walkthrough purposes, this constitutes an exit from the program, but not a traditional endpoint. (Campaign Manager opens in a new window.)

## THE APPLICATION

As a real-time monitoring tool, Campaign Monitor doesn't follow a strict narrative storyline. It works more like a 3-D instrumentation panel, where each gauge can be expanded into a new and more detailed panel. For the main functional area of the program, navigation consists of drilling down and zooming out and switching between campaigns.

The screenshot shows the Eyeblaster Analytics - Campaign Monitor interface. At the top, there's a red banner indicating an error for a Toyota campaign with 32 errors, 20 warnings, and 122 successes. Below this, a table lists 10 campaigns with their details. To the right, a sidebar shows a list of other campaigns. The interface uses a color-coded system (red, yellow, green) and icons to indicate campaign status.

Status	Publisher (Section,Section Det...)	Flight ID	Expected Delivery to date	Delivery Rate	Days Left	Ordered Impressions	Served Impressions	Needed Daily Impressions
<span style="color:red;">X</span>	Fairfax Digital AU (The A...	<a href="#">230451</a>	302,163	40.25%	56	500,000	153,029	6,182
<span style="color:red;">X</span>	Sensis (IT Wire,ROS Exp...	<a href="#">238422</a>	322,600	13.03%	56	420,000	42,040	6,750
<span style="color:orange;">!</span>	Sensis (Sensis Network,...	<a href="#">312385</a>	693,065	130.59%	56	1,239,333	905,079	5,969
<span style="color:orange;">!</span>	Fairfax Digital AU (DRIV...	<a href="#">238449</a>	767,253	124.92%	56	1,000,000	958,474	742
<span style="color:orange;">!</span>	News.com australia (Net...	<a href="#">238427</a>	610,467	130.91%	56	800,000	799,182	15
<span style="color:orange;">!</span>	Sensis (Egoli,Headlines - ...	<a href="#">230419</a>	13,012	124.48%	56	18,000	17,192	15
<span style="color:green;">✓</span>	News.com australia (Net...	<a href="#">238432</a>	1,152,797	100.95%	56	1,500,000	1,163,735	6,005
<span style="color:green;">✓</span>	Fairfax Digital AU (DRIV...	<a href="#">238446</a>	937,632	83.13%	56	1,222,000	779,497	7,902
<span style="color:green;">✓</span>	News.com australia (Car...	<a href="#">238428</a>	715,974	98.94%	56	933,900	708,386	4,028
<span style="color:green;">✓</span>	Sensis (Autotrader,ROS ...	<a href="#">238417</a>	706,664	98.68%	56	919,833	697,323	3,974

*Drill-down view with unresolved alerts.*

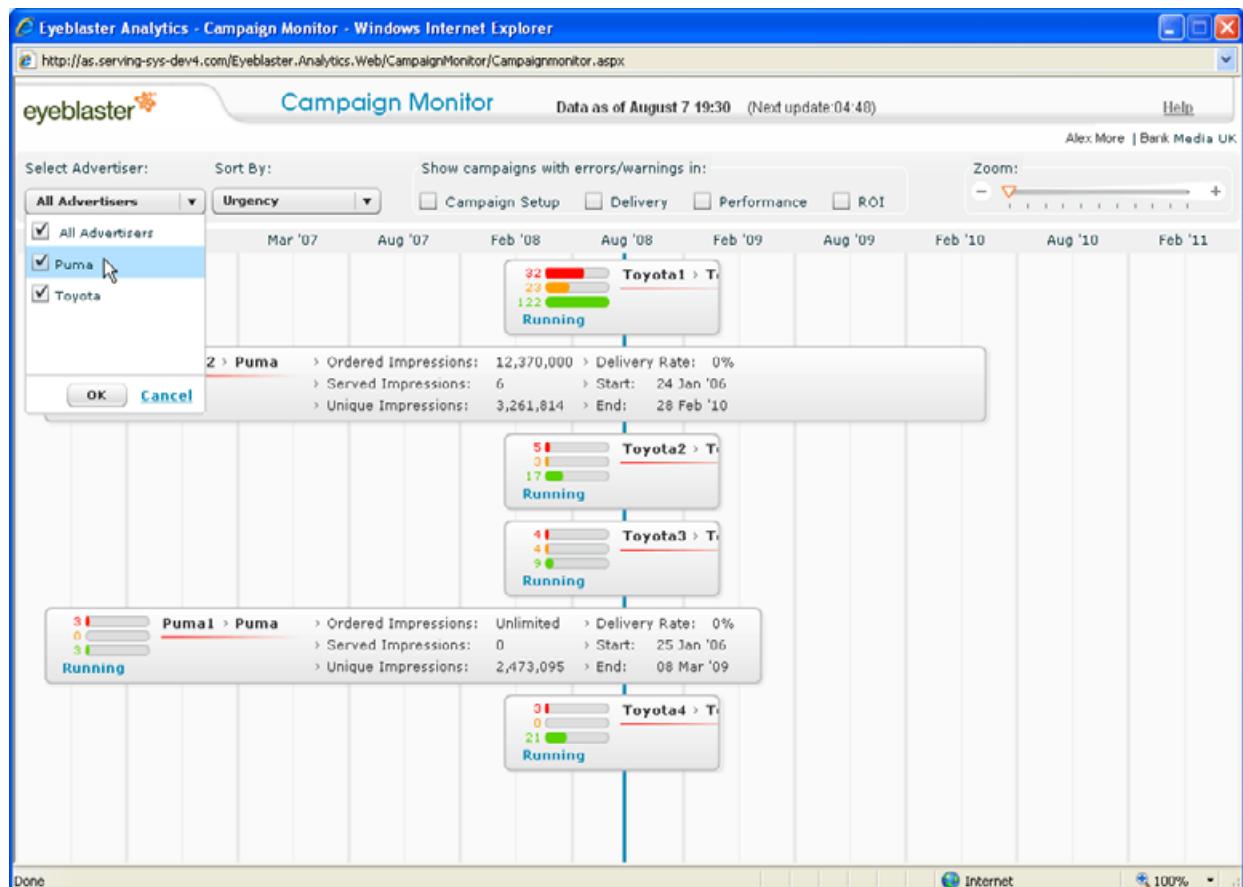
The red alert color-and-icon schemes serve as a magnet—pulling the eye and the user’s attention in a very deliberate manner, encouraging them to drill ever deeper, until the user reaches “bottom” and exits to Campaign Manager, where the red alert can be resolved. From there, the user can make several iterative runs from the dashboard view until all error and warning issues have been resolved.

Users can bypass a return to the dashboard and move laterally from one campaign to another through a “campaign menu” which can be invoked or pinned to the right hand side of the screen.

Given the volume of data and the number of campaigns run by a typical user, this represents a wide degree of freedom in how to resolve issues although the program obviously nudges users in the direction of fixing problems.

“We did have a story or narrative in mind when we planned the application and we aim for a specific path,” says Rotter. “But we are doing so without putting any limitations on the users.”

Although the natural path is to sort campaigns by urgency of issues and work through problems, there are plenty other ways to work with Campaign Monitor’s tools.



*Filters allow the list of campaigns to be reduced to a more manageable size without leaving Gantt view. Here, filtering by advertiser gives focus to specific campaigns.*

Campaigns can be filtered or sorted by advertiser (to evaluate a desired campaign's performance), or by type of error (to identify and diagnose systemic problems through multiple campaigns).

Eyeblaster's UI is obviously designed to be familiar to a particular type of user, and it's expected that many users will take part in periodic online training sessions offered by the company's product specialists. New users receive an overview training session and a "quick reference" one-page cheat sheet.

However, the program does offer several paths to learning from within. These include an integrated (context-sensitive) help section with short video tutorials. These are organized first according to the section of the application, then by best practices in some commonly encountered situations.

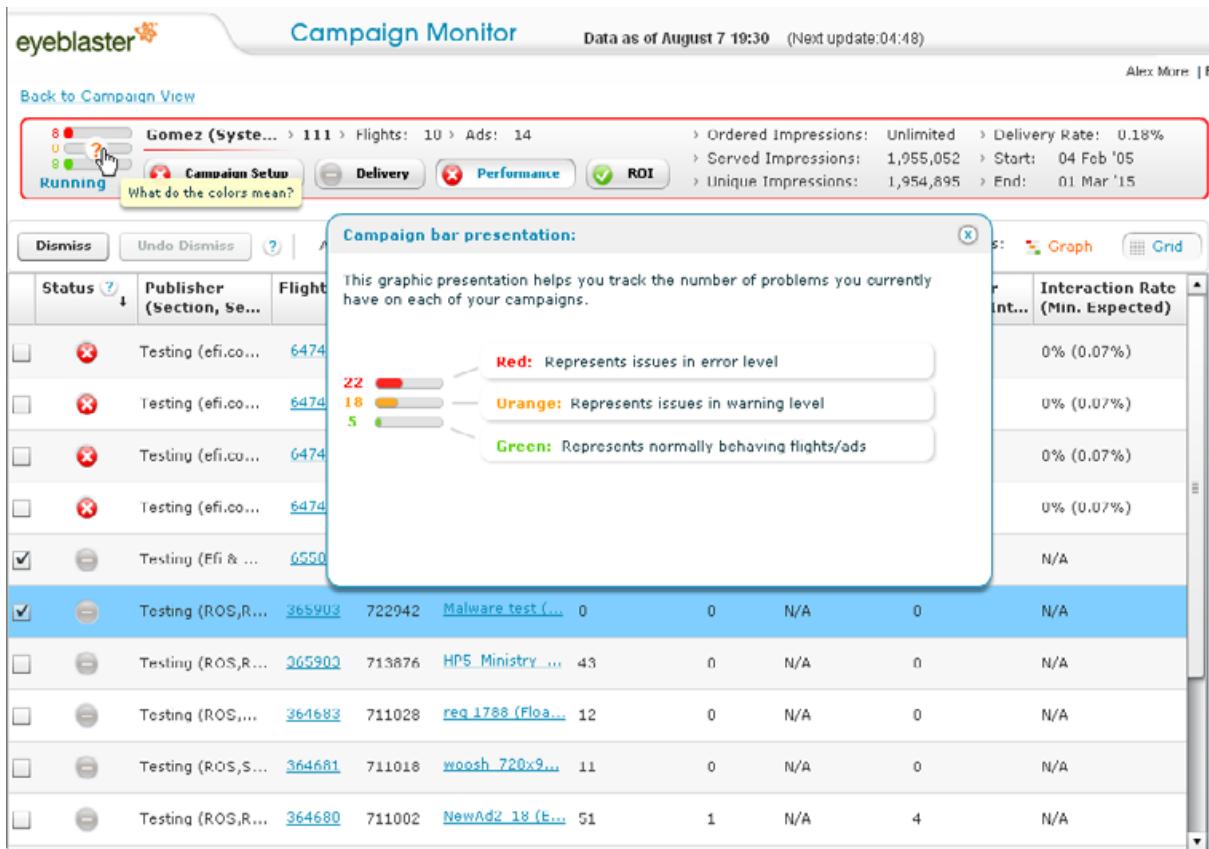
Many controls and displays feature tool tips, and most controls also feature click-tip help boxes, which are accessible by clicking the [?] icon. The click-tips offer extended explanations of what display data means and what each control does.

"We want this application to be as intuitive as working with any other applications that our users use (such as) web browsers, MS Outlook, etc.," says Eyeblaster

Program Manager Gil Ditkovski, "so it will not require more than a few words of explanation over the phone on how users are supposed to use it. If users know the basic terminology of online advertising they will know their way around in the Campaign Monitor."

Status	Publisher (Section, Section Details)	Flight ID	Ad Name (Ad Format)	CTR (%)	Interaction Rate (%)
<span>!</span>	EmpOnline UK (Park...	<a href="#">358628</a>	<a href="#">Syncing Lan...</a>	<div style="width: 10%;">0.06 %</div>	<div style="width: 10%;">0.02 %</div>
<span>!</span>	BBC UK (Top Gear,L...	<a href="#">357803</a>	<a href="#">Syncing Lan...</a>	<div style="width: 10%;">0.08 %</div>	<div style="width: 10%;">0.02 %</div>
<span>!</span>	Ad's Performance is out of the normal range.		<a href="#">Syncing Lan...</a>	<div style="width: 10%;">0.16 %</div>	<div style="width: 10%;">0.02 %</div>
<span>!</span>	BBC UK (Top Gear,L...	<a href="#">357801</a>	<a href="#">Syncing Lan...</a>	<div style="width: 10%;">0.14 %</div>	<div style="width: 10%;">0.02 %</div>
<span>✓</span>	Dennis UK (Auto Exp...	<a href="#">357811</a>	<a href="#">Syncing Lan...</a>	<div style="width: 31%;">0.31 %</div>	<div style="width: 10%;">0.02 %</div>
<span>-</span>	Haymarket Specialist...	<a href="#">357807</a>	<a href="#">Syncing Lan...</a>	N/A	<div style="width: 10%;">0.02 %</div>
<span>-</span>	Haymarket Specialist...	<a href="#">357805</a>	<a href="#">Syncing Lan...</a>	N/A	<div style="width: 10%;">0.02 %</div>
<span>-</span>	Channel4.com UK (4...	<a href="#">357809</a>	<a href="#">Syncing Lan...</a>	N/A	<div style="width: 10%;">0.02 %</div>
<span>-</span>	Haymarket Specialist...	<a href="#">357808</a>	<a href="#">Syncing Lan...</a>	N/A	<div style="width: 10%;">0.02 %</div>
<span>-</span>	Haymarket Specialist...	<a href="#">357806</a>	<a href="#">Syncing Lan...</a>	N/A	<div style="width: 10%;">0.02 %</div>

*Tooltips provide more information on alerts without requiring a click.*



*Click-tips offer opportunities for learning within the program. These help balloons are different from tooltips because they must be clicked to invoke them, and then must be closed to remove them from the screen. Click-tips offer more space to describe features and (as in this example) can contain graphics to aid in explanation.*

## INFORMATION DISPLAY

Obviously, given the function Campaign Monitor performs, the development team's greatest focus was on how to display information—what to display and how to display it, as well as the crucial question of how to ruthlessly distill a sea of metrics into the most Spartan format that retains high functionality.

The developers followed the design philosophy of information visualization guru Stephen Few, who defines a dashboard as the “single-screen display of the most important information people need to do a job, presented in a way that allows them to monitor what’s going on in an instant.”

The key principle for Campaign Monitor’s developers was “reduction”—how the raw information could be reduced to avoid overwhelming users, while still providing the maximum amount of direction and—most importantly—flagging critical issues that require immediate attention.

The team opted to keep the number of alert colors to a minimum, and to deploy the same colors over and over again throughout the tiers of information. Separately, Eyeblaster's online advertising experts isolated the major problems that could be expected to surface during an online campaign, as well as honing the numerical thresholds that would trigger an error or warning alert. This is functional usability, rather than design usability, and spotlights the advantage of bringing in expertise from all over an enterprise.

The progressive disclosure philosophy comes into play as the user works through the application's tiers. In the initial dashboard view, three key information items are spotlighted for each campaign—1) errors, 2) warnings and 3) healthy ads. Numerics and visual bars allow users to quantify these instantly, as well as to make a quick, intuitive comparison and estimate the relative overall health of the campaign.

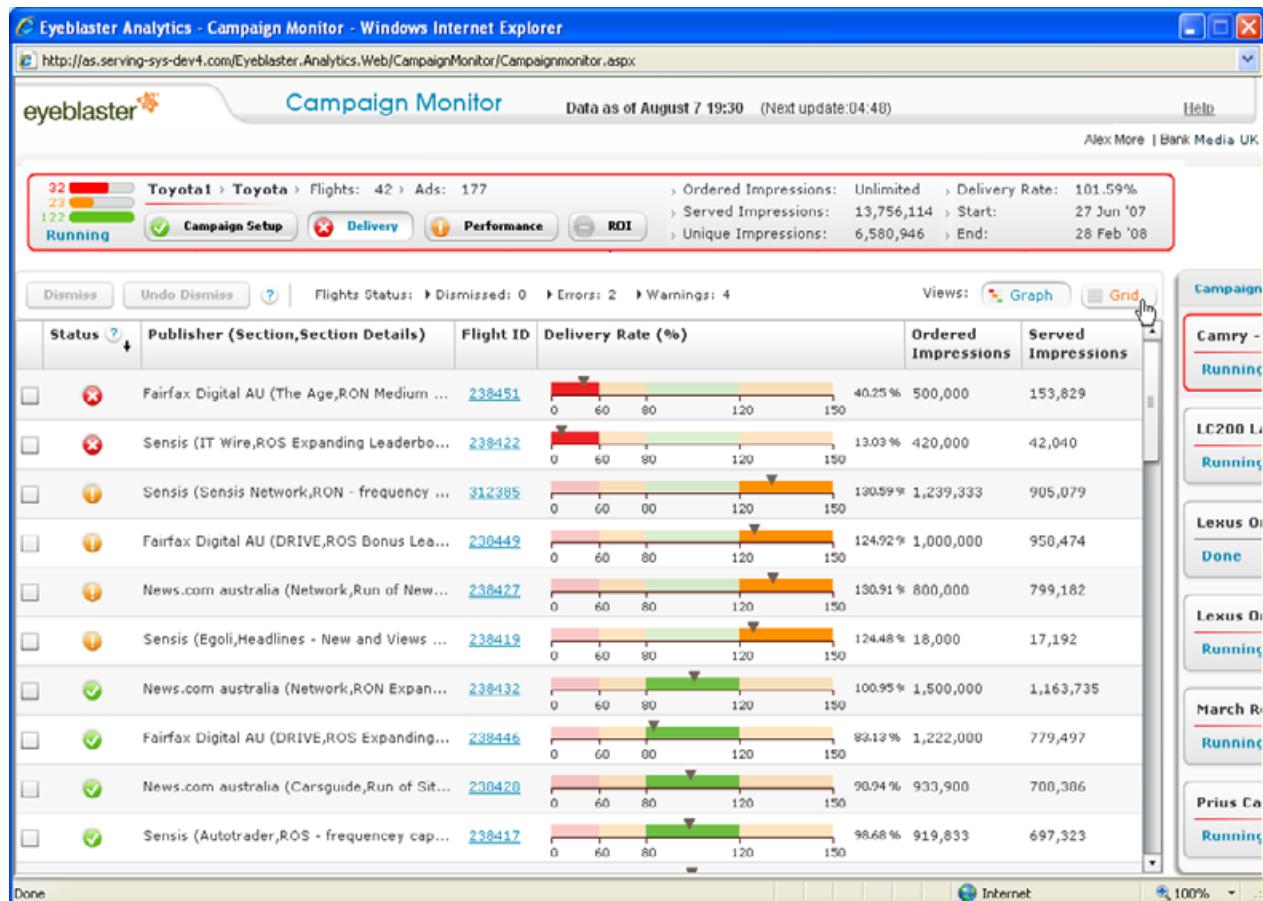
The progressive disclosure expands when the user mouses over the campaign of his or her choice, revealing a handful of metrics and four more color-coded categories for further exploration. These are:

- Campaign Setup: Has the campaign ad been approved? Was the PO signed, etc.?
- Delivery: Is the campaign getting the expected exposure by the publishing sites?
- Performance: What is the current clickthrough rate?
- ROI: What is the conversion rate?

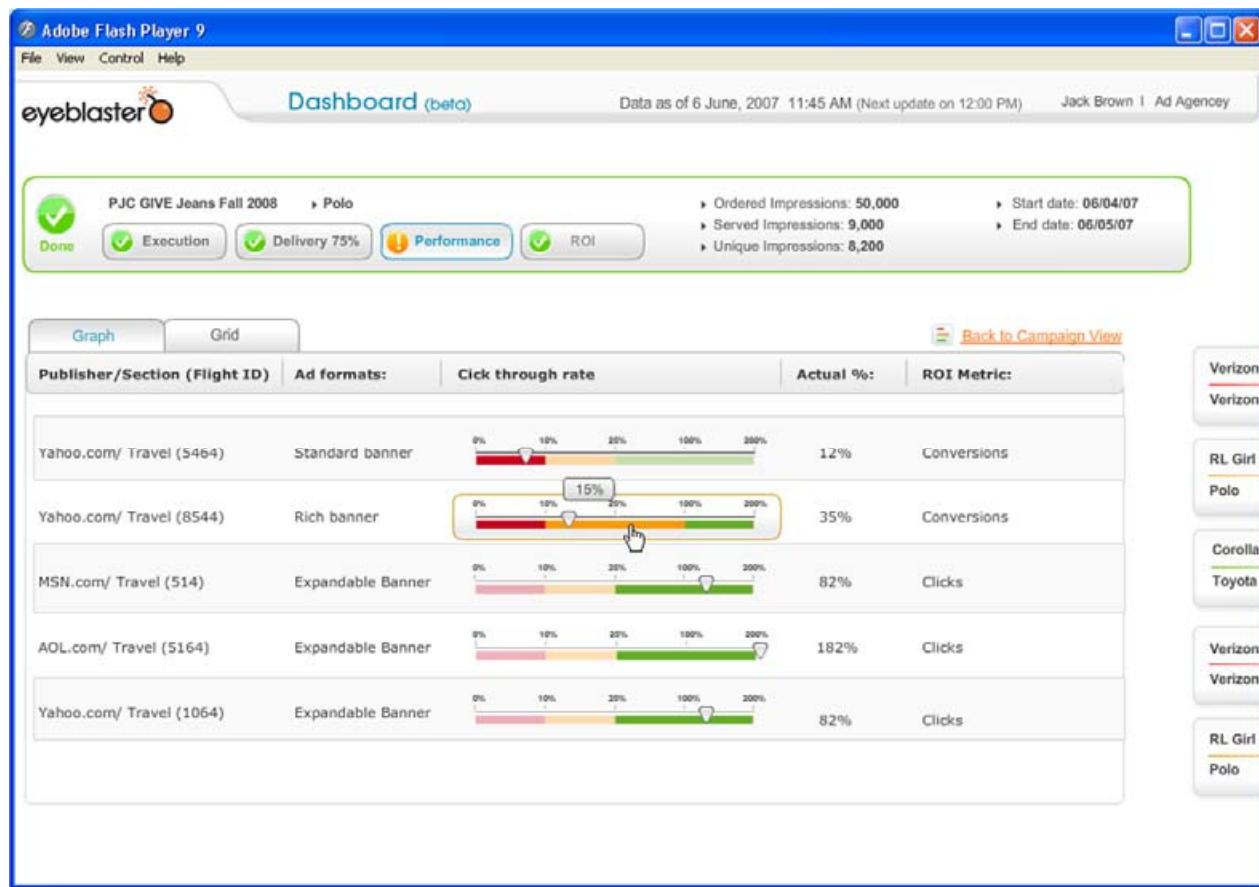
As previously noted, each of these categories can be clicked to reveal a data-intensive graph or grid view. The data graphs and grids in the campaign view are the most complex informational elements in the program.

"The developers spent days on days working on the controls until it finally had the right functionality," Rotter says. As a result, the graphs are easy to learn and understand, even at a glance and even for novice users (as long as they understand the actual mechanics of an online ad campaign, which is not by definition a usability issue).

For future releases, the development team plans to allow users to customize alarm levels and color schemes. This will further increase dashboard and grid view usability for advanced users, who can tune the program to whatever cues they personally prefer.



*Graphs used in the grid view reflect the colors used at the dashboard level. This color consistency keeps warnings simple. For users who can't see the colors, each element has an associated icon or numerical scale.*



An earlier version of the graph view. Removing some of the “decoration” on each slider has made it easier to evaluate. The additional information provided in the more recent version also gives a faster indication of the underperforming campaigns and shows more of the information that users will want to see without requiring further clicks.



*Some of the styles the team considered for the graph views. Note that the implemented version is one of the plainer options.*

## INTERFACE ELEMENTS

Campaign Monitor's development team used Adobe Flex to create its UI, borrowing or buying standard elements such as checkboxes, dropdowns and various buttons used in the app. Familiarity works here—the red color-coding for an error, for instance, is accompanied by buttons and icons showing an instantly recognizable circle with an X in the center. Green elements use a checkmark, another piece of shorthand familiar to most tech-savvy users.

Almost every clickable item is 3-D shaded, for a touchable consistency, even down to the checkboxes. Informational (non-action) clicks are presented as links. Text labeling is concise but more than adequately descriptive to the task at hand.

Some controls, such as the zoom slider, were skinned to give them a distinctive feel within the context of the overall interface. These changes are largely cosmetic—everything works as you would expect it to. Thanks to the innovative approach to information display, traditional dialogs have been minimized; they are simple and quickly dispatched when they do appear.

### **Standard Flex Slider Control:**



### **Campaign Monitor Zoom Control:**



*Usability isn't all about being boring. The skinned version of the zoom control which Eyeblaster chose for the Campaign Monitor UI ties in visually with the rest of the UI and provides additional affordances (the white background gets thicker towards the "+" side of the slider).*

A go-to feature for most users is the Campaign Navigation Menu, a panel displayed from the drill-down levels that starts minimized and animates on rollover. It can be detached from its right-hand column placement for a better view and pinned in expanded mode if the user wants to keep the information highlighted.

In expanded mode, the campaign names are easier to read and navigate. Given the complexity of the information being navigated, it's good to remind users of where they can go and what they can do from inside the grid view rather than relying on them to remember to check back at the dashboard level for other alerts or pressing tasks.

Another custom control is "select advertiser," which allows users to navigate or select among multiple advertisers. That means control of campaigns can be both vertical and horizontal. For instance, if the application is configured to track an agency's entire caseload, an employee can configure his or her view to show only the advertisers for which he or she is responsible.

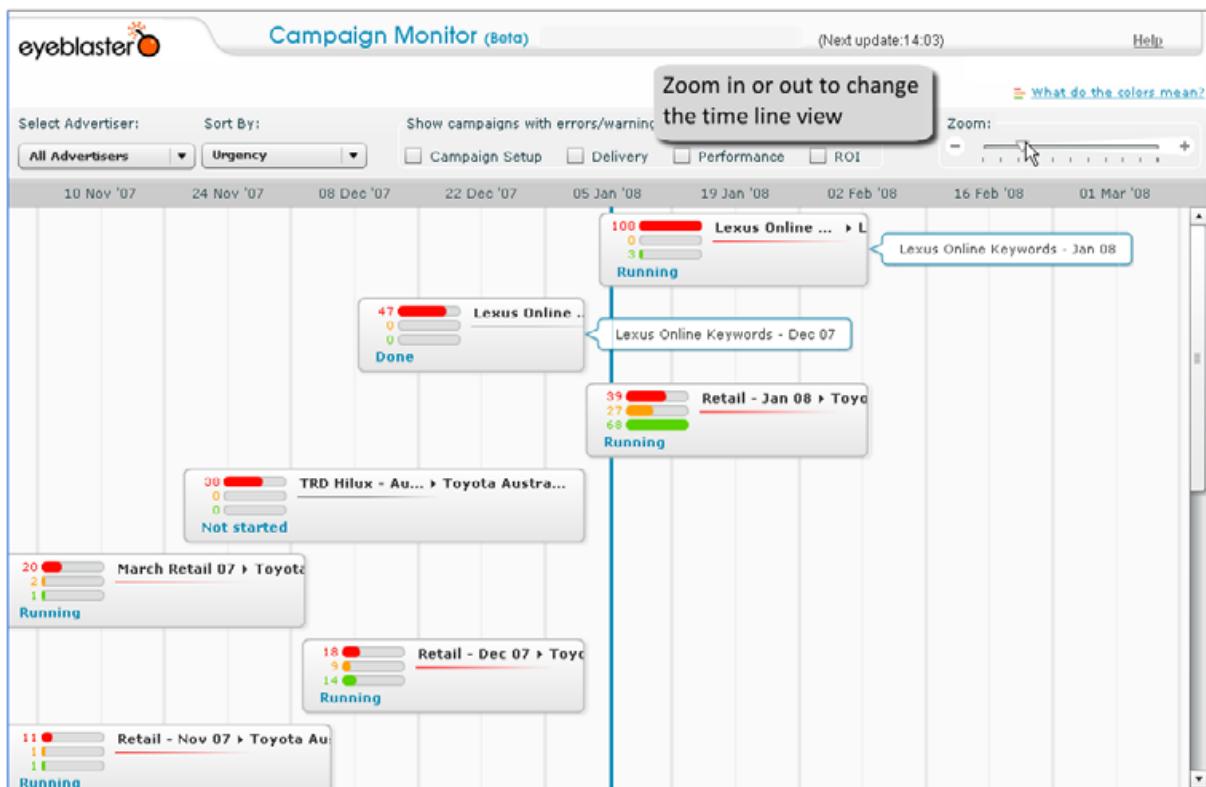
The image displays two side-by-side screenshots of a digital marketing platform's interface, specifically focusing on campaign management.

**Left Screenshot (Unpinned):** The "Campaign Navigation" menu is shown as a vertical list of campaigns, each with a red border around its title and status. The campaigns listed are:

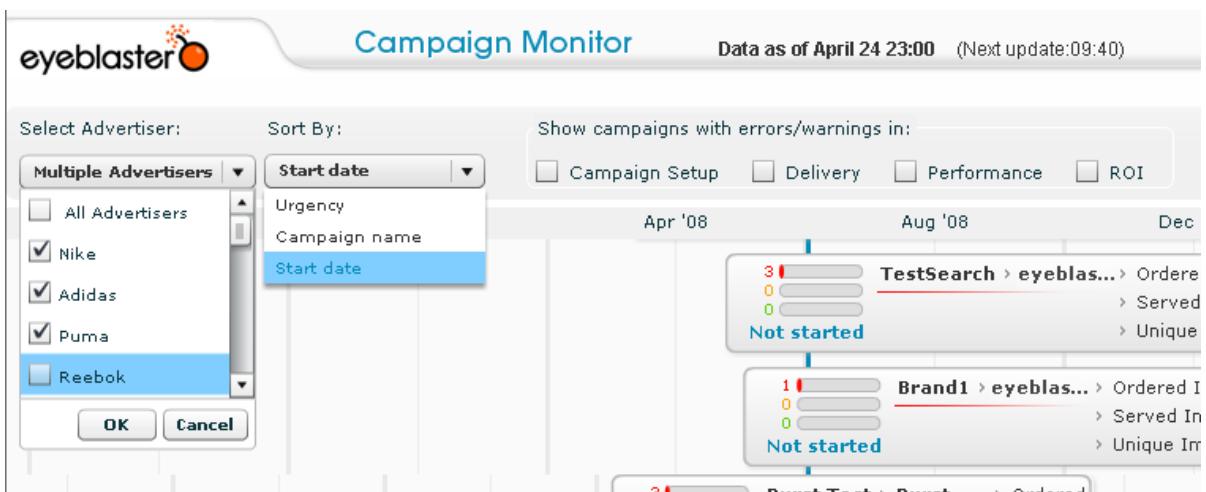
- 1 > 111 (Running)
- v6.0 > 11 (Not started)
- EBLibrary > testing (Not started)
- maya\_test > testing (Running)
- TestAllTypesN... > Umer A... (Running)
- Gomez (Syste... > 111 (Running)

**Right Screenshot (Pinned):** The same interface, but the "Campaign Navigation" menu is pinned at the top of the screen. The pinned menu shows the same list of campaigns, but the first item, "pollX > eyeblaster uk...", has a yellow background and a blue border, indicating it is the active or selected campaign. A tooltip "eyeblasteruk creative" is visible near the pinned menu.

*Campaign menu, unpinned (left) and pinned (right). Pinning of information-rich interface elements allows users to keep them visible at all times. The campaign menu here is a primary source of navigation for users who manage multiple campaigns but may be less important for users who are focusing on just one campaign.*



*Zooming in on the Gantt chart progressively discloses information.*



*Conventional controls were used whenever possible, such as the filter menus (left) and checkboxes (right).*

## INNOVATION VS. CONVENTION

Where Campaign Monitor most notably breaks with convention is the dashboard enhanced Gantt display. Rotter says it's the first time a media trafficker has been empowered to monitor all of his or her campaigns simultaneously. More significant from a usability perspective is the format's clever manipulation of psychology to provide a substantial chunk of information without requiring the user to consciously acknowledge each bit.

The Gantt chart serves up start- and end-date information to the user at an almost subliminal level. The format also quietly draws attention to the current day—"what's running now,"—most likely the best place to start fixing any issues.

By the nature of the graph, start and end dates can be accessed by a glance in either direction, but they don't demand to be consciously acknowledged by the user, because each floating bar is perceived as a running campaign rather than a measurement in itself.

But when that information is sought, it's there, and it can be expanded or contracted using the zoom slider, which is positioned to be accessible but not intrusive.

Because this sharp departure with the norm is so central to the application, it's a very good thing that users can touch ground with familiar controls to handle most tasks and actions. As previously noted, many controls were purchased or derived from open-source designs. In some cases, custom controls had to be developed, and the team focused on familiar feel whenever possible.

Conventional controls "are easier to use since users are already familiar with them and have already established a mental model in terms of how to use them, what they do, and what to expect," Rotter says. Additionally, they save on development time, since elements are readily available in development toolkits.

The ability to sort and filter campaigns allows a user to quickly prioritize the display in the most helpful manner, so that the most important campaigns rise to the top of the window. Conventional controls were used for filtering functions, but the team developed new elements for the data graphs because they couldn't find useful precedents elsewhere that did what they wanted.

The team viewed the drilldown graphs as a usability feature, making them easy to learn and structuring them to lead to an action. Several different iterations of graph design were tested, and an initial design was discarded in favor of a simpler and more accessible version that emphasized relevance.

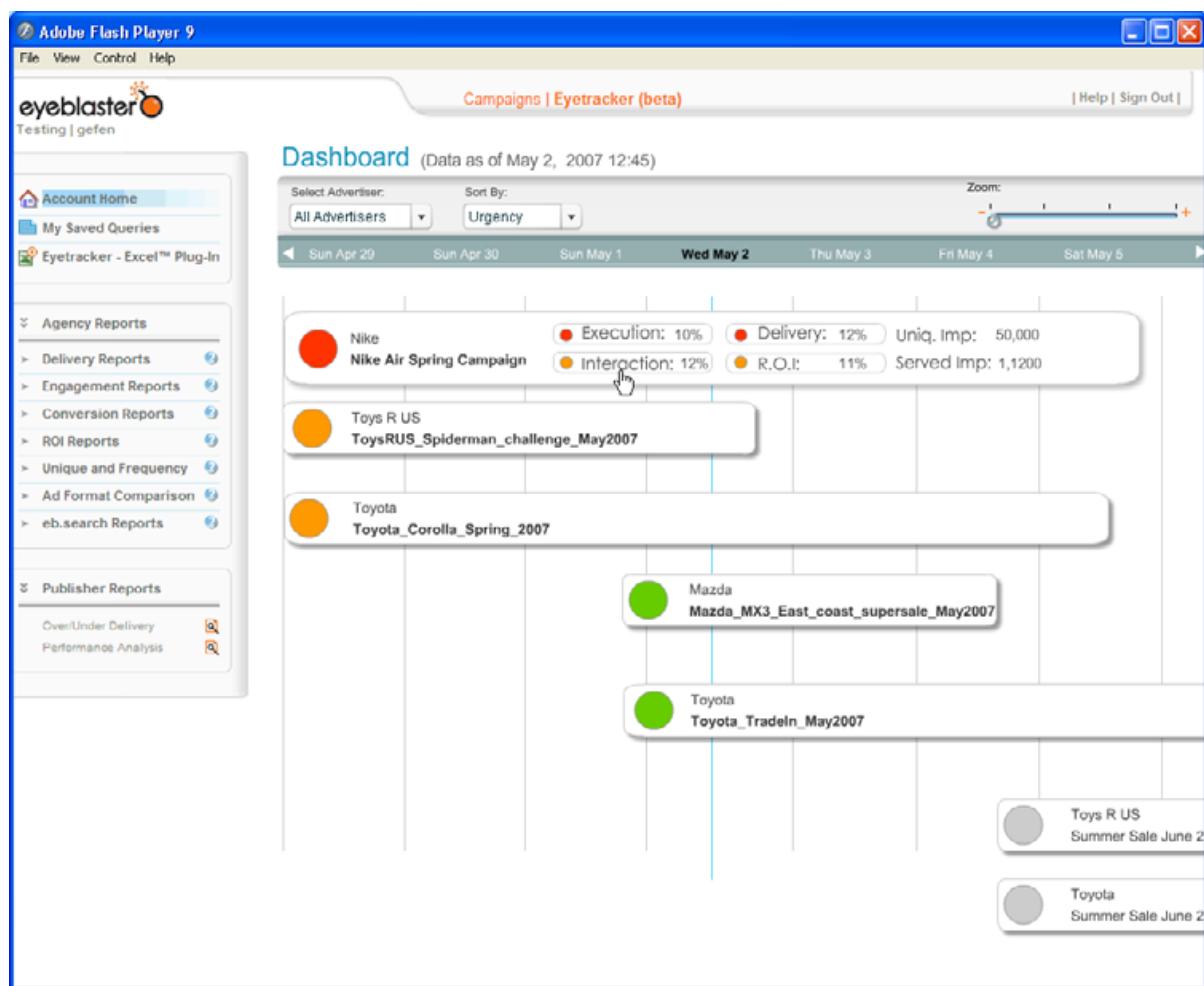
The format of the status icons and dashboard performance bar displays also required some creative design, although they rely on very familiar metaphors (the red X for "problem," for instance). The design went through several iterations. An early version of the Gantt view used a large colored dot as a sort of "stoplight" metaphor, representing the overall health of the campaign as distilled by a formula determined by Eyeblaster.

Since the application mediates between the user and a massive amount of information, the question of visual design here became more than a formality. The visuals had to serve the purpose of distilling information, but they couldn't just reduce *ad infinitum*.

The problem was that when everything was reduced to a single number, the stoplight frequently returned an overall reading of “error” based even on the most liberal calculations they could devise that retained utility.

“That it meant it was red and was very alarming to users,” Rotter says.

Based on alpha version feedback, the element was revamped into the performance bar display. The team experimented with several different versions of this display and honed it through internal feedback and revisiting the alpha testers.

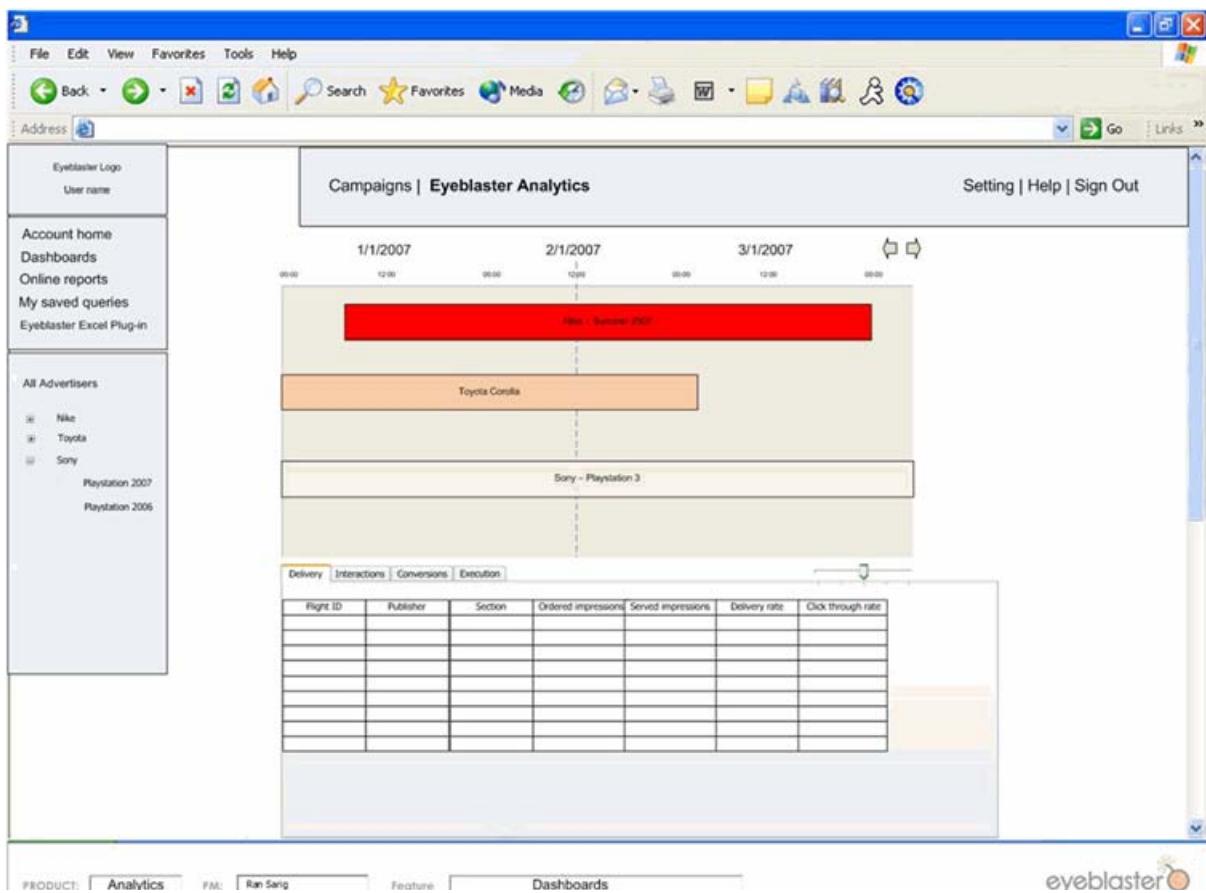


An early draft of the Gantt view used a single “dot” to denote the project’s health. Distilling so many variables into a single number ultimately meant that most projects ended up showing red. Additionally, without further drill-down it was hard to see why the project was showing up as in trouble. Increasing the number of variables shown at this level allowed the team to better differentiate projects’ status.

The screenshot shows a desktop application window titled "Adobe Flash Player 9" running the "eyeblaster" software. The main title bar says "Campaigns | Eyetracker (beta)". The left sidebar has sections for "Account Home", "My Saved Queries", and "Eyetracker - Excel™ Plug In". Under "Agency Reports", there are links for Delivery Reports, Engagement Reports, Conversion Reports, ROI Reports, Unique and Frequency, Ad Format Comparison, and eb.search Reports. Under "Publisher Reports", there are Over/Under Delivery and Performance Analysis. The central area is titled "Dashboard" (Data as of May 2, 2007 12:45). It features a summary box for the "Nike Nike Air Spring Campaign" with metrics: Execution: 10%, Delivery: 12%, Uniq. Imp: 50,000, Interaction: 12%, R.O.I.: 11%, and Served Imp: 1,1200. Below this is a table for "Flight" with columns: PagesVisit, Avg. Time on Site, PagesVisit, Avg. Time on Site, % New Visits, and Bounce Rate. The table contains 10 rows of data. To the right of the dashboard is a vertical column of six circular icons, each with a color and a label: Nike (red), Toys (orange), Toyo (yellow), Maz (green), Toy (light green), and Toy Sur (grey).

PagesVisit	Avg. Time on Site	PagesVisit	Avg. Time on Site	% New Visits	Bounce Rate
Flight	00:02:48	3.87	00:02:48	78.28%	Edit
3.52	00:02:02	3.52	00:02:02	60.95%	12.42%
Flight	00:01:57	2.81	00:01:57	73.57%	Edit
4.10	00:02:29	4.10	00:02:29	70.22%	12.07%
Flight	00:01:58	2.99	00:01:58	78.82%	Edit
3.36	00:02:39	3.36	00:02:39	72.00%	16.00%
Flight	00:01:37	3.95	00:01:37	63.64%	Edit
3.10	00:01:33	3.10	00:01:33	71.43%	9.52%
Flight	00:01:00	3.00	00:01:00	69.20%	Edit
2.58	00:02:26	2.58	00:02:26	66.67%	50.00%

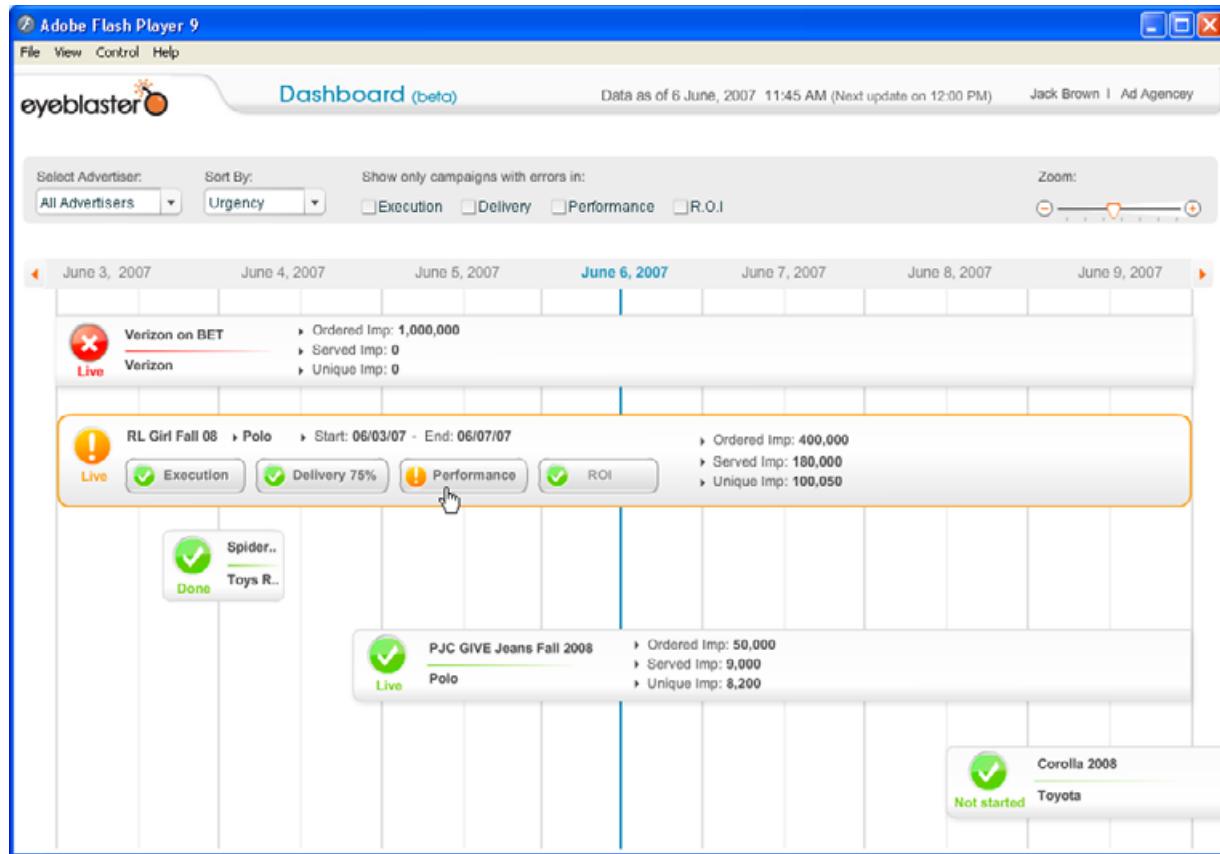
An early version of the dashboard with a campaign highlighted. Current campaign pages contain more information but with less visual clutter. Careful attention to user feedback helped to shape the current view.



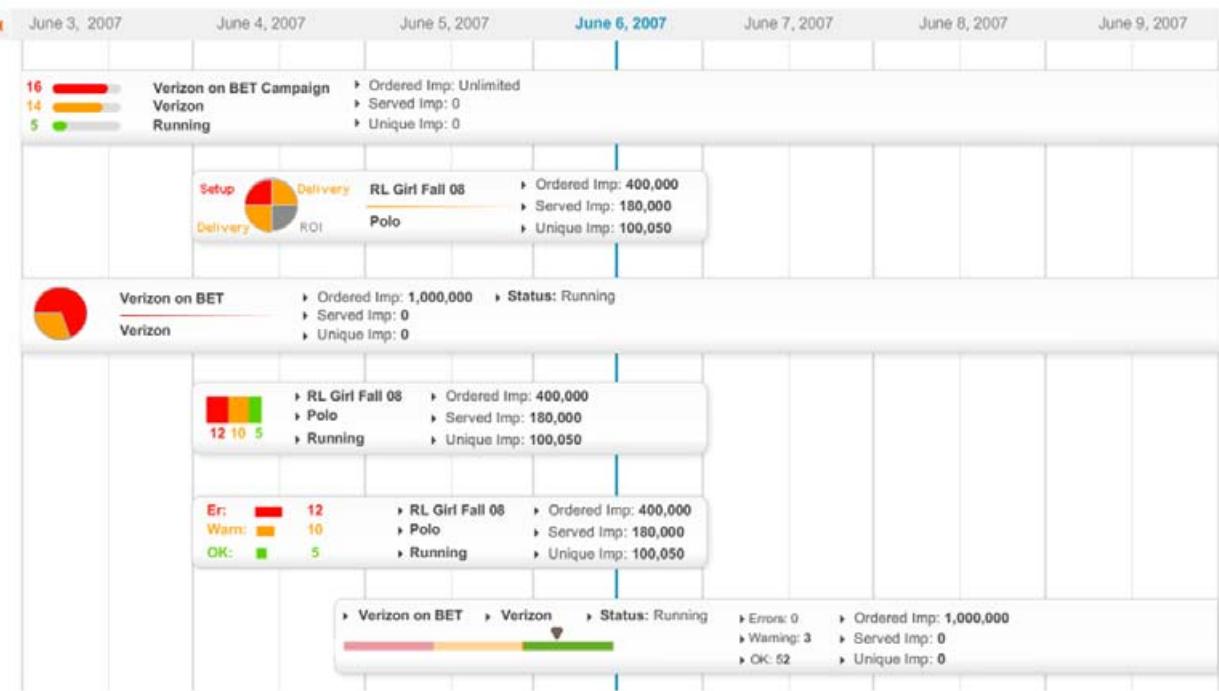
*Eyeblaster used wireframes during development to quickly mock up design concepts for initial usability work. Flash mockups were created from these early designs.*



*Wireframing was also used for the graph view. Here, an early draft composed of cut-and-pasted elements shows how the initial thinking subsequently evolved.*



A graphic design draft for the Gantt view. Significant elements from this version ended up in the final design.



*Another graphic design mock-up, here trying out different visual representations of the status indicators in the Gantt view. By comparing them side-by-side, the relative merits of each design can be more easily discussed.*

## USABILITY PROCESS

Campaign Monitor went through a rigorous formal usability process. Total usability spend was about 20 percent of the development budget. User profiles and common task scenarios were identified in the development team's initial market requirements document (MRD).

"Usability evolution" sessions were carried out at the very beginning of development, starting with high-level design concept wireframes. These provided a touchstone for future reference as variations were deployed and tested.

Interactive Flash demos were derived from the wireframes. The team went through a really impressive number of variations in their quest to find the right visual metaphors, the most relevant metrics to include, and the most accessible graph and grid views.

The Flash demos were shared first with Eyeblaster account managers, the internal personnel who have the most direct contact with customers. Data was collected, discussed and processed into a second flash demo. Four feedback sessions then were conducted with four different account managers. Each time, their feedback was worked into the product, until a formal graphic design demo was produced, also using Flash. This demo included the Gantt view dashboard, but did not include drilldown displays. A follow-up version added the graph and grid views.

The graph view went through a lot of changes during this period. The team approached the changes from a usability view point, with a focus on making them easy to understand and the goal of presenting the most important information without overwhelming users. Several different versions were experimented with. The design called for in the initial product requirements document (PRD) was redesigned from scratch after input from an early round of user testing.

Based on the demos, feedback and testing, an alpha release was implemented to select external users. Eyeblaster's quality assurance team conducted two usability training sessions with some alpha testers using Morae Usability Testing Software. The alpha version was also evaluated by two Eyeblaster account managers who had not taken part in the previous rounds of testing.

The QA team prepared written and video reports for the development team outlining problems and difficulties encountered by users. This led to more changes at the drilldown level, which were incorporated into a beta version.

Beta testers were invited to take part based on identifying a representative sample of Eyeblaster's user base, with user requirements and location factored into the selection of the test group. Beta users were given a short training session and encouraged to use Campaign Monitor on a daily basis.

Each week, the beta users were contacted to seek verbal feedback. Interviews were conducted both by phone and in person, when practical. Users were also asked to fill out questionnaires about the application's different functions. This data was checked against actual usage, as collected by metrics within the application.

Relatively few changes were made at the end of the beta period, based on the information collected, which showed users were generally happy with the existing

functionality. However, many asked for new features, which are currently being developed for a future version.

## TEAM

The design team included:

- Product Planning and User Research
  - Yael Tolub, Nir Shimoni and Gefen Lamdan
- Program Management
  - Ran Sarig and Gil Ditkovski
- R&D Project Managers
  - Amichai Kidron and Tsufit Naor
- U.I. and Graphic Design
  - Amihay Rotter (Member of UPA Israel)
- Technology Research
  - Chen Bekor
- Development Project Team
  - Amir Chervinsky, Giri Berenstein, Hadas Or, Helena Belyakova, Ilan Avigdor, Ilanit Moalyem, Jermy Hoffman, Lena Bernstein, Meital Kankazil, Rany Shochat, Rinat Sherzer, Ruven Yusupov, Thierry Sitbon.

The team was heavily influenced by Stephen Few's book "*Information Dashboard Design: The Effective Visual Communication of Data.*"

"It inspired us and guided us throughout the design process, especially when it came to simplifying data visualizations," says Rotter.

Visual influences included websites such as [www.nikeplus.com](http://www.nikeplus.com) and [www.bbc.co.uk/history](http://www.bbc.co.uk/history).

The team's design motto of "keep it simple" was elaborated somewhat in a quote by jazz composer Charles Mingus: "Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity."



*Back row, standing up, from left to right: Amir Chervinsky, Itay Kinnrot, Tsufit Naor, Yael Tolub, Michael Zilberstein, Rany Shochat, Meital Kankazil, Amichai Kidron, Helena Belyakova.*

*Front row, kneeling down, from left to right: Livne Rahamim, Giri Berenstein, Gil Ditkovski, Amihay Rotter, Jermy Hoffman, Asaf Sella, Rinat Sherzer.*

## **WHY THEY WERE CHOSEN**

Showing the fourth dimension—time—in computer applications is not always easy. Eyeblaster stays with a relatively traditional Gantt view of the campaigns they track, but through the clever application of status information they reduce the need to drill down into other views of the information.

Because of the clear visual coding and good dashboard view, this is the kind of application where a regular user could easily start to see beyond the UI and visualize their campaigns directly. Timely and accurate customer communication is important in any industry, but the cost of underperforming campaigns makes quick data access essential in this market. Providing customers with an immediate overview of their investment and return allows these customers to quickly react to a changing market.

# CMSbox

## COMPANY INFORMATION

**Company:** CMSBox GmbH

**Design team:**

**Application:** Campaign Monitor

Simon Raess, Usability Engineer / Product Manager

**Headquarters:** Bern, Switzerland

**Number of employees:** 9

**Design motto:** "As little as possible, as much as necessary."

## OVERVIEW/MOTTO

CMSBox is a content-management system designed to make it easy to create, edit and enhance a website.

Certainly, there is no shortage of such products, with varying degrees of utility. CMSBox distinguishes itself by offering an auspiciously usable method of creating a site with plenty of personalization.

The parent company, CMSBox GmbH, is a young company targeting highly usable Web applications with nine employees, including system and software engineers, media psychologists and usability professionals.

The usability mandate guiding CMSBox was to do "as little as possible, as much as necessary," said Simon Raess, the company's Usability Engineer and Product Manager.

## WHAT DOES IT DO?

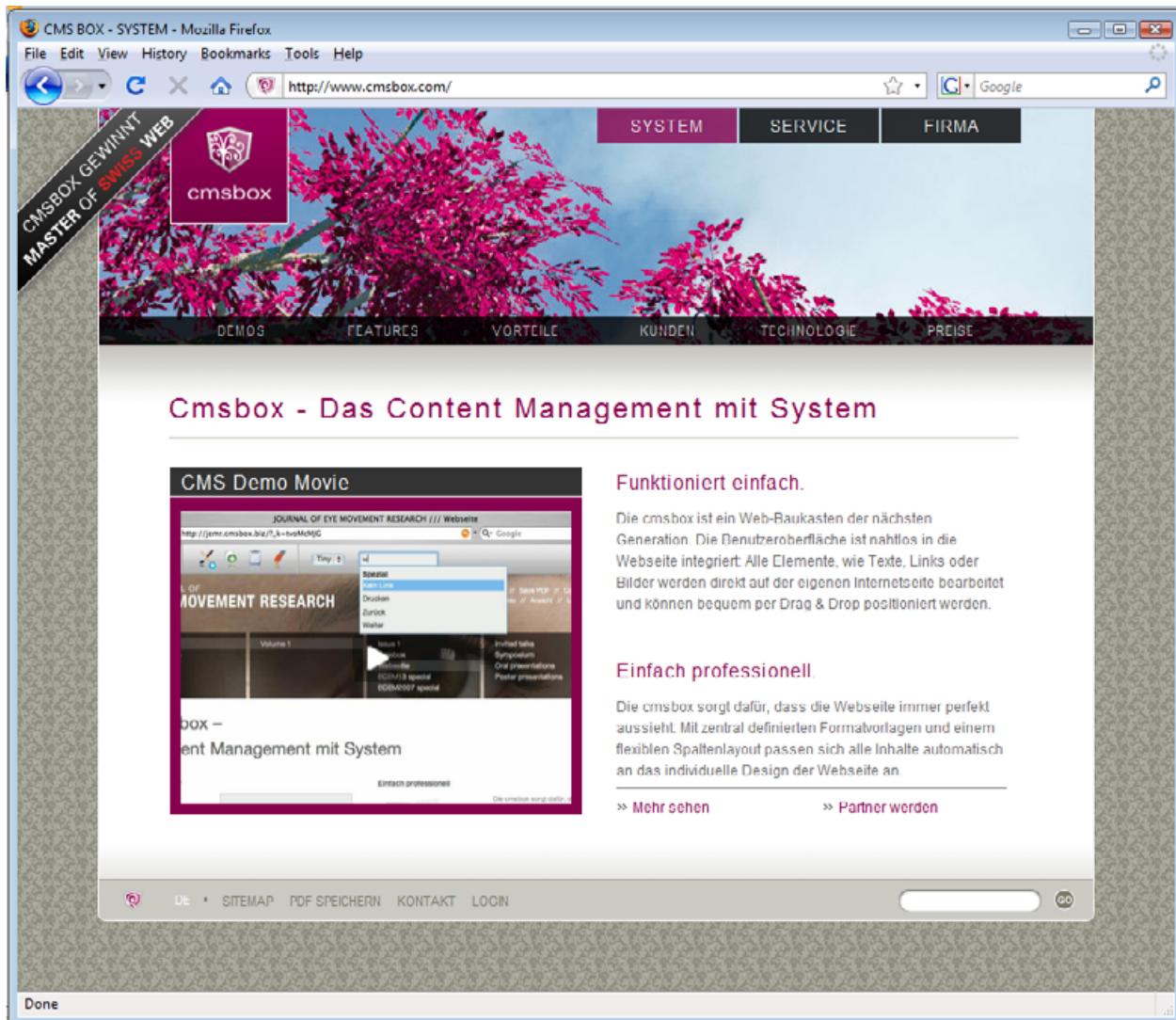
CMSBox creates semantic, valid and accessible XHTML source code so that users don't have to. The system is aimed at relatively inexperienced users but tuned to accommodate professionals who come to a project with higher expectations.

Users can work with a fairly generic but serviceable template, or they can commission professional designs which are then edited using the CMSBox interface. The code is generated through a combination of user interface elements—including text inputs, lists and forms.

Elements are graphically arranged on the site in WYSIWYG style—the user is presented with the page as it will appear and can edit content right on the page simply by clicking the relevant element.

The core idea of the application is "simplicity taken to the extreme" using user-centered design techniques, including rapid prototyping, contextual inquiry and log file analysis. A novice user can create a basic informational page using CMSBox just as fast as she or he can type its content, and multi-page sites are not far behind.

(Note: A new and significantly different version of CMSBox was released during the evaluation process for this report. The main section of this report discusses the application as originally submitted, since that is the version we judged in determining the winners. The new version is discussed at the end of the case study.)



The CMSBox homepage: "Works simply/Simply professional"

## **WHO IS THE USER?**

The user base can include anyone seeking a quick path to having a frequently updated website without the use of HTML coding, but a typical user is someone working in a small enterprise with a non-static website but no full-time designer.

In addition to facilitating frequent updates, CMSBox is aimed at users who want to maintain a consistent corporate identity online, with a minimal learning commitment—the goal is one hour to basic proficiency, even for users with little or no experience in Web design.

The sites produced are basic but attractive and functional, with minimal load times, and designed to meet with established standards and provide accessibility.

The latter point reflects a slightly wider net being cast in terms of the user base. CMSBox isn't just concerned with producing a Web page using visual editing—it's concerned with producing good pages with clean code.

Anyone who has used a WYSIWYG HTML editor can tell you that generating clean code is one of the biggest challenges. We often hear comments from developers along the lines of "We can either do standards or usability, not both." CMSBox shows that you can do both.

The use of professionally designed custom layouts helps make this possible, allowing the actual editing interface to be tightly constrained without prohibiting individuality.

## **NARRATIVE/WALKTHROUGH**

When users log in for the first time, they're presented with a Web page that describes how to use CMSBox. That's not necessarily unusual for a Web-based application, but the tutorial in this case is also the workspace. The introductory page is a template and every element on the page can be edited, providing a unique jump start to the user process.



*Starter page with tutorial boxes describing and providing editable examples of changing text, dragging and dropping elements and copying and pasting content. The intention is to show users how the system works from within the system. In this way, content creators can see early gains while they learn the intricacies of the system.*

Even the support links can be edited (possibly a problem for those who jump in both feet first and accidentally delete the tutorial links, although the information is available elsewhere on the site in case of mishap).

Video tutorials are available which cover the basic mechanics of the application. Since the mechanics are pretty intuitive, a short video covers quite a bit of ground. But the primary path to user learning is play.

Pages in CMSBox are made of "elements," which are blocklike modules consisting of common HTML page features—text, image, forms, etc.

On the introductory page, the blocks are already in place. When the mouse rolls over an editable block, it is highlighted in light blue, allowing the user to quickly get a sense of the page's breakdown.

There are two primary controls here—users can click on an editable block to customize its contents, or drag the block to move it elsewhere on the page. Drag-and-drop editing works intuitively and items snap into position smoothly.

It's about as simple as you can get. First time users can quickly orient to the application by playing with the elements already in place on the introductory page. This approach leads users through the mechanics of the site while still giving them total control over the content they add.

Once the basic mechanics have been mastered, users turn to the toolbar ribbon for additional features. The ribbon here is an interesting hybrid. The left side of the ribbon features button controls. When clicked, the right side of the ribbon presents submenu-style options in a horizontal strip, text input fields and/or dropdown menus.

The right-side elements are context-sensitive. Although there is a slightly different layout for each control, the consistent placement makes it easy to find what you need.

The main buttons (below) are, from left to right, "CMSBox" (indicating the application's editing mode), Editor (mode indicator), Archive, Edit, Insert, Copy and Undo. Buttons whose function is active or relevant to the user action are subtly highlighted with a blue flash.



*The toolbar ribbon shows that the user is in editor mode rather than archive mode and that the Edit submenu is being shown to the right*



*Here the ribbon is shown with the Insert control active. The Insert submenu choices then appear to the right.*

The "Insert" button is really the master control here, allowing users to add pages or add elements to an existing page. Clicking on the button from the page view brings up submenu choices, including Page, Article (Text), Table and Form.

Clicking the button while an element is highlighted brings up a list of additional context-relevant options for inserting text, titles, lists, images, forms, files (such as a downloadable PDF), video, links and rules.

The available elements represent a pretty broad selection, including customizable forms and fields. Multimedia content—including images, various types of documents, and specific audio and video file formats—can also be embedded.

Controls can be selected from the toolbar, but they are also activated in a context-sensitive manner when the user clicks on an element. For instance, clicking a text

block will highlight the “editor” control and invoke the appropriate submenu options on the right side of the toolbar.

The robust Undo button invokes a dropdown with a long list of past actions. We couldn’t exceed the maximum number of entries during testing. Users can step backward and forward to their heart’s content. This feature is incredibly valuable as a confidence booster, because once users know that they can undo their actions they are much more likely to explore new functionality, safe in the knowledge that they can always back out if things go wrong.

Time-sensitive options are also available. For instance, earlier versions of pages can be accessed, or a page revision can be scheduled to automatically publish in the future.

## CHOICE

CMSBox presents an interesting mix of user freedom and tight constraints.

Its building-block approach to page elements differs markedly from the template-based design that you more commonly see in WYSIWYG editors. Elements can be easily mixed and matched and rearranged. It “feels” freer—a good case of usability delight.

The drag-and-drop scheme offers a lot of freedom for users in terms of the internal layout of the page, but there is a tradeoff.

Major page design features—like page background, font, or a color chooser for text color—are absent from the user interface and can only be changed at the professional template level. Instead, users select from CSS-style option such as Body Text and Header.

This was a deliberately chosen compromise, with the idea of giving users plenty of freedom to customize pages without allowing them to wander off the reservation.

“The highest level of usability can be reached by relieving the user of tasks that do not require explicit user input in order to be completed,” says Raess. “Many important aspects such as human readable URLs, formal search engine optimizations, image and movie uploads and conversions, dynamic site-maps and full text search indices are generated automatically by the system.”

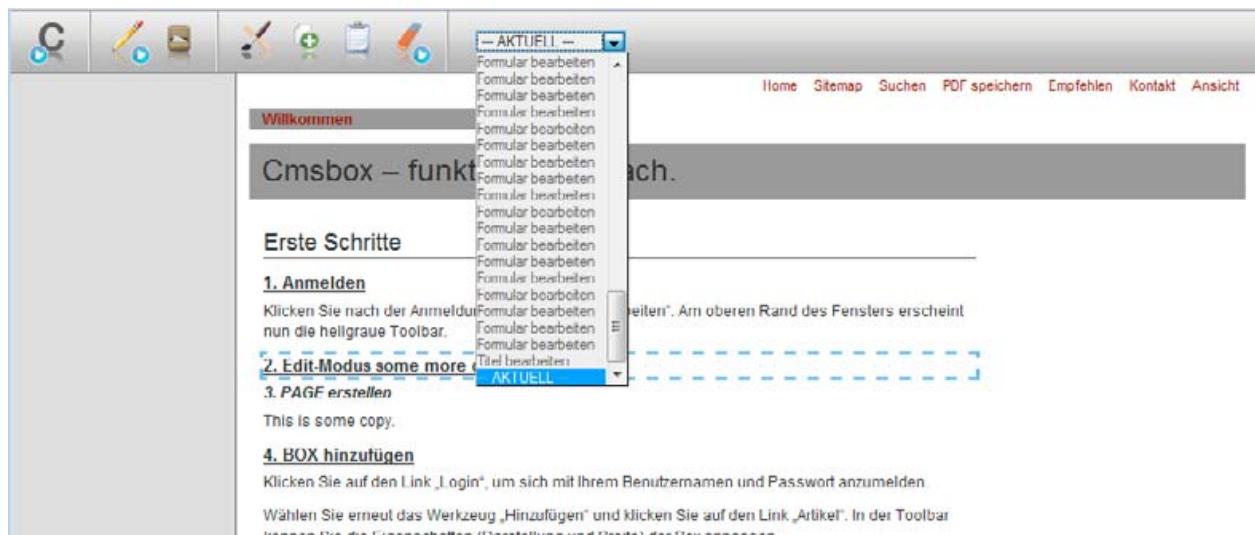
In other words, the user is given plenty of freedom in the areas where it’s really needed—creating content—but they are strongly guided or even constrained in areas that are tangential to the content task. That might be frustrating for some expert users, but it’s perfect for busy content owners in the small to medium enterprise space, who more often than not just want to get their content onto the Web quickly.

Other products in the Web design space focus more on the incremental design choices—selecting fonts, choosing from color palettes, deciding whether links should highlight on hover, and so on. CMSBox is much more focused on the informational content.

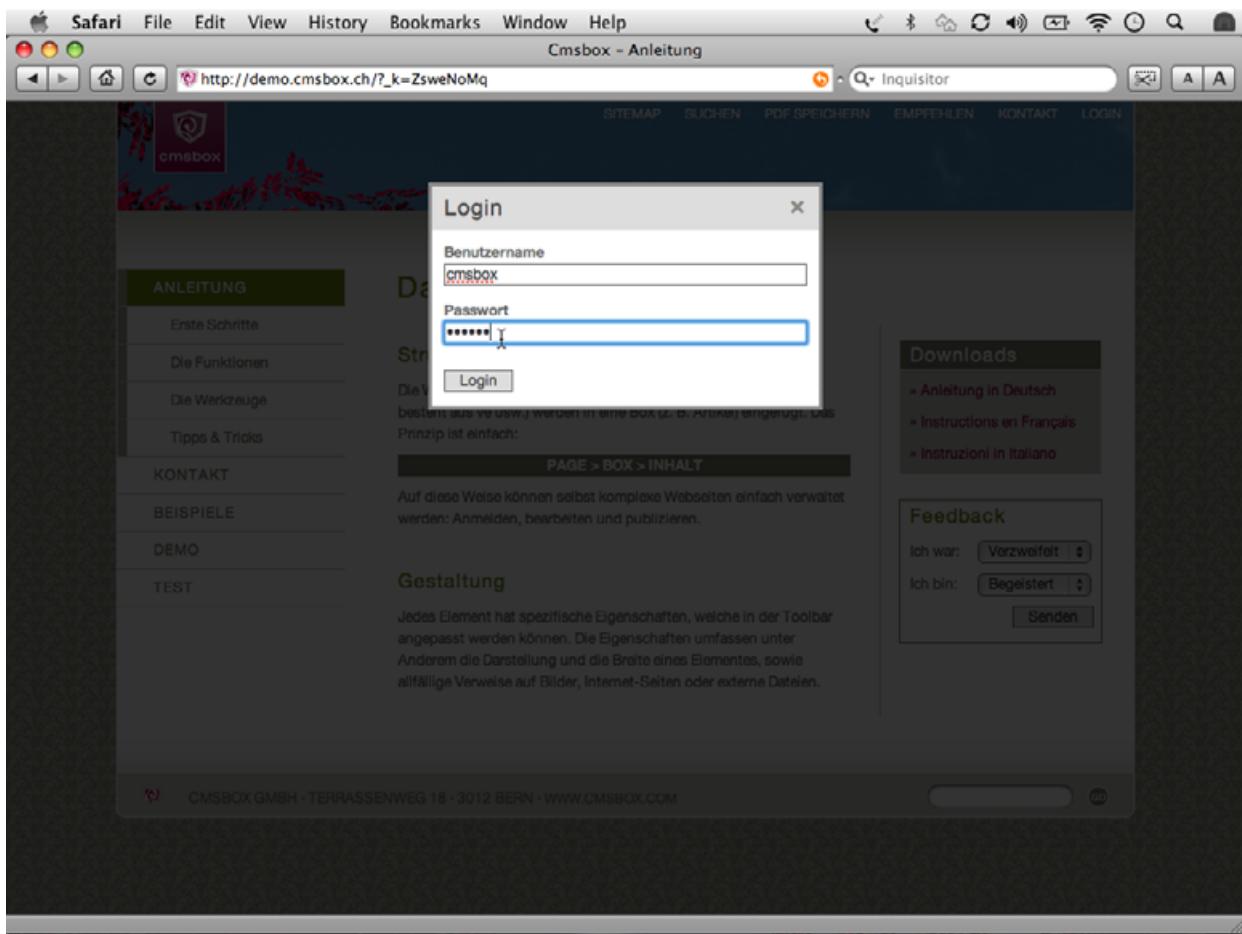
“The main reason we restricted editing the design of the website is to guarantee the company’s corporate identity,” says Raess. “We consciously reduced the number of elements, attributes and functions to a necessary minimum, while making them generic enough to be combined arbitrarily with each other.”

Raess is too modest here. “Generic” doesn’t do justice to the design of the individual elements. They are workmanlike but cleanly designed. Combined on a page, they don’t look like disparate boxes that have been thrown together at random (a chronic problem with novice-designed pages). Rather, they flow well with each other and with the static elements on the page.

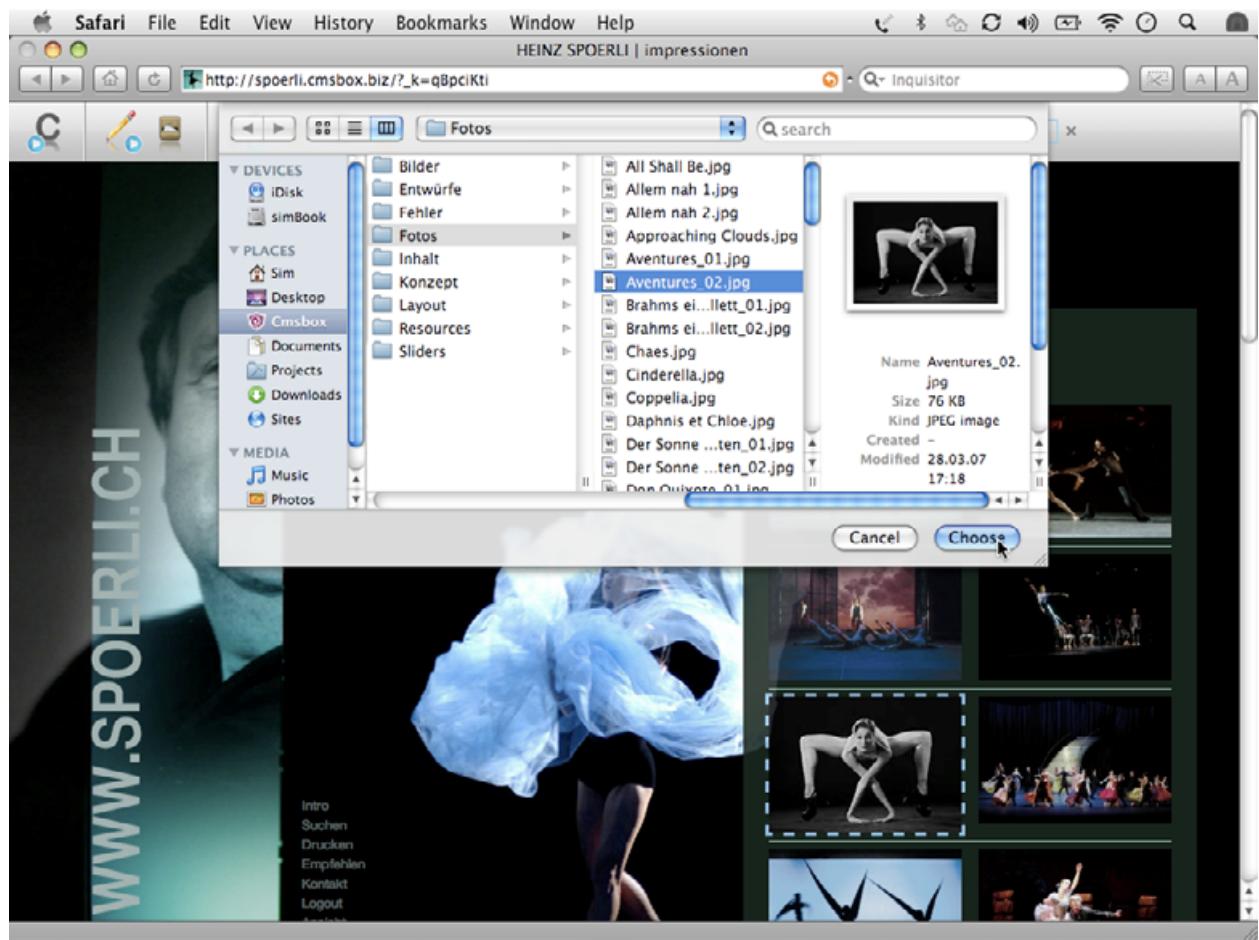
Thanks to the designers putting this thought in at the design stage, users don't have to worry about it during their implementations.



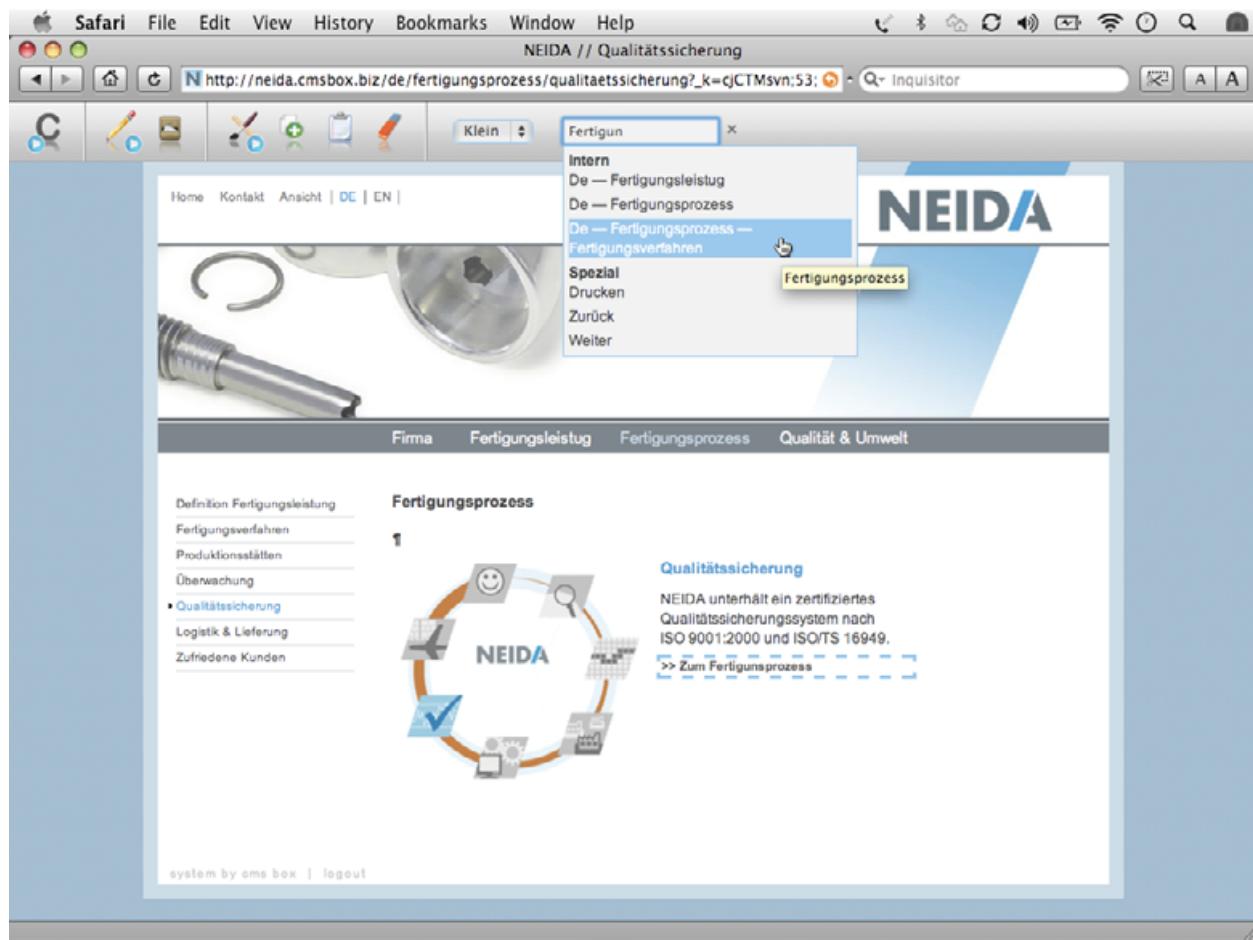
*A generous undo function inspires a sense of adventure: the more confident users are that they can back out of a bad choice, the more likely they are to experiment with novel features.*



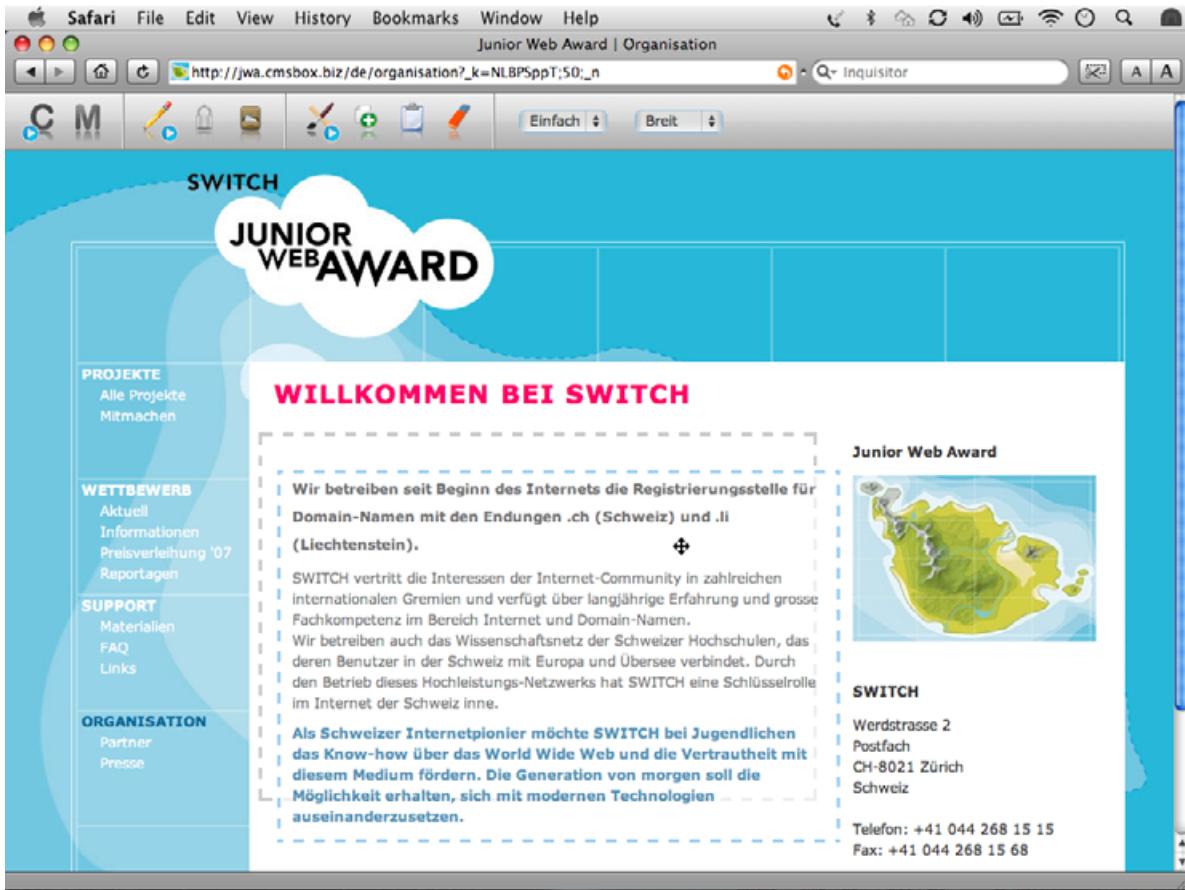
*Authentication uses a lightbox effect (dimming the page, showing a "dialog" as a layer on top) to let users know they are now working with a feature which is "outside" their pages, while still understanding the context of the authentication dialog.*



*Adding an image is as simple as browsing for it on the host computer. Image format, size and storage location are handled automatically by the application. For some more expert users this may feel like a loss of control, but for the target audience this kind of automation allows them to focus on the content, not the creation process.*



*Formatting a link is as simple as choosing its destination page. The application handles the rest based on its pre-determined styles. This has the added benefit of producing “clean” code where the look can be easily updated by global application of a style sheet change.*



*Text formatting options appear on the right pane of the toolbar. Clicking into an area of text brings the correct controls to the pane contextually. (Showing the applicable commands, depending on the current context, is an approach similar to the "Ribbon" UI introduced in Microsoft Office 2007, though the specific design in CMSBox is simpler.)*

By simplifying the choices and focusing instead on how elements combine, “the number of rules that need to be learned by the user has been considerably reduced,” Raess says.

It’s definitely a give-and-take situation.

For example, form creation has a fairly constrained path. When only one option is available, it’s automatically formatted as a checkbox. Two to three options are automatically formatted as radio buttons, and four or more are formatted as a dropdown list.

In other areas, the sky’s the limit. For instance, there are no restrictions on the number of elements that can go on any given page, or on how many different types of element can be added.

“The application provides the most fundamental and necessary functions and features, says Raess. “All superfluous settings were done away with in order to help the user to focus on the essential tasks.”

This approach ensures that once good usability practices have been coded into the application, it becomes harder for content creators to “mess up” the page. This may prove frustrating to some content creators who have a specific effect in mind, but overall their end users will most likely thank Raess for constraining otherwise whimsical designs.

## INTERFACE ELEMENTS

The toolbar ribbon has a metallic, technological feel. The buttons are big and icon-based. Change of state is indicated with a blue dot, and icons pulse on mouseover, resulting in a very tactile feel. Tooltips with very brief explanations accompany each major control.

Many submenu controls appear in a retro computer stripe, white text labels on a green background that show an underline on mouseover. The major elements are capitalized; when context sensitive options appear they’re in title case.

The application controls are concentrated in the toolbar, except for the context menu, where options are sensibly grouped and appear next to a smaller version of the toolbar icon.

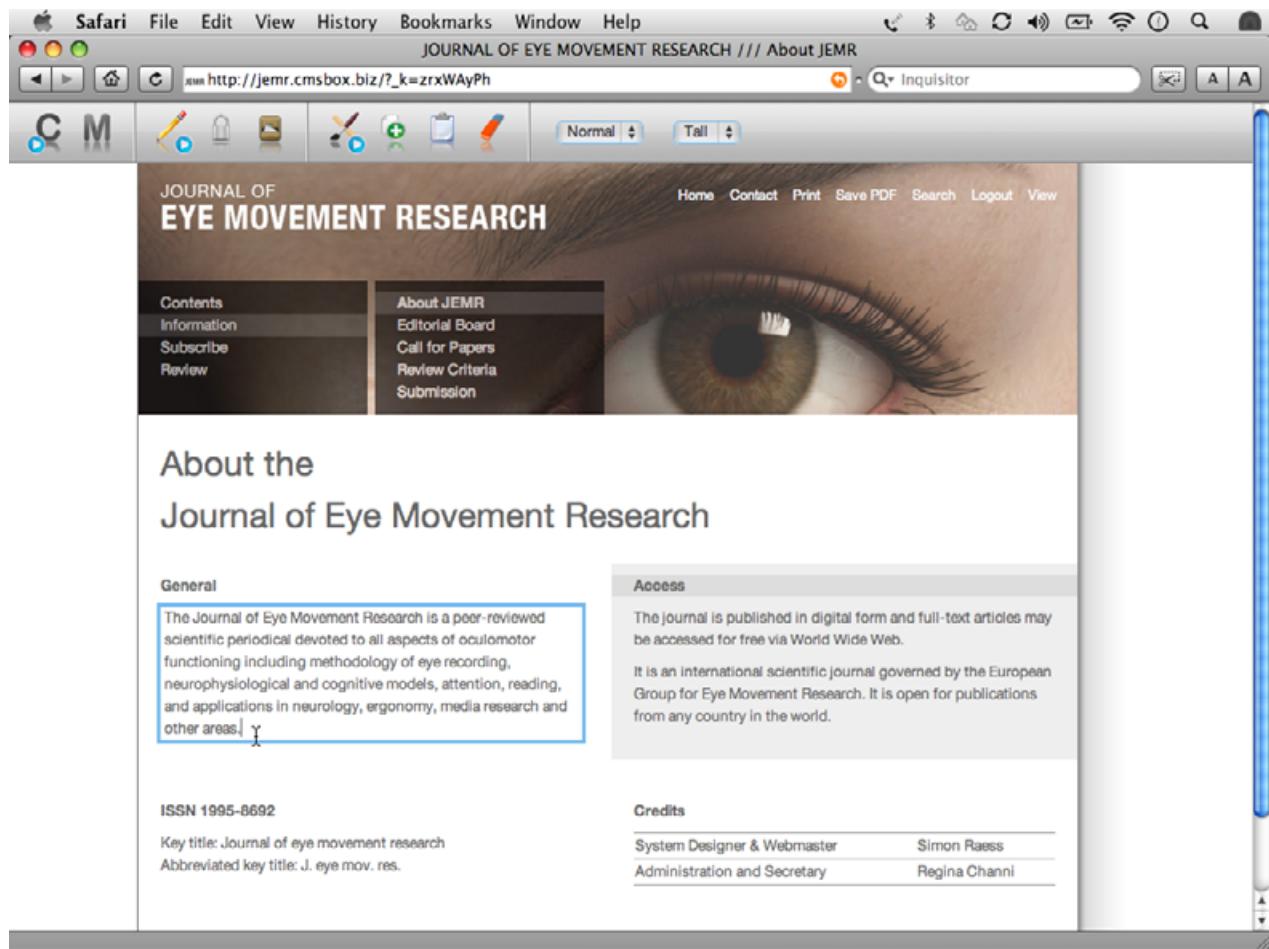
The context menu offers cut, copy and paste, undo, and options to duplicate or delete the highlighted element. The page itself can also be selected and manipulated. The context menu also features a title function that identifies the type of element, echoing the submenu choice and providing a little user learning on the cheap.

Controls within the HTML workspace are also highly intuitive, which is a good thing, since they’re not conventional.

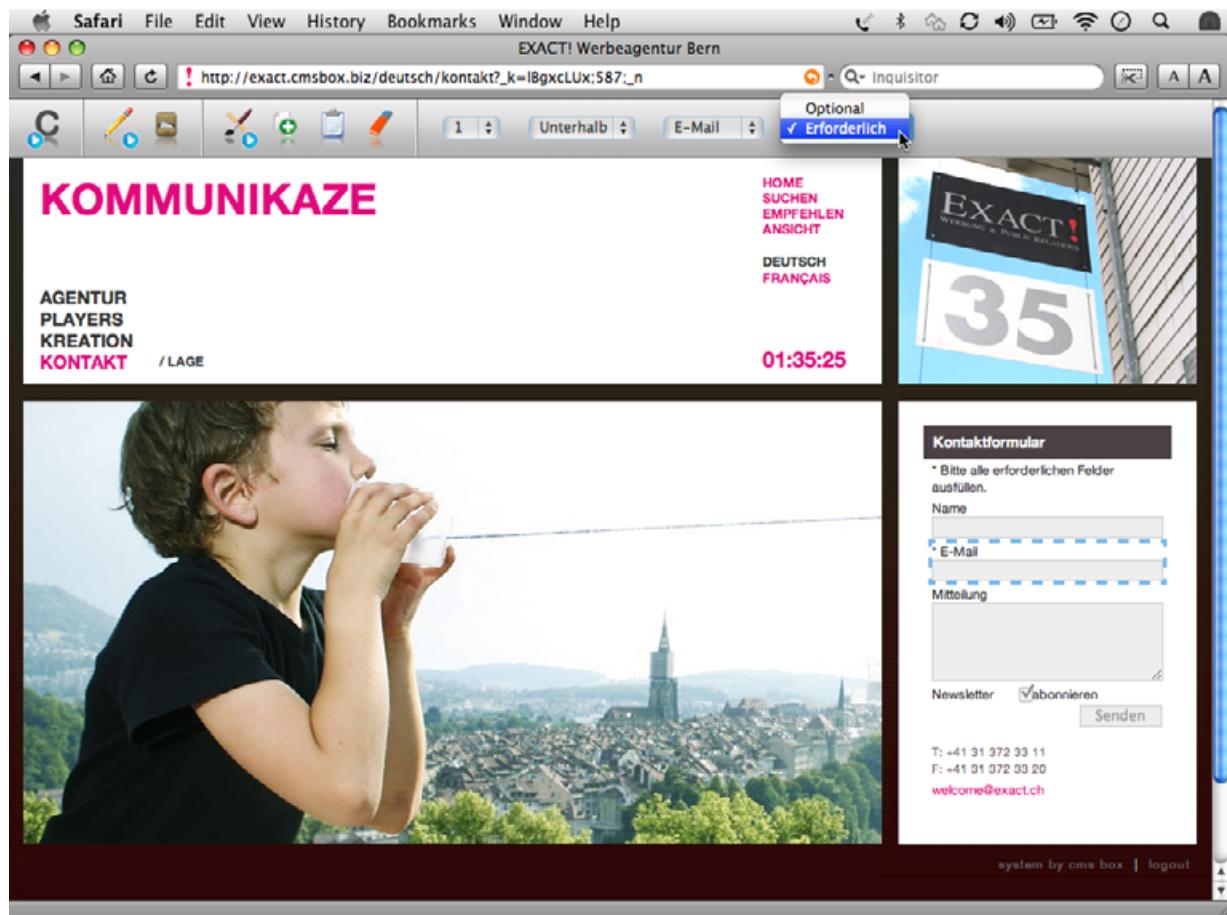
Mousing over an element creates a highlight around the whole target area, clearly signaling where user actions can take place. Clicking on the element to enable editing switches the highlight to a dashed-line box. When an element can be dragged, the cursor transforms into a four-way pointer.

“Working with the program allows the user to have a type of conversation with the application, which provides him with continuous feedback as to the changes made to content or format,” says Raess.

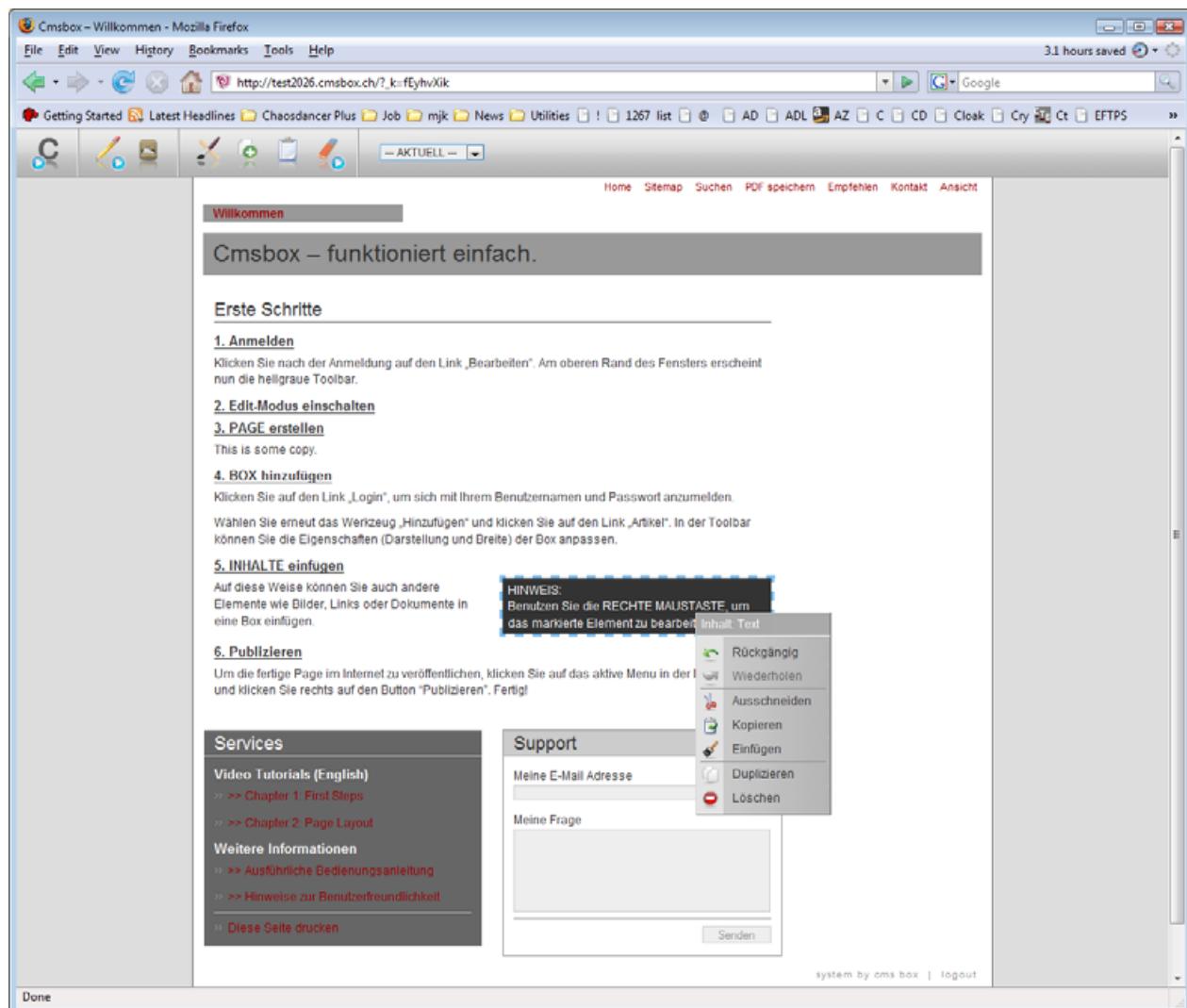
Standard browser buttons and concise labels are used on the Web pages produced by CMSBox users. On horizontal forms, button position is fixed on the right, and on vertical forms, they are located on the bottom.



*Inline editing of a text box involves nothing more than clicking and typing. The other elements on the page flow around the box as it grows, and formatting is achieved by changing the options to the right of the tool ribbon buttons.*



*Form editing again provides the minimum options necessary to create a field, but with sufficient control to meet users' needs—constraint to ensure compatibility, freedom to ensure editorial control.*



The context menu provides faster access to the key commands that users would need—undo, cut/copy/paste and a duplicate and delete function.



*Publishing is as simple as setting a "live" date (which sensibly defaults to today) and hitting the button. Viewing archival versions of the site is equally easy using the date picker to see what the site looked like at that time in history. By re-using the same control types for these different actions, CMSBox reduces users' learning requirements.*

## USABILITY PROCESS

"We first identified the most salient information the user needs to successfully complete his tasks, while the largest portion of the data remains completely invisible to the user," says Raess.

The minimum information needed by users was then divided into a relatively small number of clearly defined and semantically structured chunks containing up to 10 similar items.

"For this purpose we employed methods such as card sorting and cluster analysis," Raess says.

User feedback and usability testing were incorporated into the development process from the moment the product was conceived. In order to define product requirements, CMSBox performed user needs analysis, such as customer interviews, in-depth competition analyses and focus groups.

Rapid prototyping was used for basic conceptual modeling, card sorting for information architecture, and expert interviews were conducted while developing the interface design. Functional prototypes were built and evaluated using empirical methods such as contextual inquiries, shadowing and log-data analysis.

User experience is continually evaluated with the help of longitudinal usability testing and systematically collected customer feedback.

"Usability is half systematic user research and half anticipatory creativity," says Raess.

## NEW VERSION AND FUTURE PLANS

A substantial update was issued after the judging period for our contest. The revised design was not available until late in the process.

The most significant and clearly visible change was the replacement of the toolbar ribbon with traditional dropdown menus.

The menus include CMSBox, which is devoted to application controls that do not affect the contents of the page, Edit, Insert, Clipboard and History—essentially the same functions as before, but regrouped.

"As with all aspects of application design, our motto here was: as little as possible, as much as necessary" says Raess. "We prefer clearly grouped menus to nested popup menus. Unavailable commands are not hidden but rather deactivated."

The context menus for handling elements were removed. Text boxes highlighted for editing now change the display font to signal the change in state.

Future plans include the addition of a global CSS style-sheet editor. Individual items will remain tied to the global stylesheets in order to insure site-wide consistency. But users will be able to change global settings for color, size, text, etc. for specific elements such as headers, text boxes or links.

The screenshot shows the CMSBox software interface running in a web browser. The title bar reads "Cmsbox - Welcome". The menu bar includes "File", "Edit", "View", "History", "Bookmarks", "Window", and "Help". The toolbar has buttons for "Apple", "Yahoo!", "Google Maps", "YouTube", "Wikipedia", "News (32)", "Popular", "Cmsbox", "Edit", "Insert", "Clipboard", and "History". The status bar at the bottom right shows "Text body" and "Full column".

The main content area displays a welcome message: "Cmsbox – it just works." Below this, there is a sidebar with three sections: "WELCOME" (containing three numbered items), "VIDEO TUTORIALS" (containing one item), and "EXAMPLES" (containing one item). The main content area contains six numbered steps:

- 1. First steps**

Click on the Link "LOGIN" in order to authenticate with your username and password.
- 2. Launch edit-mode**

Now, click on the Button "EDITOR". A menu appears in the toolbar.
- 3. Insert page**

Lo&rem Ipsum Dolor. Now is the time for all good men to come to the aid of their country. The quick brown fox jumped over the lazy log.
- 4. Insert a box**

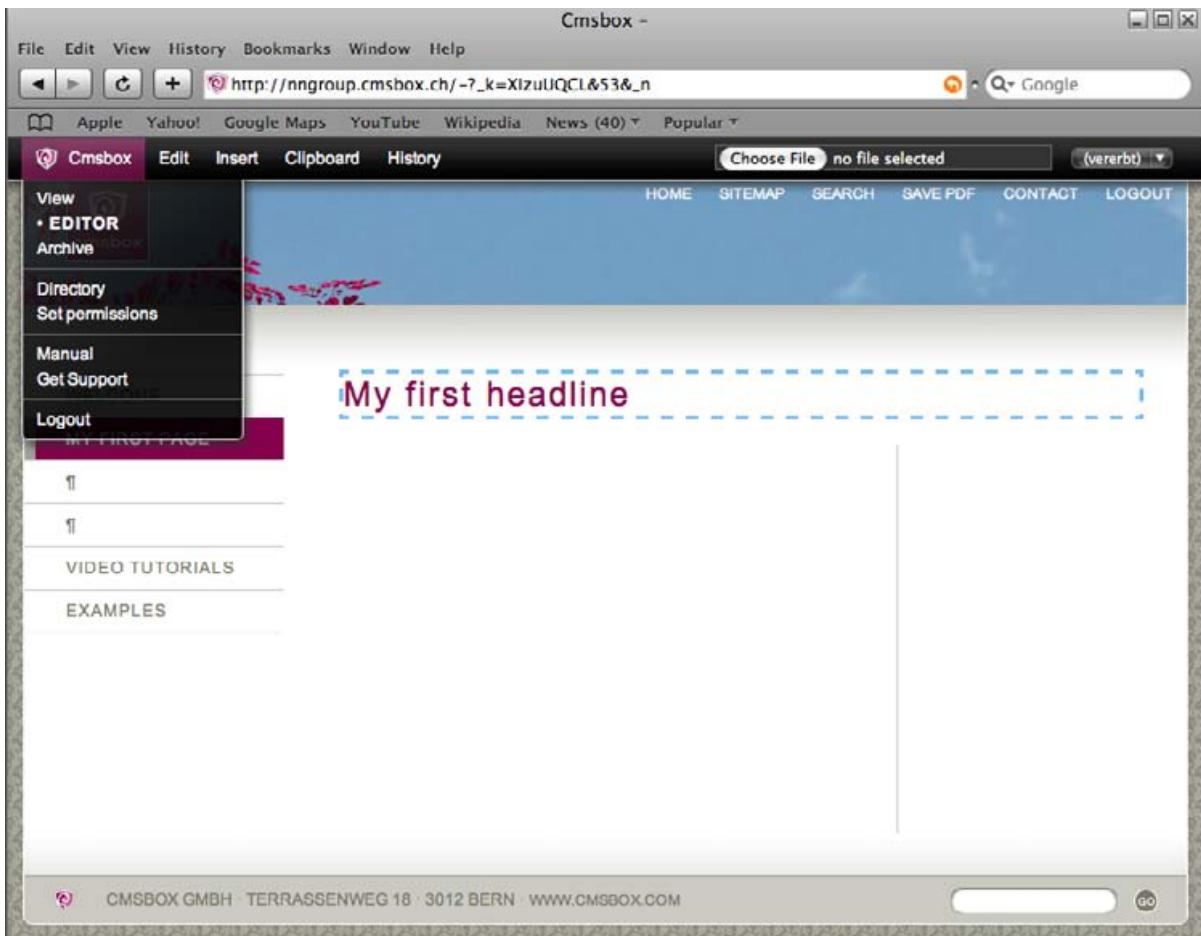
Choose again the menu "INSERT" and click on the Link "ARTICLE". By changing the properties ON THE RIGHT SIDE of the toolbar, you can adapt the style and size of the box.
- 5. Insert content**

In this matter, you can add more elements, such as text, images, links, documents and flash movies into the marked box. Change the style of the marked element ON THE RIGHT SIDE of the toolbar.
- 6. Publish**

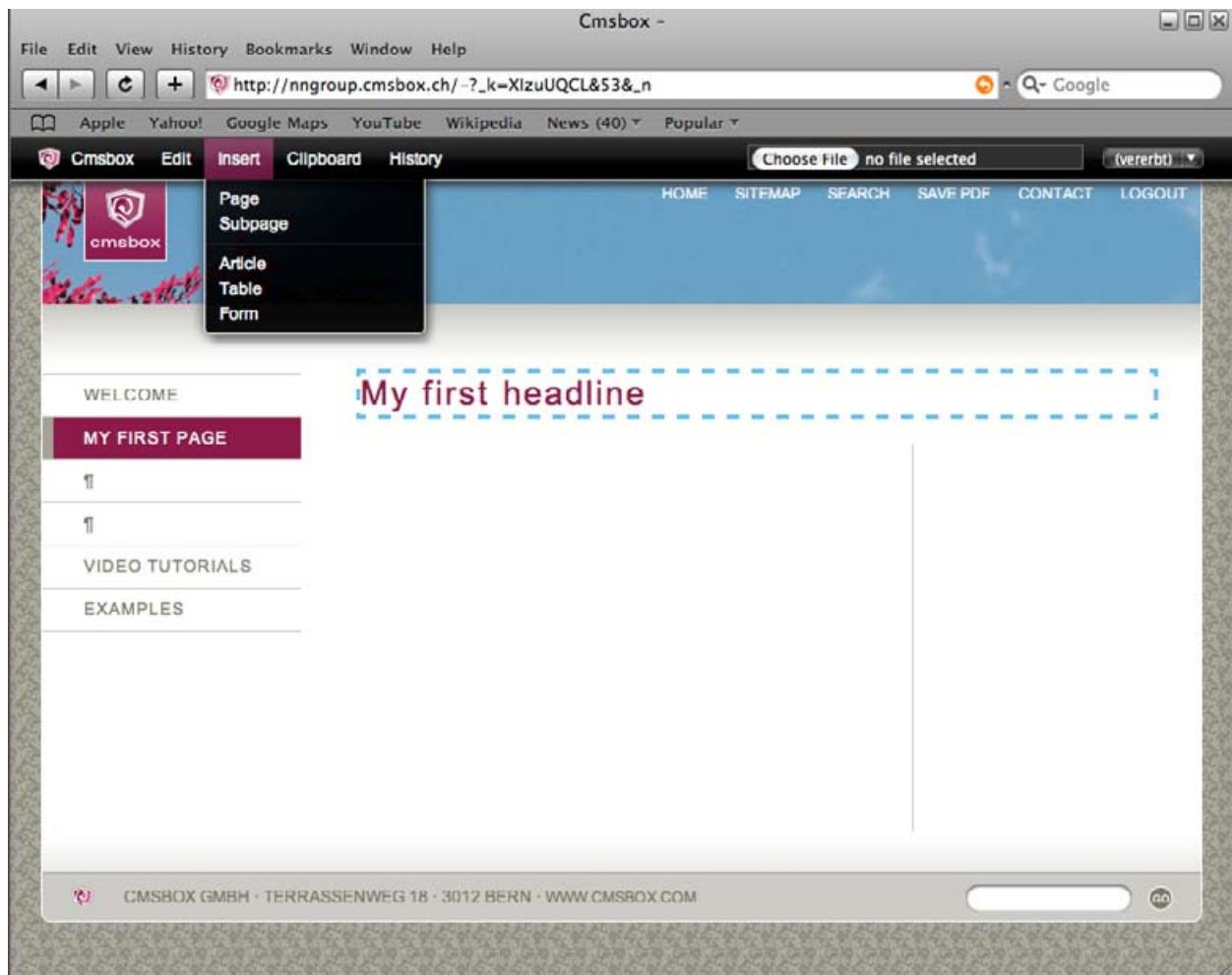
To publish your changes, choose the menu "HISTORY" and click on the link "PUBLISH". Done :)

At the bottom, there are two panels: "Services" (listing Video Tutorials in English, Chapter 1 and Chapter 2, More Informationen, User manual in German, Documentation in German, and Print this page as PDF) and "Support" (with fields for My E-Mail and My Question, and a Send button).

*A newer version of CMSBox—The font now changes to show the highlighted area when editing inline.*



*The newer CMSBox menu removes the need for the tool ribbon. A change in text case and a small dot show the active command (Editor in this image).*



*The newer Insert menu. Items that were shown in green to the right of the buttons are now menu items in the menu.*

## TEAM

Simon Raess is CMSBox's usability engineer and product manager. He is also co-founder and partner of CMSBox Ltd.

He studied Media Psychology at the University of Bern, Switzerland. He has taught usability at the university and worked as a usability engineer at Swisscom Innovations and the University of Bern.

"Excellent application design is all about streamlining, consistency and elegance," says Raess, who is co-author of several usability textbooks, a guest lecturer and a usability consultant.



*Simon Raess*

## WHY THEY WERE CHOSEN

CMSBox has, along with a couple of the other applications in this annual, a double challenge. As they are a development environment they must be usable to their audience (content creators and publishers) but also to that audience's audience (end users). The CMSBox team has successfully balanced on the fine line of just enough user freedom to provide a valuable tool, yet not so much user freedom that the end result becomes confusing or inconsistent to end users.

To have done this without a markedly different editing environment is an additional challenge, and one which the team has met well. They have demonstrated that just one extra line of controls is all that is required to turn a website into a Web authoring environment.

WYSIWYG interfaces are hard to do well, but here even the initial tutorial is embedded in the real interface. By ensuring that all interaction takes place in the view that visitors will have of the site, it becomes quickly apparent to content creators when their composition is incorrect. There are no modes to switch between, no edit windows to keep track of; it is immediately clear to users what effect their actions will have on the final layout because they are always working within that final layout.

# FotoFlexer

## COMPANY INFORMATION

**Company:** ArborLabs

**Application:** FotoFlexer

**Headquarters:** Berkeley, Calif.

**Number of employees:** 16

**Design motto:** "A design should be usable even by your mom."

### Design team:

- Heston Liebowitz, Lead Designer
- Dominic Antonelli, Software Engineer
- Justin Fiedler, Software Engineer

## OVERVIEW/MOTTO

FotoFlexer is a full-featured photo editor, delivered over the Web and powered by Web design sensibilities. The company calls it "the world's most advanced online digital photo editor" and it's a pretty credible claim.

Despite its impressive array of features, where FotoFlexer really stands out is in the realm of usability. Thanks to its Web deployment, it's a high-power application with no installation, no configuration and no footprint on a user's hard drive.

The application is produced and hosted by Arbor Labs Inc. of Berkeley, Calif., a 2006 startup founded by a group of (mostly) alumni and graduate students from the University of California, Berkeley. It's offered in seven languages, and comes as a standalone application or as an API. The app has partnered for easy photo importing and exporting from the Web's leading photo sharing and social networks (including Facebook, Picasa and MySpace).

"I believe a design should be usable even by your mom," says Heston Liebowitz, lead UI designer and graphic designer for FotoFlexer. "Since my mother is not technically inclined at all, this places the bar quite high."

Liebowitz says "trained professionals" run into the same usability obstacles as casual users, making the placement of that bar a key measurement of the application's overall utility.



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[FotoFlexer In The News](#) | [FotoFlexer Forums](#) | [FotoFlexer Blog](#) | [FotoFlexer API](#) | [About](#)  
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*FotoFlexer's homepage must sell the application and allow easy access points.  
It also provides sample images in case users are scared to use their own.*

## **WHAT DOES IT DO?**

FotoFlexer is all about the features, boasting that it has 90 percent of the most popular features in the consumer-level edition of Photoshop. The list includes the necessities (cropping, resizing, rotation, contrast and exposure) as well as the most common pro-am features (red-eye, simple retouching, color balance).

In the realm of special effects, FotoFlexer also shines, with features for captioning, speech bubbles, clip art additions, color manipulation, compositing, distortions, removing backgrounds, morphing, seam-carving, animation, layering and transparency, smart cutout and smart scissors. Filters include painting and sketching effects, sepia, bronzing, "cartoonify," pop art, heat map, film grain, and blueprint, among other things.

Navigating this mass of possibilities is only the first challenge. Usability is not just a question of managing volume here, it's also about flexibility. Anyone who has worked with photo-editing tools knows that there's a world of difference in how you manipulate layers, for instance, as opposed to curves. Each filter or effect uses different sorts of controls, whether handles for rotation or sliders for contrast. The Holy Grail is implementing all these features in a consistent manner, so that users don't feel like they're abruptly exiting one application and entering another.

## **WHO IS THE USER?**

FotoFlexer's user base is mainly casual photographers, including social networkers, bloggers and travelers. Most users are looking to share photos online, but the final product also needs to be printworthy, whether for a traditional snapshot or special formats such as a greeting card or poster.

Since most users are using this application for fun, there's a premium on features like adding captions, clipart, frames, and/or arty filters.

FotoFlexer's 1.6 million worldwide users skew young, as might be expected from the above, generally teenagers to people in their mid-20s. Regardless of whether they're looking to print at some stage, most are interested in sharing photos online for self-expression and social communication.

"They typically cannot afford, and don't have the patience to learn, complicated desktop photo-editing software," says Liebowitz.

With a user profile like this, the learning curve needs to be virtually nonexistent. Fortunately, that's very much the case here.



*FotoFlexer's editor page, which can be accessed without signup, provides the basic activities with no further exploration required. However, much fun is to be discovered on subsequent tabs.*

## THE APPLICATION

FotoFlexer aims to get users in and working as quickly as possible.

"Even simple editing tasks such as fixing red eye are quite complex when performed through the streamlined interface of Photoshop or The Gimp," says Liebowitz.

In an application like Photoshop (aimed at trained professionals), the photo itself is the center of gravity. Tools are palletized, categorized, nested, piled on top of each other and generally minimized in terms of visual weight in the window.

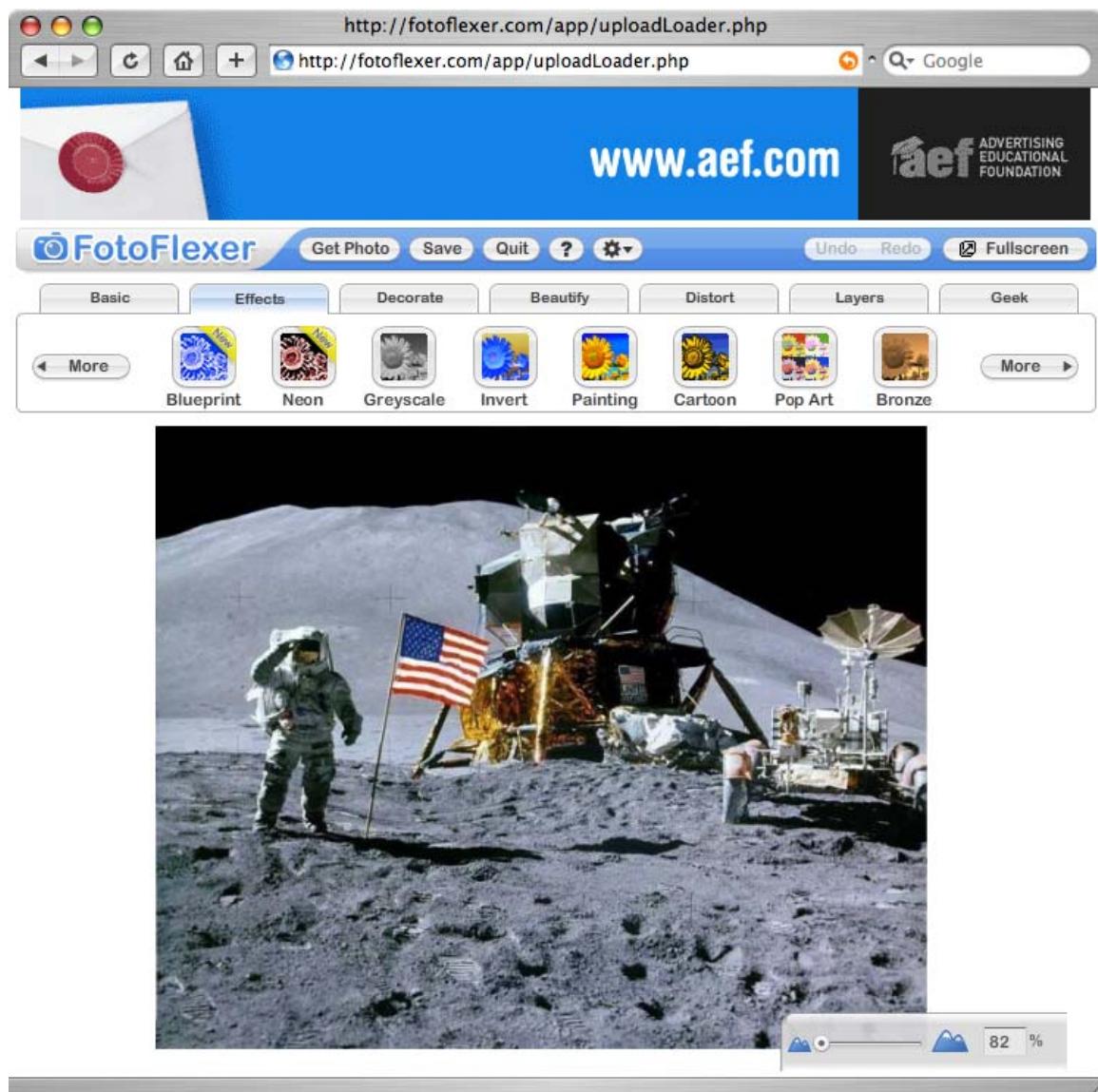
In contrast, FotoFlexer puts the tools front and center, organized in plain English and with strong weighting. The photo is still at the center of the universe, both visually and in terms of process, but the tools are given a dominant position in a series of tabs and hierarchically dependent ribbons across the top of the screen.

The controls are structurally reminiscent of the Office 2007 toolbar ribbon, which provided inspiration to several of our winners this year, but like the other awardees, the reduced feature set makes this implementation more usable than the original.

Until recently, we considered toolbars an expert feature, but FotoFlexer and our other winners have reversed that psychology. The generation of toolbars inspired by the Office 2007 ribbon have evolved sharply toward usability.



*Three examples of toolbars in FotoFlexer.*



*FotoFlexer's Effects controls scroll horizontally. Also note the use of a "New" label on new buttons. Such internal advertising is decidedly untraditional for applications. It's more of a website convention, but since FotoFlexer is a Web-based app, it can be appropriate to borrow selected Web design ideas. In this case, the "New" sash helps overcome the problem of experienced users' fixation on already-known features: if nothing else, it'll make them aware that something new has been added to the application.*

In contrast to the complexity of the Office ribbons, each FotoFlexer ribbon is just a set of buttons—featuring a consistent size, look and feel, comfortably spaced and usefully grouped. Non-button controls are progressively disclosed after clicking on a button. (See Idera’s SQLdm, page 140, for a similarly effective approach to the ribbon.) Under this layout, you can’t miss the tools.

First-time users don’t even have to log in to start working—a sharp departure from other online tools of this sophistication. As soon as you activate the app, you’re invited to upload a photo or select a sample picture. Users are only asked to log in when absolutely necessary—for instance to save a photo, or change persistent settings.

“We were very aware of “empty page” syndrome with applications of this sort, where users are unsure how to start,” says Liebowitz. “By encouraging users to upload a photo from the homepage, or edit a sample image, we made it very easy to get started with a photo from the get go. The purpose of the site homepage is to guide users to the application with a specific photo already loaded.”

Users are immediately dropped into the main editing window. Basic controls (such as auto-fix, red-eye, cropping, contrast and rotate) are served immediately. Multiple images can be loaded and worked on concurrently.

FotoFlexer’s narrative is generally organized along an exploratory model, with saving and sharing work as the easily accessed endpoint.

“In certain areas (such as opening and saving images), it is more important to lead users towards the correct goal,” says Liebowitz. “We made options in these windows as simple as possible, so that the correct action could be determined and carried out quickly. If users cannot figure out how to open an image, then they can’t very well start editing it. Likewise if they cannot figure out how to save, they probably will not return.”

Otherwise, users are expected and encouraged to wander among the application’s features, experimenting—or more accurately, learning by playing. The program doesn’t demand much in the way of recall, but even with the large number of features, the strong organization means most users will quickly determine and remember where they can find the items that interest them.

This is a sharp contrast to desktop competitors like Photoshop, where arcane organization can make it difficult for even experienced users to rediscover the location of a feature they have used in the past.



*FotoFlexer with multiple images loaded. These images can be worked on individually or more experienced users can treat them as layers, with opacity, blends and other more advanced features.*

## INTERFACE ELEMENTS

Controls are grouped on a series of tabs, Basic, Effects, Decorate, Animations, Beautify, Distort, Layers and Geek. The tabs proceed from left to right roughly in ascending order of complexity, so users scanning left to right will progress naturally from easier tasks to more complicated ones as they explore.

The buttons and tabs are well-spaced to avoid accidental clicks. Both the controls and workspace resize themselves seamlessly to fit the browser window width, up to 1280 pixels wide. The proportionate size and spacing of the tabs and ribbon keep the visual grouping dynamic steady throughout.

"We developed a method to automatically and continually adjust the zoom level of the canvas to properly fit within the available browser window space," says Liebowitz. "As a result, no matter what size screen is in use, the photo always fits nicely on the canvas, allowing the user to see the entire photo." This reflects an important interface rule—always let users see the entire canvas they are working on as a default. If they choose to change the size later that's fine, but initially they should be able to view and work with the entire image.

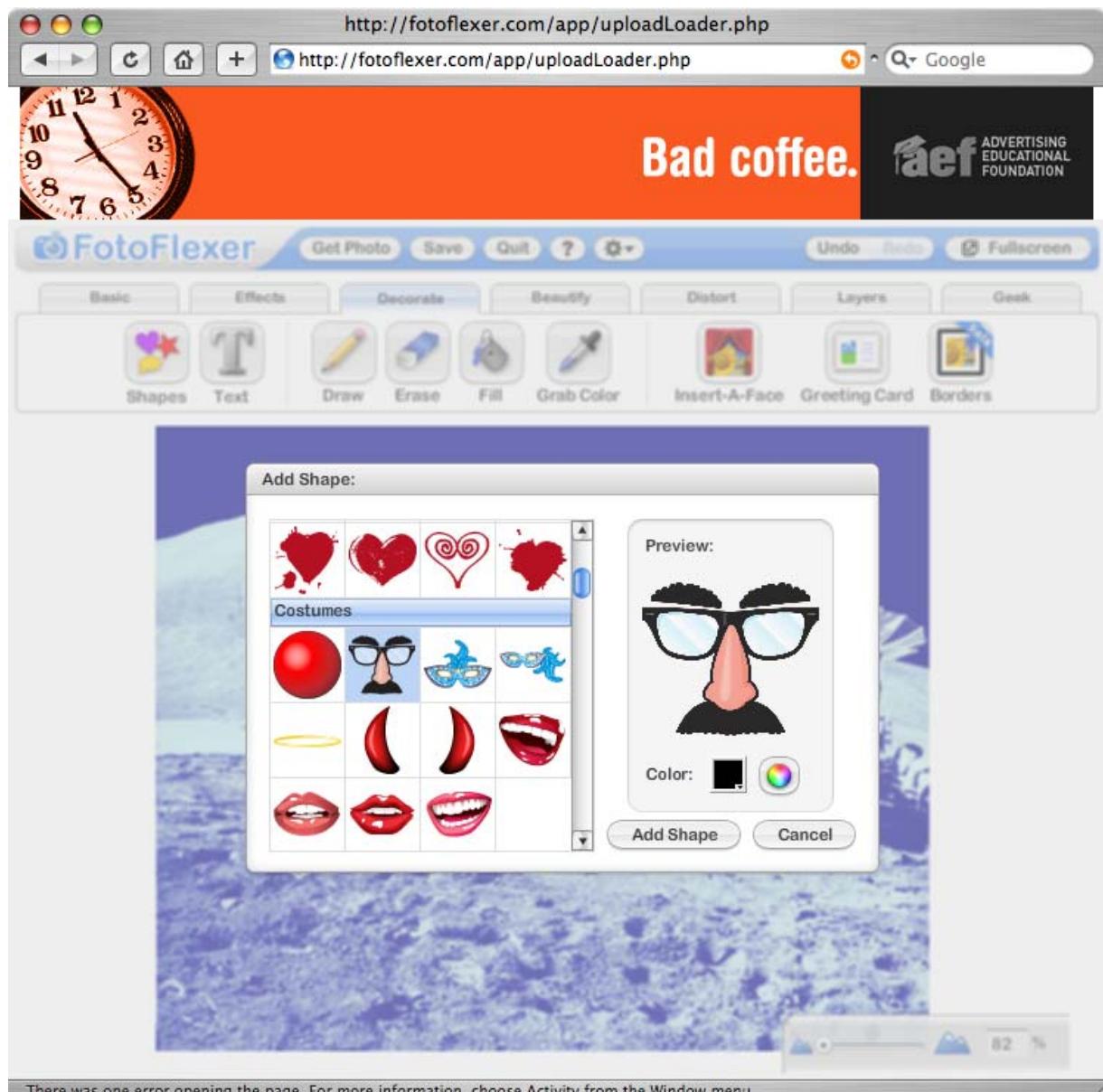
Each tab features a series of large, colorful buttons with a descriptive icon for each function. Hovering over the button produces a tooltip with just a couple words of descriptive text. Clicking a button makes the ribbon fade into a control dialog, generally including options for "apply," "cancel" and "advanced options."

Where applicable, clicking on some buttons will produce brief, clear instructions on how to use the tool, and most clicks will immediately invoke a preview of how the effect will look.

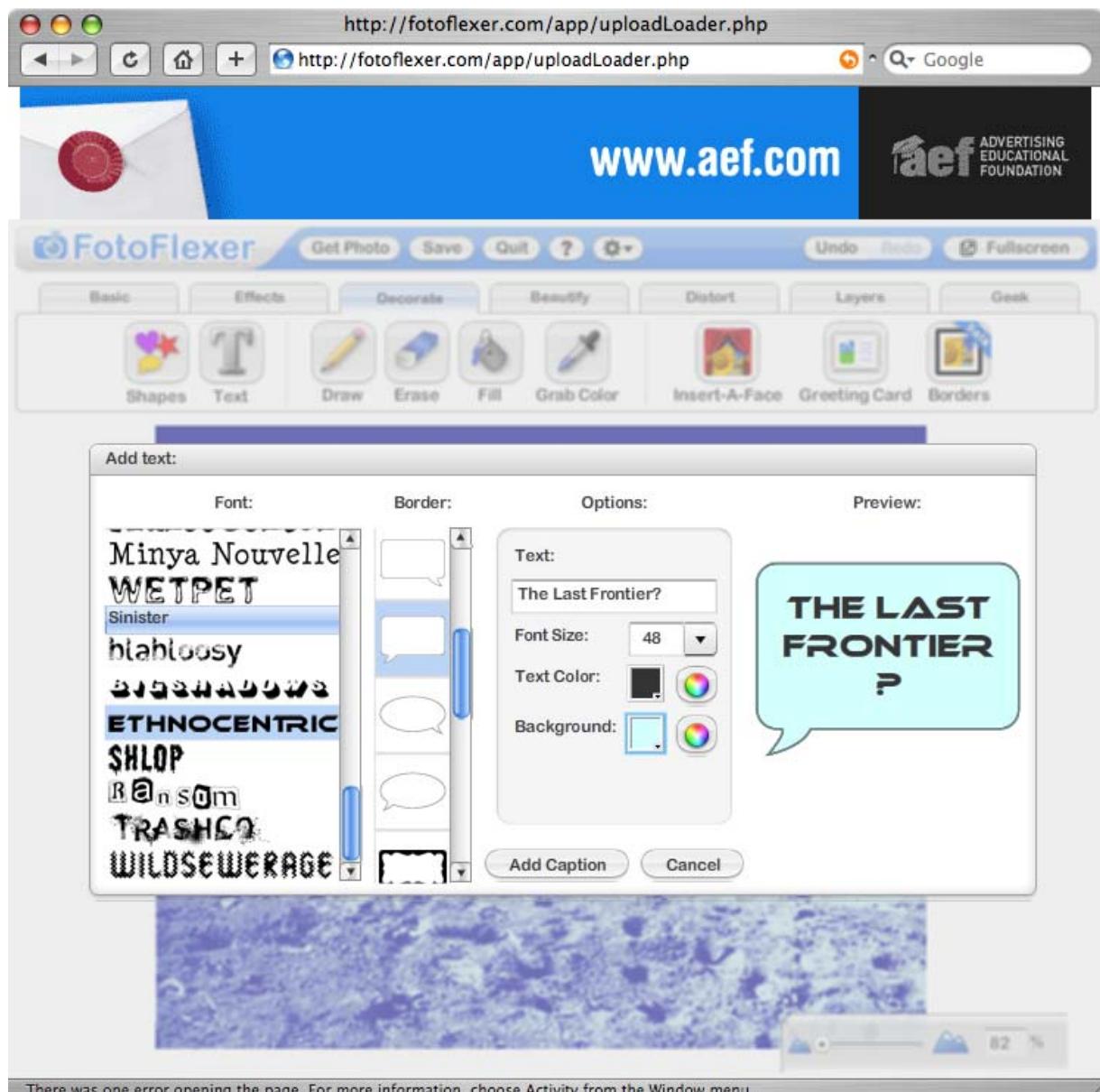
Tabs with more options than can be displayed on a single screen can scroll horizontally. This allows for future feature addition. Generally, however, the number of options under each FotoFlexer tab represents a single screen's worth of actions.

Dialogs appear where appropriate. Most of these are pretty simple, but some of the more sophisticated "geek" functions, such as smart recolor or smart cutout, will open a full-fledged dialog window with a series of fairly standard controls. Wherever possible, FotoFlexer employs a one-click-and-apply approach. Progressive disclosure techniques allow users to unfold more advanced settings for even the most basic functions, without forcing them on novice users.

Another important element is the persistent Undo feature. Once users know that they can easily remove an effect, they will be much more inclined to explore and play with unfamiliar features, thus learning new tricks as they work through the application.

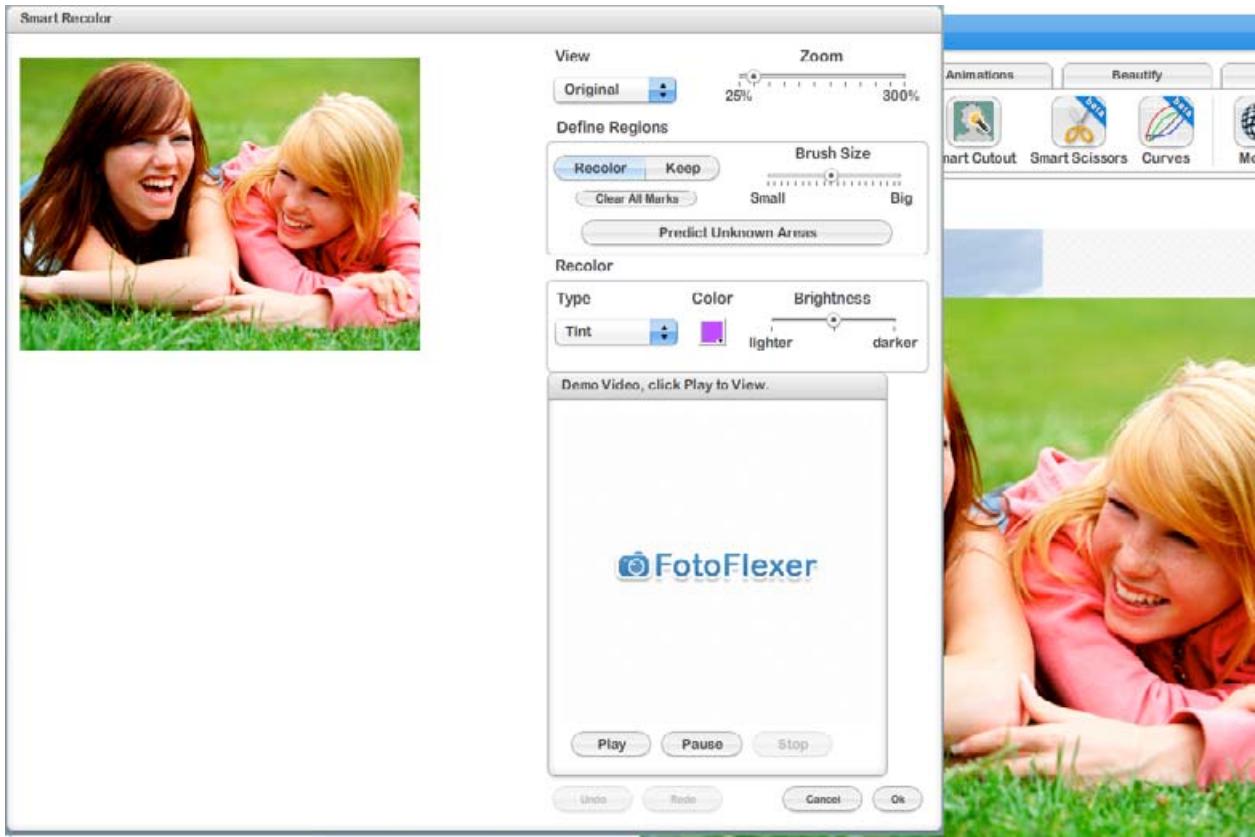


*A simple dialog in FotoFlexer. Selecting a shape shows a larger preview, and then a single button click applies the action.*

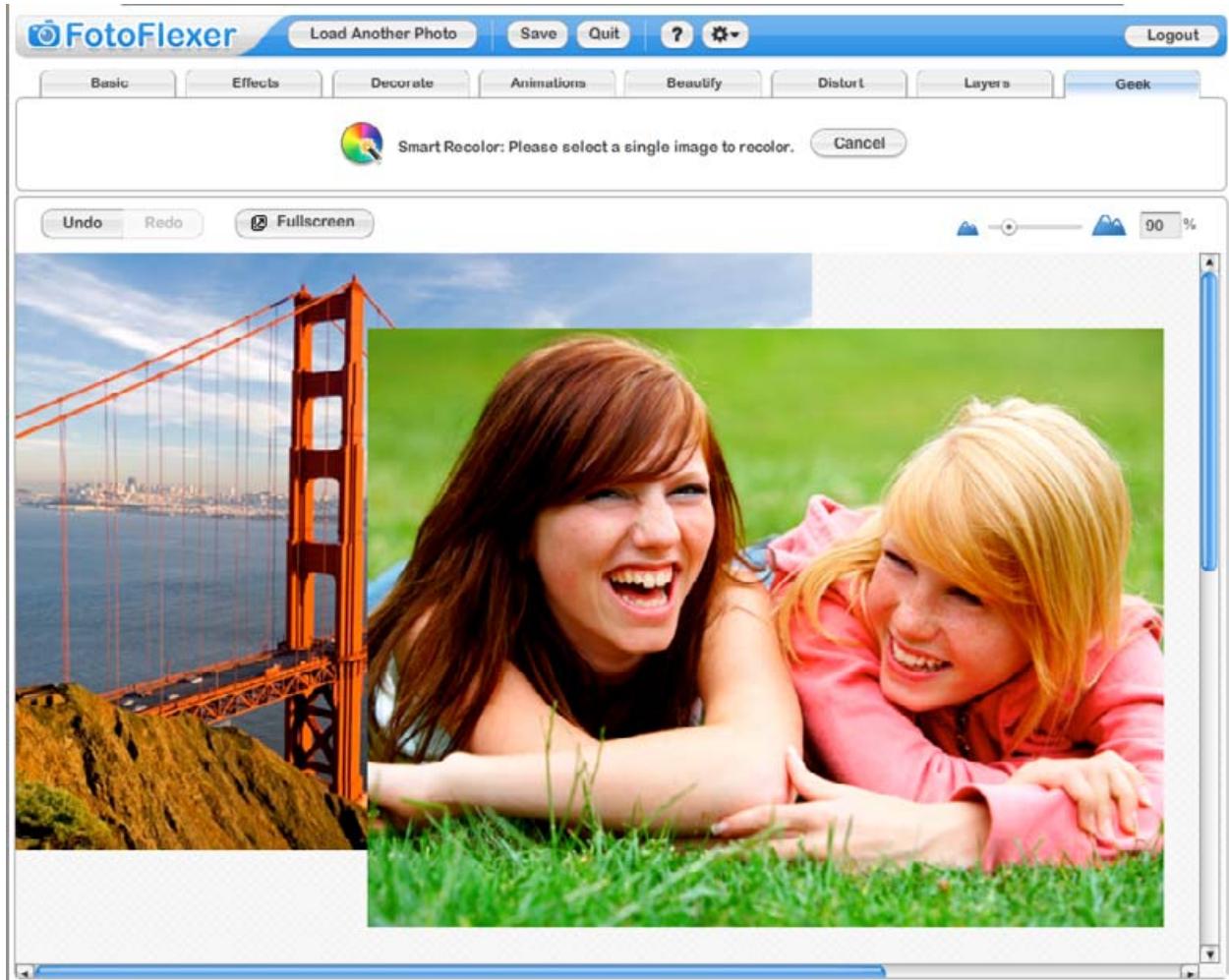


There was one error opening the page. For more information, choose Activity from the Window menu.

An intermediate dialog requires choices in three sections, but still shows the preview as in the simple dialog. Users' exploration of simpler dialogs should allow them to work with the more complex ones as they learn the application. WYSIWIG (What You See Is What You Get) display of fonts and borders here leaves users with no surprises.



*Once users start working with advanced dialogs, the interface changes to a more typical image editing format. However, videos (top) or tutorials (bottom) are often provided to help users work with the different options.*



*Often, informational or procedural dialogs will replace the tools within the toolbar. This is a very simple technique for ensuring that users see the dialog. In countless studies, we've observed users overlook error messages or informative dialogs when they were placed out of the way. And yet, in this application, it would often be inappropriate to brutally overlay the user's photos with a more in-your-face dialog box. (Particularly in this example, where the user is asked to select an image.) Temporarily overlaying the buttons works well here.*

## MENUS

Probably the most compelling choice the design team made in implementing FotoFlexer was to completely abandon the nested menu model. The tab/ribbon hierarchy is completely intuitive and gives users a clear direction any time they want to employ a control. While menus are familiar, they are also the bane of many professional image applications, and the focus here is cultivating novice users.

"We chose not to use menus for several reasons," says Liebowitz. "First, we felt they were not ideal in a web application, since menus on websites are still relatively

unexpected and not standardized. Second, we didn't want to hide the application's features in menus, opting for tabs instead. One of the biggest complaints of desktop image editors is that users don't know what features are available, let alone how to use them."

One notable exception to the "no menu" rule is a right-click context menu featuring several arrangement options, which is accessed when users select an image from among multiple images in the workspace. This is a familiar convention for those who have worked with layered image processing applications in the past, and it adds to FotoFlexer's general feel, which resembles a desktop-installed application more than a Web app.

(A technical distinction also helps this case—client-side processing. Since photo editing tends to be bandwidth-intensive, the user's computer is tasked with most of the processing. The result is generally faster performance, and controls which are much more responsive than a typical Web control. The team also felt the tab/button scheme helped enhance the speed and flow of actions.)

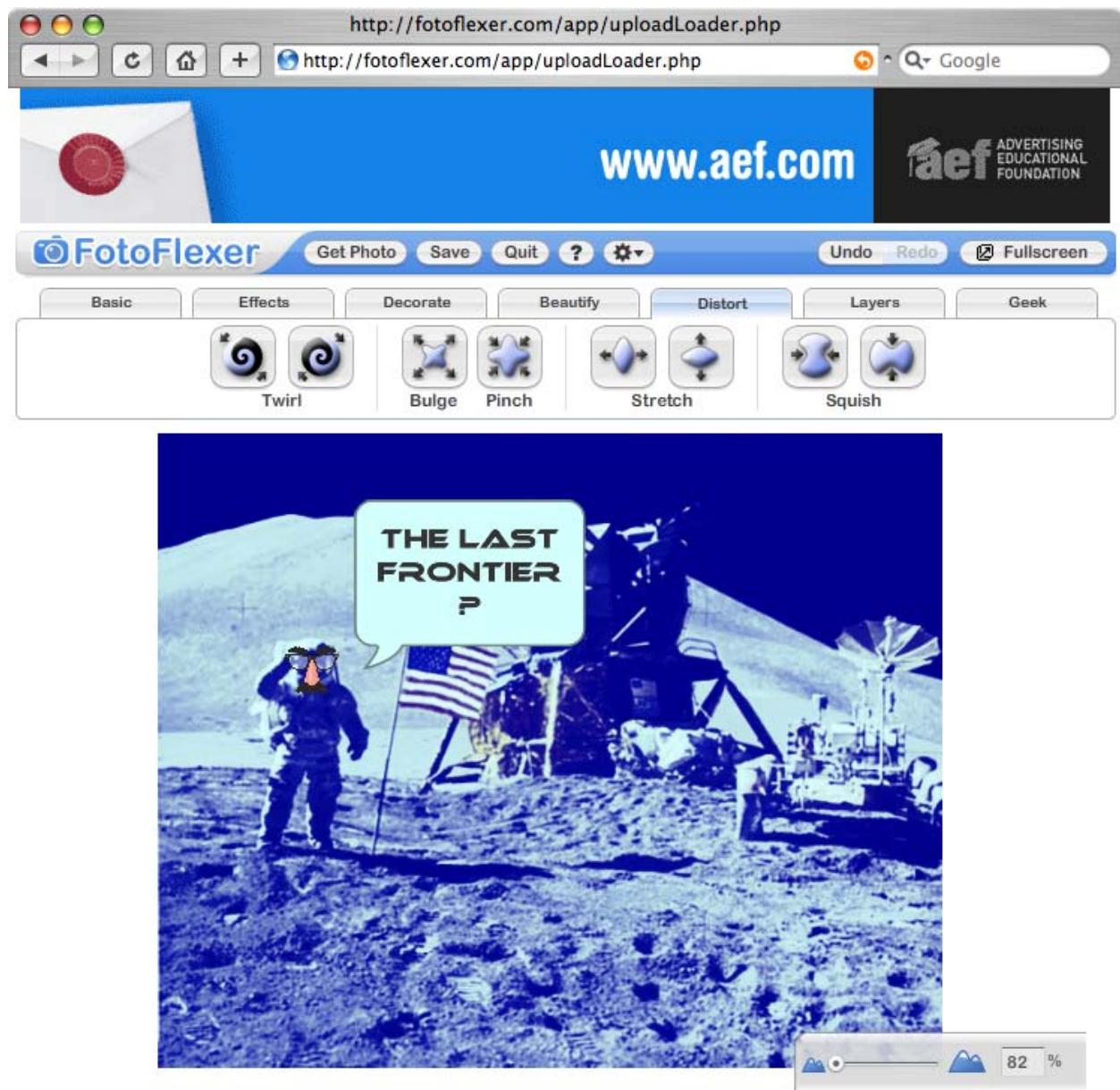
## BUTTON DESIGN

The design of the buttons also provides a key advantage. Manipulating images is a visual task, and the use of large illustrative icon/buttons meshes perfectly with the task at hand. Although each is distinguishable, they're also similar enough that they group before the eye. Subtle shading gives them an understated 3D look that is eminently clickable.

The button art does a good job of representing what the control will do to the image, and the familiar text labels clarify any function that might not be immediately apparent. The combination of text label and illustrative icon is greater than the sum of its parts.

Whenever an effect has a default setting, clicking the button provides an instant preview of the resulting image, with an option to apply or cancel. The controls are consistent with each other to an impressive extent, given that "twirl" and "crop" and "sharpen" are like apples, oranges and pears. Action elements generally were kept to a minimum, in order to avoid overwhelming the user with too many focal-point options at any given moment. In most cases, there's one "right" choice which is pretty apparent.

Grouping is used effectively throughout the application to control the amount of information being displayed at any given time as well as to guide the user through different phases of work. The design teams also tried to keep the grouped organization along the lines of a page metaphor, as opposed to relying on scrolling (although this is not entirely absent).



*Image-distortion control buttons are visually indicative of their action, if the labels were not sufficiently descriptive. What will "squish" do to your photo? Seeing the icon makes this clear. Yet, seeing the icon in isolation (as done in many other apps' toolbars), would not be sufficient for new users to understand the action. Truly, icons + labels reinforce each other and constitute the superior design in this case.*



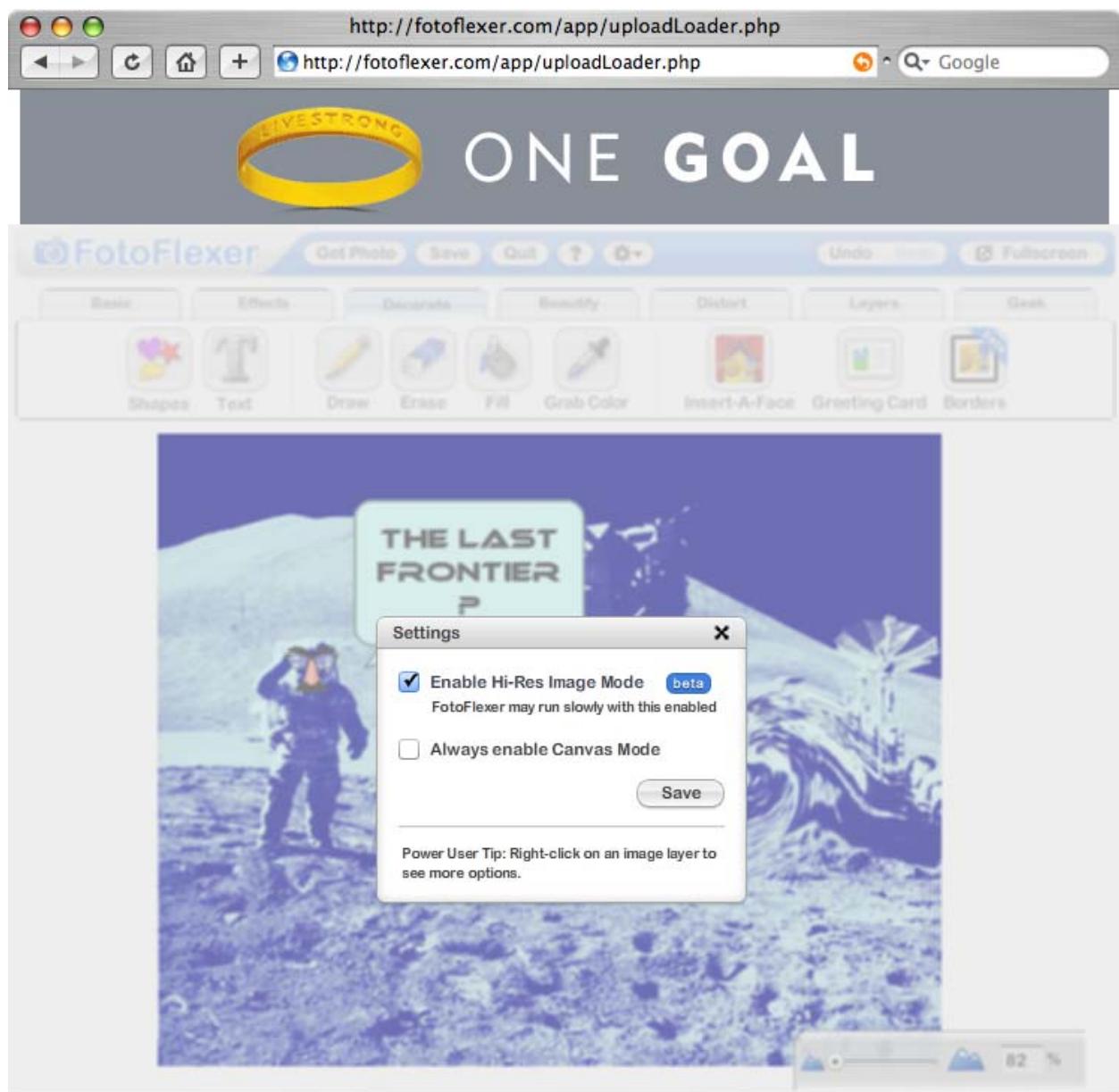
Once the Twirl control is selected, its options replace the tool bar buttons.

## DIALOGS

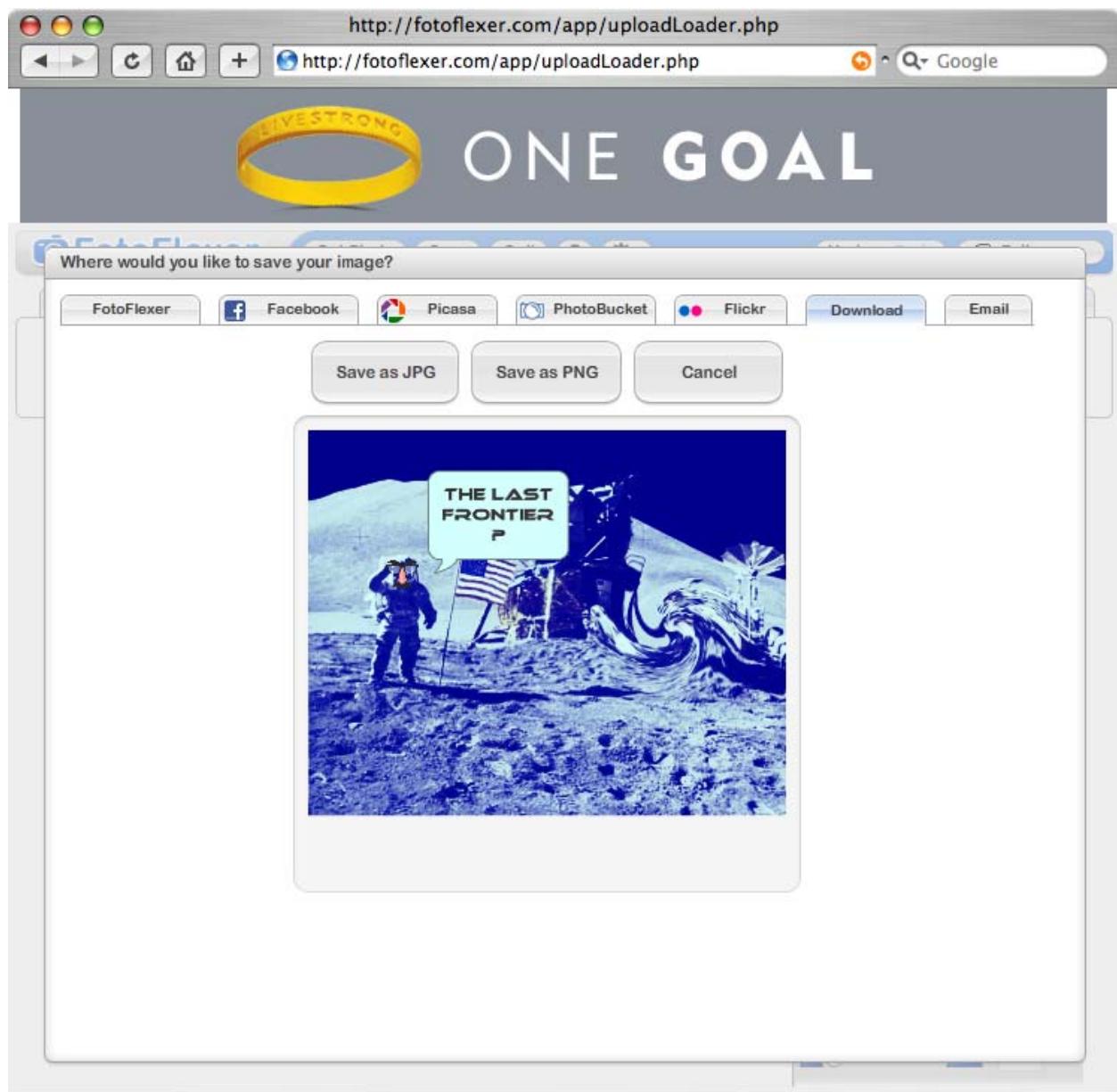
Modal dialogs are used for some functions. As much as possible, the team tried to make the dialogs follow a consistent scheme of size and structure, and appear in the same location on the screen, with a preview or selection on the left and controls on the right. Some of these are unavoidable given the function being performed, but the team is working on ways to minimize or eliminate them, says Liebowitz. "It tends to be intrusive, and breaks up the flow of editing," he says.



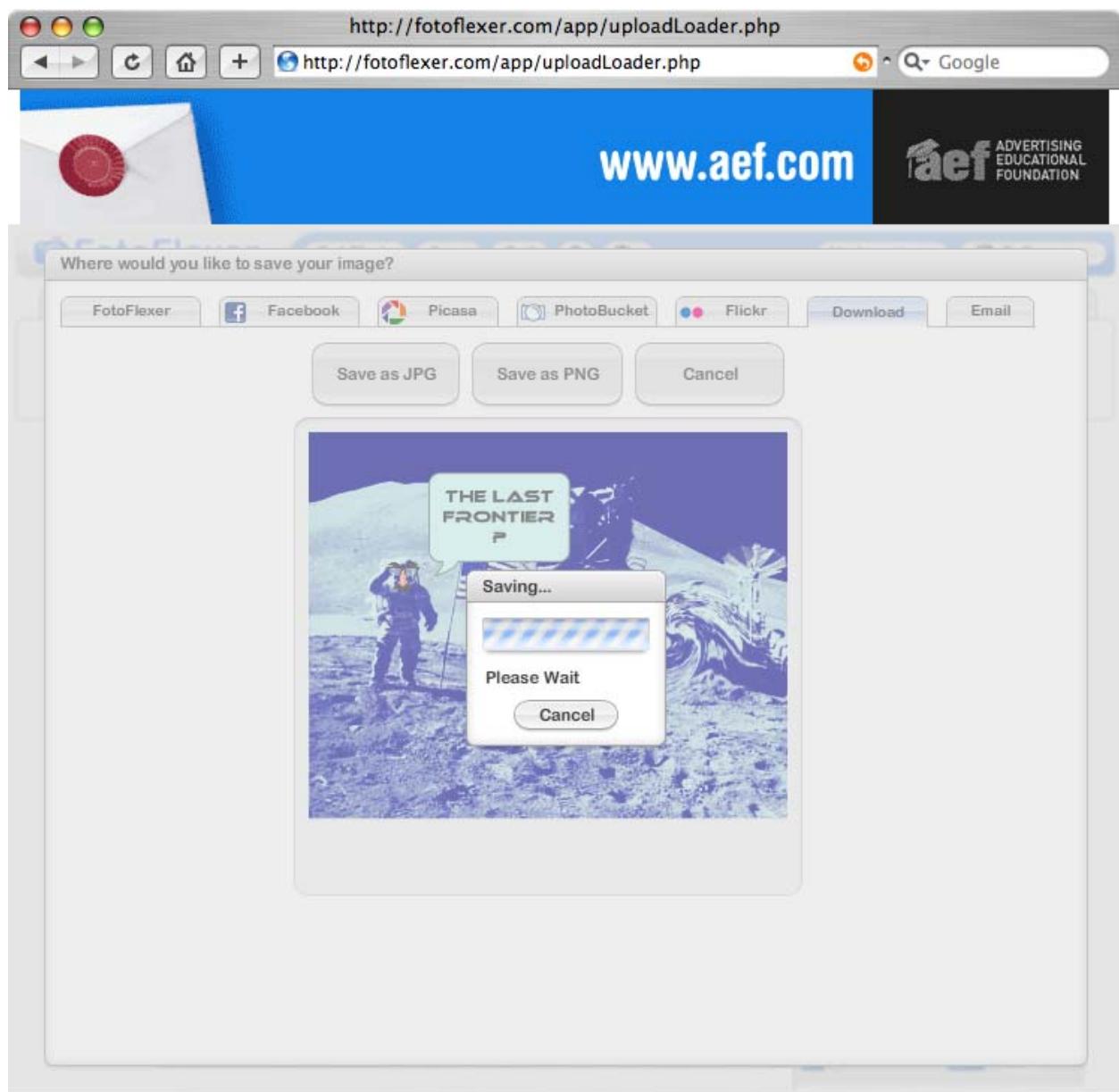
*The team realizes that modal dialogs break the flow of editing, and is working on ways to remove them.*



*Other dialogs use a "Lightbox" effect to show that they require attention before the user can proceed. This helps to focus attention on the important question and because the dialog is actually just another layer on the page, it prevents users from clicking on the main page and thus "hiding" the dialog.*



*Even the regular Save dialog has been replaced with one which fits better with the application's metaphor. "Saving" can mean different things when both the image and the application are online, and FotoFlexer makes the options clear.*



*Like all good applications, FotoFlexer shows a progress bar when actions could take time.*

## HELP AND ERROR MESSAGING

For the most part, FotoFlexer's help schema is pay-as-you-play. For most functions, it's assumed that users have a general sense of what's going on, and by keeping the controls minimal and the preview instant, exploring users will quickly grasp what a slider for "softness" under "blur edges" is going to do.

The program provides some limited handholding, but overall the help and guidance are pretty minimal, which is OK given the transparency of most functions. Occasional tips are provided, and the application will occasionally direct users to the next step in employing a tool. Most of these are pretty minimal and focused on short, clear actionable messages.

It's unavoidable that some functions are simply too complicated to stick with the click-and-apply model. In cases where a function simply exceeds the model, inline help videos are offered prominently—right inside the control window, where their relevance can't be missed.

One of the very few nitpicks we have about FotoFlexer is the prominent placement of a button featuring a bold, black question mark. When we see that icon, we think "help"—but what we got instead was a feedback window.

"To be honest, there isn't a good visual metaphor for 'Give us Feedback,' at least that we could find," says Liebowitz. "Instead of making up an arcane icon that would rarely get clicked, we opted for the more universal question mark. It communicates 'help' as opposed to 'feedback,' but in the event that a user does need help, we probably did something wrong with the UI, and thus would like to know about it."

There is no "help" section in the traditional sense, at least not from within the application window (you can back out to the homepage and find a handful of demos). There are no tutorials (except those embedded similarly to videos), no FAQs, no right-click tooltips, no context sensitive help and no indexed list of basic instructions.

Granted, you won't find many applications that have so little need of these features, and we did not encounter a single user moment where we genuinely needed them. The absence did not create a usability obstacle, although it was a little shocking.

"As strange as it may seem, we have never heard a user complain about a lack of help resources," says Liebowitz.

That's a pretty strong testament to usability. Another factor that likely contributes to the lack of complaints is the application's error-resistance.

Short of tripping over the Ethernet cable, it's pretty difficult for a user to create an error message in FotoFlexer. Short of that, the only way we found to trigger one during testing was entering an invalid username at login. When error messages do occur, a brief and straightforward message is provided.

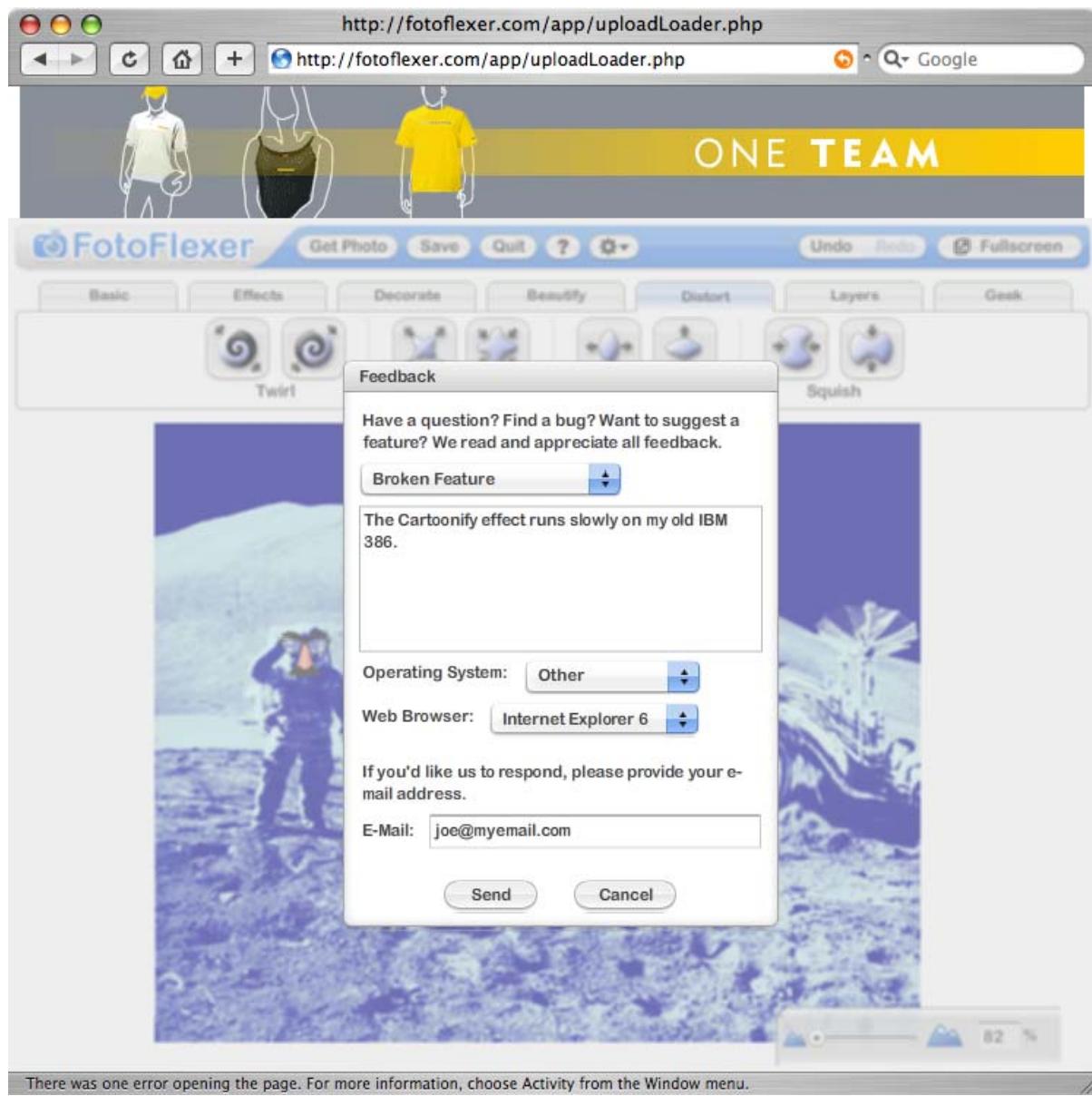
Multi-level undo provides pretty good insurance against the unlikely event that something does go seriously awry. Aside from the confidence the feature inspires in users generally, multiple undos are an absolute necessity in image processing, which always involves a certain amount of trial and error unrelated to the skill of the application's programmers.

Undo (and other functions) can be accessed via hotkey, but the function is irregularly available.

"Adobe Flex is less than perfect with event handling, and as a result keyboard shortcuts work erratically," says Liebowitz. "We did implement keyboard shortcuts, but until Flex becomes more mature, they cannot be relied upon."



*There are few places to make errors within the application, given its exploratory nature. Error messaging suggests a potential solution to the issue alongside the error description.*



There was one error opening the page. For more information, choose Activity from the Window menu.

*The question mark icon opens a Feedback window rather than help. Help has been integrated into the UI wherever possible, and the team want to hear about issues that lead to user confusion so that they can be resolved in future releases.*

## INNOVATION VS. CONVENTION

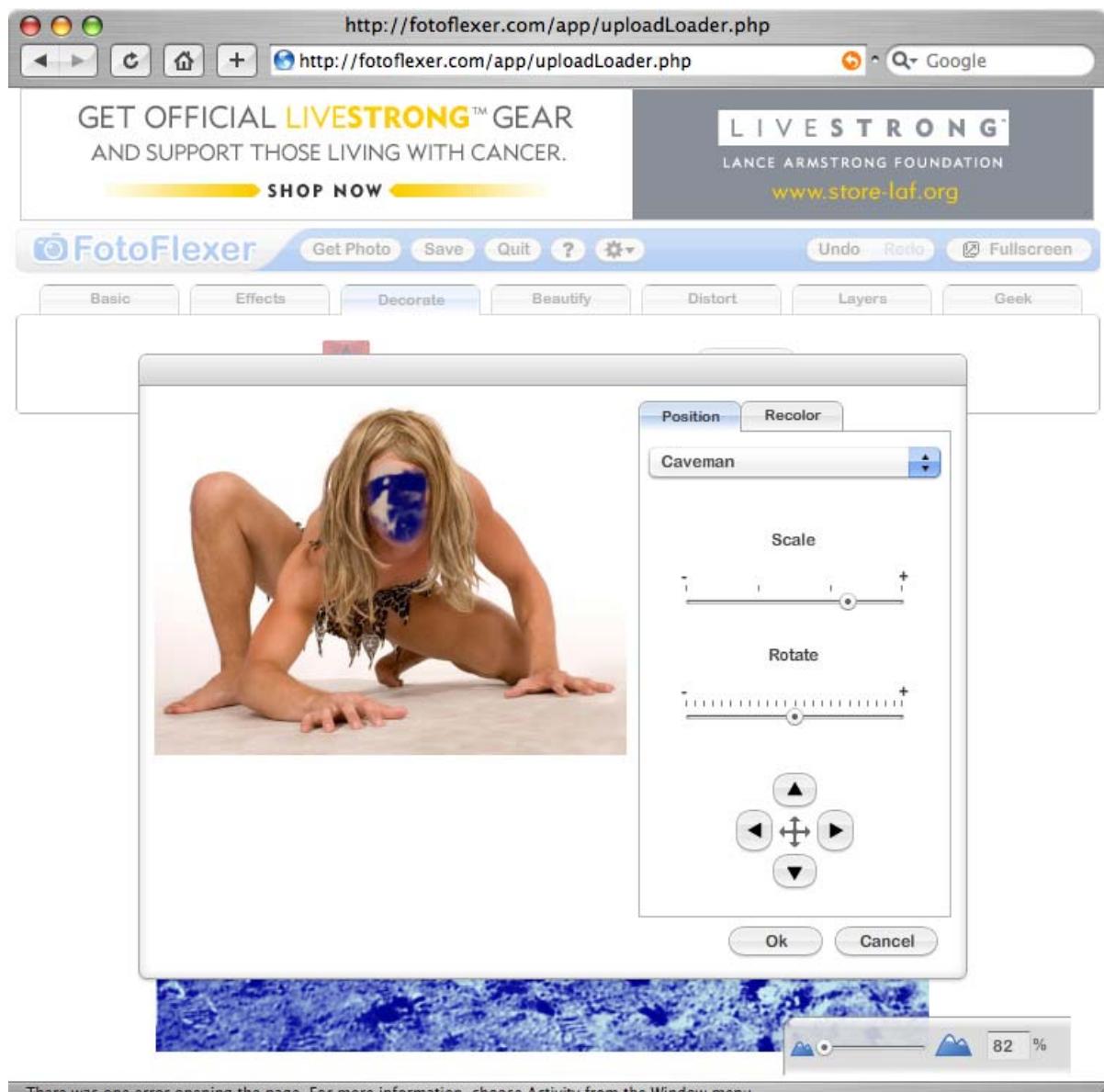
Eliminating the nested menus was an innovation from the perspective of the image processing application, but as noted above, such menus are not actually conventional for those working online. In general, the development team opted to stick with desktop convention wherever possible.

"Only when an existing convention did not exist did we innovate a new approach," says Liebowitz. "Photo editing is complicated enough without introducing foreign design elements."

Although FotoFlexer does feature some distinctive design, Liebowitz says the team approached their task with restraint in mind.

"From the beginning, we decided that usability came first and visual design was in the service of usability," he says. "We wanted to design an attractive product, but felt that when 'in the flow' of editing, the interface should fade into the background and become an afterthought to the user. Nothing is more frustrating than a pretty interface that quickly gets in your way when trying to accomplish a task."

Early drafts of the design were extremely minimal. The overall page structure remained consistent throughout the process, but color and a few other bells and whistles were added after feedback from various quarters.



An example of using standard controls for a nonstandard feature. This enables users to apply their existing knowledge to a new environment.

## USABILITY PROCESS

Arbor Labs conducted usability testing throughout the development of FotoFlexer, but “not on a routine schedule or in a systematic way,” says Liebowitz. As a startup without outside investors, there wasn’t a formal development budget. Five to seven man-hours of development time were devoted to formal usability testing (significantly less than one percent of total development).

Testing was done on a feature-by-feature basis, due to the small team and fast development cycle. “The team utilizes an iterative design process, where features are released quickly, and then revised later in response to user feedback and later testing,” Liebowitz says.

Most usability testing was heuristic, but users were called in at various points, especially when team members had divergent opinions about how to proceed. Generally, these tests were informal, with a handful of participants.

Feedback from these tests “led us to an 80/20 approach,” Liebowitz said. “By default, the application is set up to serve the most common users.” That meant a focus on fast application responsiveness and a de-emphasis of complicated options for advanced users.

Although the team didn’t take part in user modeling per se, they did draw on demographic information from Web analytics to get a snapshot of who was using the application, as well as informally collecting feedback from Facebook users who accessed FotoFlexer. This information was used to inform design decisions.

Liebowitz describes himself as “self-taught” on usability issues and always looking to learn from each project he works on. Influences included

- Jeffery Zeldman (Happy Cog Studios) and the staff of *A List Apart* magazine;
- Jakob Nielsen (useit.com and books);
- Donald Norman (website and *The Design of Everyday Things*);
- Vincent Flanders and his book, *Web Pages That Suck*, the book that sparked Heston’s interest in usability to begin with.

## TEAM

FotoFlexer’s design team includes:

- Heston Liebowitz, a Web developer and entrepreneur with several startups under his belt. Prior to working on FotoFlexer, he helped develop MacBand.com, a music-sharing website. Heston was the lead UI designer and graphic designer for FotoFlexer. He is responsible for all visual elements of the website and application, and the overall user experience.
- Dominic Antonelli, a graduate student at the University of California, Berkeley, who is currently researching architectural techniques for reducing power consumption in dedicated multimedia processors. He has a bachelor’s degree in computer science from Notre Dame, where he graduated summa cum laude. Antonelli executed much of FotoFlexer’s UI development and

contributed significantly to the design of its text, shapes and effects controls, and the innovative automated zoom functionality.

- Justin Fiedler is an alumni of University of Wisconsin, Madison, with a bachelor's degree in computer science. His interests include computer vision, image processing, and real time algorithms. Fiedler designed and built FotoFlexer's edge-detecting "Smart Scissors" (similar in function to Photoshop's magnetic lasso).



*Left to right, Justin Fiedler, Dominic Antonelli, Heston Liebowitz*

## WHY THEY WERE CHOSEN

FotoFlexer has created a refreshingly simple interaction for the key tasks and effects that their target audience will want to apply to their photographs. Design professionals may scoff at the lack of options but that is half the battle in this case. The FotoFlexer team realize that their product is as much about entertainment as it is about aesthetics, and if entertainment is a major goal, then the interface has to "disappear" from the interaction as much as is possible.

Creating online versions of applications “because you can” serves no useful purpose. Creating an online application which adds to the user experience by interacting well with other online services (in this case, photo storage sites) gives users an easy to pick up and use alternative to desktop-based editing applications.

# PRISMAprepare

## COMPANY INFORMATION

**Company:** Océ-Technologies B.V.

**Design team (continued):**

**Application:** PRISMAprepare

### Product Design

- Guido Stompff
- Rob Zweerman
- Estella Stok
- Arjen Wind

**Headquarters:** Venlo, The Netherlands

### Usability Research

- Eddy van Vliembergen
- Abbie Vanhoutte
- Sanna Langeveld

**Number of employees:** 24,000

### Modeling

- Ron Dongelmans (digital modeling)
- Dirk Soentjens (digital modeling)
- Hay Gout
- Frank Willems

**Design team:**

### Graphic Design

- Saskia van Cleef-Megens
- Andrea Meessen
- Jacqueline Jansen
- Pascal Hagens

### Interaction Design

Edward Bosma,

### Interaction Design

Fred de Jong

### Usability Research

Robert Eijlander

### Modeling

Merijn Neeleman

### Graphic Design

Anita Morskate

### Interaction Design

Bas Hermus

### Usability Research

Jannie Dijkstra

### Modeling

Carlijn Compen

### Graphic Design

Nanne Krikke

## OVERVIEW/MOTTO

Netherlands-based Océ is one of the world's leading suppliers of systems and services for digital printing and document management. The company provides print, copy and scan devices and workflow software for professional users in office environments and print-centers. Océ also does consulting and outsourcing in the print space.

The company's workforce spans research and development centers in the Netherlands, the United States, Canada, Germany, France, Rumania and Belgium, employing nearly 24,000.

Océ serves print centers such as digital print providers, copy shops, reprographic departments and book printers. The company's customers provide scan, copy and print services to their customers.

Preparing documents for printing is far from a one-size-fits-all job. PRISMAprepare users—print center employees—have to render every imaginable type of print-related service.

A print project can be anything from a business card to a pamphlet to a book. The number of jobs being performed at any given time and their deadlines can also vary wildly. Most large print jobs involve a selection of elements such as covers, inserts and tabs, many of which need to be customized with text or color.

Further complicating matters, there isn't a standard user for PRISMAprepare. A college student employee could be using the software at a copy shop, while a professional printer or prepress specialist might be using it at a book publisher.

The PRISMAprepare development team focused on making an application that could guide inexperienced computer users without constraining how they approached the universe of possible print jobs.

A major usability challenge for developers in this situation is creating a program easy enough for low-end users that is also comfortable for high-end users. Make it too simple, and it becomes tedious and limited for the high-end. Make it too powerful and you run the risk of losing that college student. At either extreme, users risk ending up with serious errors that can derail a project midstream.

## WHAT DOES IT DO?

Content is supplied by the customer, but it's the print center's job to create finished packages with all the bells and whistles. PRISMAprepare's functionality includes such key tasks as:

- Collecting source files.
- Cleaning up scanned pages.
- Correcting the page contents.
- Selecting media.
- Adding enhancements such as page numbers or tab captions.
- Defining layouts.
- Finishing and imposition (i.e., advanced options such as full-bleed and same-up printing; imposition is the process of arranging pages on larger sheets. After printing they will be folded and/or cut so they end up in the correct sequence in the document. Same-up is a type of imposition.)



*PRISMAprepare users aren't waiting for a few pages to pop out of a LaserJet. This is an example of the kind of output rig that PRISMAprepare is designed to control. (Image courtesy Océ)*

## **WHO IS THE USER?**

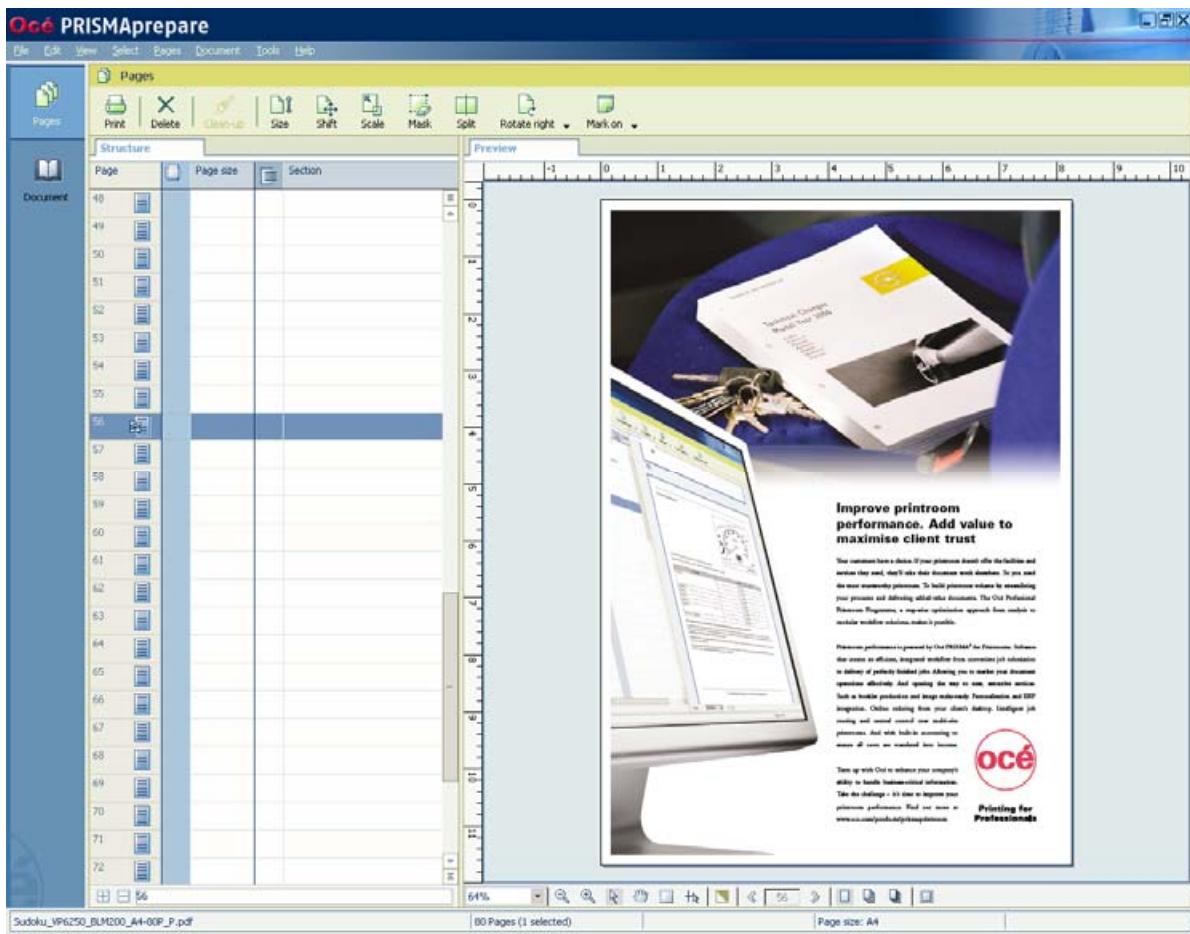
All users are 'professional' in the sense that they use the PRISMAprepare application as part of their job on a day-to-day basis, so efficiency and ease of use for experienced users is a must. However, not all users have the same profile in terms of education and computer proficiency. The target user is a print professional with an unknown degree of experience—not necessarily an experienced computer user.

In a full-scale press operation, users can include blue collar workers who have spent much of their lives working with mechanical reproduction techniques. In a copy shop, the person responsible for tending to the printers might be the same person performing pre-press functions. In a graphic design setting, those two functions might be connected by little more than an Ethernet cable.

The majority of PRISMAprepare users are offset machine operators, reproduction workers with relatively little formal education, and temporary employees. So while efficiency and application power are important, the development team also put a high premium on an intuitive interface and a friendly learning curve that guides users into more advanced areas of functionality.

In an ideal world, PRISMAprepare users get formal training from an Océ employee, who customizes the presentation to the specific work environment. In the real world, customers often opt for a half-day of on-the-job training given to a couple of employees, who then pass their knowledge onwards to others that will be using the application. And some users get no training at all.

In light of all this, the development team approached the design knowing that many users would be learning through trial and error.



*Users typically start by assembling pages into a document for printing. The Pages workspace allows fast navigation between each page and gives users the opportunity to clean up scanned images and edit page details. This on-screen task closely mimics the first step of the old manual process.*

## THE APPLICATION

PRISMAprepare isn't the only product available to print centers for managing jobs. The competition, says Bosma, consists of programs that are either very open-ended or those which operate with simplified wizard interfaces. The challenge for Océ was to create a program that provided some direction without sacrificing flexibility.

The user starts off in PRISMAprepare's Pages Workspace. The application follows a pretty straight-ahead three-stage process that was developed after Océ personnel spent time with users in their work environments (see Usability Process on page 115 for more on the visits):

1. Collect and correct pages.
2. Define and enhance document.
3. Optimize and execute printing.

The first two phases involve manipulation and tuning of general structure, so the development team opted to define each as a workspace—the Pages Workspace and Document Workspace respectively. The third phase, printing, is both an action and endpoint, so it's defined as such within the navigation scheme.

The workspaces are navigated by a left-column navbar, with a look and feel that will be familiar to most Windows users. The print phase can be accessed at any time from a horizontal toolbar across the top of the page. The print button always occupies the dominant far-left position on the horizontal bar, with other functions tailored to the workspace scanning left to right.

The Pages Workspace is tuned to document preparation and preview. The window offers an accurate view of what the pages will look like, supplemented by page guides and other view options.

Controls in this section include deleting pages, defining page size, moving elements, scaling elements, erasing areas, splitting pages (e.g. facing magazine pages that are scanned from a flatbed) and rotating. The "mark" function lets users designate pages that must be sent to different printers. There are also controls for cleaning up scanned pages.

In addition to the horizontal toolbar, users can work with rulers and guides using mechanics that will be familiar to most print workers and users of desktop publishing packages. The main workspace is divided into two panes—one for structure, which includes numbered thumbnails and other data for each page, and a preview pane, on which page elements can be manipulated and the results seen in real time.

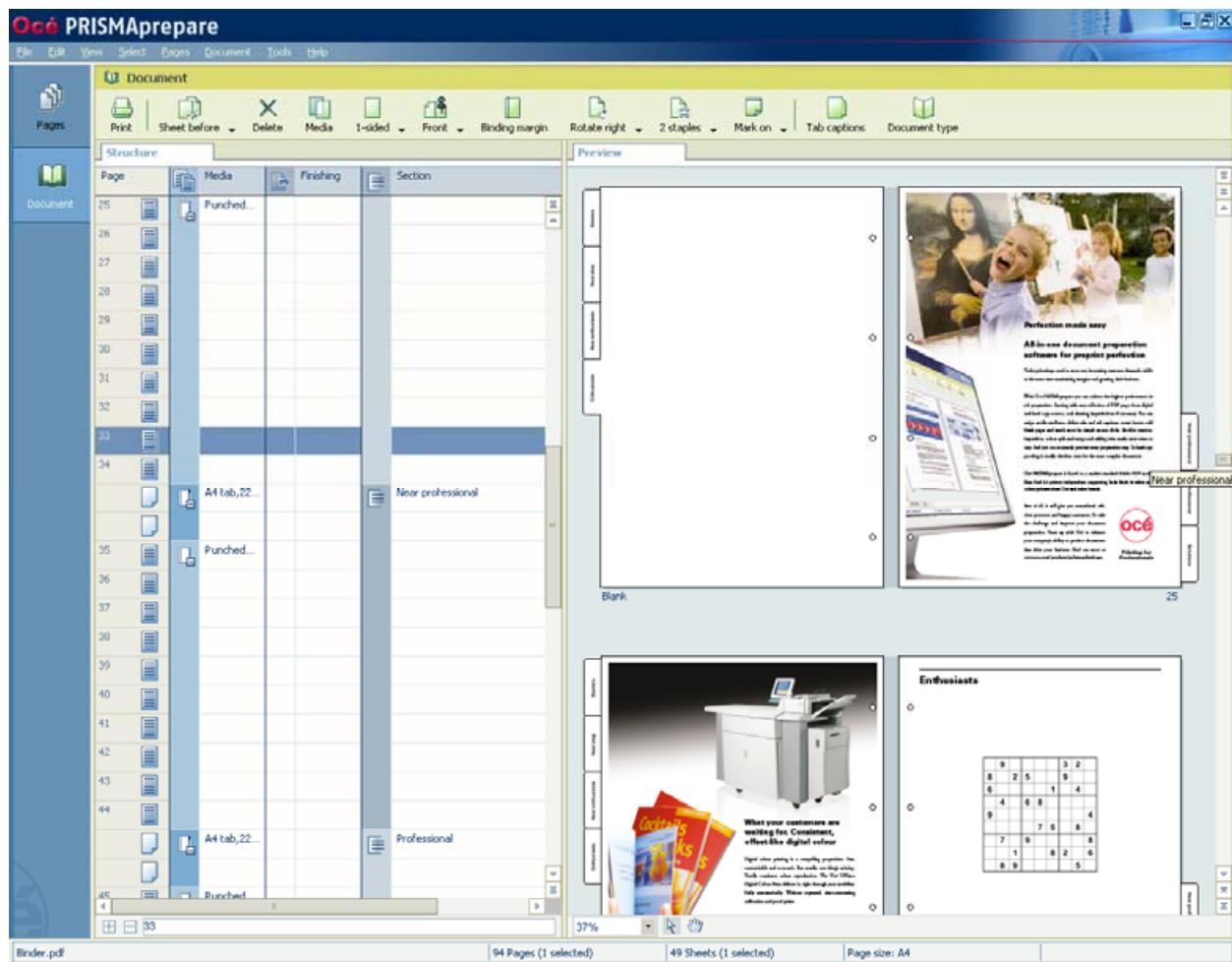
The Document Workspace is where the edited pages are defined into a cohesive document, which can then be enhanced. Controls here are more project-oriented, including defining paper type, whether printing is one-sided or two-sided, margins for binding, type of binding, tabs and captions, and defining the general document type (which in turn dictates various other available options).

The panes here maintain strong continuity with the Pages Workspace, but they have been re-tuned to reflect the change in functionality. The Structure pane now allows users to designate paper type, binding and finishing techniques, while the preview switches from a single page display to a facing-pages display showing how the final product will look, including the placement of punch holes, staples, margins, tabs and

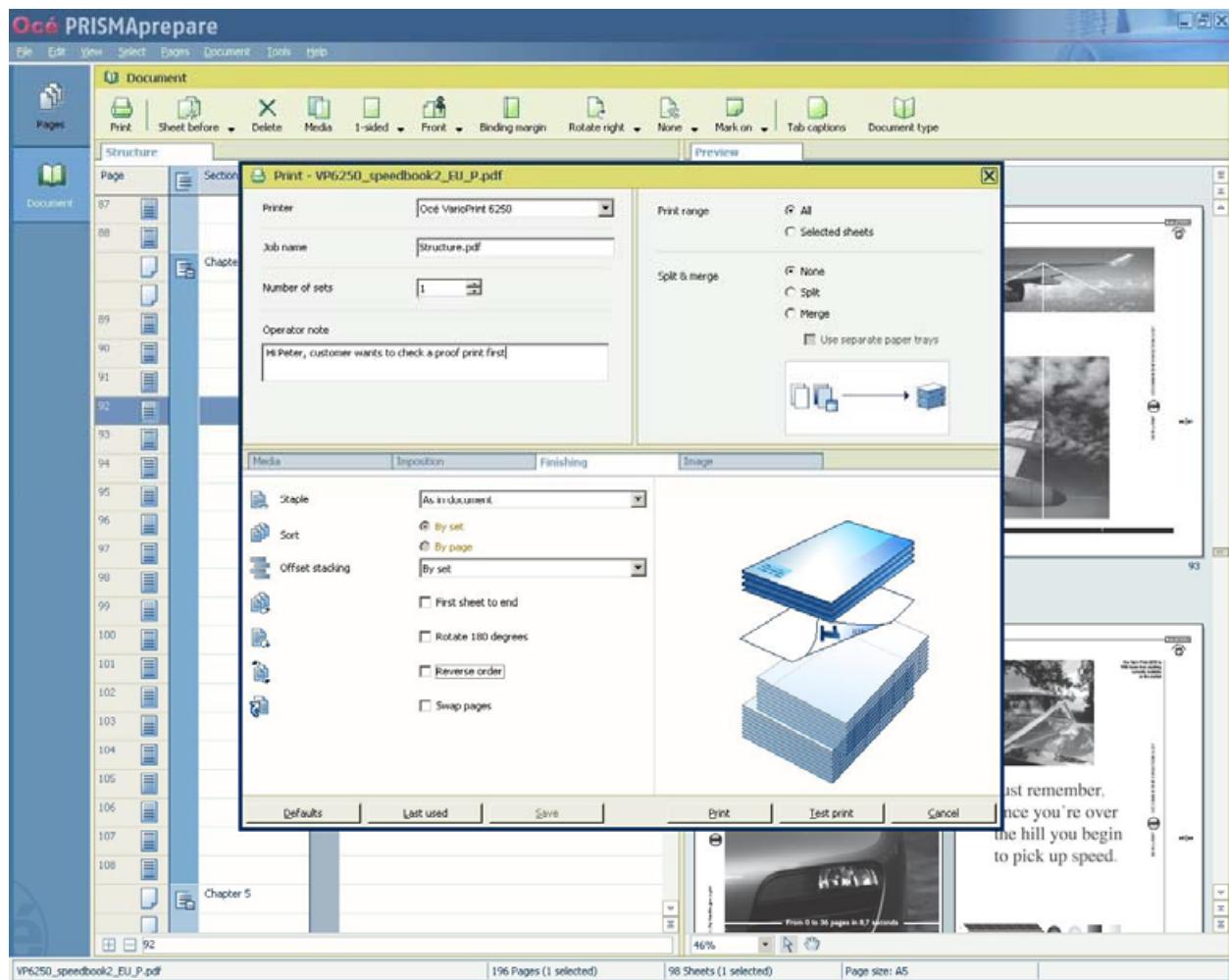
so forth. In this mode, the preview pane no longer includes tools for manipulating elements on the page.

Once the document has been fully described, the Print phase allows users to set up, configure, optimize and send the print job to a printer/press operator. Clicking print brings up a fairly extensive dialog box in which the final options can be set and notes can be sent to the operator.

Although the application steers users sequentially from Pages to Document to Print, they aren't obligated to follow that template. Users can move back and forth between workspaces and print test pages at any stage.



*The Document workspace allows manipulation of global elements, for instance the cover and spine, and properties such as what paper type each page will be printed on and whether binding (such as staples) or finishing (such as punch holes) will be applied.*



The third part of the process after gathering pages and formatting them into a document is to set print options. Even after these options have been set, users can easily move back to the Page or Document view to make changes. This flexibility is essential in an environment which has many last-minute changes.

"It is intentionally not designed as a wizard but as a navigation concept with a suggested sequence," says Edward Bosma, Océ's interaction designer. "This is important because work (at print centers) is often unstructured with many last-minute changes."

However, the suggested order does reflect the most common path toward printing, and so it's aimed at making the application easier to learn.

To enhance the narrative flow's utility as a teaching tool, PRISMAprepare also offers context-sensitive help, information panels in dialog windows and tooltips.

## INTERFACE ELEMENTS

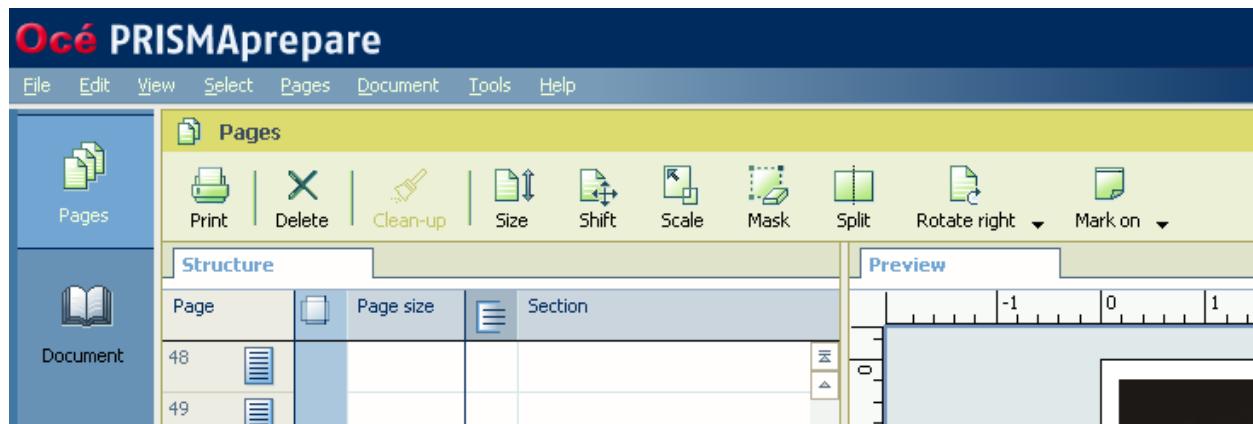
The user interface is based on Océ's corporate "look and feel." OCEAN is a unified GUI that spans Océ's product line, offering a consistent interface and program style. Users of one OCEAN product have a head start with any other.

The genetic resemblance is reinforcing for users, in the same way that users of the Microsoft Office suite are continually being cross-trained in the entire package of applications. Generic interaction concepts can be learned once, but employed in a wide variety of settings.

This corporate user interface style is not only a means to communicate a coherent brand image but also uses generic interaction concepts that users have to learn once to benefit from in all other Océ products they use.

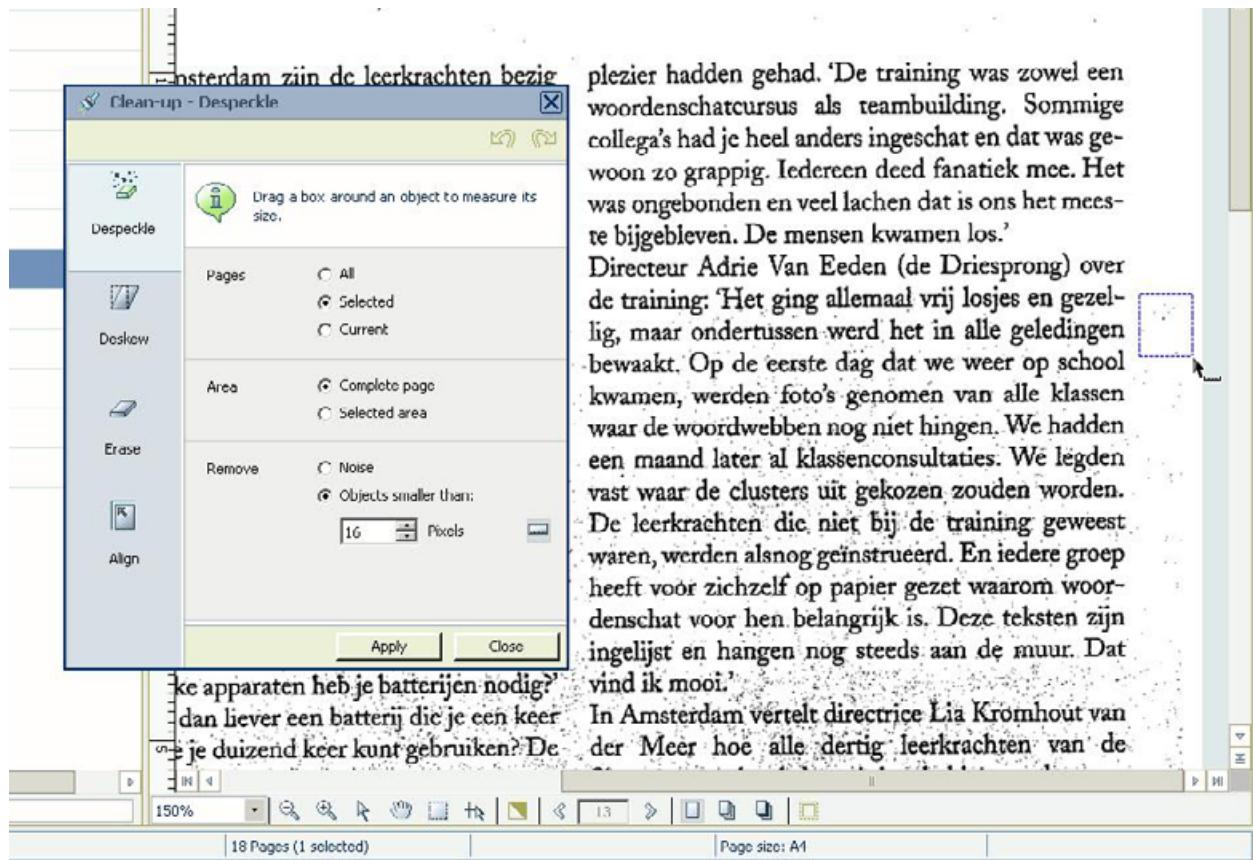
One of these concepts is a task-based division of functionality in Workspaces that are accessed from the main navigation bar. The Workspaces in PRISMAprepare resemble the natural (although not obligatory) working sequence for the user:

The controls are formatted to be familiar to most Windows users, with large target buttons that are clickable and easy to distinguish. Simple illustrative icons are paired with text, so that users know what they're getting, and the button labels are clear and explanatory. Some buttons invoke a dropdown menu with additional options, some open dialogs and others simply execute an action.



*Toolbar detail in pages workspace. Note the difference in visual style between these icons and those in FotoFlexer's buttons (page 64). The two basically have the same interaction design, but the styles are different, as appropriate for the different target audiences and the different levels of playfulness*

*inherent in their tasks (preparing print jobs vs. fixing vacation—and other—photos).*

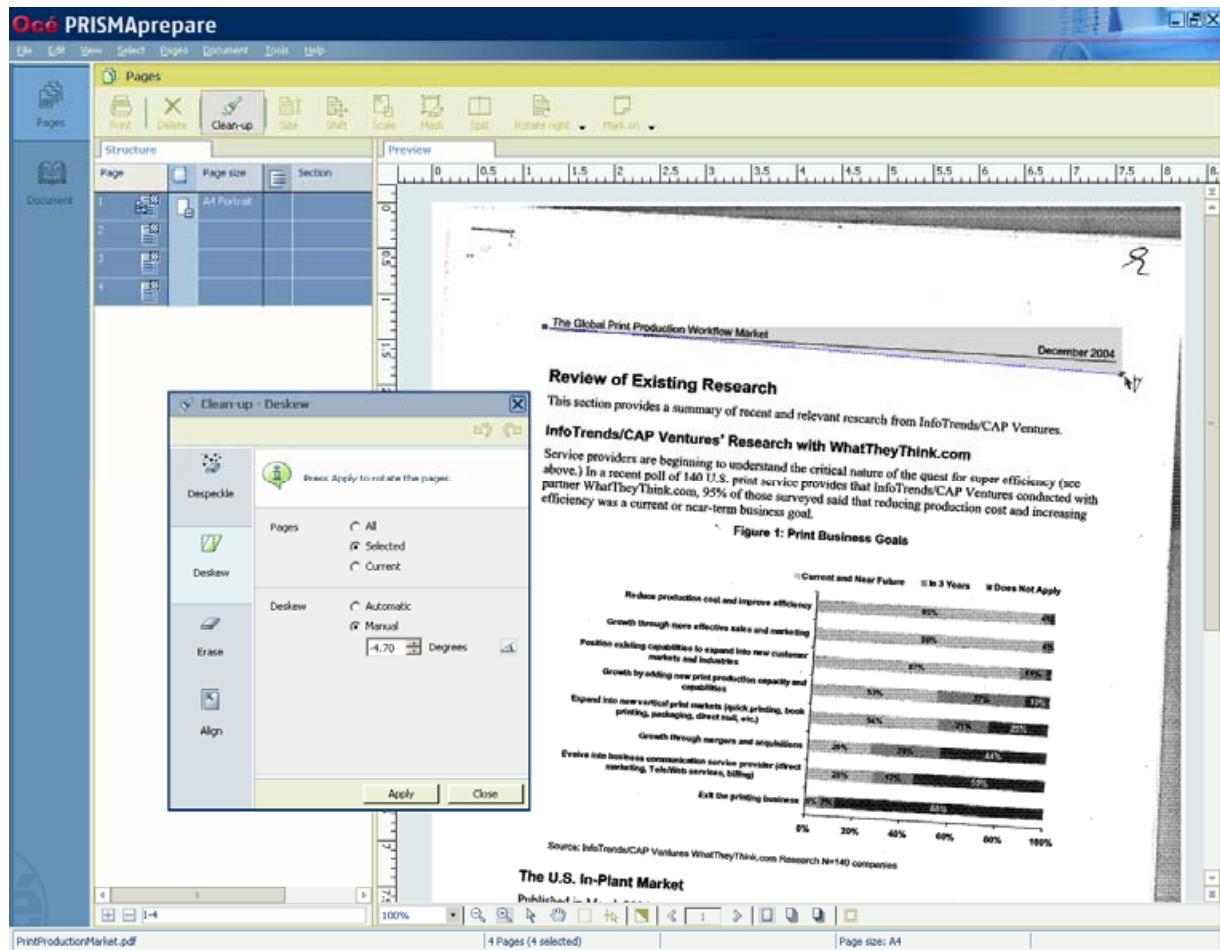


*Despeckle control with custom cursor (see next text page).*

plezier hadden gehad. 'De training was zowel een woordenschatcursus als teambuilding. Sommige collega's had je heel anders ingeschat en dat was gewoon zo grappig. Iedereen deed fanatiek mee. Het was ongebonden en veel lachen dat is ons het meeste bijgebleven. De mensen kwamen los.'

Directeur Adrie Van Eeden (de Driesprong) over de training: 'Het ging allemaal vrij losjes en gezellig, maar ondertussen werd het in alle geledingen bewaakt. Op de eerste dag dat we weer op school kwamen, werden foto's genomen van alle klassen waar de woordwebben nog niet hingen. We hadden een maand later al klassenconsultaties. We legden vast waar de clusters uit gekozen zouden worden. De leerkrachten die niet bij de training geweest waren, werden alsnog geïnstrueerd. En iedere groep heeft voor zichzelf op papier gezet waarom woordenschat voor hen belangrijk is. Deze teksten zijn ingelijst en hangen nog steeds aan de muur. Dat vind ik mooi.'

In Amsterdam vertelt directrice Lia Kromhout van der Meer hoe alle dertig leerkrachten van de



### *Rotation controls.*

In the Pages Workspace, the mouse pointer changes to reflect the tool selected, using both standard (rotation handles) and custom (pixel measure for despeckling) controls. In the Document Workspace, the cursor reflects controls for selection and dragging.

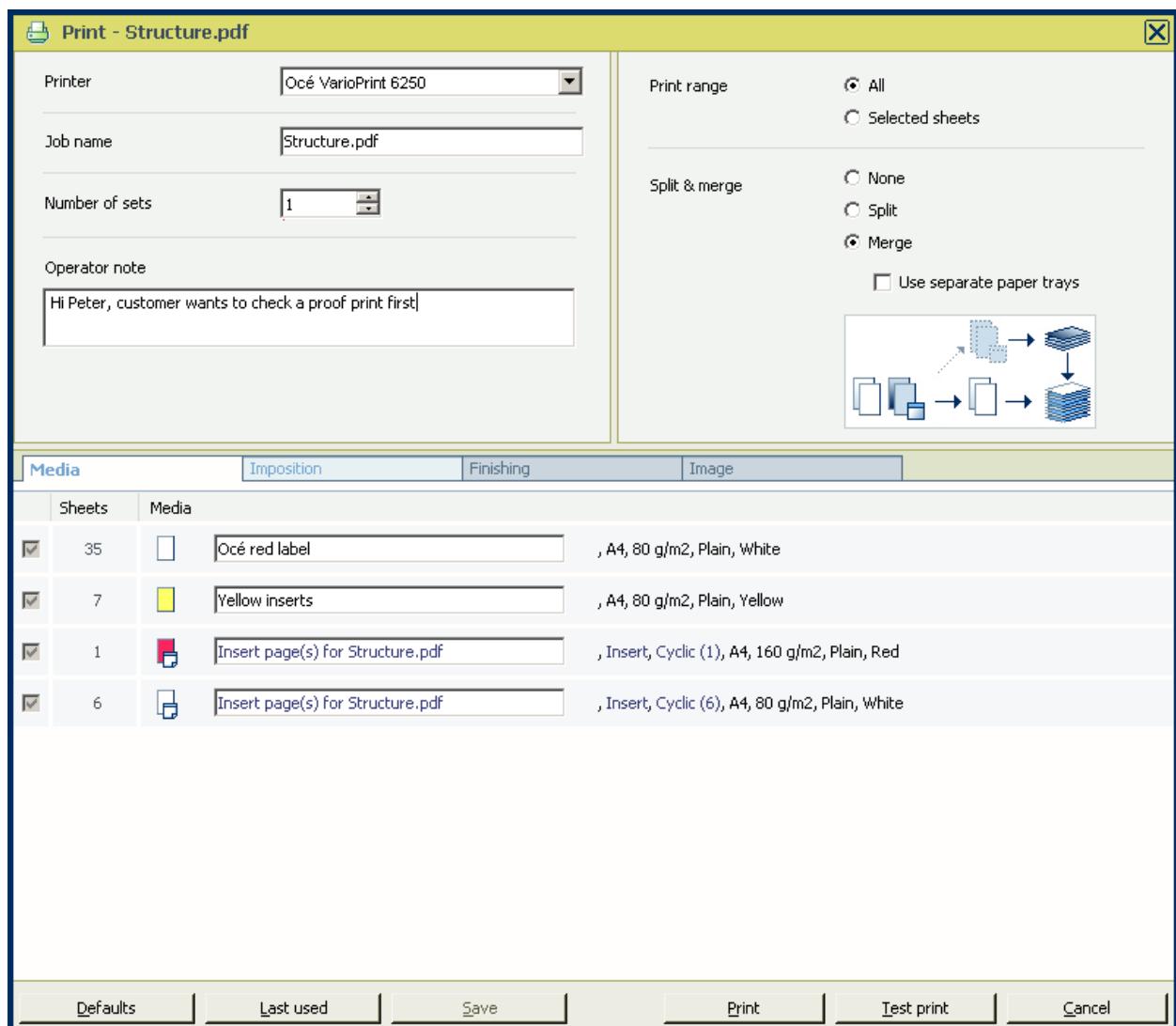
Users can stack pages on top of each other, using transparency to quickly visually detect pages that have been misaligned. The functionality mimics the offline approach that a printer would use to perform the same task (placing the pages on a lightbox).

The Document Workspace preview pane displays pages exactly as they would be output from the printer, including paper color, punch holes, staples, tabs and tab captions, folds for booklet and pamphlets, and/or captioning for the book's spine. This approach takes WYSIWYG to the next level.

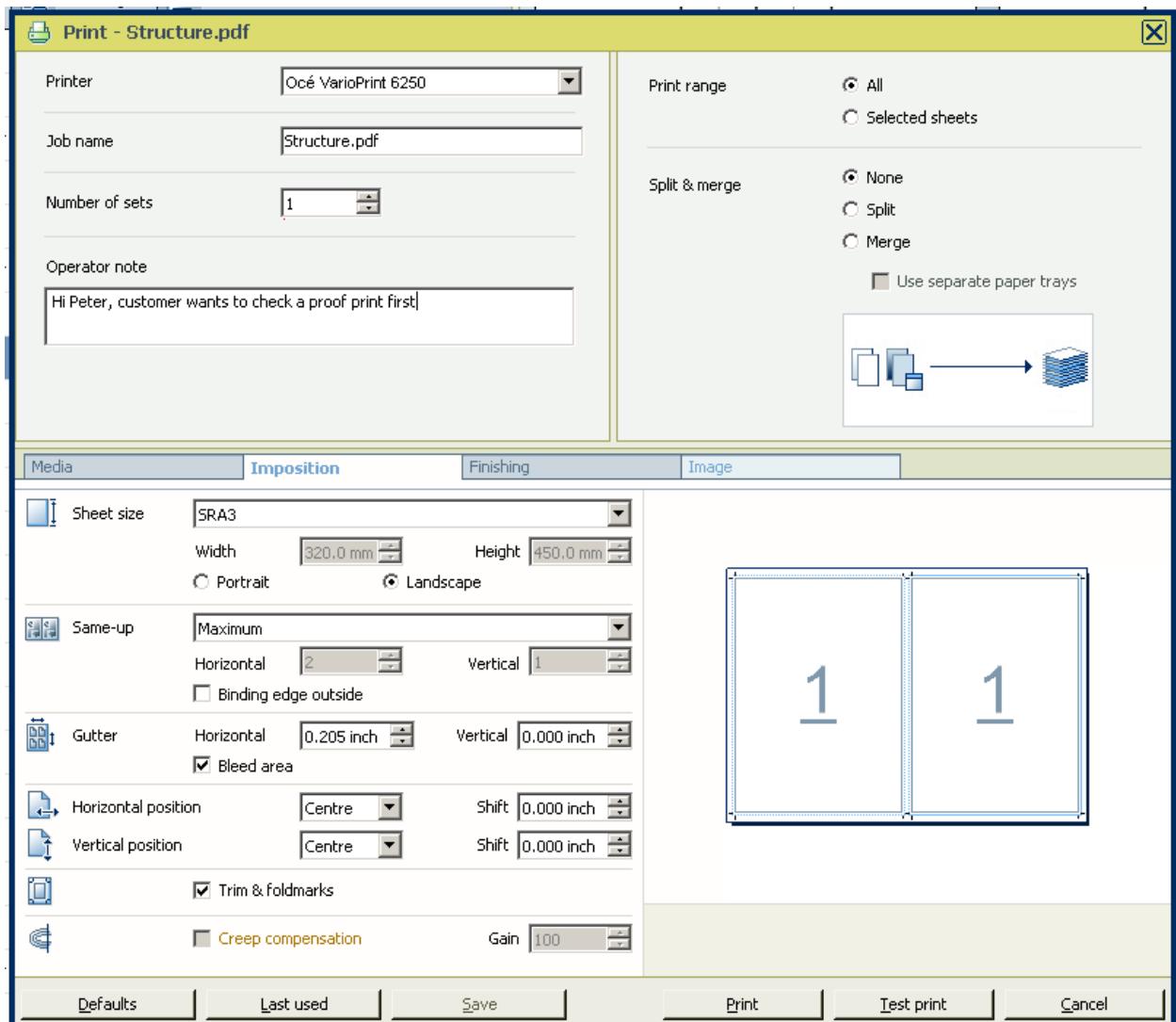
The "structure" pane spans both the Pages and Document workspaces. The pane is designed to show information about the document's attributes on a per page level, highlighting different aspects of the production depending on which workspace the user is in. The structure view also makes it possible to view page groupings (such as

pages of a certain color, in a chapter, or with a specific type of binding). It's also possible to select groups of pages based on multiple criteria.

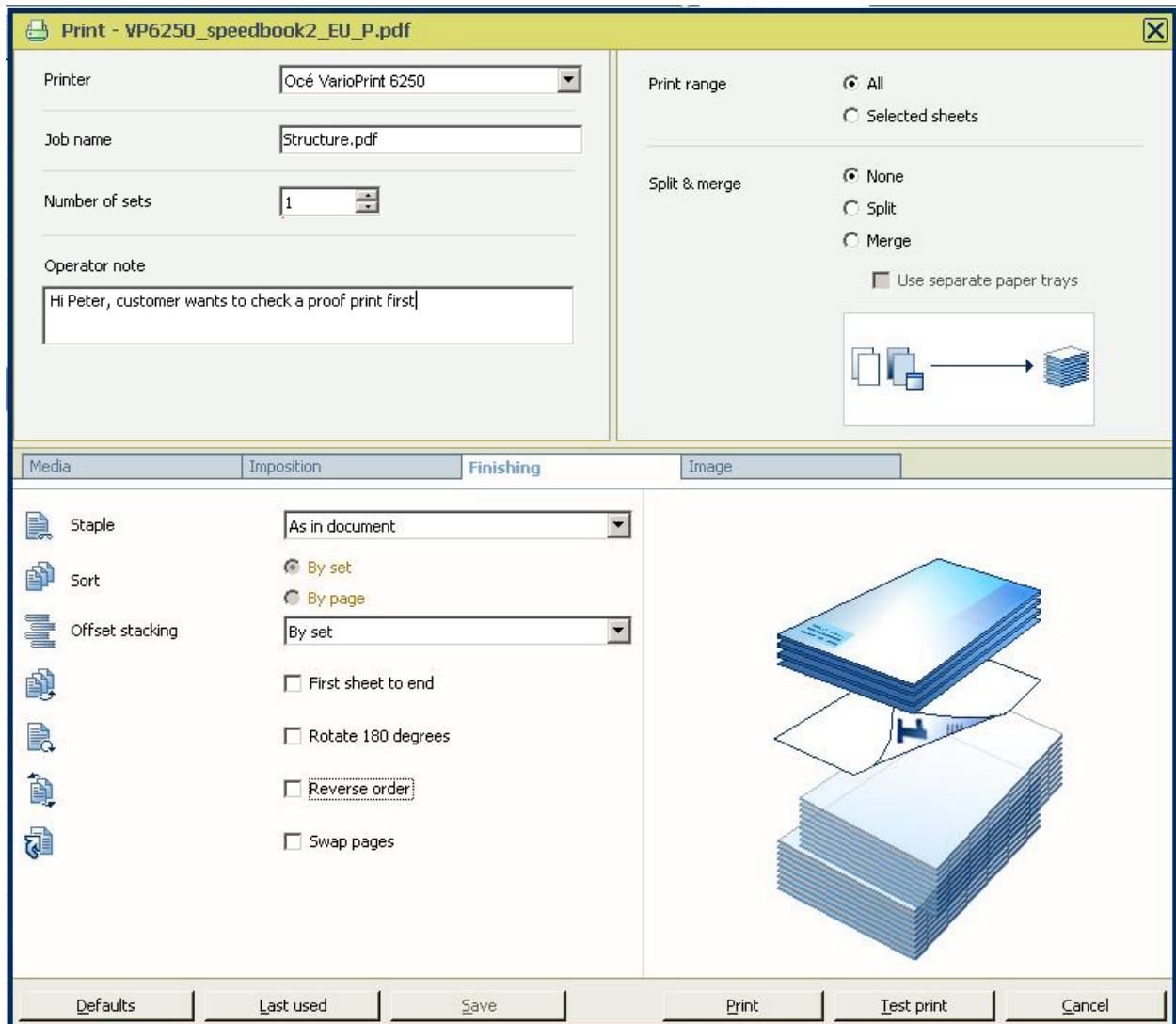
The print dialog allows users to specify printing parameters, which are far beyond what the typical computer user has to think about—for instance, printing multiple pages on an oversized sheet which will later be cut to size, or printing color pages with two different printers (one for color elements and one for black type). These options automate a lot of functions which were once done manually, which involved both additional time and a higher chance of error.



*The Print dialog is slightly more complex than in most applications, mainly because printing is the core task here. The first tab summarizes the required media. Listing required elements at the beginning of a task is a key usability principle—unless the printer has a stock of these paper types, users cannot continue with their task.*



The second tab in the print dialog—*Imposition*—controls how multiple pages print on one large sheet. Previously, print staff would have to work this out manually and then send the pages in the correct order so that after folding, cutting or binding the pages would be in sequence. Now, the application removes some of that manual and error-prone work.



*Print tab 3—Finishing. Note the iconic description to the left of each option and the large graphical representation of how the job will be completed to the right of the selection area, which changes as different choices are made. This visual representation of the page or document is a common theme throughout the application and provides a concrete link between the PRISMAprepare program and the physical print article.*

## BUTTONS

Most-used functions can be addressed directly from the Toolbar and by means of keyboard shortcuts. The complete set is available in the Menu.

PRISMAprepare uses large toolbar buttons with icons and text labels. Although this limits the number of buttons you can place on a toolbar it helps in making the basic

functionality better accessible and easier to explain. As such the toolbar is very friendly to novice users while the menu offers the complete set of functionality.

The buttons are well-spaced and consistently sized, using conventional icons paired with text for maximum ease of use. The controls spotlighted in the toolbar can also be accessed through menus and hotkeys.

Many of the buttons invoke dialog boxes. With the multitude of parameters available to users, these are well-designed with generous use of white space and logical clustering of related options. Most of the major dialogs include a brief line of direction and illustrative icons or previews, so that the user can clearly see the effect of the changes they are making. For instance, the spine caption dialog features a live preview as users add text, select fonts and designate other options.

## MENUS

In addition to the toolbars, PRISMAprepares offers a suite of standard hierarchical menus that closely follow Windows conventions. Standard menus include File, Edit, View and Help. Application-specific menus include Select, Pages, Document and Tools. The designers aimed to balance the number of selections and the amount of information appearing on each menu for a sense of consistency.

The menus are nested where logical, with submenus for multiple-choice selections like zoom magnification or column display mode.

Generally, the menu organization followed convention only where such conventions were very well established.

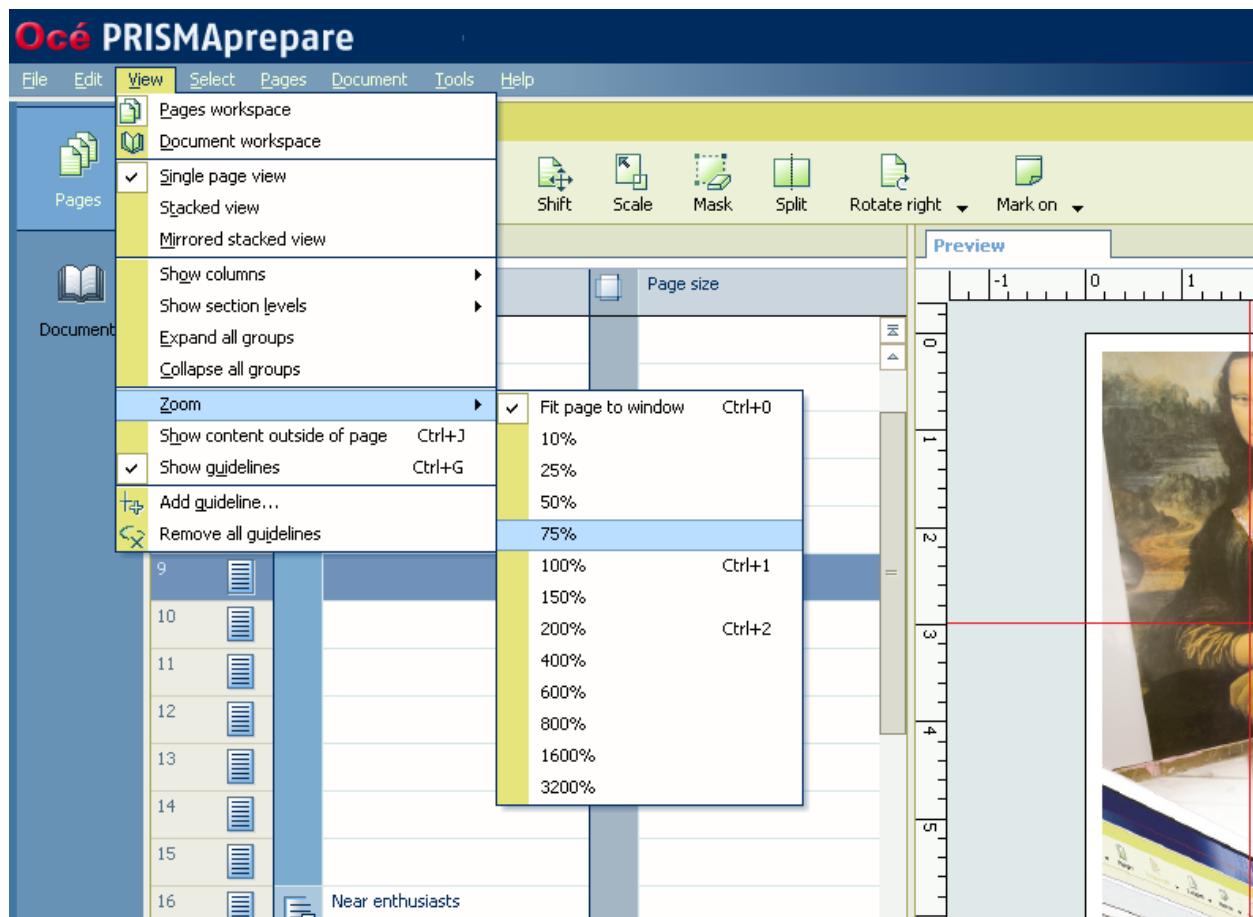
"From our experiences we concluded that users often do not grasp the concept behind different clusters of functionality," says Bosma. "(For instance,) does 'Find' belong to 'Edit' or to 'View'?" Where they felt users were not conditioned to expect a specific placement, the designers didn't hesitate to move it.

Most of PRISMAprepares key functions are found under the Pages and Document menus, with the former used to customize specific pages or sections and the latter reserved for the document's global controls such as document type or binding. The Tools menu is reserved for controls which do not affect the document itself.

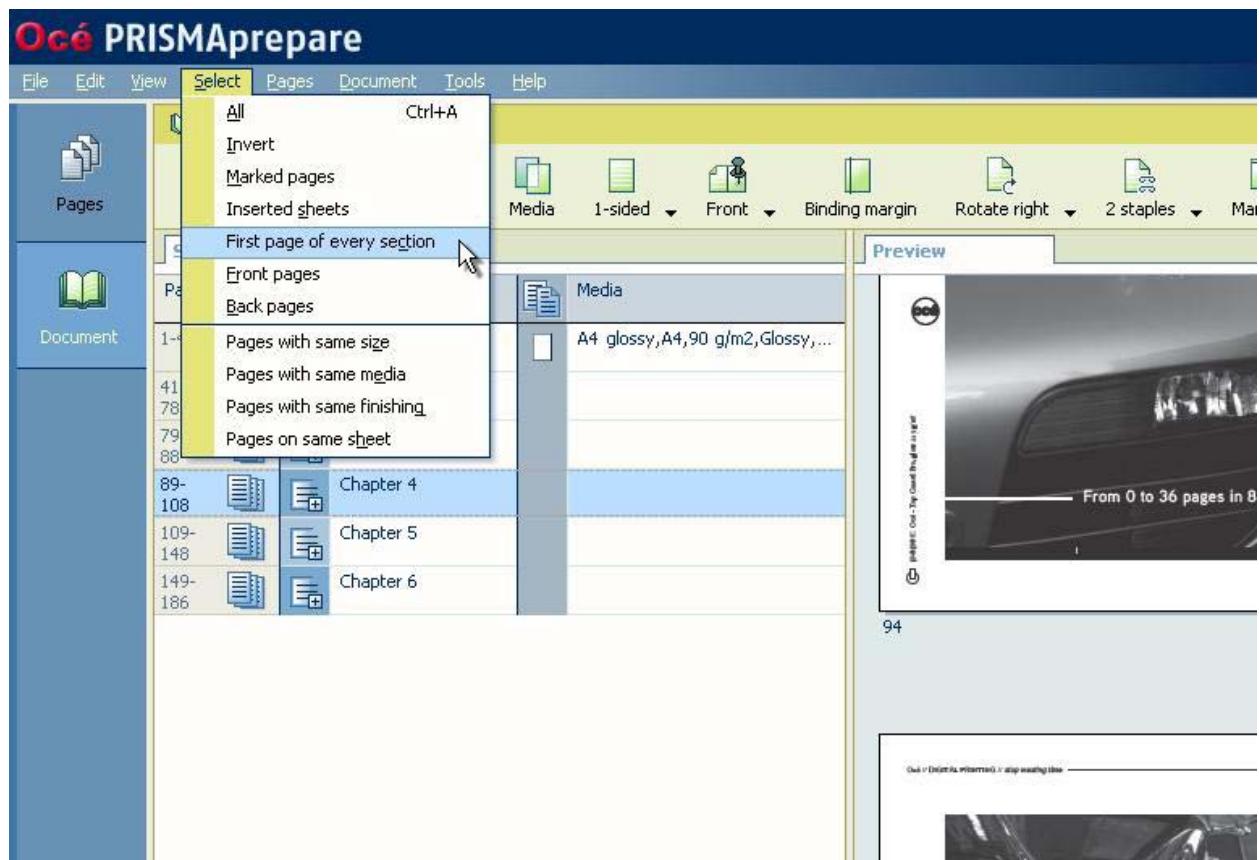
In addition to providing a consistent interface, this hierarchy also helps educate users about the different workspaces. The menu organization parallels the commands available under the respective workspaces.

The Select menu was added as a result of usability testing. Originally, the functionality was nested in the Edit menu, but users were not able to find the controls. The menu is specific to PRISMAprepares.

Users have a variety of needs when selecting pages for a print job, and the menu reflects this with options such as "Select front pages," "Select pages with same size," "Select first page of every chapter," and "Select pages with color."



The View menu provides users with a way of configuring and navigating through the interface to see different properties of the pages and document that they are working on at different points in the process.



*PRISMAprepare has a Select menu separate from the Edit function. This was added as a direct result of user testing, where users could not find the select controls that were nested within the Edit menu. Given the large number of task-specific ways of selecting (for instance, pages with the same media, or pages which will be printed on the same larger sheet of paper), calling this task out as a separate menu makes sense.*

**Océ PRISMAprepare**

File Edit View Select Pages Document Tools Help

**Document**

Print Sheet before Delete Media 1-sided Front Binding margin Rotate right 2 staples Mark on

**Structure**

Page	Section	Finishing	Media
1-40	Chapter 1	2 staples	A4 glossy,...
41-78	Chapter 2	2 staples	
79	Chapter 3	2 staples	
80			
81			
82			
83			
84			
85			
86			
87			
88			
89-108	Chapter 4	2 staples	
109-148	Chapter 5	2 staples	
149-186	Chapter 6	2 staples	

2 staples  
1 staple  
Other  
None

**Preview**

Context menus in the application provide a fast alternative way to select common options. Here, right-clicking in the Finishing column shows the options right next to the mouse for easy selection. Less experienced users can still use menu controls to perform the same function.

Right-click context menus are used at several different places in the application. The designers kept these limited in size and aimed mainly at offering faster access to features where they made the most sense in context.

For instance, one column in the Structure pane depicts the document's binding mechanism—such as staples (see screenshot, previous page). Right-clicking in the Finishing column brings up a context menu with options for the number of staples to be used.

The 'Tools' menu holds all items that do not change the document itself. Limited-sized context menus are used at several places in the application that offer faster access to functionality within a certain context.

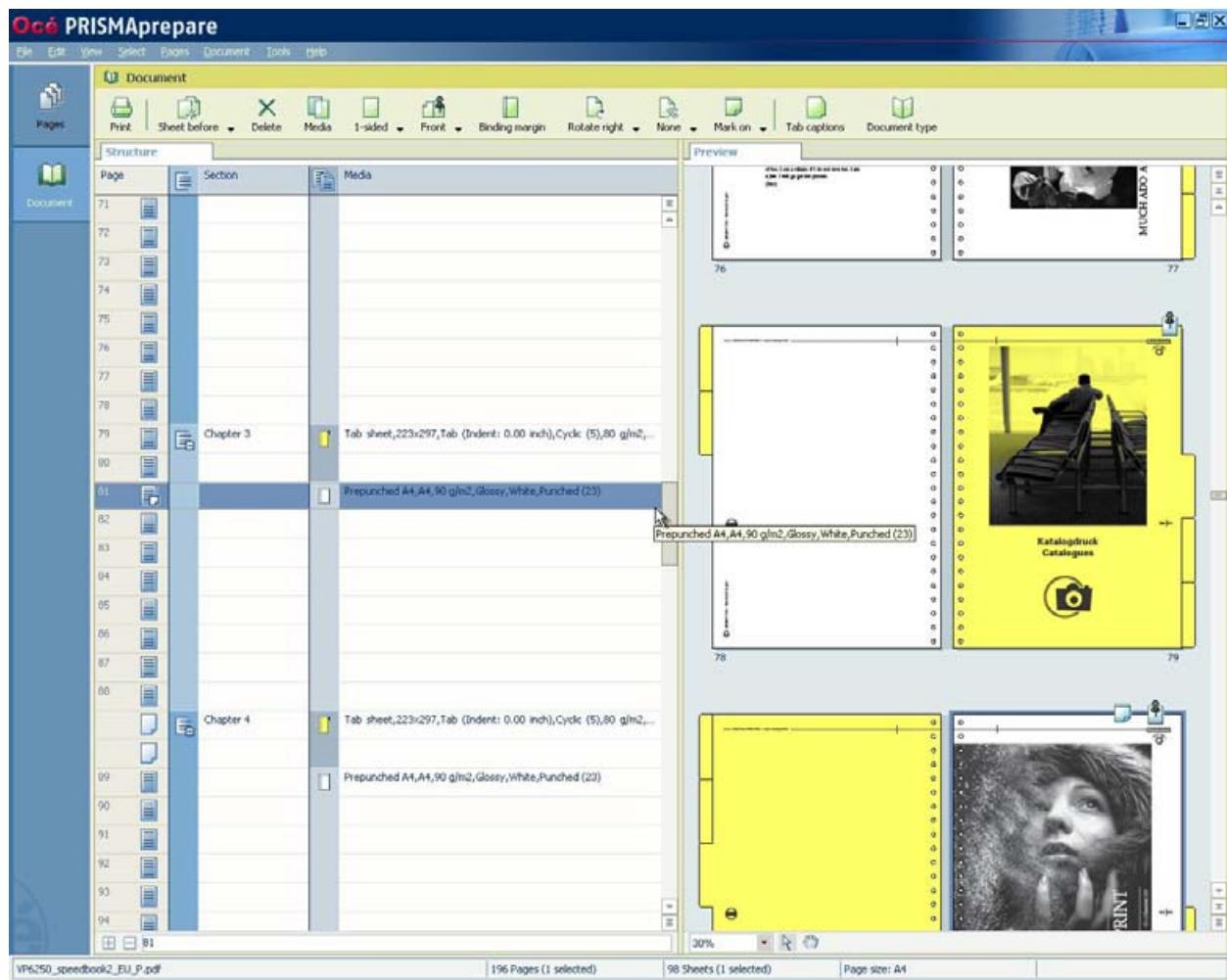
## INFORMATION DISPLAY

More often than not, PRISMAprepare users are working on large documents. The Structure pane is the place where the most information is made available in the most compacted form. The pane is a table with customizable columns which display anything from binding materials to paper stock. Pretty much everything in the Structure pane can be interacted with via right-click, allowing massive point-by-point customization on an information display that can easily contain hundreds of elements.

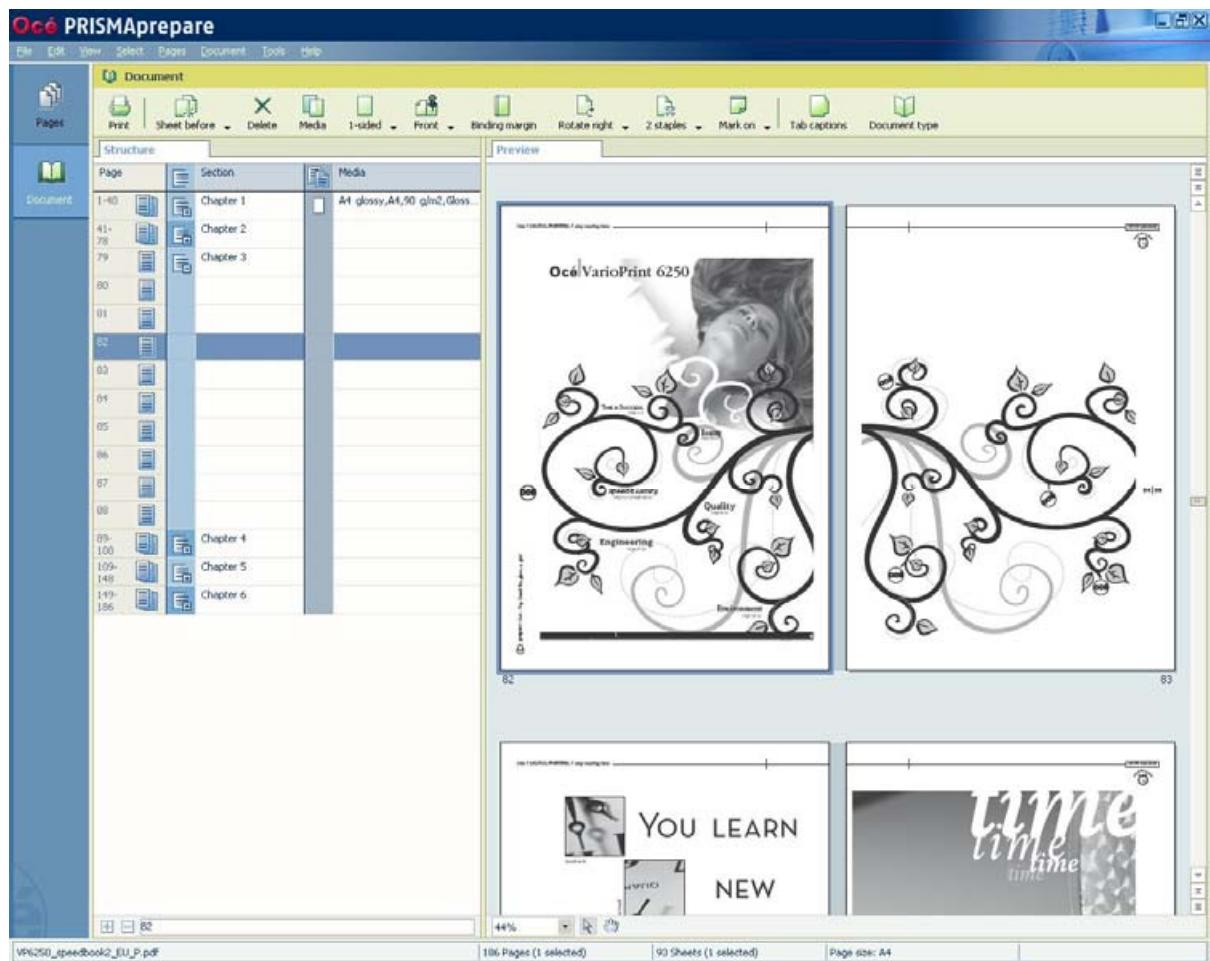
The overview of the complete document is persistent throughout the assembly and editing of the document. The display also uses vertical bars to illustrate chapters and sections as well as other running qualities like paper color, chapters or bound sections. The user can customize which criteria appear and in what sequence, and the bars can be used to easily select entire sections for editing.

Between the Structure and Preview panes, "the user always has an overview on what the document will look like when it is printed," says Bosma. "The Structure pane provides the 'zoomed-out' overview. The structure of the document is always visible. Ranges of pages are clearly recognizable (and selectable), for example, the different chapters of the ranges or the pages that are separated by tab sheets."

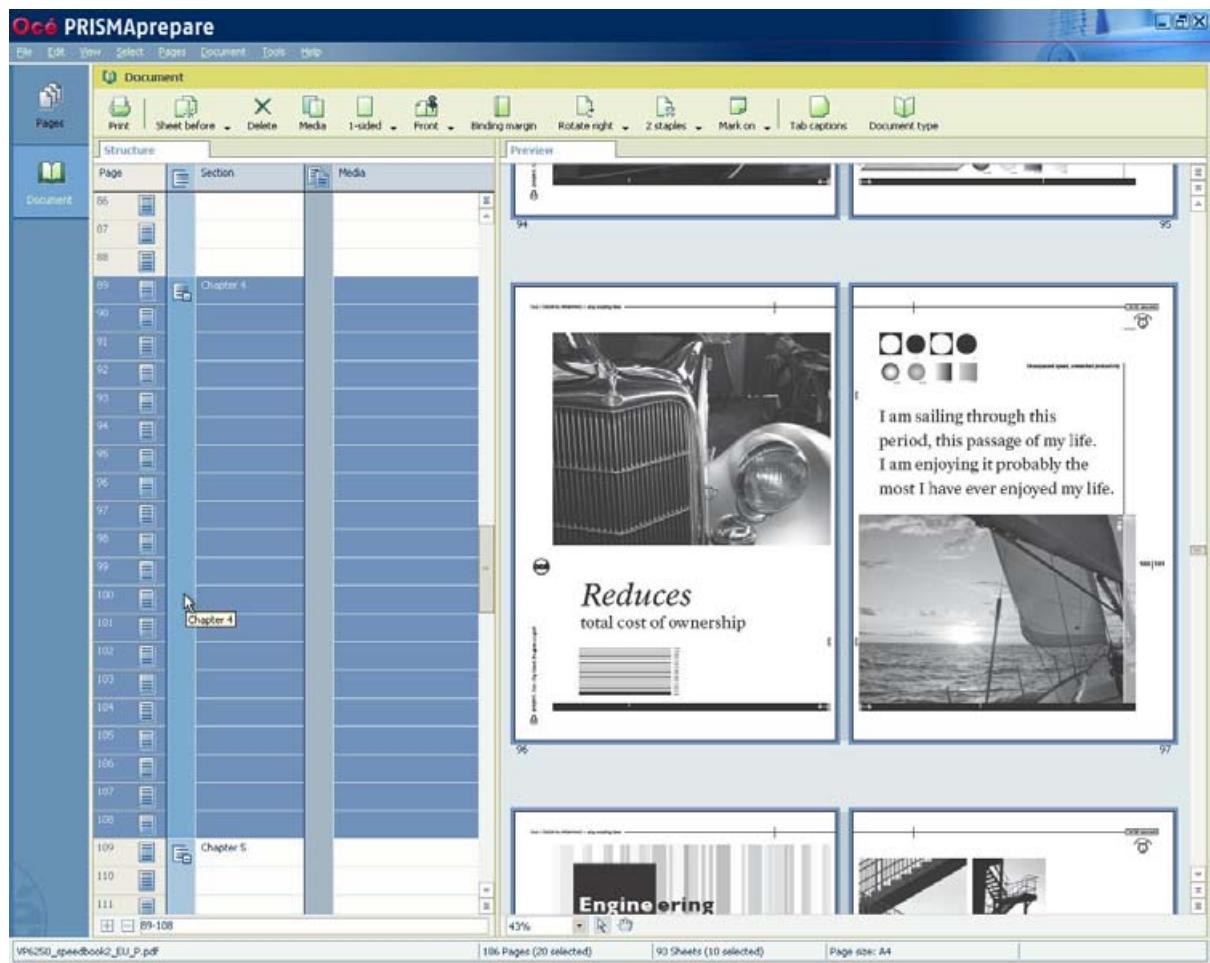
But at all times users are also able to see the effect of structural editing on the actual pages via the Preview pane, where "the user can inspect the alignment of pages, correct placement of tab captions, make sure that punch holes will not interfere with the page content, etc."



*Manipulating the Structure page results in live preview changes—for instance, changing the media from Prepunched A4 to Tab Sheet would display the page with a yellow tabbed background. Moving a page in the Structure tab would reposition it in the Preview layout. In this way, users can keep a vision of how the physical product will appear throughout the design process.*



*Grouping is available in the Structure tab. In this way, users can expand and contract grouped pages (perhaps a chapter or the content of a tab) while still maintaining a view of the project as a whole.*



*Multiple pages that belong to the same group can easily be selected in the Structure pane.*

## INNOVATION VS. CONVENTION

PRISMAprepare puts a premium on maintaining the common elements that most users will instantly recognize, whether the traditional menus, dialog boxes and informational forms, or toolbars. In some cases, however, the traditional forms weren't intuitive enough for users who have previously worked more with mechanical than digital print systems.

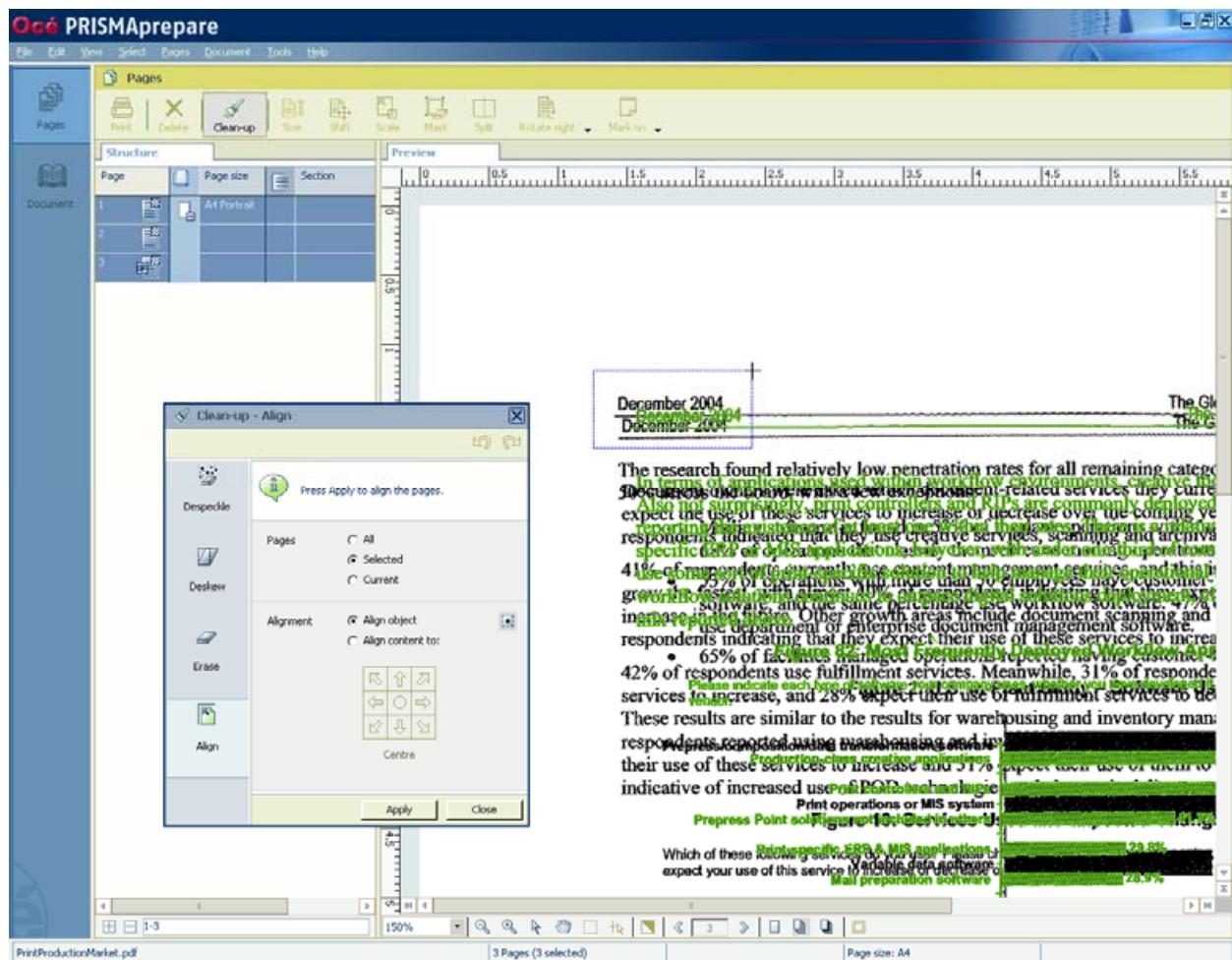
One specific decision to break with convention came in the design of the Structure pane. Most applications dealing with the amount and type of information in question would be designed with a hierarchical tree view, says Bosma.

For print jobs, however, the tree view was too limited, only allowing grouping according to one property at a time and leading to a cluttered display when multiple levels apply. Tree views are also typically only properly exploited by power users—not the expected audience for this product.

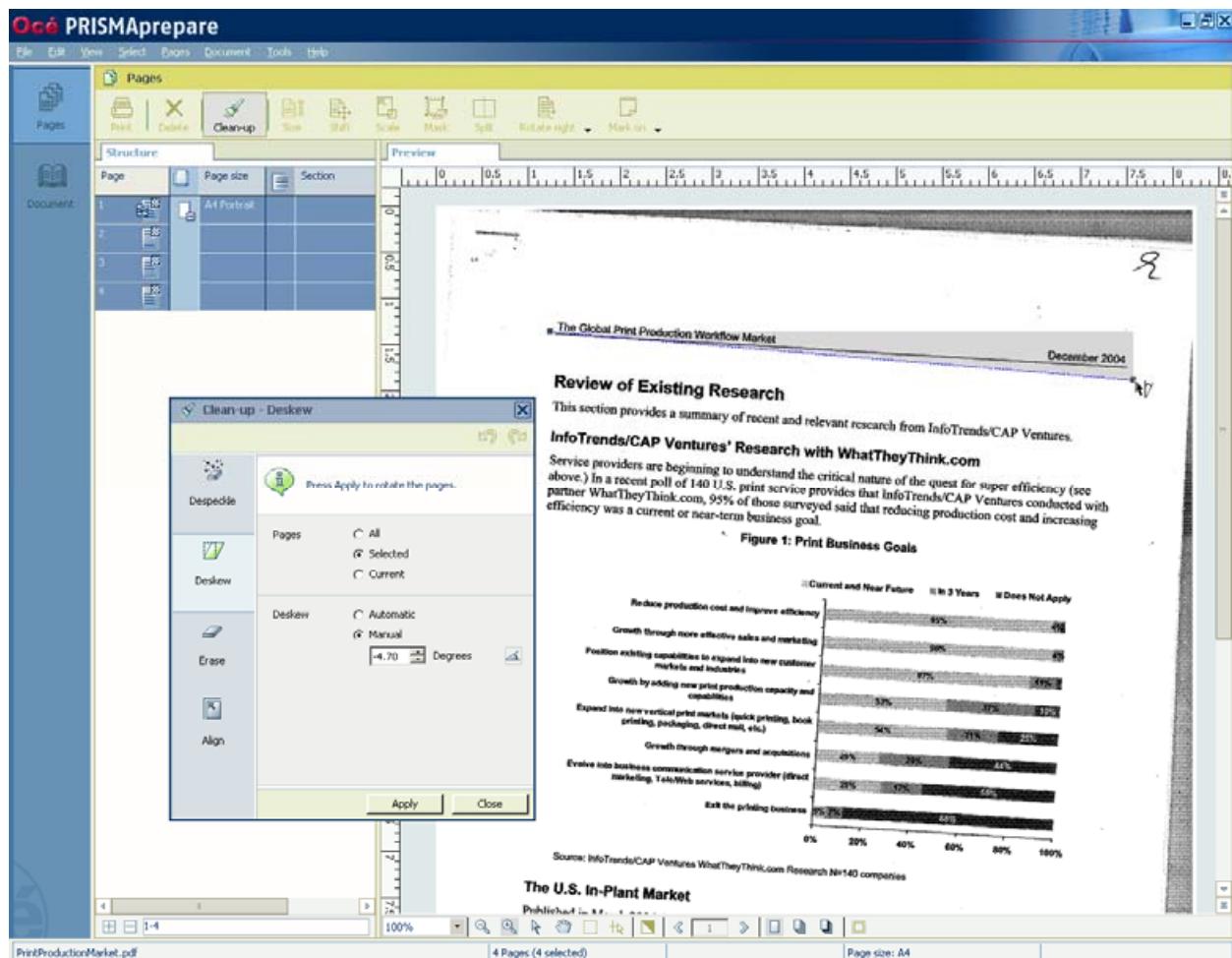
Another place where conventional features broke down was the stacked page view, in which users can place pages on top of each other in translucent form. "This allows easy detection and correction of misalignment similar to (how) operators would check this in the 'physical' world by means of a light table," says Bosma. "It also helps to safely erase areas on multiple pages simultaneously without the risk of erasing too much."

Controls also had to be designed from scratch for new features which didn't have direct parallels in other applications, such as Page Alignment and Despeckle. However, in these cases, PRISMAprepare offers upgraded controls while still using familiar interface items (radio buttons, numeric entry fields with up/down handles, graphical alignment buttons). Even though the controls are being employed in a new way, users benefit from the familiarity of the basic construction.

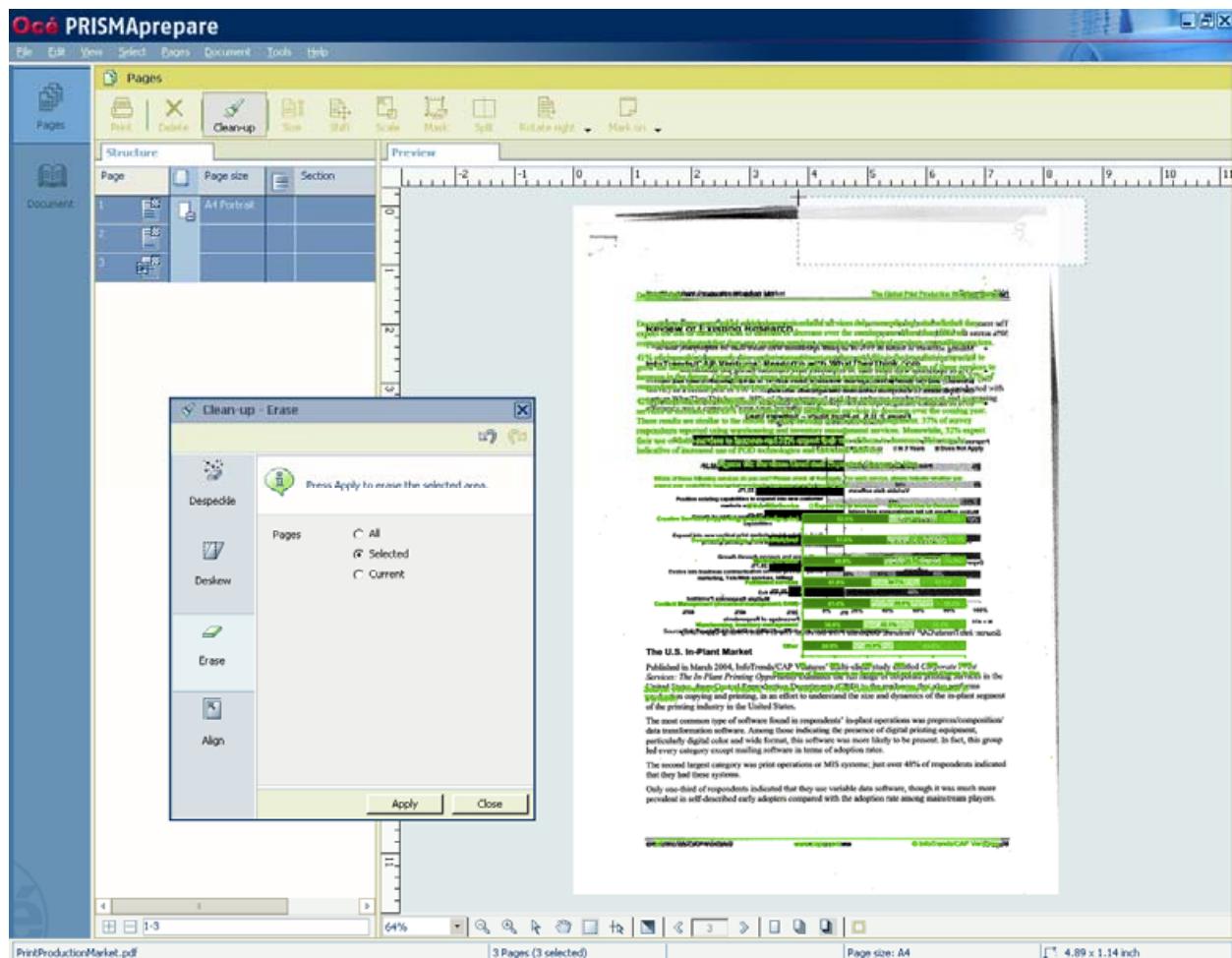
The specific needs of print centers also come into play. One control that will be largely unfamiliar to most computer users is the Split and Merge printing function. Again, the actual controls are basically conventional—tabs, checkboxes, text entry—but the marriage of these elements is unique and includes program specific icons and features that reflect the use of multiple sheet printing, multiple printers on the same document, and complex collating. Many of these tasks were previously performed manually.



*Align controls required some innovation as this process may previously have been carried out using a light table. Now, images from different pages are overlaid upon each other to allow visual control during manipulation.*



*If pages have been scanned on an angle, they must be de-skewed. The application can make a good guess at this, or users can manually rotate content if they prefer. By giving users both an automatic process and a manual alternative, the application allows fast processing in most situations but with fine control for the times when the automatic algorithm doesn't provide good results.*



*Documents often have artifacts introduced during the scanning process. The erase function is the equivalent to "painting" the artifacts with the background color by dragging an area of background color over the offending sections of the page. Notice that here the erasing applies to more than one page—made possible by the virtual light table visual aid.*

## USABILITY PROCESS

The usability process at Océ starts with user visits, which are part of the company's overall customer relations approach. The workplace is observed and analyzed based on the "Contextual Design" approach. Different team members get involved as the process goes on. Feedback from trainers, consultants and help desk staff is also integrated into the development planning process.

Data collected through these regularly recurring practices are used to guide upgrades to existing products and when drafting requirements for the development of new products. During earlier stages of development, a multi-disciplinary team from R&D, marketing and customer service helped define requirements for new products and new releases. The research-and-development department is responsible for ongoing design and engineering of products including bug fixes and usability.

Suggested improvements, including new features and controls, are initially drafted as low-fidelity paper prototypes.<sup>1</sup> After that, the Wizard of Oz technique (a human-controlled simulation of the actual program's response) was used to hammer out the workspace concepts, including the Preview and Structure panes, object manipulation and how to represent the document in real-time WYSIWYG manner. The Wizard of Oz tests followed scripts derived from actual customer situations.

Internal usability experts, interaction designers and field experts from different parts of the company were called in to perform expert reviews as the development cycle matured. They were asked to evaluate the design for consistency, clarity of messaging, aesthetics and other traits. Consulting experts were also asked to help match the evolving design to real-world workflow. These practices were generally tuned to the contributors, rather than being part of a formal usability scheme.

When the application reached a stable testing release, extensive usability tests were done with participants drawn from the actual user population. A "print room" was created in which participants could take a print job from concept to completion using PRISMAprep in a laboratory setting, including an evaluation of the final printed output and whether the application's preview function accurately portrayed how the final document would look.

Another half-day was devoted to collecting feedback from participants on how intuitive the application was and how its controls would play out over long-term usage. Finally, at the conclusion of the program, participants were individually interviewed about their perceptions of the program's user-friendliness and usefulness.

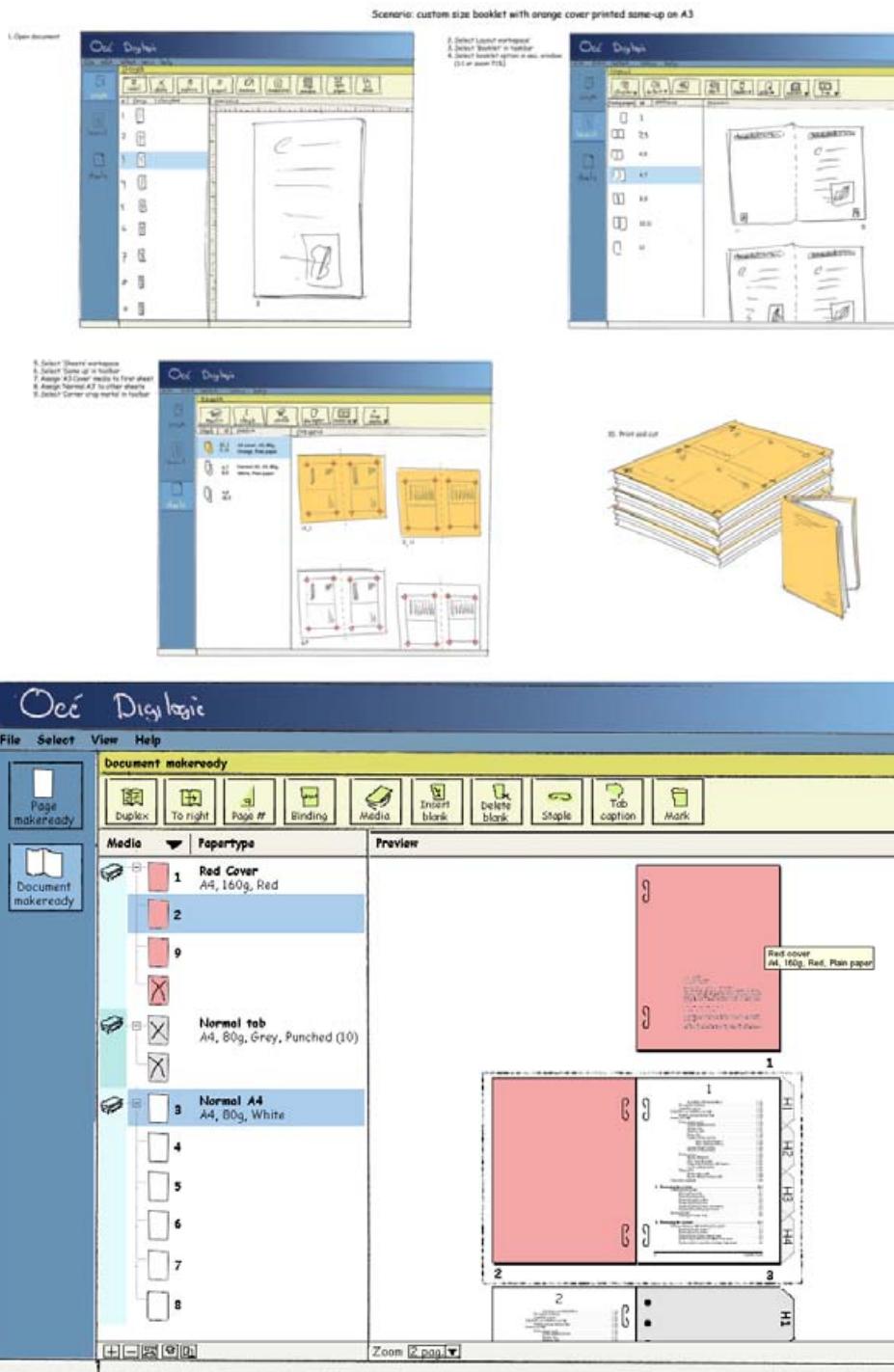
Testing resulted in several changes to the program as it went through development. For instance, onsite observations done during usability testing showed that some pre-press workers received their instructions based on page numbers (for example, "add tab sheets before pages 10, 26 and 46"). Based on this finding, a box was added under the Structure pane allowing users to quickly key in page numbers and select them for modification.

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<sup>1</sup> For more information about paper prototyping, please see <http://www.nngroup.com/reports/prototyping>

Océ's usability process is evolving, and the design team is integrating the persona technique to get a better handle on how users in different environments use the product differently. Personas have been created for Océ's office products, but the print room customers tend to be more particular and varied due to the differences in approach among clients.

Because of this, Océ is creating specific virtual customer environments which they call "Cientas." "Personas and Cientas play a role in creating and prioritizing functional and usability requirements," says Bosma.



*Concept drawings showing early iterations of the documents workspace. Many elements from these drawings show up in the product.*

## TEAM

PRISMAprepare was created by the company's Industrial Design department, which employs 24 people in the areas of product design, interaction design, graphic design, usability research and (digital) modeling.

Influences included Bill Buxton, one of Bosma's favorites, who "knows how to grasp the essence of what I think design should be." Bosma says he is also inspired by well-designed products he encounters in real life, "such as Google maps, Pinnacle Studio and my Kenwood lemon squeezer."

The team includes:

- Edward Bosma, Interaction Design
- Saskia van Cleef-Megens, Graphic Design
- Fred de Jong, Interaction Design
- Robert Eijlander, Interaction Design
- Merijn Neeleman, Interaction Design
- Anita Morskate, Interaction Design
- Bas Hermus, Interaction Design
- Jannie Dijkstra, Interaction Design
- Carlijn Compen, Graphic Design (now Interaction Design)
- Nanne Krikke, Interaction Design
- Andrea Meessen, Graphic Design
- Jacqueline Jansen, Graphic Design
- Pascal Hagens, Graphic Design
- Eddy van Vliembergen, Usability Research
- Abbie Vanhoutte, Usability Research
- Sanna Langeveld, Usability Research
- Ron Dongelmans, Digital modeling
- Dirk Soentjens, Digital modeling
- Guido Stompff, Product Design
- Rob Zweerman, Product Design
- Estella Stok, Product Design
- Arjen Wind, Product Design
- Hay Gout, Modeling
- Frank Willems, Modeling

## WHY THEY WERE CHOSEN

Print shops are stacked with increasingly more technical reproduction technology. Customers' expectations have also increased over the years. Océ has concentrated on the end result rather than the technology which creates the product, thus leading

to an intuitive and visually representative product which can expand as machine capabilities improve. Because of its highly representative interface, machine operators coming either from a print background or a PC background should be equally able to understand the interface and how changes on the screen will affect the end result, thus enabling them to produce a more professional product for their customers.

Using the technology to simplify users' tasks by for instance re-stacking already printed pages in a spare paper hopper ready for later insertion shows an appreciation of what machines do well (repetitive tasks requiring accuracy) and what users do well (document layout and cleanup, and big picture issue detection)

# Seating Management

## COMPANY INFORMATION

**Company:** The Magellan Network and DesignMap

**Application:** Seating Management

**Headquarters:**

The Magellan Network—Durango, Colo.  
DesignMap—San Francisco, Calif.

**Number of employees:**

Magellan—40  
DesignMap—8

**Design motto:** "First, do no harm."

**Design team:**

- Audrey Crane, (former) VP of Interaction Design, The Magellan Network
- The Magellan Network's internal design team
- Michael Aurello, Interaction Designer, DesignMap
- Gregory Baker, Principle / Design Director, DesignMap

## OVERVIEW

Anyone who has spent time waiting for a restaurant table knows that seating management is traditionally more of an art than a science.

So if you want a glimpse at how computers are transforming every aspect of modern life, look no further than Magellan Network's Seating Management application.

Seating Management aims to replace the reservation book, wait list and floor plan typically found at the hostess stand in restaurants—not just replace, but upgrade. The application not only keeps track of which seats have been filled and where, it also tracks the habits of specific customers and the patterns of dining in the restaurant to produce increasingly accurate estimates of dining time and wait time.

The development team set out to create a product that would handle a variety of tasks and information sources while maximizing usability.

"Our competition is not the other guys—it's pencil and paper," says Audrey Crane, Magellan's vice president of interaction design.

Seating Management takes reservations and organizes and prioritizes real-time restaurant business, managing seating for both reservations and walk-ins.

It gives hosts and hostesses feedback about their performance in estimating wait times and minimizing empty seats, while collecting customer information that can be used to improve relations with the "regulars."

Seating Management was developed jointly by The Magellan Network, a Colorado company that develops online products and services for the restaurant industry, and DesignMap, a San Francisco design agency that specializes in aligning technology to complex business problems. (Clients have included Cisco, IBM, Netscape and AOL.) The team worked together on most aspects of the program.

THE MAGELLAN NETWORK SEATING MANAGEMENT

Welcome tmn : Sign Out | Menu February 29, 2008 5:53 PM

Yesterday Today Tomorrow

Friday, February 29, 2008 Sun-Sat

Full Floor Plan Patio

Current vacancy rate:

6:00 PM

Time	Name	Size	Table	Status
5:46 PM	Audrey Crane	3	25	Arrived
	<a href="#">Add New Party</a>			
6:08 PM	Greg Baker	3		Arrived
6:15 PM	Daniel Newton	2		Arrived
	<a href="#">Add New Party</a>			

6:30 PM

Time	Name	Size	Table	Status
6:30 PM	Kricket Lewis	4		Unreachable
6:45 PM	Josh Peters	2	54	Confirmed
	<a href="#">Add New Party</a>			

7:00 PM

Time	Name	Size	Table	Status
7:00 PM	Stefan Walger	4	34	Unconfirmed
7:00 PM	Rob Gardziel	4	35	Unconfirmed
	<a href="#">Add New Party</a>			

Party Details Table Details

Select a table or party to view party details.

Zoom (100%) Configuration (Sun-Thu)

New Party Arrive Seat Gone Text Message

The main screen of Magellan's Seating Management application maps out the dining area and shows upcoming reservations. Where it improves over the paper system is in giving additional information to the host or hostess—estimates of remaining time until a party leaves, and end-of-shift handover for instance. A primary concern during development was to always support the flow of the hostess' task—this meant incorporating much flexibility into the process.

## WHAT DOES IT DO?

Restaurant staff can bring a wide variety of life and technical experience to the table—from college students working part-time, who might be quite proficient with computers, to career restaurant workers who spend far more time on their feet than seated in front of a keyboard. Add in the stress of managing multiple tasks in a busy, noisy environment and you're looking at a pretty significant usability challenge.

In developing the Seating Management app, the design team knew it had to be easy to use and effective. But most importantly, it couldn't be more complicated than doing seating charts the old-fashioned way.

"Our primary directive was THE primary directive: First, do no harm," says Crane. "In other words, this can't be more painful than plain ol' pencil and paper, flexible tools that never get in your way, and that everyone knows how to use."

"Do no harm," informed all of the subsequent design and development decisions.

Seating Management was designed as a tool to help what Crane called the "Hero-Hostess" do her job more effectively and enhance customer satisfaction and revenues for the dining industry.

The application handles several tasks:

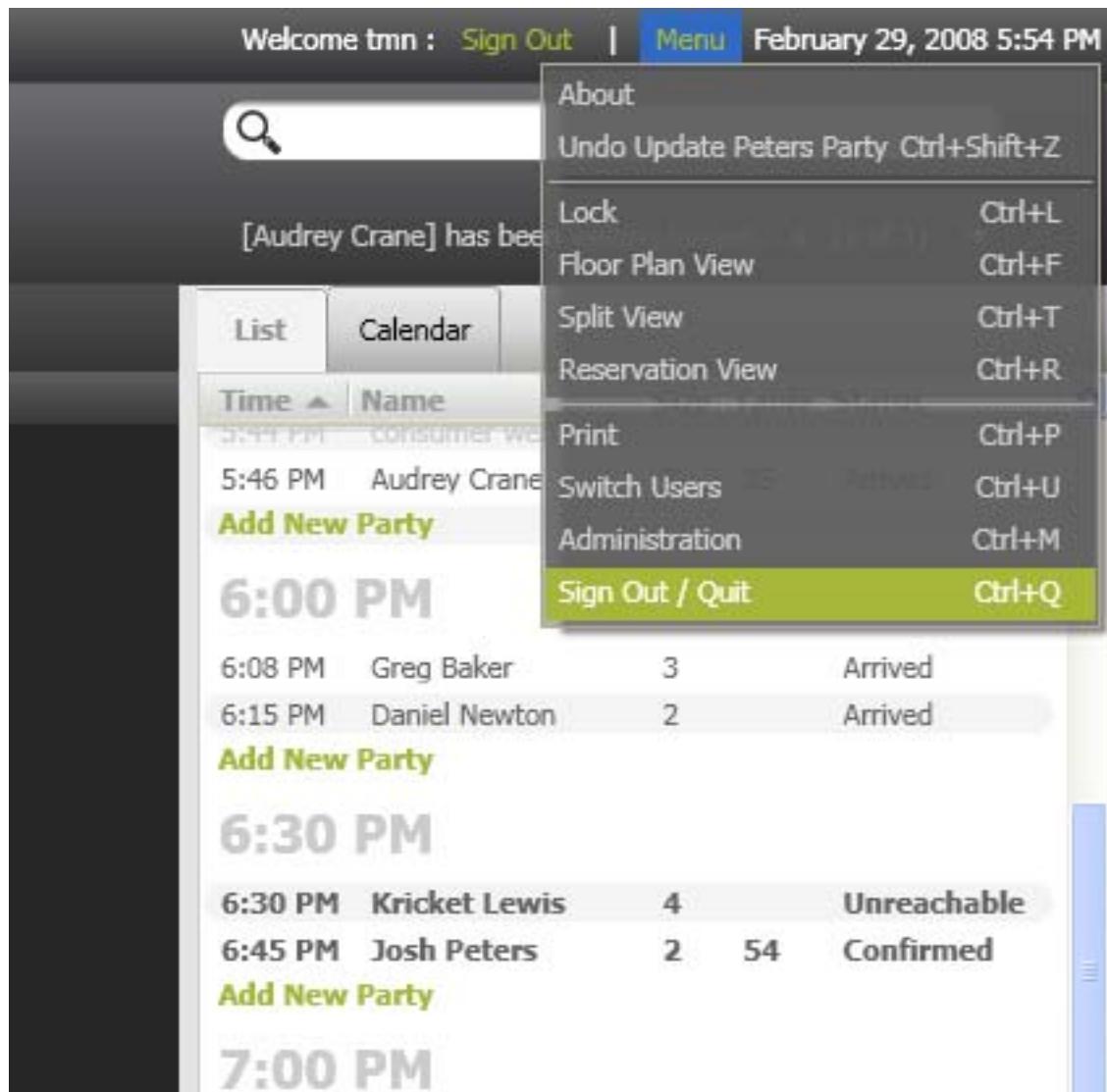
- Record details for any dining party, currently seated or on the waiting list, including any history or notes associated with that party.
- Display an accurate floor plan, which shows occupied and unoccupied tables and sections.
- Display per-table information, including real-time estimates of how much longer before any given party will leave. This information is displayed in two ways—with a quick-glance gray-scale display and a numerical estimate of the number of minutes before a party will leave.
- Display the names of servers, which sections they are covering, and the number of customers each server has handled today.
- Allow hostesses and hosts to reassign servers to different sections or close sections to new customers.

Program features include:

- Calendar view, showing the number of diners scheduled for any given day and any expected problems, such as overbooking.
- An option to send text-message notification to the cell phone of a party waiting to be seated. This also displays the time elapsed after the message has been sent.
- Customer search, which can be used for parties who don't all arrive at the same time, as well as to access customer information from a previous visit.
- Reconciliation of parties seated, waiting and expected, which is automatically invoked when a user ends his or her shift.
- Scoring, which rates the efficiency of the user in managing parties quickly and minimizing empty seats.

This instant feedback function is particularly innovative within the industry, says Harald Conradi, one of the Magellan team members, generating information for

restaurant owners and managers and also allowing individuals hosts and hostesses to improve their own performance.



*The single menu contains just nine regularly used commands, all of which are also accessible from the keyboard. These keyboard shortcuts are essential for an application where the same set of tasks will be performed frequently, and where the environment may not support easy mouse access.*

## WHO IS THE USER?

Users of Seating Management will be restaurant managers and owners, and most often hosts and hostesses, who may not have extensive computer skills. Stefan

Walger, a designer at Magellan, calls the latter the "unsung heros" of the restaurant business.

"When they do their job well, customers are happy, staff are happy, and restaurants make more money," Walger says. "When they do poorly, customers walk out, staff struggles with poorly paced work, customer service and food quality suffers."

This is a bottom line issue. "Inefficient seating and unhappy customers result in a loss of revenue for the restaurant," says Walger.

Developers identified two predominant types of hostesses:

- Young people (usually women). Hostesses are often workers who are too young to serve alcohol and thus can't wait tables. These users are sometimes less than entirely engaged and are mostly looking to keep everyone happy.
- More experienced restaurant workers who prefer working the hostess desk to waiting tables for other reasons (shorter hours, less physically strenuous).

Two main types of managers were also identified as potential users:

- Restaurant owner/managers who generally are in the restaurant business because they like people and may not like computers all that much.
- Professional employee/managers, who see their work as task-oriented and may be more comfortable and proficient with computers.

This second set of users are important for the application because although they may have less daily interaction with the product, they are the ones who will benefit if it helps their hosts/hostesses to do their job properly. They are also the ones who must be initially convinced to try the application in their restaurants.

## THE APPLICATION

Seating Management has navigation modes that are either narrative or open-ended, depending on the task at hand.

The primary table display is a real-time representation of the story of an evening in the life of a restaurant, and the user flow follows that path.

On the main application screen, the day and date are prominently displayed in the leading top left position, along with a date selector for changing the view. The graphical floor plan appears immediately below. When setting up the restaurant for the first time, users can deal with simple or complex floor plans, including setting bookmark-like views of sections or floors. The floor plan can be zoomed from a control in the lower left and navigated using scroll bars when appropriate. The default view is configured by the restaurant staff when they set up the system.

Each table on the floor plan displays the table number and how long the diners have been seated at the table. The table is colored along a range from dark gray (recently seated) to white (empty table), allowing the user to take in the status of the room at a glance and foresee where openings will occur.

A pane to the right displays the list of parties, including everyone who has a reservation and all walk-ins who have been added to the waiting list. A sub-pane below this list offers two tabs which allow the user to view details for either a specific

party or a specific table. Text alerts (discussed at more length below) notify when someone is ready to be seated.

Rather than an overarching narrative path such as would be provided by a wizard, Seating Management provides a series of micro-stories broken into units of either tables or parties. The structure of these stories is very simple—origination (reservation or addition to the waiting list), wait time, seat time, and termination (table cleared/party exits). Each micro-narrative can be accessed either from the graphical display or the list pane.

This approach puts the user firmly in control. The application is designed to be a tool that improves productivity rather than an enforcement mechanism, and so at no point does it force the user down a specific path. Even within certain tasks, users have the freedom to leave fields blank or skip steps without the application forcing them to provide details that they may not have.

Welcome tmn : [Sign Out](#) | [Menu](#) February 29, 2008 5:56 PM

[Audrey Crane] has been waiting longer... x (1 of 1) ▾

Time	Name	Size	Table	Status
5:45 PM	consumer web	2	20	Seated
5:46 PM	Audrey Crane	3	25	Arrived

[Add New Party](#)

**6:00 PM**

6:08 PM	Greg Baker	3	Arrived
6:15 PM	Daniel Newton	2	Arrived

[Add New Party](#)

**6:30 PM**

6:30 PM	Kricket Lewis	4	Unreachable	
6:45 PM	Josh Peters	2	54	Confirmed

[Add New Party](#)

**7:00 PM**

7:00 PM	Stefan Walger	4	34	Unconfirmed
7:00 PM	Rob Gardziel	4	35	Unconfirmed

[Party Details](#) [Table Details](#)

Date: 2/29/2008 Name: Audrey Crane  
Arrived: 5:45 PM Phone:  
Size: 3 Status: Arrived  
Quoted Wait: 1 Table: 25  
Est. Seat Time: 5:46 PM Type: Walk-in  
Est. Duration: 100

Reservation Notes:  
Internal Notes:  
(1)

[New Party](#) [Arrive](#) [Seat](#) [Gone](#) [Text Message](#)

The List Pane shows the customers who are scheduled for specific times in the evening. It scrolls down as time moves on, but always allows users to move forward and backward to check on other diners. The two tabs below show information on each party and table, drawn from the online reservation system and any notes that staff members have entered. This is also the area where the hostess updates status.

What's complex is the task of managing all these overlapping narratives, which feature staggered start times and thousands of "x-factors" which can influence how long the story runs.

The hostess or host brings a holistic view of the restaurant that a computer simply can't match. The development team researched what sort of calculus went into a user's estimate of how long a party will be at a table. The responses included:

- Are they all men or all women?
- Are there smokers in the party? Are they taking frequent smoke breaks?
- Is it a couple? Are they fighting, or deeply engrossed in a first date?
- Is the waiter or waitress particularly chatty, or particularly good-looking? (This can result in additional talk time and longer table time.)
- Can the host or hostess do anything to speed the table along, such as bussing, delivering food or getting out ahead with the check?

"The computer can't know any of this stuff—without endless, ridiculous data entry—and this is what the hostess is good at—this is what she likes doing," says Rob Gardziel, another designer with Magellan. "So we've designed a product that supports her, but doesn't seek to replace her with something that can't do nearly as good a job at the pieces she does well."

Speed is critical at a busy restaurant, so designers focused on making the interface quick to respond. Generally, the narrative is emphasized over detail—the directive is always to "allow progress."

In order to facilitate speed, the program eliminated modal error and confirmation messages entirely, and "undo" is always just a click away.

This is a radical departure from standard application design, which tends to coax, cajole and (if necessary) drag users into a relatively rigid input and tracking scheme.

"The hostess always has a pen behind her ear and yesterday's menu she can scribble on," Daniel Newton, another team member, says. "If this product gets in her way, it's easy for her to go back to the old way of doing things and then the product loses its usefulness to managers too."

Therefore, the interface must be flexible. Hosting a large or busy restaurant is hard work. Hosts and hostesses are constantly being prodded by demand—not just from customers in front of them, but from phones, managers and wait staff. And most of these demands have to be met with a smile.

In other words, where most application users are focused *on the application* (or the application's task), a hostess or host is focused *on the restaurant*.

Therefore use of the application needs to be second-nature, instantly available when needed—but not a source of additional distraction and demand.

The end result, from a usability standpoint, is a requirement that the application be always present but never intrusive, providing useful information and acting as a good memory aid without demanding attention at busy moments.

For the task at hand, usability can be defined more by what user is permitted *not* to do than what he or she is encouraged *to* do. It's structured but highly tolerant. For instance, the application is highly interpretative and will allow users to enter virtually anything into any text fields.

When entering an estimate of how long diners will be at the table, a user can enter 1, 60, :60, 0:60 or 1:00 and any of these will be interpreted as one hour. If a user enters seven digits for a phone number, the restaurant's area code is automatically appended. If a customer record is created without specifying a date, the application makes a best guess as to what the date should be and applies it.

When the program can't make a good assumption, an alert message is shown at the top left of the screen. For instance, if an alphabetical character is entered in a phone number field, an alert appears at the top of the alerts/messages list. When unavoidable, alerts are queued, with only the most recent on display and the rest accessible via a dropdown menu. A copywriter was brought in to write the text, which simply and clearly states the problem, leaving corrective action to the user.

Alerts, confirmations and error messages are presented all in one list with the most recent one first. New messages "pulse" when they appear to invite attention without demanding it. Alerts are low-impact and can be ignored when things are too busy.

Action alerts ("Smith party has been waiting for more than 10 minutes.") and error messages ("Smith party phone number does not appear to be correctly formatted.") are presented with special icons to draw more attention.

Modal dialog boxes—which stop everything until a problem is fixed—were forbidden.

"We feel this creates an appropriate balance," Crane says. "Let's assume the user is competent first. We'll try to meaningfully interpret their intention, and if we can't we'll let them know. Let's not assume that they are incompetent, and that just because we don't understand a particular data entry, they must have made a mistake. And let's especially not assume this and then present a modal dialog box that gets in their way."

## INTERFACE ELEMENTS

Everything in the interface is designed for speed. There is only one menu, and every item in the menu has an equivalent key command, which let users access those functions quickly.

At the lower right of the screen, a couple of key buttons are displayed to reflect the most common functions, such as adding a party, noting that a reservation has arrived, marking a party as seated and noting its departure. The buttons are large, in order to accommodate touch-screens.

Another button will text a party that their table is ready, then display a timer showing how long it has been since the message was sent.

One of the most innovative interface elements is also the most traditional—a penny that can be dragged around the graphical display using a mouse or touchscreen. The penny might seem counterintuitive to a non-restaurant user.

The issue goes back to the "competition" as seen by the developers—paper seating charts. Traditionally, many hostesses put a penny on the chart next to a table or section, in order to keep track of which server will be seated next. In addition to being dragged, the penny will automatically move when a party is seated with a waitperson to the next waitperson in the queue.

Speaking the same language as your users is key to usability, although as online systems become the norm, the penny seems destined for obsolescence. The trick will be for the developers of future Seating Management editions to know when the penny has ceased to be a familiar touchstone and has become instead the answer to a trivia question.

THE MAGILLIAN NETWORK SEATING MANAGEMENT

Welcome from : Sign Out | Menu February 29, 2008 6:05 PM

Yesterday Today Tomorrow

Friday, February 29, 2008 Sun-Sat

Full Floor Plan Patio

Your score: 57 points

The floor plan displays several tables with guest names and table numbers. Notable tables include one labeled 'Rob' with '(7)', one labeled 'Chris' with '(4)', and one labeled 'Jeff' with '(10)'. Other tables are numbered 5, 7, 31, 54, 35, 34, 20, 21, 24, and 25. The software interface includes a search bar, a message about a guest waiting longer than expected, and a calendar view.

Time	Name	Size	Table	Status
5:37 PM	Kerry Johnson	4	34	Seated
5:38 PM	Chris Hoover	4	51	Seated
5:39 PM	Tim Wood	3	52	Seated
5:40 PM	Daniel Newton	6	7	Seated
5:40 PM	Josh Peters	3	8	Seated
5:40 PM	Michael Aurelio	3	5	Seated
5:40 PM	Chris Pofma	4	1	Seated
5:40 PM	Clementine Crane-Dr	2	22	Seated
5:41 PM	Jessica Haberle	1	19	Seated
5:42 PM	Alex Ellison	5	20	Seated
5:42 PM	Brad O'Donnell	2	23	Seated
5:43 PM	Gary Choi	3	24	Seated
5:44 PM	Christopher Webb	5	25	Seated
5:45 PM	Audrey Crane	3	25	Arrived

Add New Party

6:00 PM

Party Details Table Details

Section: Jeff

For the night  For the party

Combined with:

For the night  For the party

New Party Arrive Seat Gone Text Message

*The Penny metaphor is drawn from observation of hosts using a penny to keep tabs on which server should be given the next party on paper floor plans. Not all metaphors translate well from paper to screen, but as a marker was required the penny seems to serve the purpose well. Note that the corresponding party is highlighted in the right hand pane. Although the computer is suggesting the next table allocation, it is up to the host to make the final choice.*

THE MAGILLIAN NETWORK SEATING MANAGEMENT

Welcome tmn : Sign Out | Menu February 29, 2008 6:01 PM

Yesterday Today Tomorrow

Friday, February 29, 2008 Sun-Sat

Full Floor Plan Patio

Your score: 57 points

Search: ker

**Reservation - Current/Future**

- Greg Baker 17:38 PM - February 29, 2008 Edit | New
- Kerry Jamison 17:25 PM - February 29, 2008 Edit | New

**Reservation - History**

- Kerily McEvoy 20:30 PM - February 13, 2008 New
- Greg Baker 20:00 PM - February 13, 2008 New
- Kerry Jamison 19:30 PM - February 13, 2008 New

6:30 PM Kricket Lewis 4 Unreachable  
6:45 PM Josh Peters 2 54 Confirmed  
[Add New Party](#)

**7:00 PM**

7:00 PM Stefan Walger 4 34 Unconfirmed  
7:00 PM Rob Gardziel 4 35 Unconfirmed  
[Add New Party](#)

[Party Details](#) [Table Details](#)

Select a table or party to view party details.

New Party Arrive Seat Gone Text Message

*Search is similarly flexible to the rest of the application. Results are returned in real time in a predictive manner. They are split into current and historical reservations to help staff distinguish between diners. Actions to be performed (change or create new reservation) are available directly from the results list.*

## HELP AND ERROR MESSAGING

As noted previously, the Seating Management application is big on forward momentum and light on error messaging.

Part of the calculus that went into the decision to downplay messaging was the self-evident nature of many problems. If a user inputs that he or she is seating a large party at a small table, the error message "You cannot seat a party of 12 at a table for 4" is not likely to help. More importantly, it's very unlikely in most cases that a hostess or host will actually try to accomplish that task.

In most cases, the likely source of such an error is mistyping—entering "12" instead of "2" for instance. What might seem like an input error may also reflect a contingency not accounted for by the application (such as dragging a table out from a back room or a child sitting on a parent's lap).

A modal dialog that rejects the input and demands a correction becomes the user's worst enemy in a situation where users are constantly dealing with noise, distractions and direct demands on their time and attention. The decision to drop the traditional approach led the design team into strange new waters.

"The resulting lack of any error messages, confirmation messages, 'are you sure' messages, or anything else that gets in the way of a busy hostess moving forward has forced us to think about the design task in a new way," Crane says. "It's also proved compelling to our usability participants, who expect to get 'stuck,' and are delighted to be free to move forward. While the information is always available in a list of messages and alerts, it is never in the way."

This is a sharp contrast with traditional software applications, in large part because the usual model features tasks which are primarily digital prior to reaching the application's end point (for instance, image processing, which only becomes physical if and when a picture is printed).

"Unlike a set of tasks performed entirely digitally—for example, a payroll, where a misplaced zero has a real and significant result at a future date—a hostess will indicate that she will seat a party, and then actually seat them," says Crane. "So there is a real-world test for the reasonableness of that action, and the software doesn't need to second-guess that."

Designers always applied the "pencil test" to the product.

"A pencil will never tell you that you haven't written enough information, or ask if you're sure you want to do something, or say there is an error and you can't move forward," Crane says. Neither does Seating Management.

In a similar vein, the designers opted to leave out a formal "help" function. Users aren't likely to turn to a tutorial when customers are waiting to be seated. The high fault-tolerance built into the program makes it easier to accommodate or ignore errors than to explain them to users. Although Seating Management features some skeletal handholding, the controls of the application are expected to be transparent enough to stand on their own (with some expected training of initial employees).

## INFORMATION DISPLAY

The graphical floor plan display takes its cues directly from the paper seating charts traditionally used in restaurants. The team opted for a dark background after running

some focus groups, which indicated a darker screen was more desirable in terms of restaurant ambience. This had the potential to introduce legibility issues, so high contrast was implemented to ensure clear visibility. In another concession to work environment and pace, the program doesn't use sound. Attention to the environment in which the application is used is crucial for any product, but especially so when constant error beeps could ruin a diner's experience.

The figure displays three versions of a restaurant reservation software interface. Each version shows a floor plan with tables and chairs, a reservation list, and a reservation chart.

**Left Screenshot:** Shows a dark-themed interface with tables and chairs in various shades of purple, blue, and green. The reservation list and chart are also in a dark style.

**Middle Screenshot:** Shows a light-themed interface with tables and chairs in shades of grey, white, and light blue. The reservation list and chart are also in a light style.

**Right Screenshot:** Shows a medium-themed interface with tables and chairs in shades of green, yellow, and orange. The reservation list and chart are also in a medium style.

**Bottom Screenshot:** Shows the final design of the system. It features a dark background with tables and chairs in shades of grey, white, and light blue. The reservation list and chart are in a dark style. A search bar at the top right says "Search for Diners and Servers".

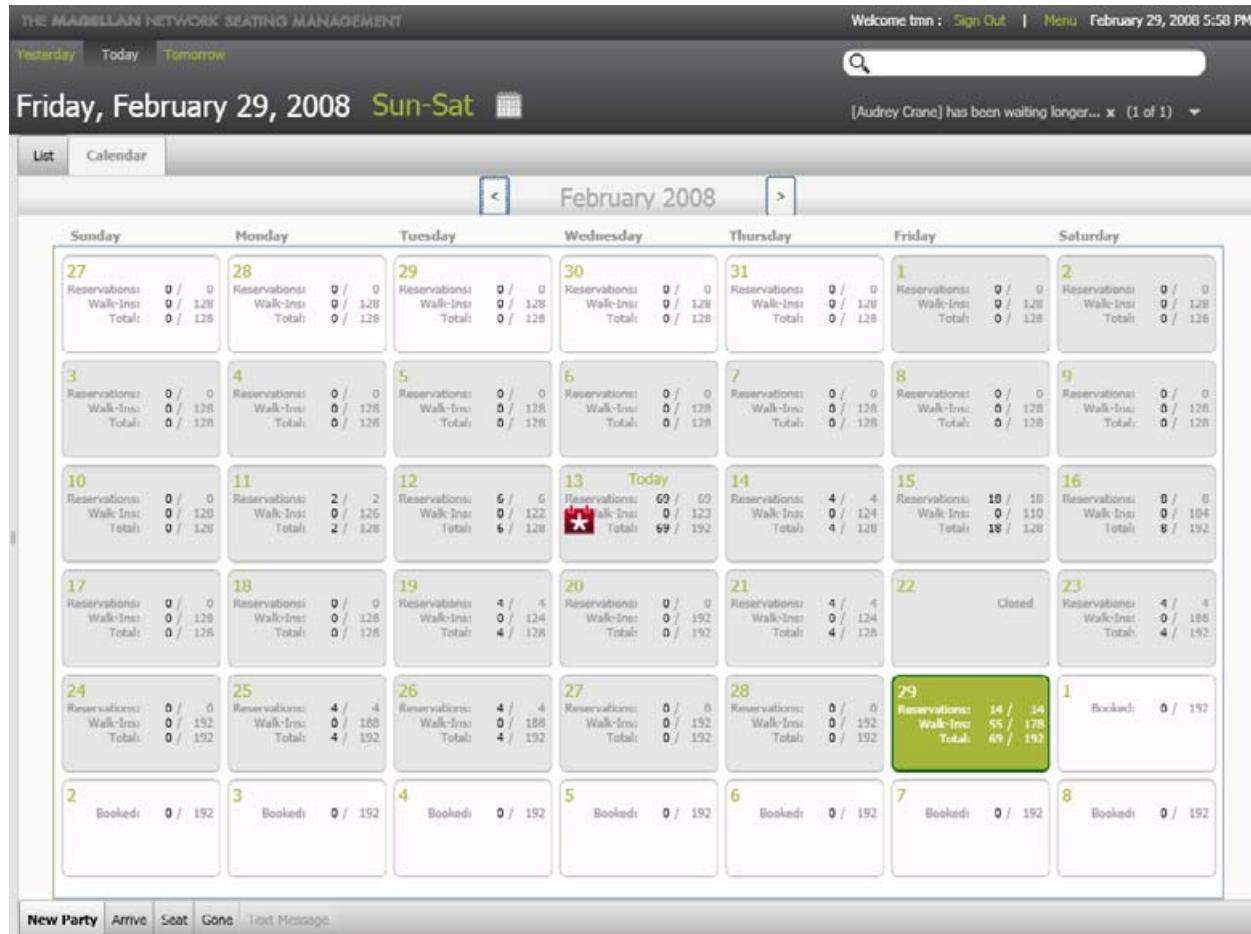
During design, the developers experimented with different color schemes. The final scheme was chosen to mesh with the restaurant's ambience based on user feedback from focus groups. Not a usual usability consideration but interesting and relevant. Three of the rejected schemes are shown here.

The reservation list is a columnar display which can be sorted according to various criteria. The default sort—and by far the most commonly used—is reservation time. In the heat of the moment, however, the most important thing hostesses and hosts need to know is who they should seat next. As the evening flows along, so too does the list, which refreshes in real time.

However the sorting function is more than just window dressing. For instance, floor managers may want to look at which tables are booked during the evening, or a wait person may want to know if they can expect a large party.

"Restaurants do like to plan—who will sit where, for how long," Josh Peters, a designer with Magellan, says.

The overall information display is broken into three levels: party list, party details and Web interface, with the latter being a Web-based application mainly used to sync up with an online reservation system offered by Magellan. Reservations made through Magellan can also be checked through the Web app for detailed information such as when the reservation was made. This data is segregated from the main program because the higher level of detail is so infrequently required.



Calendar view is one of the few times users break out of the standard two pane interface. This makes good sense, because the calendar task has little to do with the seating arrangement, so there is no need to display the restaurant layout at the same time. Switching between the two views is fast, so the host/hostess can take a reservation call and then quickly move back to the main screen.

## USABILITY PROCESS

The partner companies relied on in-house talent with usability experience to develop the application, keeping expenses relatively minimal.

Personas were developed after conducting an initial round of interviews to gather data on users and their typical tasks. About 60 to 80 man-hours were invested in usability testing.

Team members conducted interviews and made recordings of sessions in coffee-shops to help steer development. The research role rotated throughout the design team. Restaurant participants received a small thank-you gift certificate.

"We knew what tasks hostesses and managers typically undertake, and we knew what additional tasks we wanted to make possible. To that end, our personas included goals and the tasks each persona would undertake to achieve those goals. We wrote scenarios for each task and designed our product to support them. Some of those scenarios became tasks for our usability studies," says Kricket Lewis, another designer on the team.

After the initial information gathering phase, they went through the (relatively standard) process of creating personas, writing scenarios, designing storyboards and maps, wireframes, and then mockups. Finally, detailed functional specifications were designed, describing each item on the screen in detail and its behavior in every imaginable situation. The specs were given to the engineering team for review and implementation.

"Our engineering team was critical to the success of this approach—supporting our process and contribution in the first place, and then working with us to point out any cases we missed and giving us the opportunity to fill in any gaps in our specification," Lewis says.

Testing prototypes included paper wireframes and mockups, barebones-but-functional HTML wireframes, and finally alpha testing (the application was still in alpha testing at the time this case study was written).

During each phase, the design team conducted interviews with test users in person and over the phone. Most testing phases included a study protocol with specific tasks, but moderators were given freedom to explore items that interested the test users. Multiple sessions were conducted each week during the last eight weeks of the design process.

During a weekly round-up, the team discussed the outcome of that week's studies—including metrics such as task completion and time-on-task and "soft" data, including ideas, recommendations, general impressions and psychological obstacles noted by the test users.

Crane says the constant, less formal usability sessions were incredibly helpful and, in her opinion, worked better than spacing the testing out along development timeline milestones.

"(It) certainly changed the way I'll plan design work going forward," Crane says.

## TEAM

- Audrey Crane, (former) VP of Interaction Design, The Magellan Network—studied design at California College of the Art and Berkeley. Much of her influence comes of course from working for 3 years at Netscape with Hugh Dubberly, and then 6 more years at Dubberly Design Office. She has presented at IIT's About, With and For, DUX, BayCHI, and various AIGA presentations. The work in the studio is heavily influenced by Nielsen and Cooper in particular. They are also big fans of Steve Krug's approach to usability research.
- The Magellan Network's internal design team
- Michael Aurello, Interaction Designer, DesignMap - BS in Graphic Design from California State University, Sacramento

- Gregory Baker, Principle / Design Director, DesignMap - BFA in Graphic Design from RISD



*The DesignMap team, Michael Aurello and Gregory Baker.*



*The Magellan team*

## WHY THEY WERE CHOSEN

Magellan's design philosophy was to use technology to augment rather than replace the knowledge and awareness that a host or maitre d' carries in their heads. This is an empowering rather than controlling application of computing power, and as such it is likely to be much better received by its users. Real-world layouts (tables in the system reflect the restaurant's design) and metaphors (the penny) allow quick movement between reality and the computer's view.

Careful attention to the users' task and environment led to some interface design decisions which would be out of place in most applications – dark screen, no sound – but which fit well in this application's intended setting.

# SQL diagnostic manager

## COMPANY INFORMATION

**Company:** Idera (a division of BBS Technologies, Inc.)

**Application:** SQL diagnostic manager (SQLdm)

**Headquarters:** Houston, Texas

**Number of employees:** 150

**Design team:**

**Project Manager:**

- Heather Sullivan

**Software Developers:**

- Kurt Goolsbee, Mark Lauritsen, Trent Miskelly, Michael O'Neal, Vicky Sherrouse, Shekhar Vaidya

**Quality Assurance Engineers:**

- Adam Condron, Will Meurer, Rodney Quissak, Alfredo Ramos, Jason Van Dyke

**Information Developers:**

- Marcus Bryant, Marlowe Wakeman

**Customer Support:**

- John Harp

## OVERVIEW/MOTTO

Idera's SQL diagnostic manager 5 (also known as SQLdm) is a performance monitoring and diagnostics application for information technologists using Microsoft SQL Servers.

The application uses a console design to proactively notify SQL administrators about the health, performance and capacity of their SQL Server environments. SQLdm was first released more than eight years ago. It is used to monitor thousands of SQL Servers worldwide.

Idera (a division of BBS Technologies Inc.) develops tools for managing and administering Microsoft SQL Server products, including performance monitoring, backup, configuration, storage management, security and compliance.

The company has more than 2,500 customers globally, which it manages from its headquarters in Houston and satellite offices in London and Sao Paulo. Idera products are sold and supported directly and through authorized resellers and distributors.

"Our CEO pushed the 'rules of three,'" says Trent Miskelly, a senior software developer who worked on the cross-disciplinary project development team (about 25 employees from around the company). The rules are:

1. Sales should be able to pitch the product in 30 seconds.
2. The value should be obvious in 3 minutes.
3. Download and install should take no more than 30 minutes.

These concepts (and particularly the second two) helped drive a focus on usability and smart design. SQL is complex on the face of it, and SQLdm performs tasks on the complex end of SQL. But all that complexity doesn't have to be obvious to users.

The screenshot shows the SQL diagnostic manager interface. On the left, a sidebar titled "Servers" lists "All Servers (4)" with categories: Critical (1), Warning (1), OK (2), and Maintenance Mode (0). Below this is a detailed view of "SASQL01" with sub-options: Sessions, Queries, Resources, Databases, Services, and Logs. The main area is titled "SQL diagnostic manager™" and "SQLdm Today". It displays a "Status Summary" section with a "Critical" status icon and a summary table:

Critical		
	1 server(s) in Critical state	
!	1 server(s) in Critical state	
!	1 server(s) in Warning state	
!	2 server(s) in OK state	
!	0 server(s) in Maintenance Mode	

Below this is an "Active Alerts" table:

!	Change	Time	Instance	Description
!	Raised to warning	2/27/2008 4:05:19 PM	DalSQL01	Server response time is 2044 ms
!	Remained warning	2/27/2008 4:05:19 PM	DalSQL01	xp_cmdshell is disabled
!	Raised to warning	2/27/2008 4:04:58 PM	HouSQL02	OS processor queue length is 26
!	Remained critical	2/27/2008 4:03:52 PM	SASQL01	SQL Agent stopped
!	Remained warning	2/27/2008 4:03:52 PM	SASQL01	OS CPU usage is 61.82%
!	Remained warning	2/27/2008 4:03:52 PM	SASQL01	OS user CPU usage is 57.92%
!	Remained warning	2/27/2008 4:03:52 PM	SASQL01	OS processor queue length is 2
!	Remained warning	2/27/2008 4:03:52 PM	SASQL01	OS disk time is currently 28.04%

At the bottom, there are "Common Tasks" including "Manage Servers", "Monitor Alert Log", "Manage To Do Items", and "Generate Reports". The status bar at the bottom right indicates the screen was refreshed at 2/27/2008 4:05:32 PM.

*The SQL diagnostic manager main screen. This dashboard gives database administrators an at-a-glance view of their servers, focusing on what they care about most—the problems. It builds on the familiar Outlook Today view.*

Two basic rules guided many of the specific design choices:

1. The less often a feature is used, the more guidance the application should provide.
2. Advanced and complex features should give users a choice between well-chosen defaults with basic options or advanced options and custom input.

## WHAT DOES IT DO?

SQLdm is built around the workflow of those who monitor SQL Servers, with an emphasis on troubleshooting problems and optimizing performance based on historical data.

The program gives (in roughly sequential order) a summary overview, error highlighting and drilldown for a more detailed look at the server. The application aims to offer quick navigation to increasingly granular detail, with easy setup and integrated help.

Its real-time monitoring and customizable alerts are intended to help administrators minimize server downtime and quickly diagnose and fix performance and availability problems. SQLdm also identifies common performance bottlenecks, such as worst-performing code, and aggregates historical metrics for use in trend analysis.

SQLdm needs to function like the dashboard of a car, but each gauge has a deeper level of complexity which is essential to user tasks. So while users need to take in a lot of critical information at a glance, they also need to be able to pop open the hood and understand what they see inside (while driving the whole time).

## WHO IS THE USER?

User profiling is relatively easy in some ways—the product serves a very, very specific niche, SQL Server database administrators (DBAs) managing between five and hundreds of SQL Servers.

SQL Server DBAs are usually in charge of monitoring and optimizing system performance as well as the critical functions of database backup and recovery. However, within the realm of this job description can be found varying levels of expertise and experience.

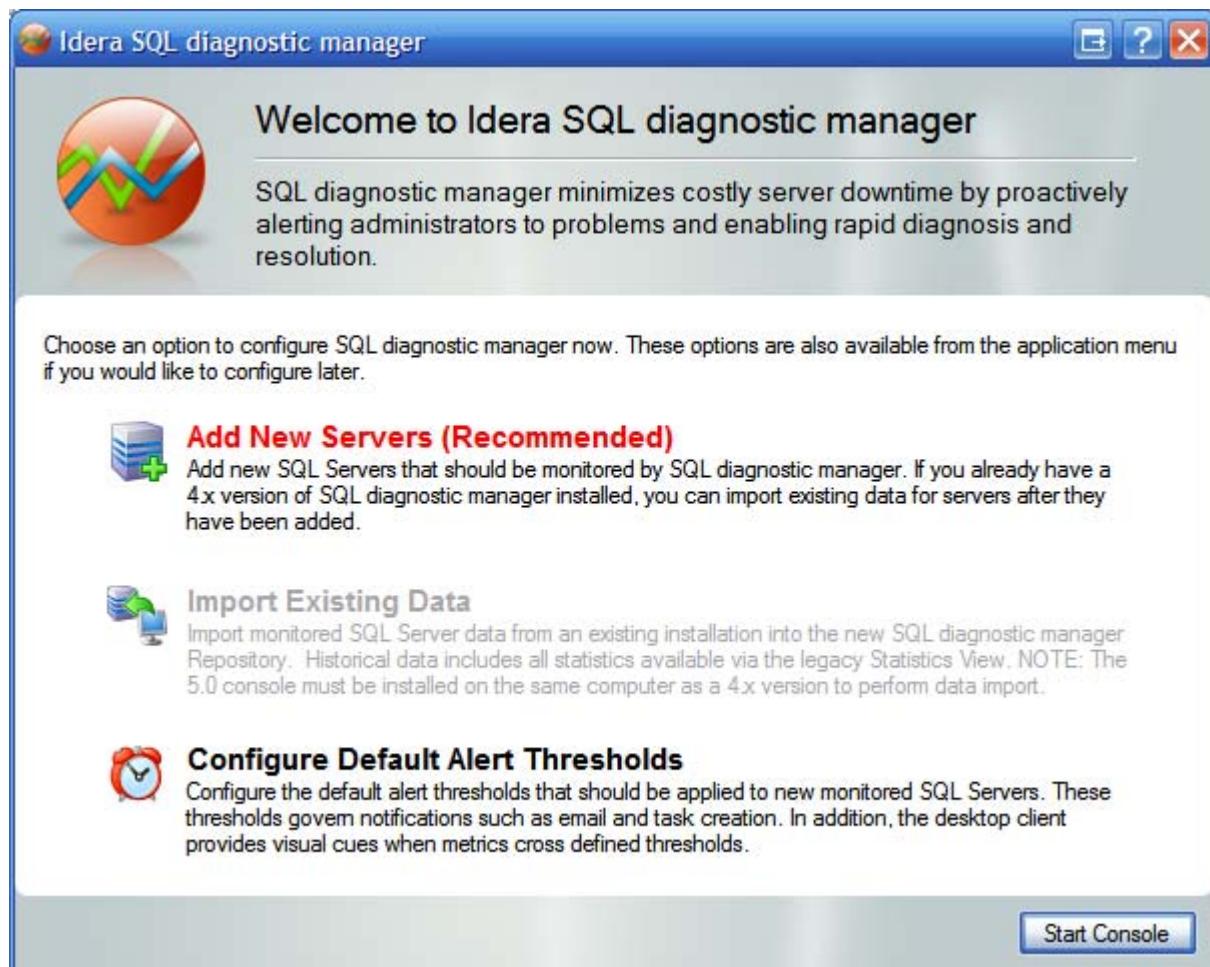
SQLdm's usability focus has a two-pronged effect. It helps entry-level DBAs by showing them what SQL Server performance metrics need to be monitored, while it provides experienced users with fast access to measurements they are already following closely.

In addition to the disparity in experience levels, there are substantial variations in how administrators use the product. Some work in the live application on a daily basis; others set up e-mail notifications and rarely enter the actual program. The daily users don't want to feel constrained by wizards and handholding, but the infrequent users need to have a clear path to the features they need.

## THE APPLICATION

SQLdm's user experience supports both open-ended and narrative metaphors. The design of the application follows the general architecture of the SQL Server database engine, with the intention of making the narrative aspect educational not only about the program itself but also about the SQL Server environment in general.

The less experienced the user, the more compelling the narrative approach. For power users, SQLdm may be a more comfortable fit as a multi-featured, open-ended control set, so the application also had to accommodate a free-choice approach in which most of the destination points can be quickly reached.



*On first login, users are presented with a configuration wizard which will step them through adding servers and configuring alerts. Highly experienced users can choose to skip this step and work directly in the interface. In this way, the needs of both novice and experienced DBAs can be met with the same application.*

Regardless of expertise, the first-time user has a fairly complex configuration task ahead of him or her. In order to counteract this challenge, SQLdm launches with a

"Getting Started" dialog box that clearly outlines the available choices, with descriptive text labels and large friendly icons. Expert users can skip to the monitoring console with an easily identifiable button in the lower right.

The most important task for a first time user is setting up new servers to monitor. That option is highlighted in red on the Getting Started Launch Pad for new users and it's an easy user choice to follow the path, which leads to a wizard.

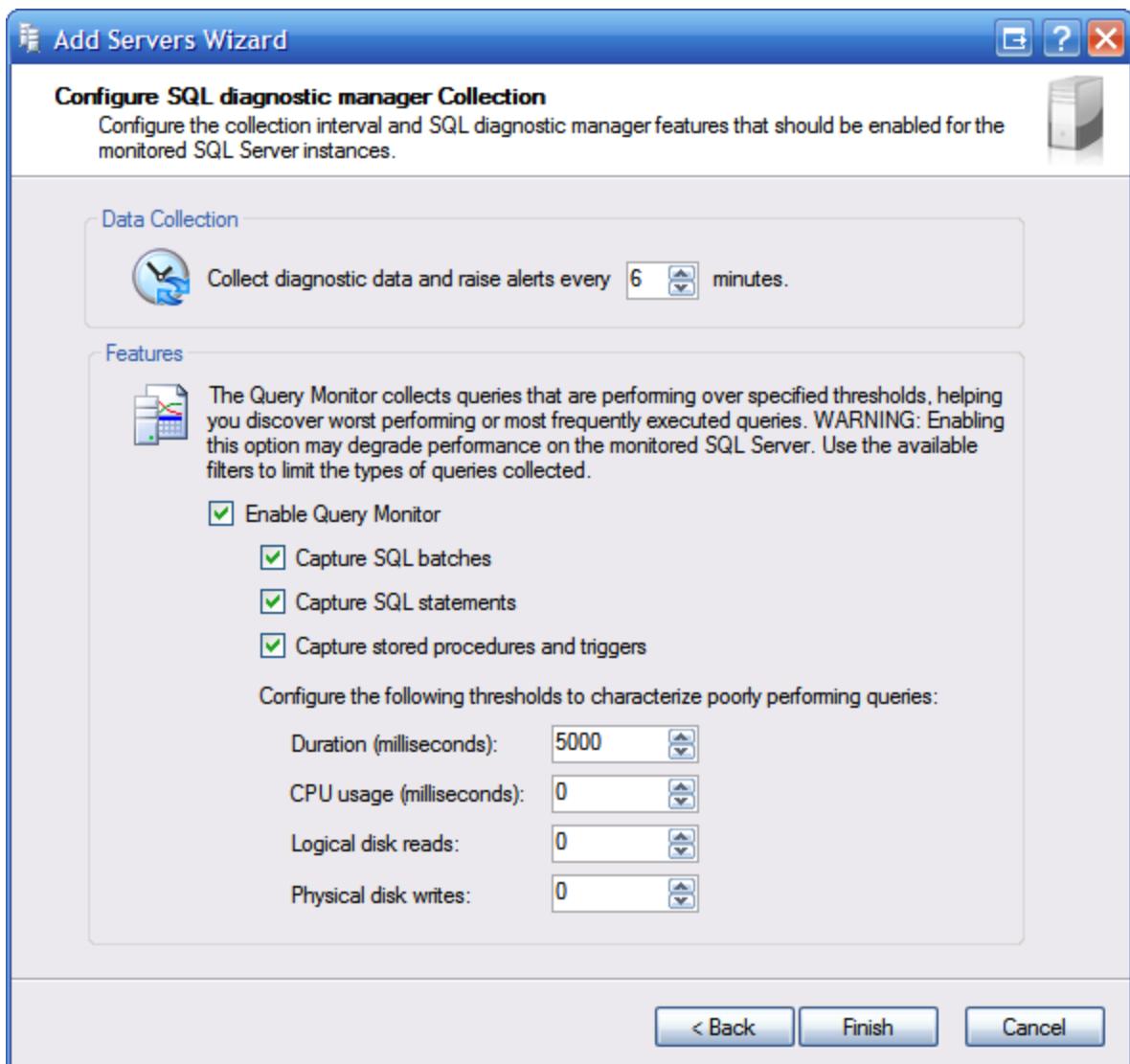
Handholding is extensive here, and can be disabled with a checkbox. The wizard walks users through several simple steps.

(The use of "simple" and other adjectives throughout this case study applies to those with a prior knowledge of SQL. So if the screenshots look like Greek to you, and they very well may, remember it's a reflection on the task and not the application.)

Wizard controls include helping the user designate one or more servers for monitoring, and specify what data the application will collect. Each step in the wizard provides information context, with a significant amount of text explaining what the various options will do and what their effect might be.



*This wizard describes the functions it performs in a relatively verbose manner suitable for less experienced DBAs. Those with more experience with database administration or with the application can choose to remove the verbose screens and concentrate just on the key choices.*



*Less experienced users are unlikely to know what constitutes a good value for certain configuration parameters. The application provides smart default values for most fields and options within the wizard. This serves two purposes; users are taught what a "sensible" value looks like, and the system is set up in a state which will provide a good level of support. Later on, when they have spent some time working with the system, users can re-run the wizard or tweak individual values in order to create an environment that more closely mirrors their exact needs.*

Data entry at the wizard stage follows comfortable convention, with checkboxes, text and numeric entry fields and standard windows buttons for navigation. This is a

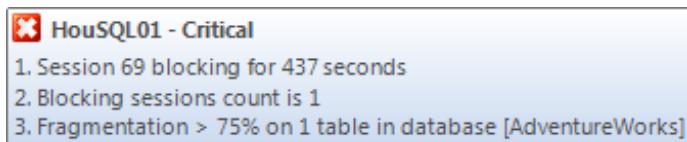
sensible choice for such highly technical material—the elements are so familiar that they fade into the background and don't steal focus from the task.

Once the wizard is complete, users are taken to the application's default interface, the Today view, which typically appears when the application opens. The Today view provides an overall status summary of all servers being monitored by the application.

A left-hand tree hierarchy provides a list of all possible views, but user focus is drawn to the primary pane. Line of sight is instantly commanded by the status summary, where critical alerts are highlighted with a bold, red, clickable target that dominates the page.

To the right of the summary, a task to-do list is displayed, and below is a detailed list of alerts. Both of these panes feature columnar tables which can be sorted by several different criteria.

The left-hand Server Tree is broken into two panes, one of which provides a quick read on the state of each server being monitored. The status indicators can be expanded to indicate the state of specific areas on each server. On hover, the server state icons show a tooltip with the most urgent notifications.



#### *Tooltip example*

These tooltips provide an easy mechanism for users to compare the severity of alerts without leaving the dashboard page. A simple mouse hover over key alerts shows what has triggered the issue and thus what might need to be done to resolve it. After viewing several of these alerts, the DBA will know which require immediate attention. The alternative—displaying all of this information on the initial screen—would most likely lead to a confusing mess of data which would hinder rather than help in problem resolution.

There are numerous points of departure from the Today screen. Given the complexity of the task, the narrative becomes a series of light, but weighted, suggestions. There are two paths from this point which receive the greatest focus:

- Selecting an alert by clicking on it wherever it appears. In the case of critical alerts, this is a pretty easy choice. This option takes users into a detailed view of the server, with the problem areas strongly highlighted (more on this below).
- Selecting a server from the tree view, to see an overview of the server state.

There are multiple paths leading to alert resolution as exception management is obviously a DBA's key task in this application. However, as the application also offers many other management features, expert users can easily take a different route.

## DASHBOARD VIEW

Following the Server tree view leads to the Server Dashboard, a hybrid view combining several different types of display into a snapshot of server state and key performance metrics.

The Server Dashboard is like an application inside the application. SQLdm—the outer application—features primary interface elements including standard Windows menus and the Server Tree display (which strongly resembles Microsoft Outlook, exploiting previous learning). The Dashboard sits inside the application's dominant pane and features independent controls—a tab and toolbar ribbon modeled on the Office 2007 design.

Overlooking the dashboard's meters and displays is a tabbed interface, with dependent control ribbons, following the Office 2007 model but featuring simplified controls. We saw this simplified model in more than one entry in this year's contest.

The ribbon concept works well when its information architecture (tab labels) mirror users' tasks, especially when it's not overburdened with features. In this application, the tab scheme mirrors the architecture of SQL Server which users should already be intimately familiar with.

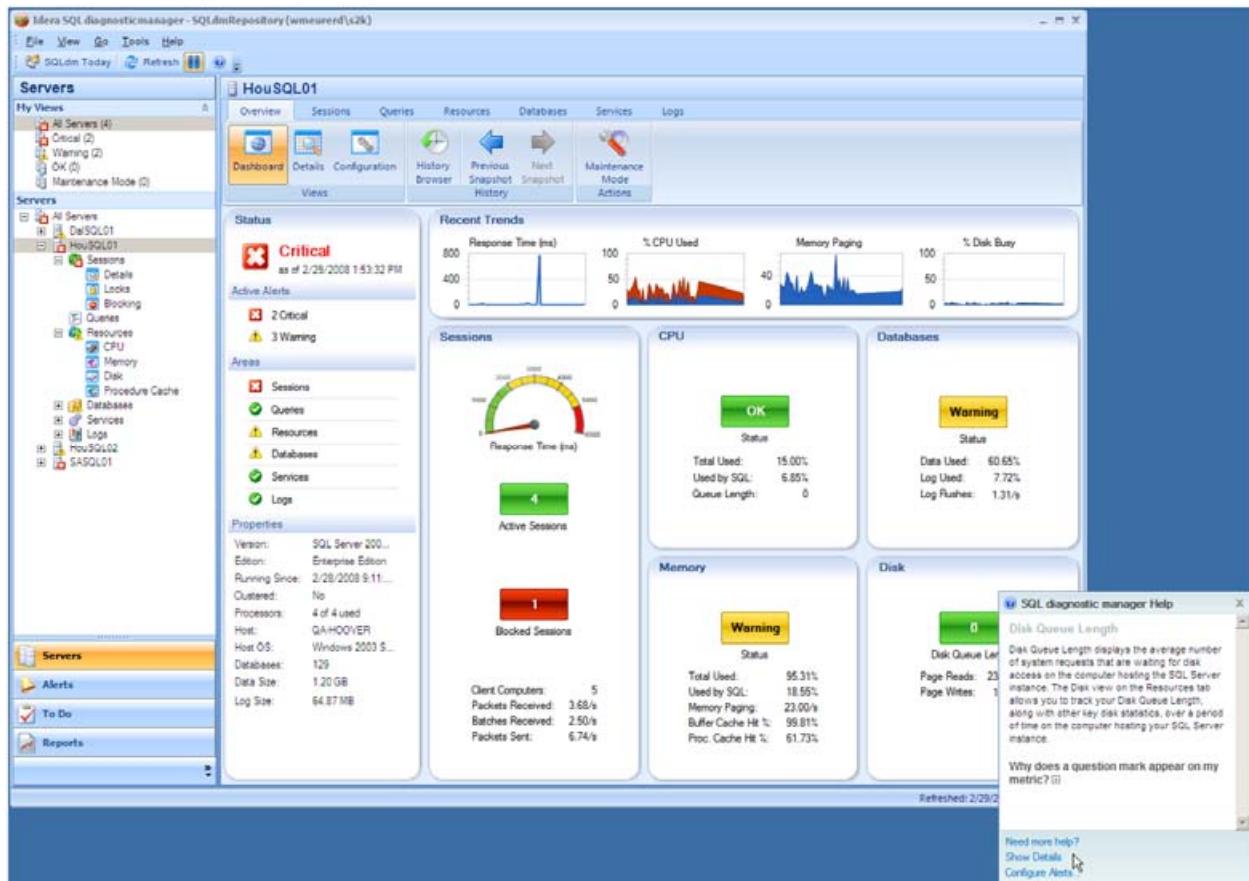
Clicking on a metric opens a popup help window with a paragraph of text explaining what it is and offering guidance about interpreting the reading. There are three basic types of performance meters—the speedometer (such as response time in ms), numeric (such as the number of active sessions) and text (OK, Warning and Critical).

The meter messaging is accompanied by more detailed metrics in smaller type below each item. The metrics are de-emphasized so as not to draw focus, but are instantly accessible for those seeking more information.

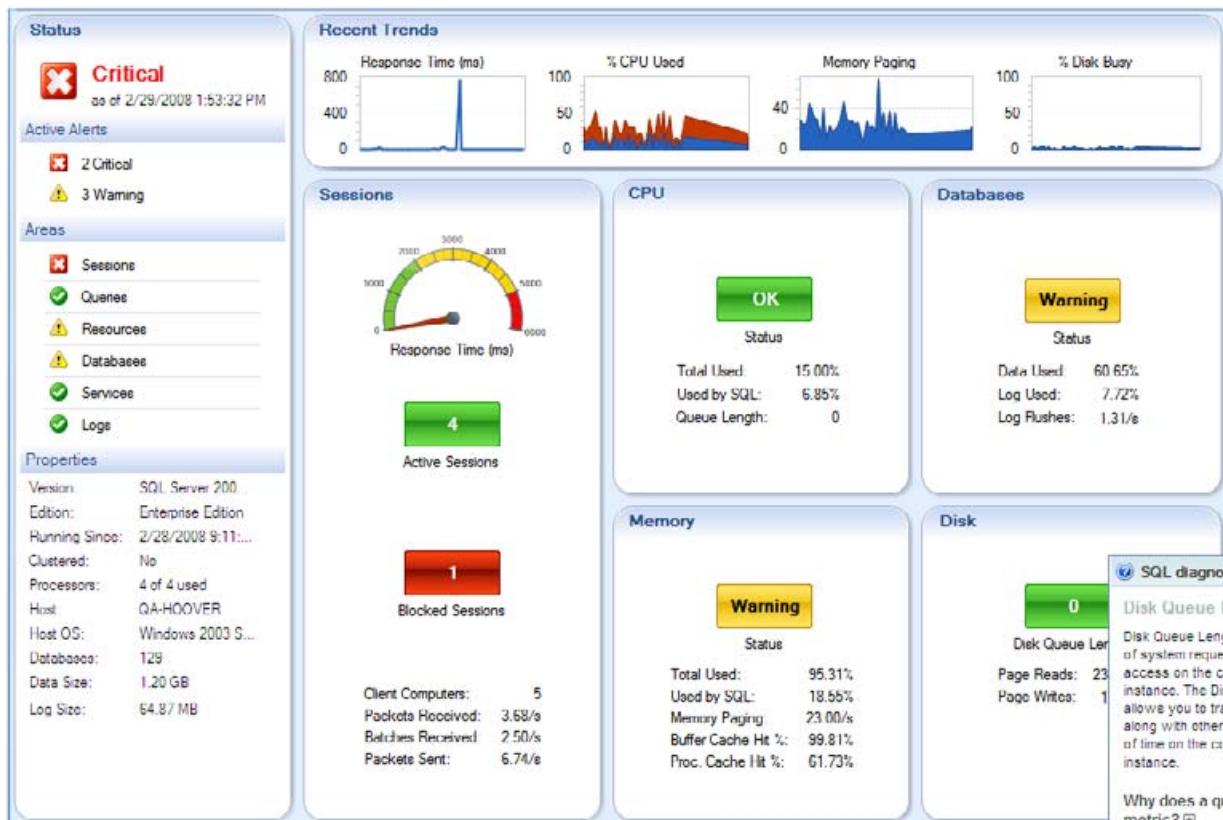
Color schemes throughout the application follow the familiar red/yellow/green stoplight pattern that is so effective for this sort of visual labeling. The labeling is pervasive throughout SQLdm's different views, providing a welcome shot of consistency even when dealing with substantially different types of data. The designers wisely organized the material around the data that really matters—overall server health—and made it an integral part of every view.

The color provides a unifying motif that brings together several different types of metric displays (speedometer, numerical, text and iconic). Informational displays that are not direct performance gauges—such as historical trend graphs—use a distinct red-blue color scheme that clearly differentiates them from the critical performance measurements.

Color is not the only indicator, as text and graphics in the alerts also help signify the level of concern. This is especially important for users who may be red-green colorblind or who are working in cramped server rooms with poor artificial lighting.



*A view into an individual server. The Server Dashboard is the default view obtained by clicking the server name in the tree to the left. From this point, users can drill in to problem areas shown on the screen or work with the ribbon controls at the top of the main pane to perform further diagnostics. Help is readily available for each of the items in this view.*



*A more detailed view of the dashboard area from the previous screen. This screen combines alerts, trend data and real-time metrics into one view. Despite the large amount of information on the screen, careful use of size and color makes it clear which are the most important areas to focus on and which are providing secondary information.*

Although a tremendous amount of information has been packed into a very small space, the screen is not crowded. The design of the dashboard makes effective use of white space, resulting in a strong presentation that is easy to scan and features logical grouping.

Careful aesthetic decisions have been applied throughout SQLdm, and they are showcased here. Each category of metrics appears grouped as a distinct unit with clean lines. The color-coded alerts are proportionately sized to really grab the users' attention and generously spaced so that each stands visually apart.

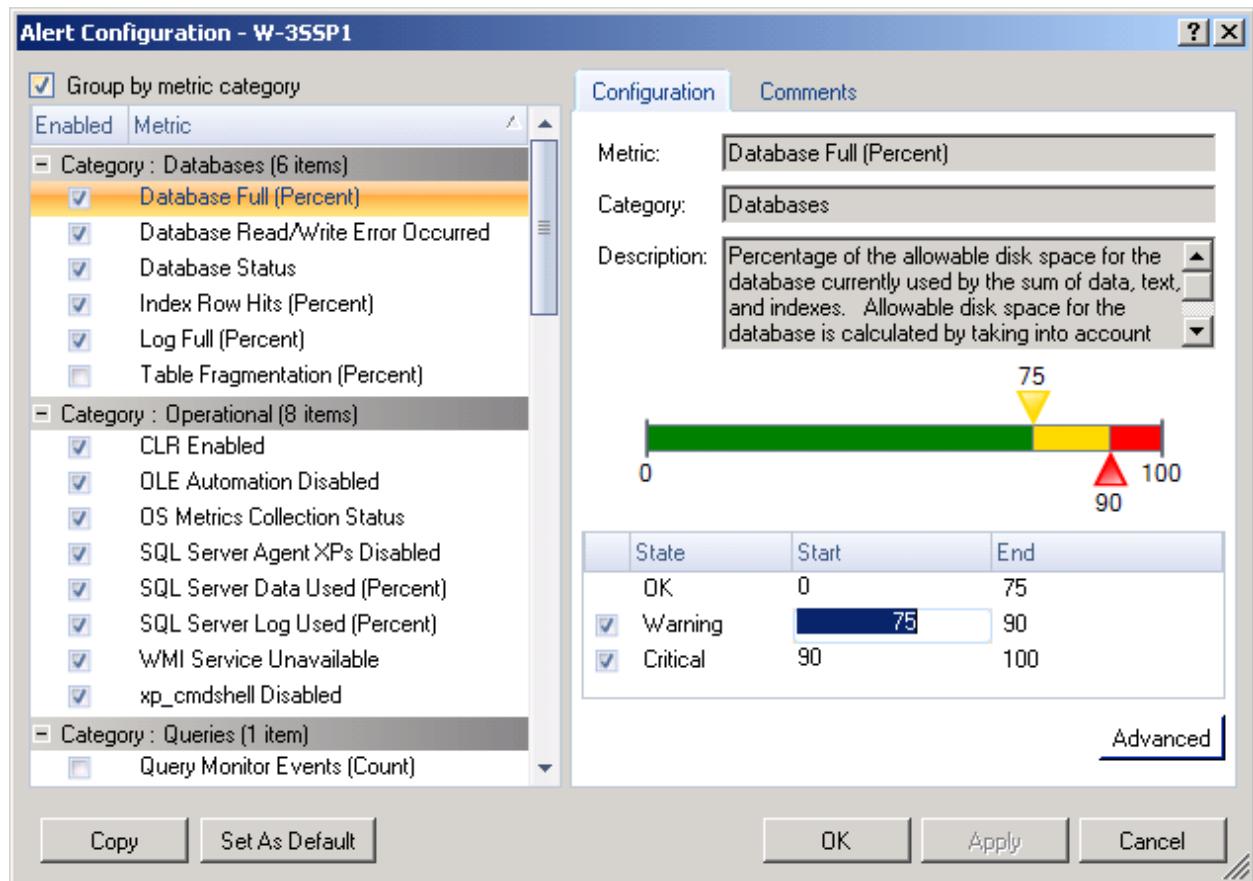
Users can also choose by clicking on a metric value button or label to navigate to more detailed views, with deeper and broader metrics to analyze performance in specific areas.

"We believe the quick navigation among views to more granular levels of detail, as well as the ease of setup and integrated help goes a long way toward helping users quickly learn and make use of our application," says Miskelly.

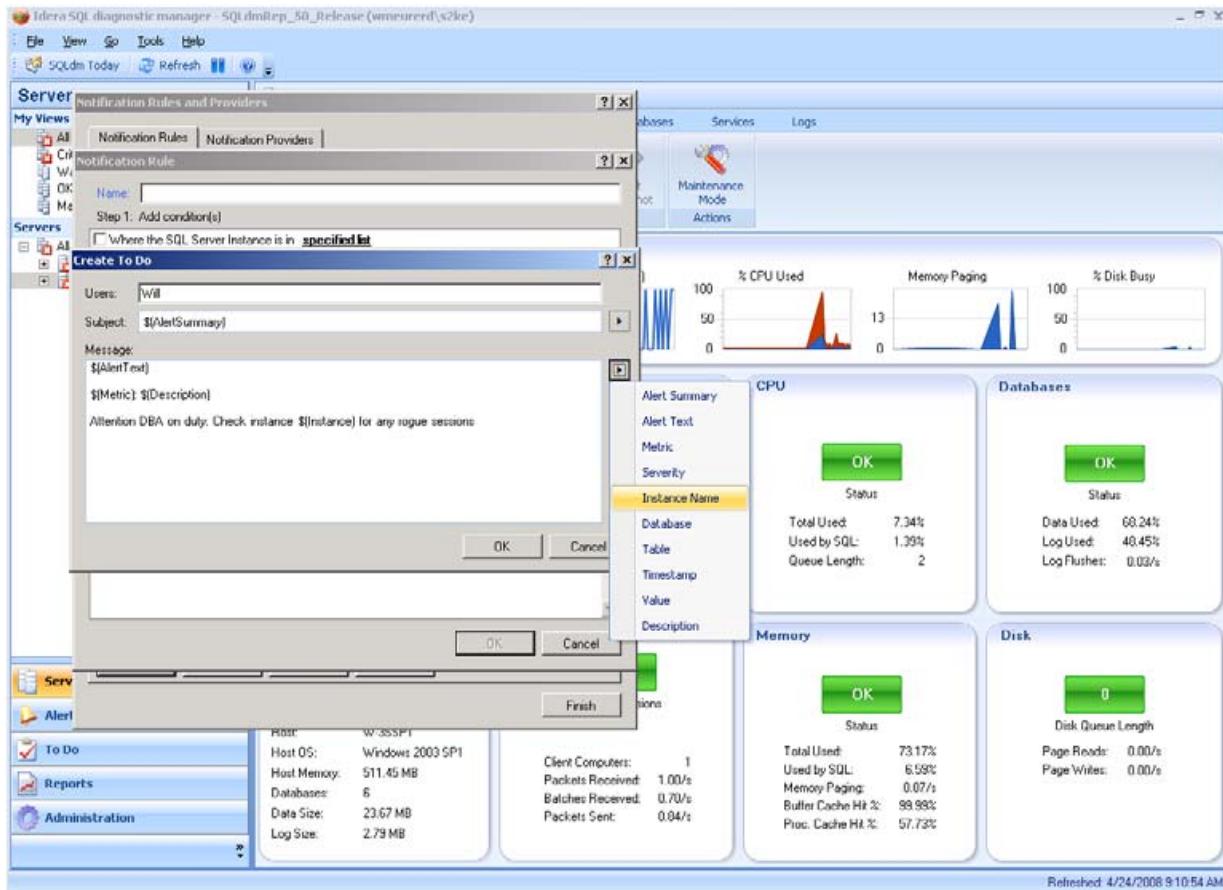
The Status section is the most functionally important part of this mix. Located on the left-hand side of the Dashboard pane, it provides a concise summary of critical errors and metrics that are operating at a warning level. Beneath the basic summary, the errors are broken out by category. Each category corresponds to a navigation tab at the top of the pane. Clicking on an error or warning alert takes the user to the relevant tab.

Finally, a horizontal Recent Trends display provides four histograms displaying performance of key metrics over time. Each can be clicked for more detail on the specific metric.

Users can configure alert levels for each meter on the dashboard, using sliders tied to visual feedback and again reinforcing the stoplight scheme. (They can also type in numeric values directly.) Users can also configure SQLdm to send notifications when performance dips below a selected threshold.



*The alert configuration screen. Although alerts have smart default settings, it is possible that DBAs will want to change them for specific databases. Here, the DBA can either drag the slider or type new values into the table in order to set warning and critical levels for the metric (Database Full).*

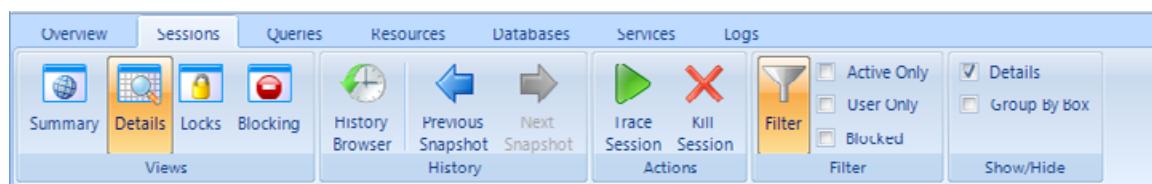


*Alerts appear in the dashboard. Notifications can be set up to be sent to individuals. Here, a notification is being created by specifying the alert conditions and then writing the text that will be sent. This text is written using SQL-like variable names, which should be very familiar to the target audience. Not all applications could get away with this approach but a clear focus on the capabilities of the user base means that SQLdm is working within the comfort zone if its users.*

## INTERFACE ELEMENTS

SQLdm uses a pretty extensive mix of interface elements, more than the average program, a reflection of the complexity of the task. But the combination of elements blends well thanks to some elegant design and careful planning.

Probably the most important feature is the ribbon toolbar, using a design that's very similar to that introduced by Office 2007. It is context-sensitive and loaded with large, click-friendly target buttons. The ribbon is context-controlled by tabs which follow SQL Server architecture.



Toolbar ribbon in "sessions" mode.

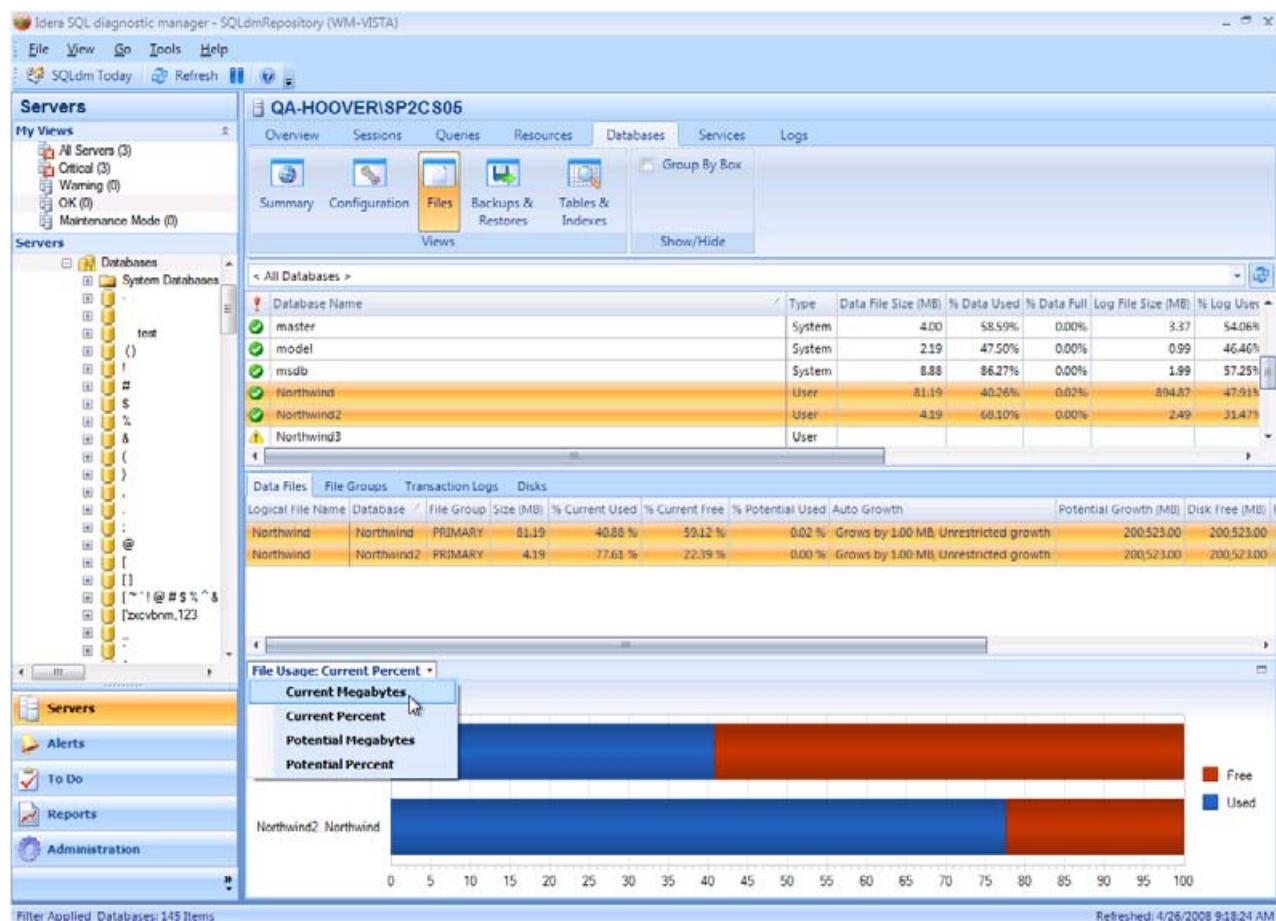
The ribbon "allows for a lot of controls to be visible at once, and groups the buttons," says Miskelly, and the tabs allow the set of controls on display to be specifically tuned to the content. Some of the buttons feature simple, visible controls, and many invoke modal dialogs. Some of these can be quite complex, largely a function of the task.

Windows standards for button size, label and placement were used in the ribbon and elsewhere in the program, which is often a wise choice. These defaults are, after all, the product of a great deal of research, reinforced by the fact that most users have already been trained to respond to them. The design of the buttons is simple but effective, with judicious touches of color and big illustrative icons which invoke familiar user shorthand—the equivalent of a second language to anyone in this product's user base.

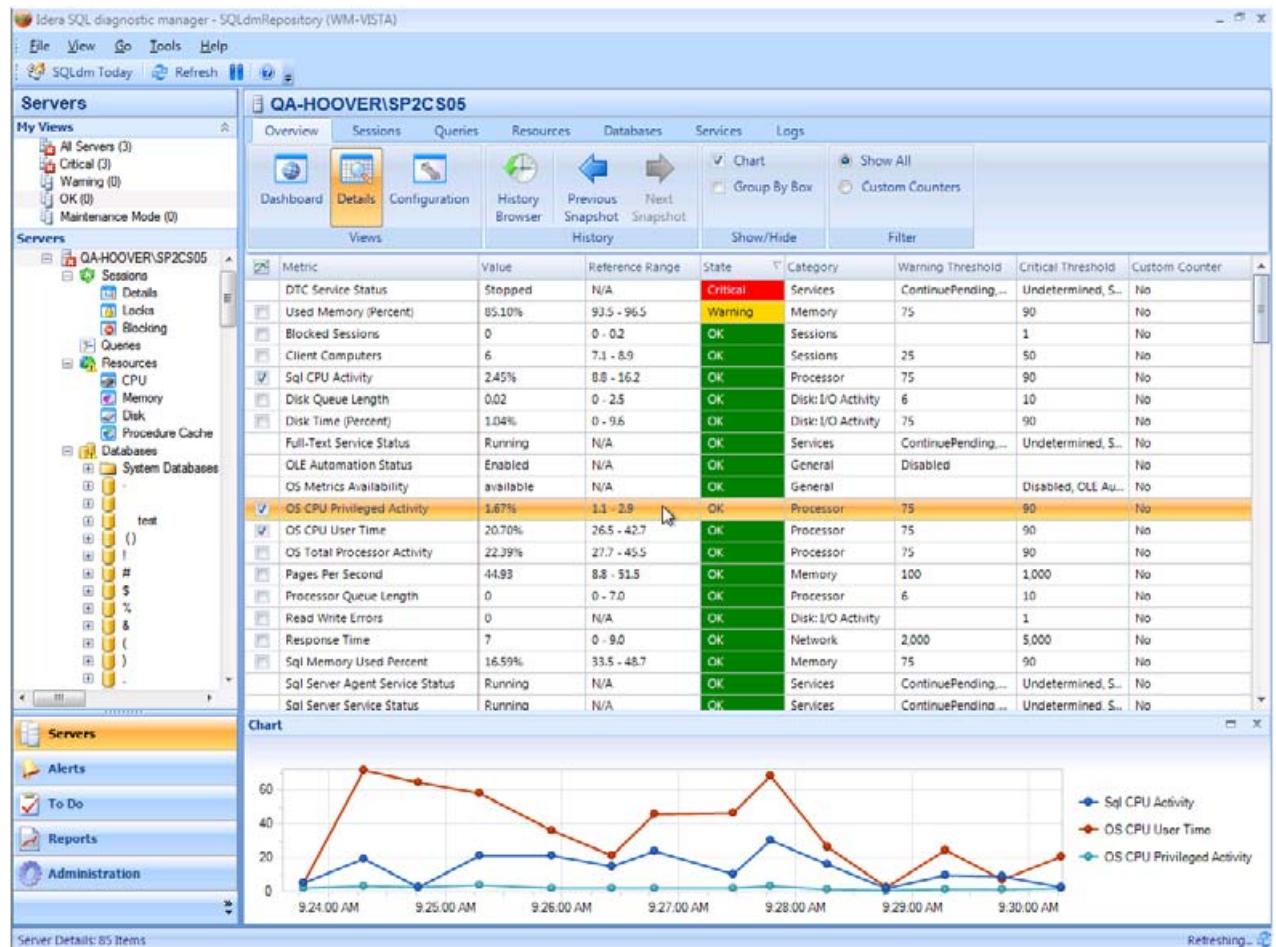
In many cases, a button click will open a dialog to handle a more advanced function. The development team opted to use only modal dialog boxes, in order to reinforce that dialogs are invoked to step outside the normal application flow, perform a task and see it through to completion.

Control of the outer application is managed through Windows standard menus, including File, View, Go and Tools. A regular toolbar below the menu items offers common commands such as navigating back to the Today page, Refresh, Pause and Help.

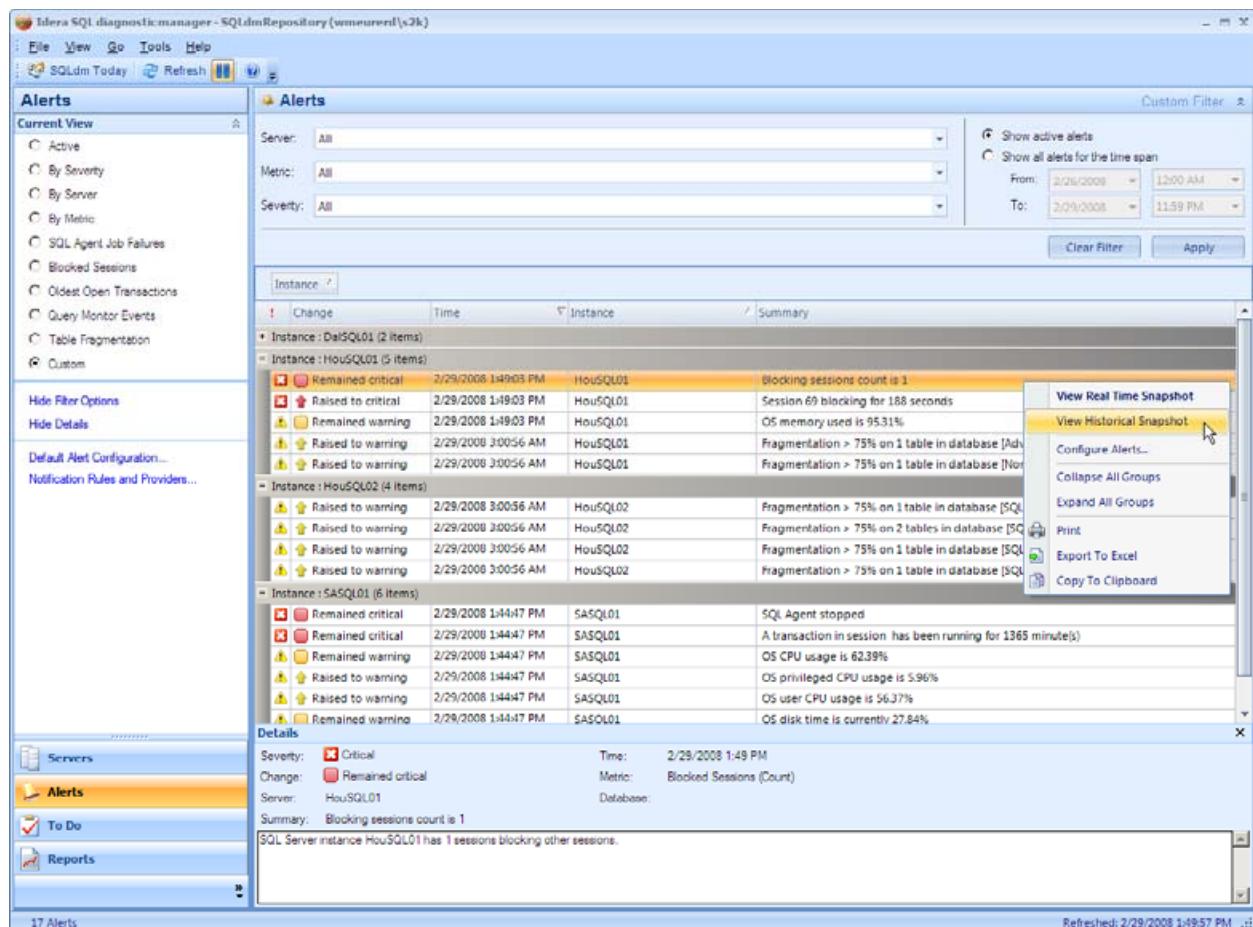
Context menus are scattered throughout the program at appropriate points, including within the Server Tree and in diagnostic view grids and charts. Different menus are served when clicking column headings and row labels, reflecting the change in focus—column menus are oriented toward grouping and sorting, row menus are specific to the item being examined. Context menus also offer data-action functions like export and print.



*Tree views such as the Servers list can be confusing for novice users, but for this audience their ability to show relationships and hierarchy in a small amount of space make them a useful control. In this situation the tree view location mirrors that of Outlook, providing another familiar touch to the application even for new users.*



*In many views, status is integrated into the data table and is thus sortable. Here, users can also choose which data elements to graph in order to see the relationship between them.*



*Choosing Alerts from the left hand menu bar shows all alerts by default. The main pane then allows for filtering down to specific servers, severities, time frames, etc. Beneath this, the filtered list of alerts is shown and by selecting an individual alert, users can drill down to the full details (lower area of the main pane). The contextual menu here allows quick access to the most frequent tasks at this point in the application.*

The alerts are obviously SQLdm's action items, and each can be right-clicked for additional information from vertical and horizontal groupings. Context menu information includes why the alert was invoked, what else was happening on the server at the same time, and current performance of the alert metric. Users can also change the alert threshold to suit their error tolerance.

## HELP AND ERROR MESSAGING

Context-sensitive F1 help is provided for all active views and the main application panels, invoking the Microsoft standard indexed help application. Help can also be accessed through the ? button on the outer application, and from within modal dialogs where appropriate.

Within the Server Dashboard, help is served in additional formats. Each key performance metric features a popup help feature that explains the metric generally and provides some specific guidance as to what action the user might want to take next.

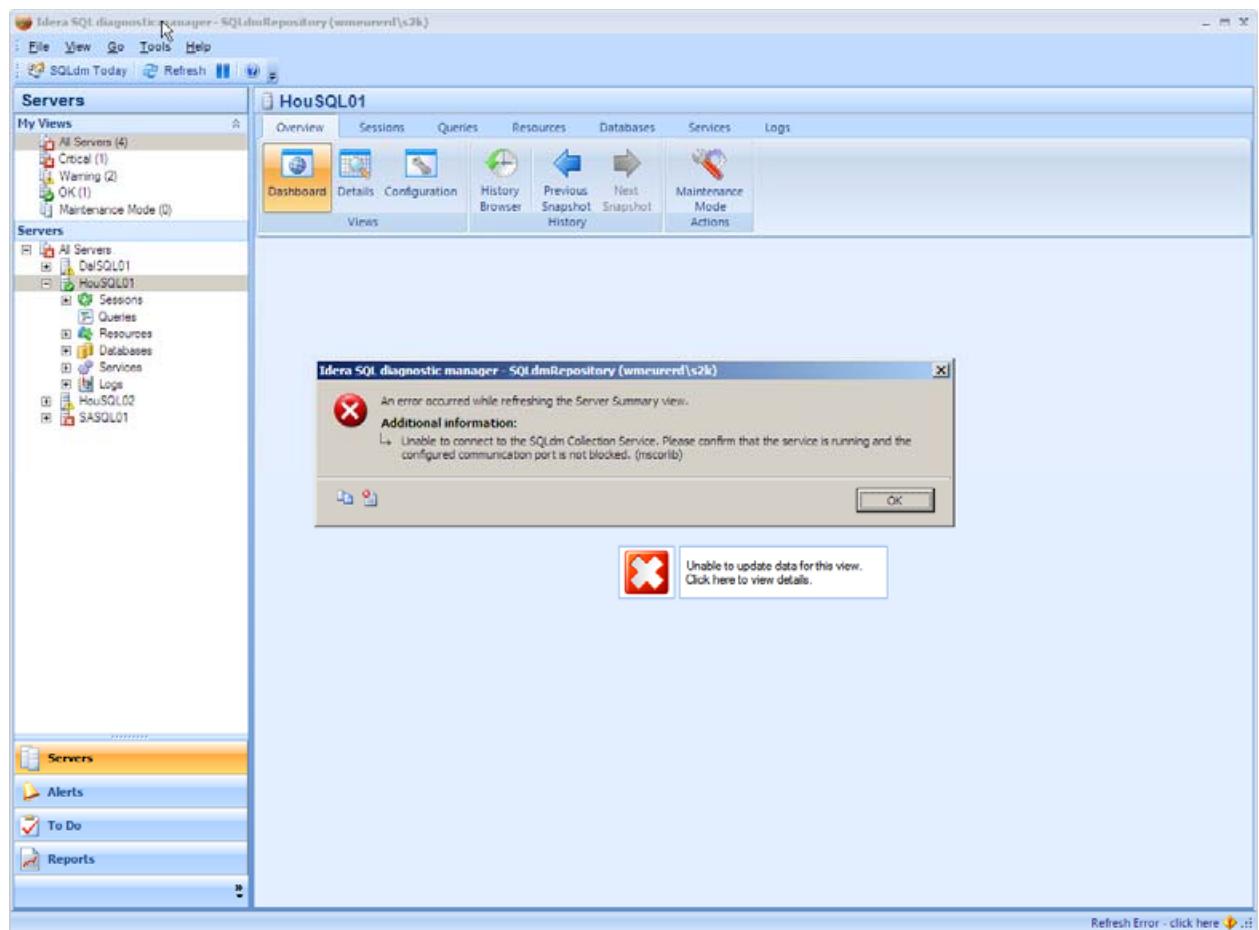
The help document includes descriptions of screens and metrics related to the context in which help was invoked, including technical information about the task. Help entries also crosslink to related pages and offer power-user tips for getting more out of the application.

Error messaging takes different forms in SQLdm. Modal dialogs serve up critical error information, such as when a connection has been dropped, preventing the application from collecting the data it needs to be functional. Error messages include robust text descriptions of the error.

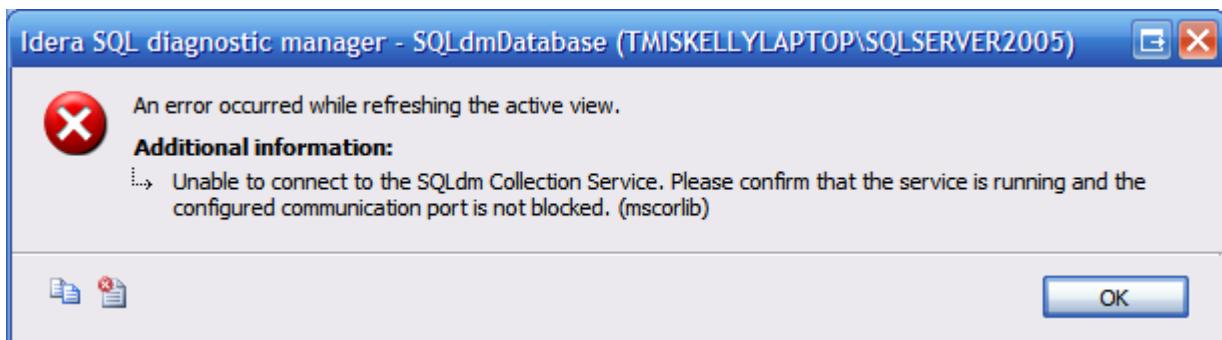
The design team also opted to add a few custom features to the error message, including a "copy" button which copies the text of the message to the clipboard and a "details" button which calls up more information on the error. The copy button is a particularly brilliant addition that we'd like to see in more similarly technical programs.

"We found that many customers used the copy button feature to quickly copy error messages and details into an email to send to customer support," says Miskelly. "This helped our support staff rapidly turn around cases when the issue was known and get early development feedback on issues that were unknown."

Some error messages are also mirrored in the lower right hand corner of the application, in the same style as a Microsoft Outlook "send receive" error alert.



*Error messaging takes several forms in the application. The standard modal dialog is shown, as is the in-page error. There is also a status notification error in the bottom right of the window. All three error messages provide a way to see the details of the error and potential resolutions.*



*Modal error messages contain a copy feature which allows users to paste exact error message text into e-mails to the Idera helpdesk.*

## INFORMATION DISPLAY

You won't find many programs with as much information to display as SQLdm, and highly technical information to boot.

"There are many places in our product where information overload and sizing could be a problem," says Miskelly. "We handle each type of information sizing issue differently."

For intense grids containing massive amounts of data (such as the Sessions detail view), the application supplies default sorting, grouping, and columns that the development team determined would most likely be of use. Users can customize all these settings.

Filters are also provided, allowing users to pare down information that isn't relevant to their task of interest of the moment. Default filters are available for some of the more common options. Generally, the defaults aim to provide the most information and let users eliminate that which doesn't fit their needs.

Information in SQLdm comes in different flavors. Some of it is hierarchical, such as tables in a database. Progressive disclosure was used in these cases, offering a basic view covering multiple tables then expanding to include much more detail in a drill-down view when looking at a single table. A similar strategy has been applied to database files.

Since SQL Server is a data storage system, the location and properties of files are of paramount importance in troubleshooting. The Files view aggregates this data and provides visualizations for disks and space usage. Users can also select multiple databases and files to compare the graphs and information, useful in identifying items that are consuming disk space or planning a migration of data to another server.

All views also need to be scalable. For instance, the UI needs to be able to accommodate anything from one to 200 servers. In order to better manage this range, users can create custom groupings of servers, breaking them down in whatever order makes the most sense to the administrator or job at hand.

Many administrators manage their servers “by exception”, or only when there’s a problem. In order to accommodate this, the information display can be customized to provide a navigation strategy of following the errors and warnings. This can be further refined with filters and grouping so that only the servers of primary interest are displayed.

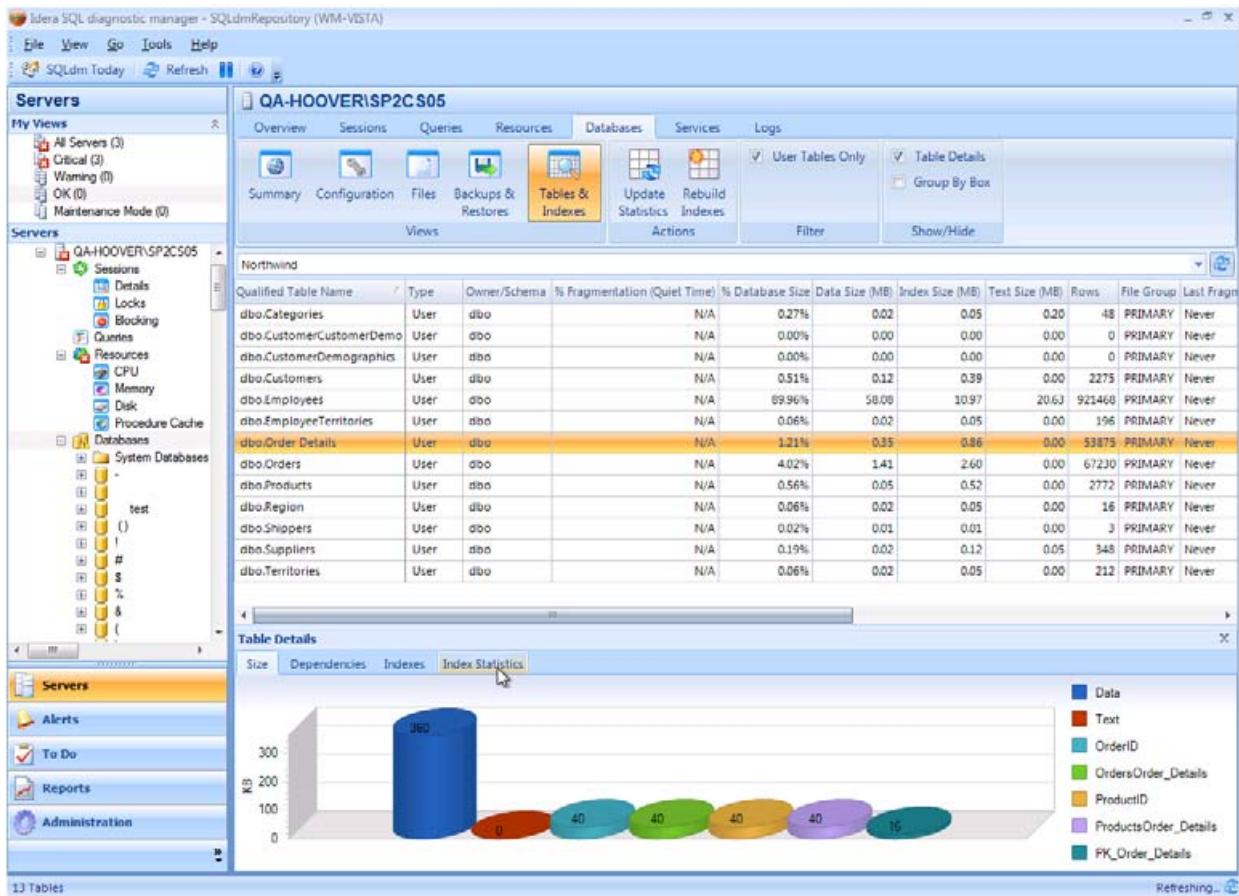
The filter function offers various mechanisms. Some are multiple choice, while others offer virtually unlimited freedom using text input. In these cases, the development team opted to define text inputs using SQL syntax—the “native” language of the user—so that the benefit of familiarity would counterbalance the usability challenge of excessive choice. Text within most of the filter dialogs helps explain their function.

SQLdm also allows users to prepare customized reports, using specific criteria from a horizontal range, such as server names, database names, table names and date range. “For these we provide single or multiple choice mechanisms, such as checking items in a tree and selecting from a list,” says Miskelly.

While the alerts are among the most targeted forms of communication within the application, the system retrieves a lot of data from multiple servers on a recurring basis, and so even the list of alerts can quickly stack up to an unwieldy height.

Filtering and grouping features have been added to these views as well, including default filters based on the most common choices (time that the alert was registered and which alerts are still active) and other less urgent parameters (by specific server or group, specific metric or severity of the alarm).

Similar mechanics were applied in the SQL Agent function, which allows users to schedule maintenance jobs and monitoring tasks.



*Tables and Indexes view shows a textual and graphical representation of the databases on each server. Table column headings are sortable and tools in the ribbon allow for filtering.*

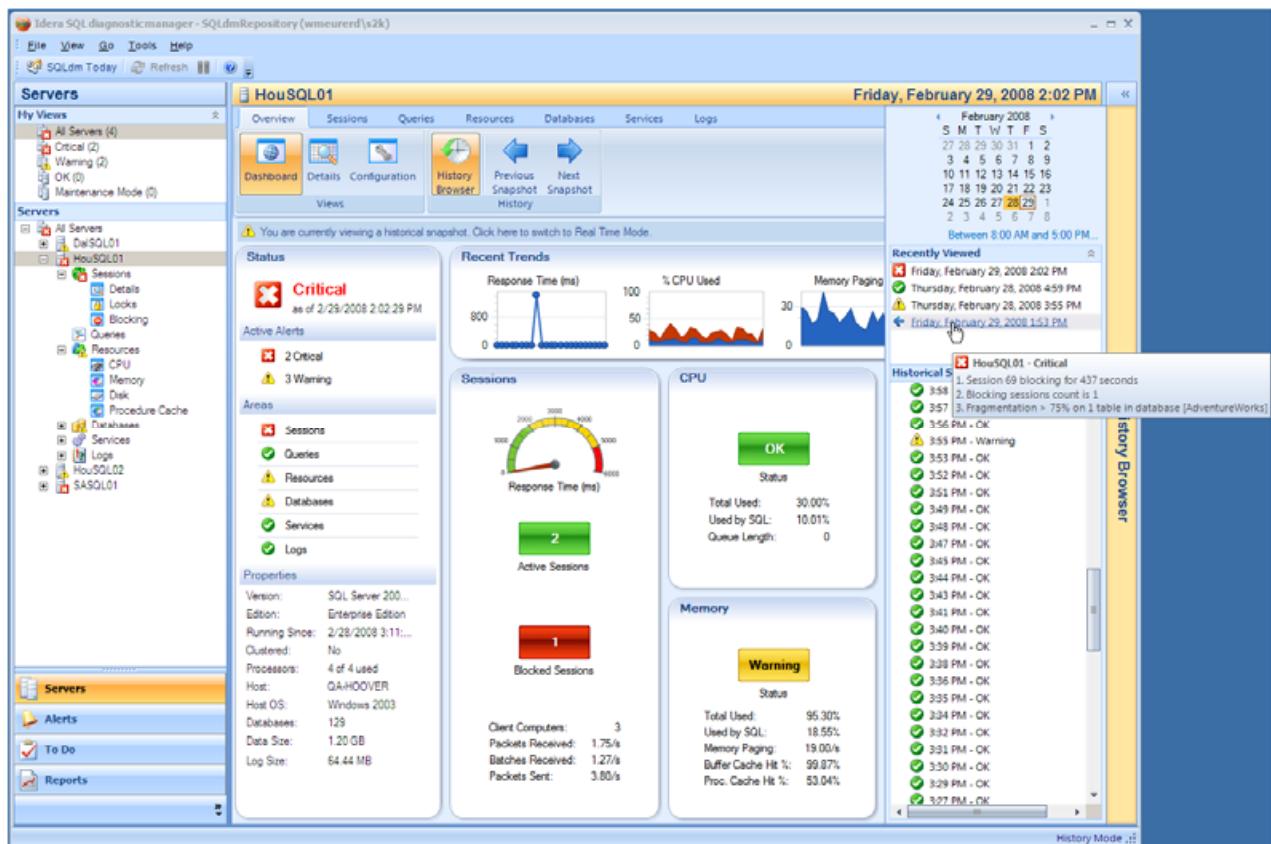
While SQLdm is a real-time monitoring tool, users can't be available in real time, all the time, so a History Browser was added to the mix. Its purpose is to get deeper contextual information about a problem at the time it occurred.

Not all problems in SQLdm are persistent or predictable. For example, an SQL Server session can be derailed when one session locks a shared system resource needed by another concurrent session. The problem is called "blocking," and it can come and go very quickly.

An administrator might not get to respond to an alert until the problem has passed. So the History Browser allows users to view the broad system state around the error as it appeared at the time the error occurred. (History snapshots can also be accessed by selecting an alert notification from the Alerts panel.)

Historical snapshots are captured every six minutes in the default setting. The browser is invoked from the ribbon toolbar and features a calendar selector with a list of snapshot times and the status of the metric at each snapshot. On hover over a snapshot listing, the tooltip shows the top three rated alerts for the list item.

Snapshot lists can be delimited by a time range. Selecting a snapshot brings it up in the main pane, with a notification that the data is historical. The title bar also changes color as a cue to the user. Snapshots can be navigated from the ribbon with “next” and “previous” buttons.



*An innovative feature is the history view—useful in tracing intermittent issues. Here, the same dashboard metrics are shown, but for a point in the past. Different snapshot dates and times are shown on the right, with key metrics on hover. Selecting one of these snapshots displays the dashboard metrics for that moment. This provides a powerful diagnostic tool for database administrators.*

## INNOVATION VS. CONVENTION

Idera was an early adopter of the Microsoft Office 2007 ribbon toolbar concept. While the ribbon is relatively new, SQLdm nevertheless benefits from the user learning created in Microsoft’s sizeable wake.

“We believed it was very powerful and that the uptake on Office 2007 from the community would be huge,” says Miskelly. “Based on this, we believed the ribbon would become familiar fast because of Microsoft’s Office 2007 product push, so a good bit of the risk was taken out of the equation.”

They also worked to apply the idea in innovative ways. The previous release of SQLdm used independent dialogs for each diagnostic view, resulting in lots of windows, a difficult management task, and user complaints. The ribbon provided a way out of this problem, because it facilitated organizing the application parallel to SQL Server architecture.

"For the most part we stuck closely to how it was designed, but our use of the tabs to represent SQL Server architectural components was quite innovative compared to how the ribbon was employed in Office 2007 products," says Miskelly. "It just goes to show that intent does not necessarily dictate use."

The ribbon also made it easier to provide action options in context. For example, when viewing Session Details, users can click on a specific session and see options to Trace or Kill the selected session. The ribbon provided a much easier and more intuitive way to access these actions than a context menu or small toolbar.

## USABILITY PROCESS

Previous versions of SQLdm had "quite a few usability problems," says Meurer. Part of the problem was that the information views were fragmented by windowing. Once users got past the introductory overview of all servers, all additional information popped up in a new window which was an island unto itself—the windows were not logically or navigationally related. Trying to use all these independent views to get a holistic sense of what was happening on the servers was virtually impossible.

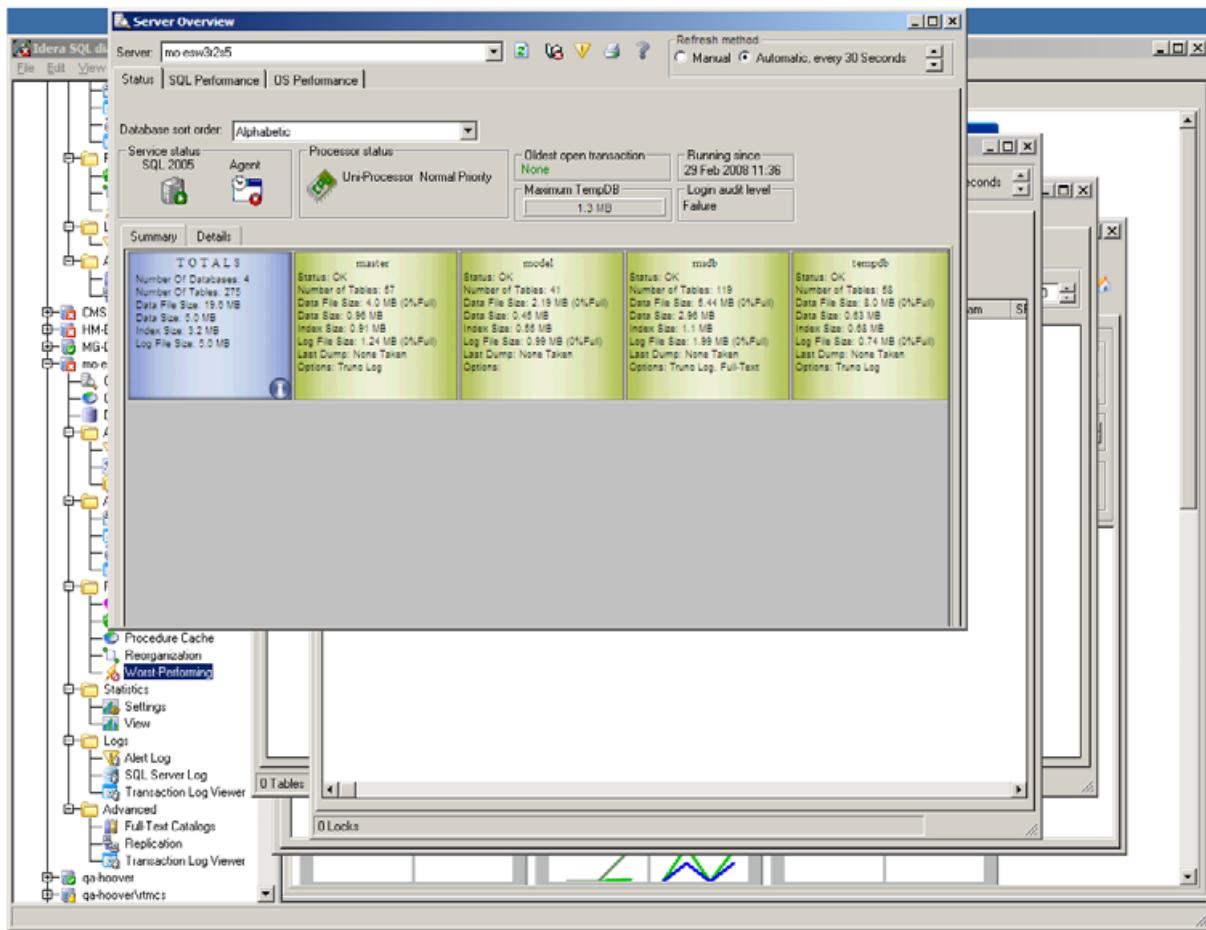
In designing the new release, usability analysis was performed after each set of features was completed and delivered to Quality Assurance. Development team members met in groups to run through features for usability strategies throughout the design phase.

Although the team didn't use formal user models, informal personas were employed at different times to represent major segments of the user base. Discussions during the specification phase also analyzed the different types of users and how different UIs would perform for each subset.

As screens were completed, the development team performed heuristic analyses on each one, with informal use-case based run-throughs of the product with developers, quality engineers, and other employees not directly involved in development of the application.

The analysis sessions focused primarily on identifying workflow problems and basic usability issues. Usability testing was also done with the first implementation of features, tracking task success metrics and measuring user understanding of information presented by the application. Metrics were collected once or twice for each feature.

User feedback is collected and evaluated on an ongoing basis, through the sales team, and from product managers, technical support and in-house users of SQLdm.



*The previous version of SQLdm. Each view onto a server or alert opened in a new window, causing user confusion and preventing DBAs from getting a good overview. Much of the same information is displayed here, but in a far less intelligible manner.*

## TEAM

SQLdm's design team worked in a highly collaborative environment. Primary usability workers were:

- Trent Miskelly received his BS from Mississippi State University in Computer Science. As a software developer, Trent quickly realized he had a passion for user interface design and development and has since pursued every opportunity to work on those of interest. Trent works with BBS Technologies as the technical lead on SQL diagnostic manager.
- Will Meurer received his BS from the University Of Houston College Of Technology, where he studied information systems. After working in web development and in the software industry, Will found the differentiator between a good and bad information system was not the information itself, rather in the form of that information and in ease of use. From that point, Will pursued a career in user-centered information design and received his MS in Information Studies from the University of Texas at Austin School of Information. Will has worked with BBS Technologies on SQL diagnostic manager and most BBS products as a Quality Assurance Engineer and Usability Analyst. Beyond functional testing, Will performed heuristic analyses and user tests, and championed usability efforts.

Members of the broader development team included:

- **Project Manager:** Heather Sullivan
- **Software Developers:** Kurt Goolsbee, Mark Lauritsen, Trent Miskelly, Michael O'Neal, Vicky Sherrouse, Shekhar Vaidya
- **Quality Assurance Engineers:** Adam Condron, Will Meurer, Rodney Quissak, Alfredo Ramos, Jason Van Dyke
- **Information Developers:** Marcus Bryant, Marlowe Wakeman
- **Customer Support:** John Harp



*Idera team, left-to-right: Adam Condron, Lee Pylant, Heather Sullivan, Kurt Goolsbee, Trent Miskelly, Alfredo Ramos, Mark Lauritsen, Vicky Harp, Marcus Erickson, and Michael O'Neal (not shown: Will Meurer, Rodney Quissack, Shekhar Vaidya, Jason VanDyke, and Mike White).*

## WHY THEY WERE CHOSEN

Idera's challenge with SQL Diagnostic Manager—to hand-hold inexperienced DBAs but to simultaneously be a shadow for experienced ones—is tough. Luckily, because they have spent time to understand how successful DBAs perform their job, they lay out the interface in a way which supports their users' tasks. They provide the data that experienced DBAs need to resolve issues, while also stepping less experienced users through the process.

The product allows its users to deal with large quantities of information through clever graphical summaries and progressive disclosure. All features have defaults which will work well out-of-the-box, but also allow for customization to make the product suitable for different environments. Innovative features like the history snapshots give much more diagnostic power to DBAs who are trying to resolve infrequent or intermittent problems.

# SugarSync

## COMPANY INFORMATION

**Company:** Sharpcast Inc.

**Application:** SugarSync

**Headquarters:** Palo Alto, Calif.

**Number of employees:** 45

**Motto:** Strive to create a user experience you wished existed, but doesn't.

### Design team:

- Vivek Patel, Director, Product Management
- Nicci Gabriel, Creative Lead
- Ashish Chordia, Product Manager
- Mark Dixon, Director, Products

## OVERVIEW/MOTTO

We've known for some time that usability isn't only for desktop computers.

SugarSync arose from the special challenge of crafting a consistent usability schema for accessing the same data over multiple devices using multiple operating systems and interfaces.

Universal data access is a huge challenge when the data can be synchronized among a bewildering array of devices that can be controlled through every possible combination of keyboards, keypads, mice, trackballs, styli, fingers, and even voices.

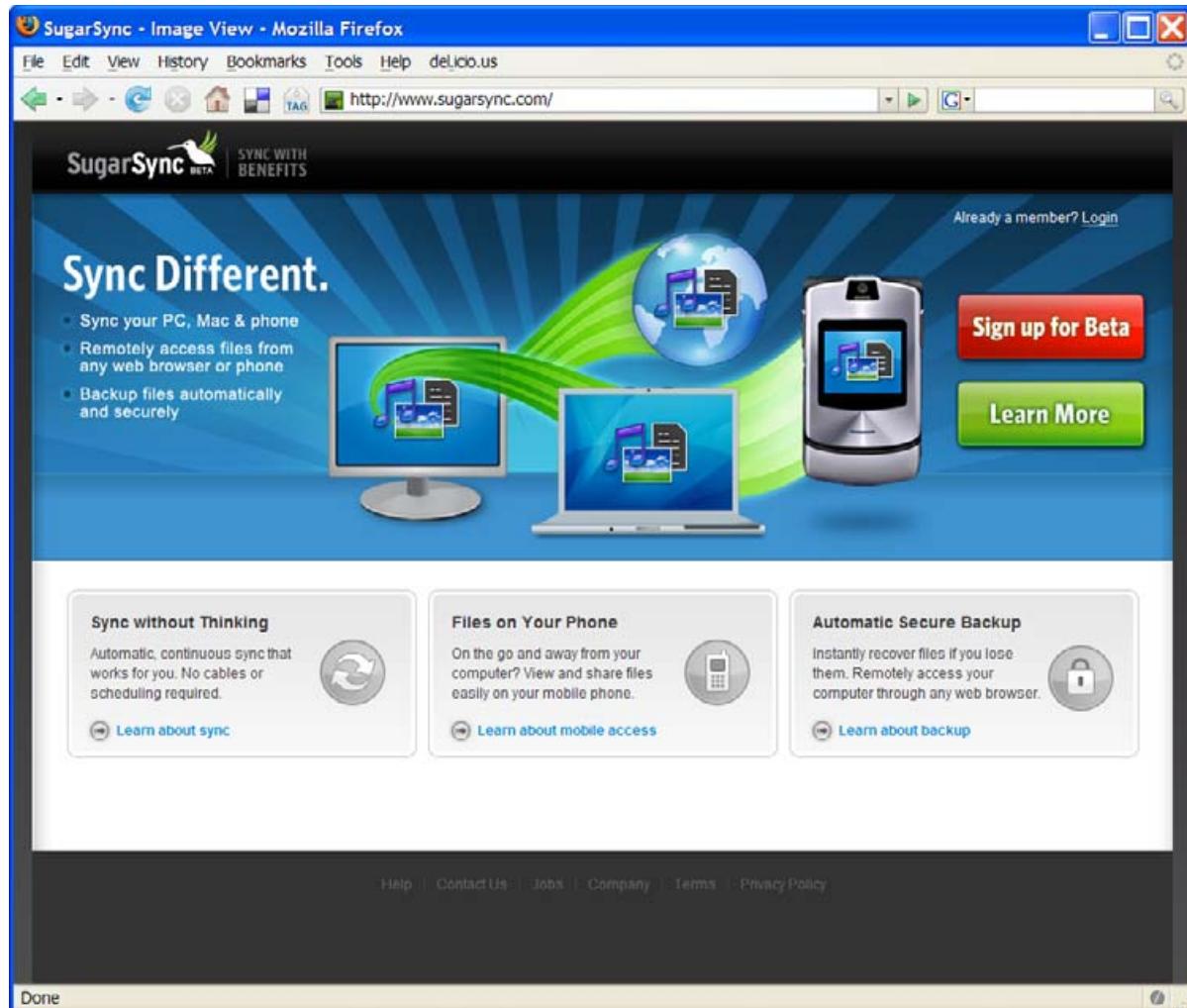
"Users want to create, share, edit and view their media files and documents from anywhere, in an appropriate format, and at their own convenience. And they aren't willing to become the IT department for their own personal intranet," says Vivek Patel, Director of Product Management. "These processes must be automatic, intuitive, and available on all their devices."

SugarSync was developed for general consumers who use multiple devices and the system is designed to scale to millions of users around the world.

The application aims to address the challenge of maintaining data integrity across all these platforms, so that users can rest assured that they always have access to the most current version, even when switching platforms.

Sharpcast, incorporated in 2004 by Gibu Thomas and Ben Strong, launched Sharpcast Photos in February 2006, after a first round of \$3 million in funding from Draper Fisher Jurvetson and Selby Ventures. Sharpcast Photos was a tool for synchronizing images between multiple devices including PCs and mobile phone.

In 2008, after second round of funding brought the total to \$16.5 million, Sharpcast decided to take the concept a step further and developed SugarSync to synchronize any file type.



*The SugarSync site's homepage (at the time of submission): Three bullet points and one diagram describe the key product features. The ability to sum up the key attributes this clearly is a sign that the product has good focus.*

## **WHAT DOES IT DO?**

SugarSync allows all of a user's devices and the Web to work as one. It keeps the user's digital media and files automatically in sync across multiple computers, backed up online, and remotely accessible from mobile phones. In addition, SugarSync's "Lite Sync" function allows a user to access their main computer's files from another computer or mobile device and make changes without requiring full replication of all remote files on the local file system. SugarSync is accessed through a mobile website compatible with virtually any Internet application or device, or alternatively through custom applications designed for BlackBerry or Windows Mobile, or a custom website for iPhone.

A user can also make changes to files while offline. When a network connection becomes available, SugarSync automatically synchronizes the files back to the system. All files monitored by SugarSync are automatically backed up to multiple data centers.

When the user is away from his or her primary computer, a Web-based file manager is used to access files remotely. A special "photo gallery" picks out jpgs from synced folders and organizes them in one place, from which they can be shared or commented. The mobile applications allow additional interaction, such as streaming audio and advanced synchronization of photos taken with the mobile device.

Changes made through the website are synced to the desktop file system. Multiple computers can be synchronized across Windows and Mac platforms.

## **WHO IS THE USER?**

As you might imagine, SugarSync doesn't attract newbies.

"We have designed a path for customers who simply want to backup files from one computer, but our typical users are looking to do more with SugarSync," says Patel.

Typical users are people who routinely access more than one computer in addition to an Internet-enabled mobile phone. While most profiles assume some technical proficiency, there's enough disparity to introduce a range of usability issues.

The company characterizes its user/personas as early adopters, meaning that growth will likely come from an even more diverse customer base.

## **THE APPLICATION**

SugarSync users typically discover the application from a press article or blog, then visit the website for more information. If a user decides to sign up for a free trial, he or she is directed through the signup process, which culminates in the installation of the product.

"We strove to create a sign-up process that would guide users who were not familiar with navigating their file system to be able to back up their important files," Patel says. "This story informs the usability of the setup process. Aside from this setup process, there are multiple avenues that a user can pursue depending on what they are seeking."

This process is painless but pretty extensive, since it must be repeated on the primary computer, any secondary computer that will be used, and the mobile devices. Although the application in use follows a pretty open-ended narrative structure, the fixed steps of installation are required to empower that usage.

Once the user launches the application, he or she is led through a setup wizard intended to educate her or him about some of the features. The setup process for a second computer is modified to educate the user about the different modes by which he can sync folders from his first computer.

The screenshot shows the SugarSync website's 'Downloads' section. At the top, there's a navigation bar with links for File, Edit, View, History, Bookmarks, Tools, Help, and del.icio.us. The URL in the address bar is http://www.sugarsync.com/downloads/. Below the navigation is the SugarSync logo and a 'SYNC WITH BENEFITS' tagline. A main menu includes Product, Pricing, Downloads (which is highlighted in blue), Press & Awards, and Blog. On the left, a breadcrumb trail shows Home > Downloads. The central content area is titled 'Download SugarSync' and features a large 'Upgrade' button in a pink box. Below this, a sub-section for 'PC/Mac' lists two download options: 'SugarSync Manager 1.1.1 for Windows' (Windows XP and Vista, 256MB RAM, 100MB free disk space) and 'SugarSync Manager 1.1.1 for Mac (Beta)' (Mac OS X 10.4 or greater, 256MB RAM, 100MB free disk space). Both entries include 'Release Notes' and 'Known Issues' links. To the right of these, there are links for 'FAQ', 'Support', and 'Tour'. Further down, under the 'Mobile' heading, are links for 'SugarSync Mobile for BlackBerry' (Curve, Pearl, 8800 Series) and 'SugarSync Mobile for Windows Mobile' (All Windows Mobile 5 and Windows Mobile 6 phones are supported). Each mobile entry also has 'Release Notes' and 'Known Issues' links. At the bottom of the page is a footer with four sections: PRODUCT (Multi Computer Sync, Online Backup), DOWNLOADS (Mac and PC Software, BlackBerry Sync), HELP CENTER (Customer Service, Get Started Guide), and COMPANY (About Us, Press & Awards).

*Versions of the SugarSync application are available for PC, Mac, Blackberry and Windows Mobile, as well as a regular and mobile website. This cross-platform approach introduces the potential for usability confusion without strong focus.*

The screenshot shows the SugarSync sign-up page. At the top, there's a navigation bar with the SugarSync logo, a 'SYNC WITH BENEFITS' button, and links for 'Sign up', 'Activate', and 'Download'. Below this is a form titled 'Sign Up: Free 45 Day Trial'. It contains fields for 'Email', 'Password', 'Confirm Password', and 'Nickname'. Each field has a validation message below it: '6 characters or more' for password and nickname, and '4 characters or more' for nickname. There's also a note about a personal web site and links to 'Terms' and 'Privacy Policy'. A 'Secure Server' icon is present. A statement at the bottom says 'No obligations or commitments. We will never sell your information to anyone.' Below the form, there's a link to 'Log in' for existing members. At the bottom of the page, there's a BBB Accredited Business logo and a testimonial from Colin U. stating: 'Very simple to use, easy to setup. Simple number of clicks. Most importantly, it is intuitive.'

*The short sign-up process on the website includes several elements which help users: in-line assistance, a clear understanding of where the nickname will be used before it is created, and a clear statement of what will not happen to the provided information. Refreshingly, no credit card is required at this point. Neither is there a whole list of pointless demographic questions. By lowering the barriers to entry and then asking for additional information later in the relationship once users have seen the value of the application, SugarSync encourages more users to complete the initial sign-up. (In a case study presented in our report<sup>2</sup> on the Return On Investment From Usability, another Web service increased registrations by 260% after reducing the number of questions on the sign-up form.)*

<sup>2</sup> [www.nngroup.com/reports/roi](http://www.nngroup.com/reports/roi)

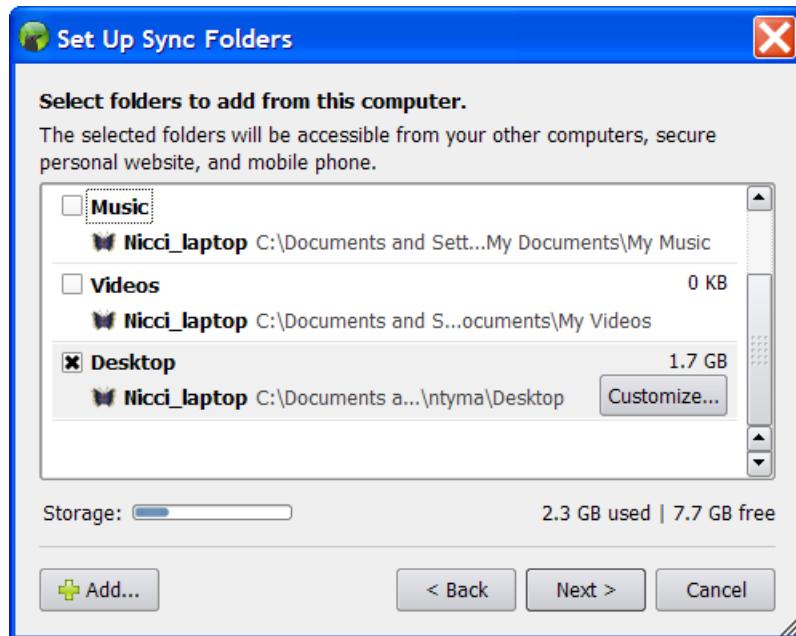


*On the PC, installation carries on where sign-up left off. Impatient users who did not complete the online sign-up are also catered for. This consideration of potential user entry points is important to attract as many users as possible.*

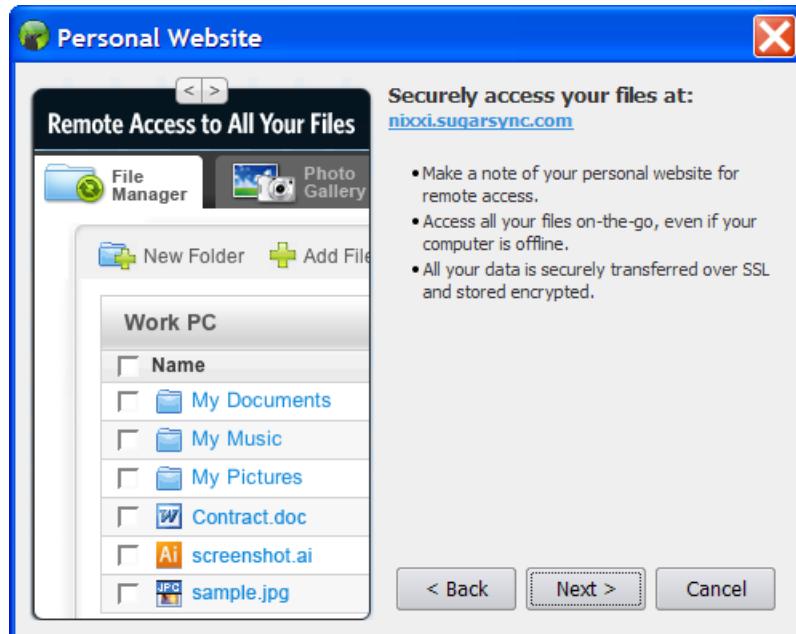


*Colorful, fun icons are listed alongside more standard computer images, giving the application a less formal feel and letting users know from the start*

*that this isn't just any old boring backup application. Graphical treatment goes a long way towards setting the tone for any product.*



*While finer level detail is available with the Customize button, users are encouraged to select "types" of file stored in particular locations rather than choosing from a tree control. This minimizes the effort required during setup.*



*The setup wizard also reminds users of their online access URL. Even at this point in the interaction, when users are already on board, SugarSync takes*

*the time to reassure them that their data is safe. These small, constant reminders are a great boost to user trust.*



*Again, text on the screen is aimed at reassuring users. While many will not read the full text, the formatting ensures that the key concepts stand out. A clear action button lets users know what will happen next.*

"To make it simple for users to select the most common folders to sync, they are presented with a flat list with checkboxes (during setup), instead of a tree with checkboxes," Patel says. Each item on the list can be checked off to synchronize the folder.

Once the primary computer setup is completed, the computer is immediately set to work uploading synced files to the SugarSync server, a background process that doesn't especially require the user's attention.

Folders selected for sync are backed up to SugarSync's server, which offers 10 gigs of storage under the default plan (additional storage can be purchased). Folders are synchronized to and from the computer in real-time, for as long as the application is running. So if a file is changed on the host computer, it's instantly changed on the server as well, ensuring the most current version is always available. Files changed remotely are synchronized back immediately.

Configuration is relatively quick and simple, because SugarSync puts itself in between the data devices, rather than forcing them to talk to each other—a process that is potentially very complicated due to the differing systems, and which can require installation and learning for multiple applications.

"SugarSync requires less manual configuration than updating an iPod since it does not have to be physically connected to your computer to access the latest data," says Patel.

## DESKTOP APPLICATION

After the setup process, the application presents a simple tree structure with a left-pane collapsible tree hierarchy showing all folders and a right-pane window containing the contents of a selected folder. Hovering over an item invokes a tooltip which indicated whether the item is in sync. Many Finder/Explorer functions are also duplicated in SugarSync's file browser.

The tree display shows all the synced folders in a fairly conventional format. Additional locations include "Deleted Files" (files deleted from the shared file area of the user's SugarSync storage), "Web Archive" (files stored on SugarSync's server but not maintained on the host computer), and the "Magic Briefcase."

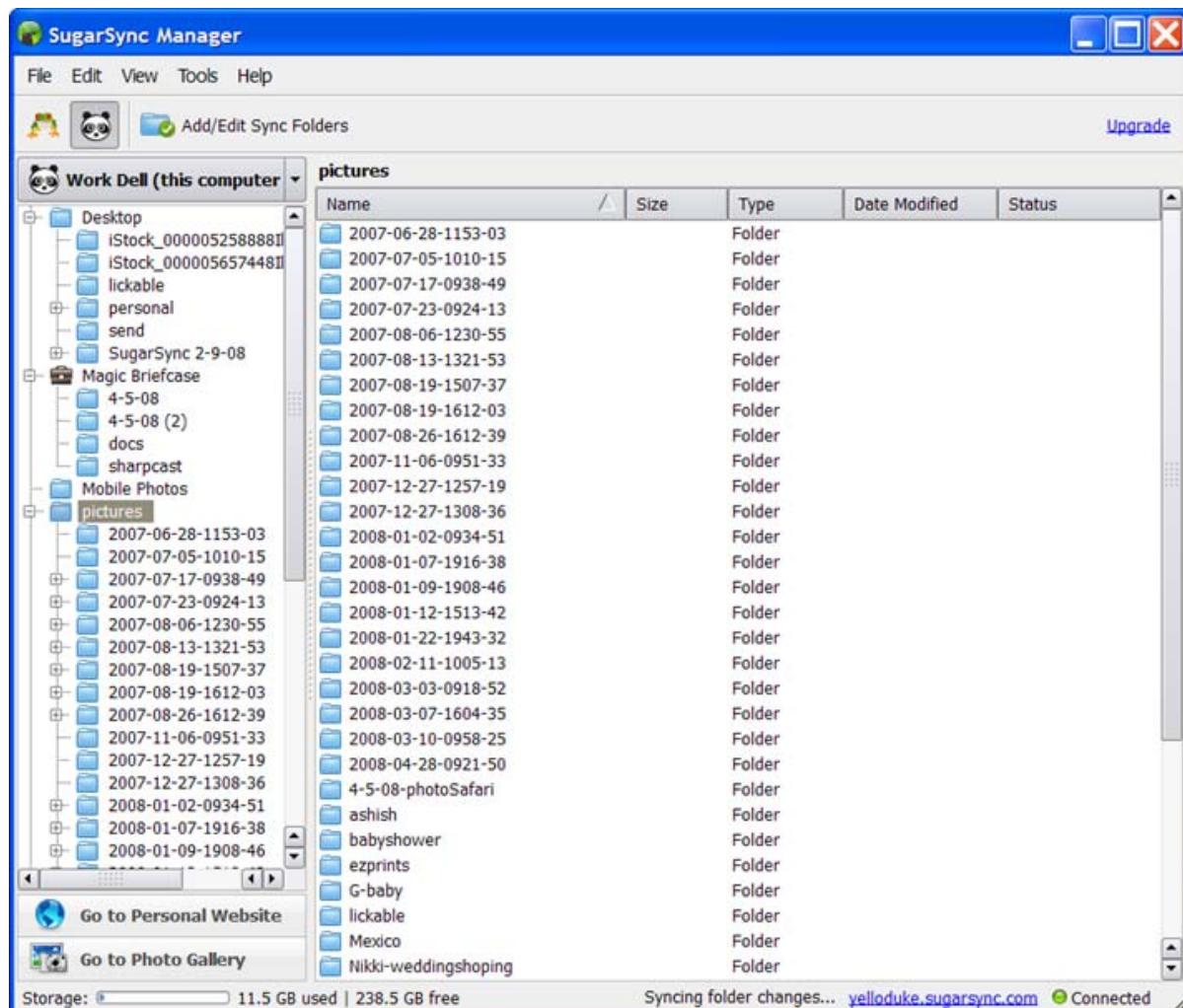
The latter feature is one of the strongest components of the package. Files dragged into the Magic Briefcase folder are shared among all devices, whether accessing via mobile phone, on the Web or from another shared computer running the SugarSync application.

Users can switch among different devices using a large dropdown menu/button at the top of the left-hand pane. Each device is identified by name and with an icon, and backed up files from these devices can be viewed remotely. This action is also supported by buttons on the menu bar as testing showed some users were not using the menu to find their other computers or devices. The ability to switch between remotely accessed devices is a key aspect of SugarSync.

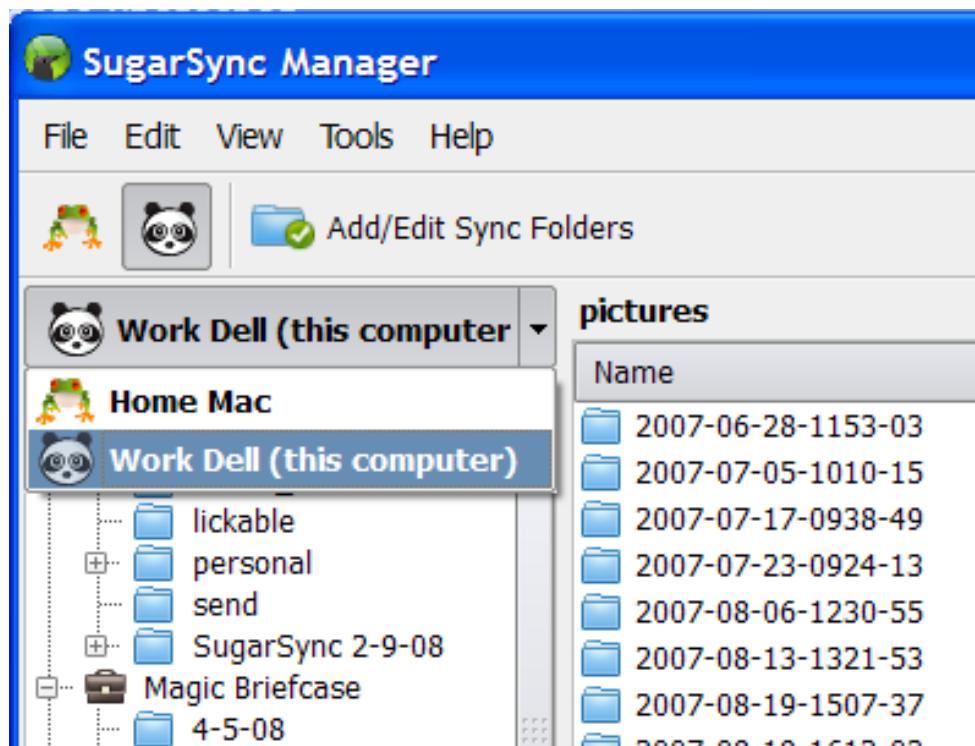
Buttons on the lower left of the application window allow access to the Web interface and Web photo gallery. The size and placement echo the Microsoft Outlook Navigation Pane, although clicking opens the requested item in a new browser window rather than providing navigation inside the application.

The desktop app is also available for the Mac OS.

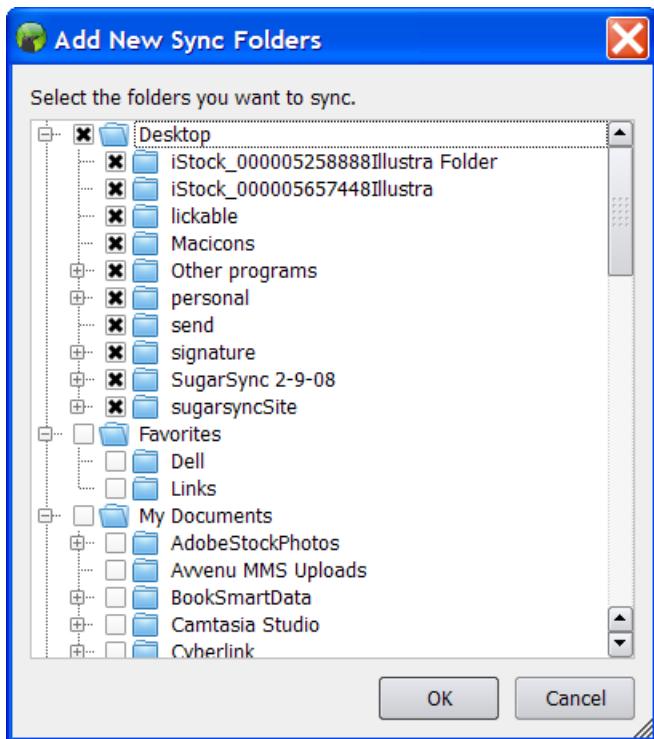
"Many Mac users also have a PC since it is required by their employer," Patel says. "They often find themselves having to manually move files back and forth between the different devices which can be difficult to manage."



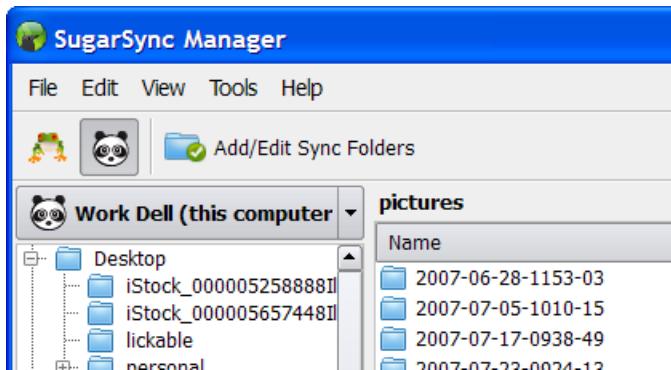
The file manager within the desktop application (PC version) lists all the files that have been synchronized. Status indication at the bottom of the window shows used and available storage space and sync status.



*Files synced from other devices can be viewed in a similar way just by switching to that device within the sync manager.*



The setup wizard allows users to quickly configure the folders which will be backed up on each machine. Later, they can manipulate this list to add new folders and customize chosen locations if they choose.



Tool bar buttons are for expert users. The SugarSync team realized that simply creating a button for every feature serves little purpose. Instead, only core features are represented in the bar.

## CLARITY AND CHOICE

Usually when you think about usability challenges, you think about the interface. In this case, what has been left *out* of the interface makes a big difference.

A frequent downfall of file synchronization schemes has to do with overwriting the wrong file and losing changes as a result, or creating conflicting versions of the same file. So one of the biggest challenges for SugarSync relates to what's happening under the hood, making sure the right version of the file is always accessible and never confusing.

The first step toward a solution comes from the "always syncing" mode that the application runs in. Once files have initially been uploaded, revisions to the server-based files take place in close to real time.

Users can select from two different modes for synchronization—lite and full—which apply when users are syncing between more than one computer, such as a desktop and a notebook.

"Lite Sync" allows users to interact with files that have been backed up to the SugarSync server without downloading the entire folder to the remote location, which can be useful when storage space is limited on the secondary computer.

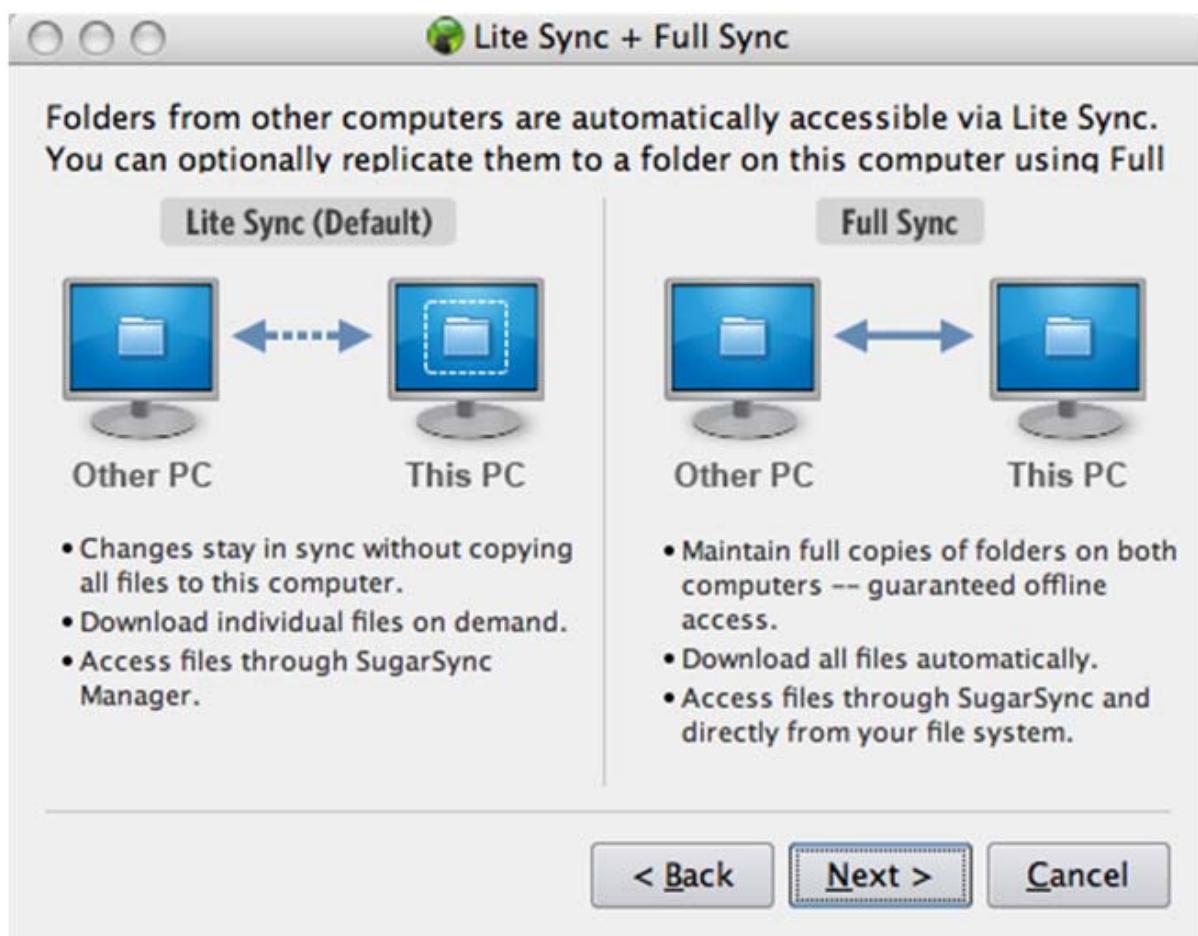
"For example, you might have a desktop computer with 100 GB of files that you want to back up, but a laptop with only 50 GB of hard drive space," says Patel. "By using Lite Sync, you can access files on your desktop computer from your laptop by downloading the files you need on demand."

"Full Sync" makes a complete copy of the synchronized folder on the secondary computer. That allows users to make changes to files on the remote hard drive's file system, as they would any other files, and have the change automatically synchronized back to the server and then to the primary computer.

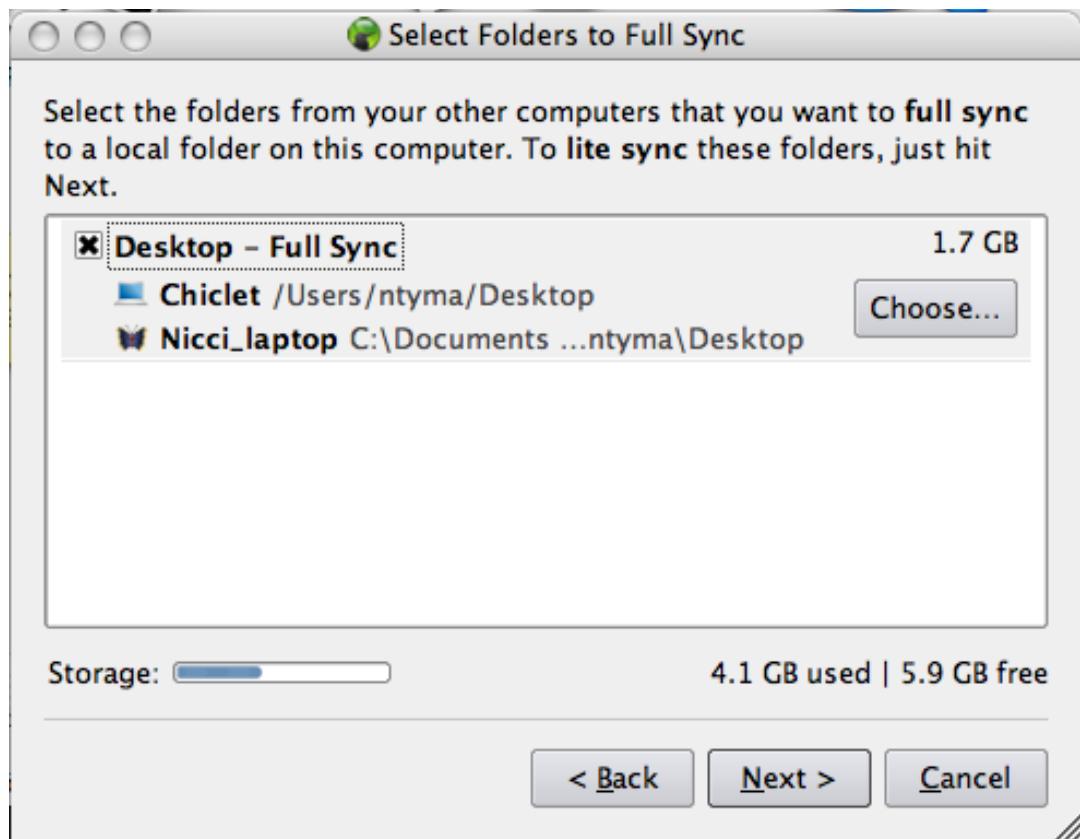
The Full Sync mode works almost invisibly for users. But in order to allow that functionality, other choices had to be curtailed.

"From a systems perspective, we could have enabled the ability for users to Full Sync any folder between computers without restrictions," says Patel. "However, we felt that over time, users would have a difficult time tracking which folders were set to Full Sync. This has a high probability of introducing unintentional errors and could potentially get the user in a bad state."

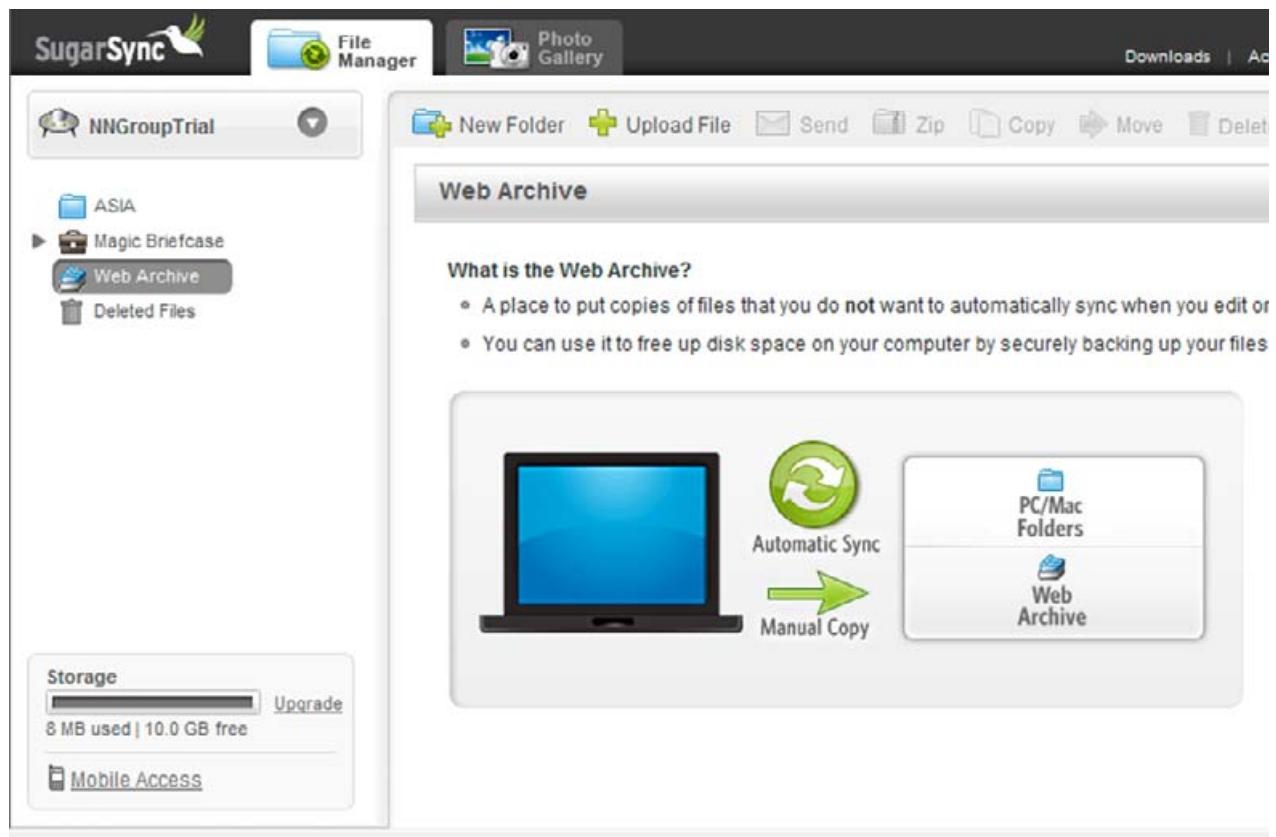
That meant enforcing a scheme whereby only certain subsets of folders could be fully synced.



*Sync options are explained both textually and graphically within the setup process. Allowing Lite Sync reduces the complexity of keeping files up-to-date for both the user and the application.*



*As part of the setup process, users are asked which files they want to fully synchronize. However, the default is to lite synch so that files are available from the server rather than taking up disk space on each computer.*



*Terminology is important. When everything the application does can be counted as a "backup", what do you call items which are backed up but not synced? Web Archive is a term which fits the bill well. Note the use of a graphic to describe the difference between sync and archive.*

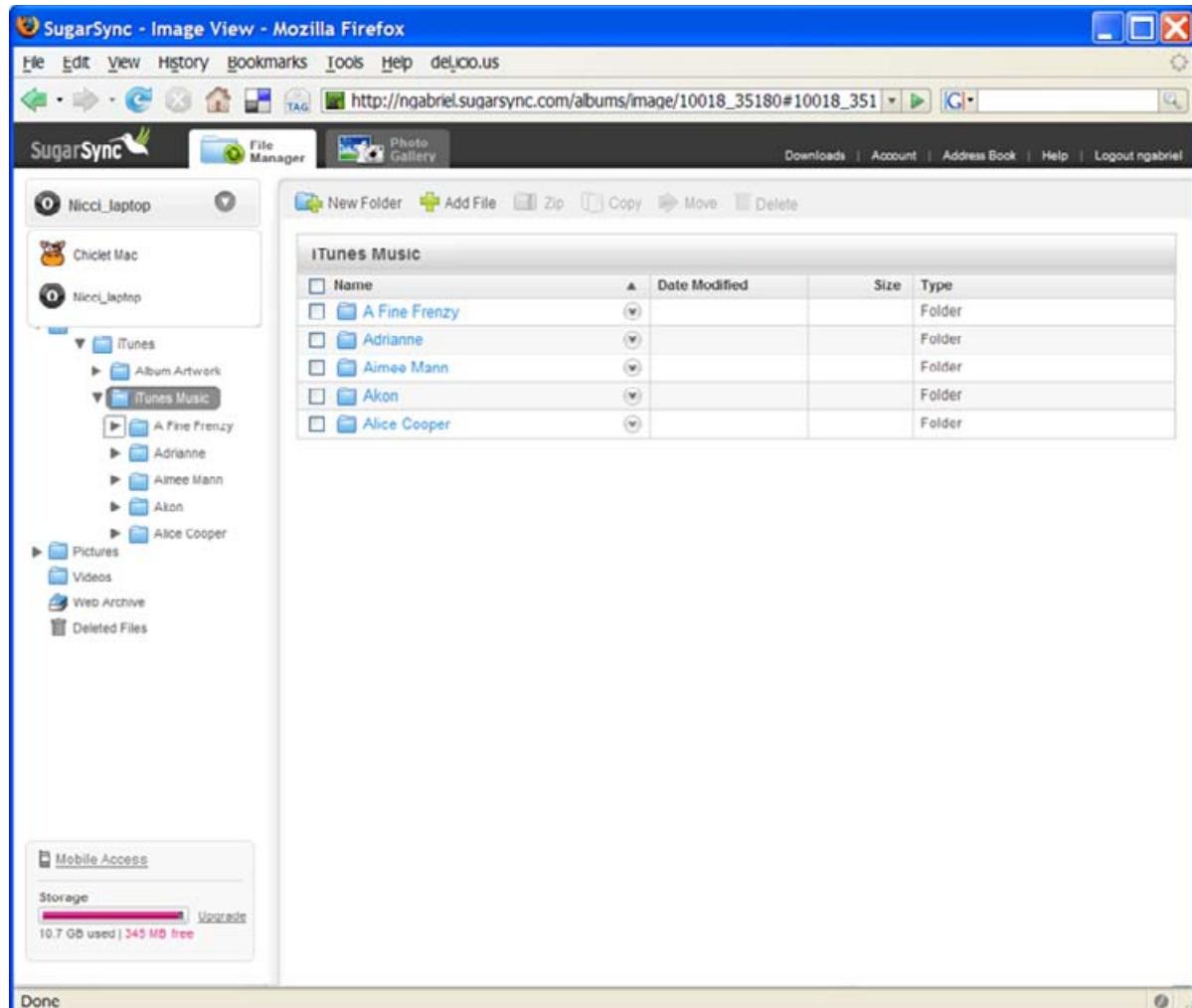
## WEB APPLICATION

The Web application visually mirrors much of the desktop interface, with the same left-pane tree hierarchy and location selector, and the right-pane file list. There are some differences, however. The lower part of the left panel shows the amount of online storage used and available, and a link is provided for setting up access from a mobile phone.

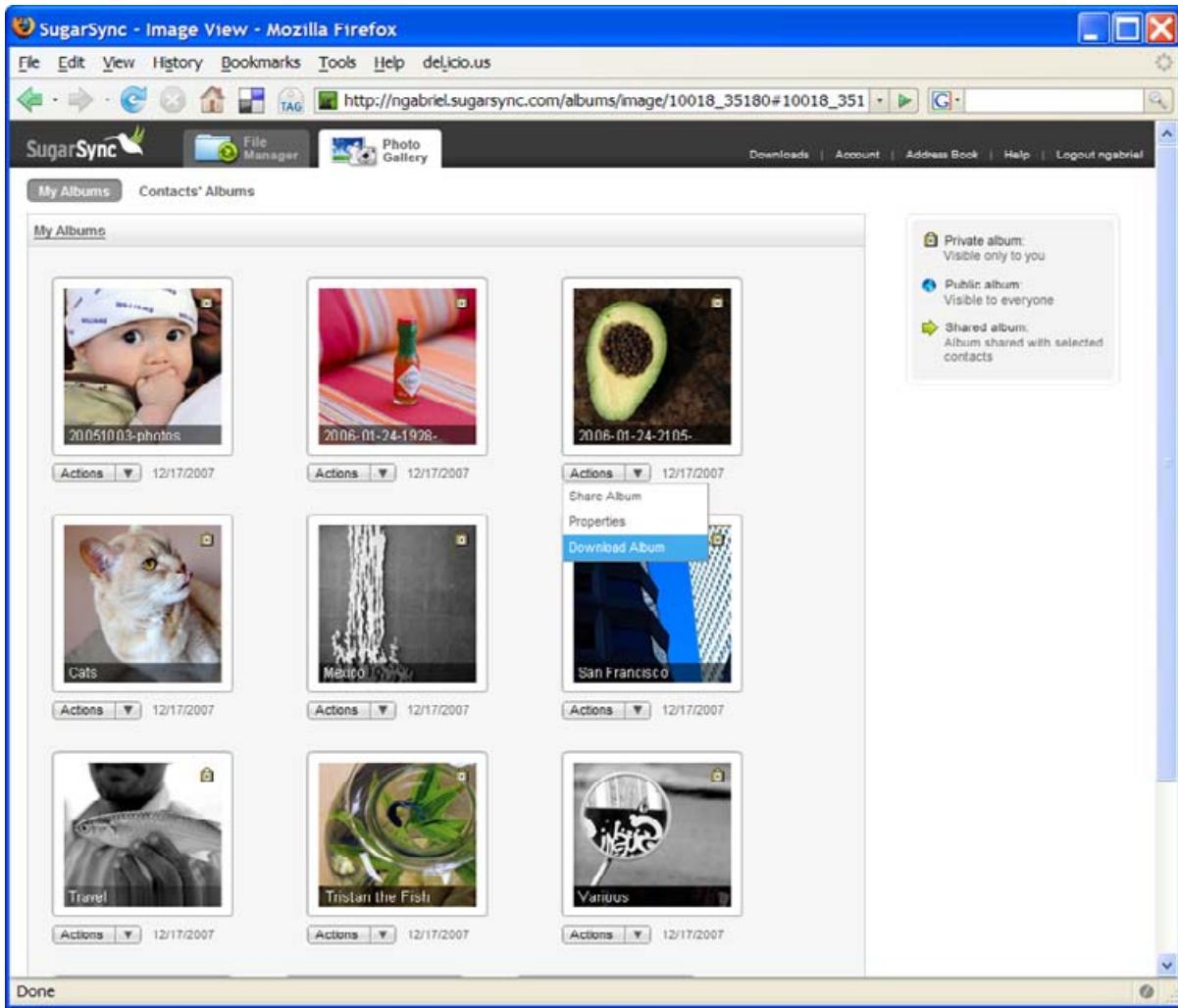
New features are also available. Tabs offer the option of accessing the file manager or switching to the Web Photo Gallery, where photos can be viewed or shared. SugarSync automatically creates the online gallery by scanning all jpgs in synced folders and adding them to the gallery interface.

The gallery features a thumbnail view of pictures, which can be toggled between large and small (although both views are actually pretty big). Clicking on a thumbnail invokes a full image view of the photo, which can then be commented. Additional thumbnail navigation is available from the full-size view. Other features include captioning, commenting and a slideshow.

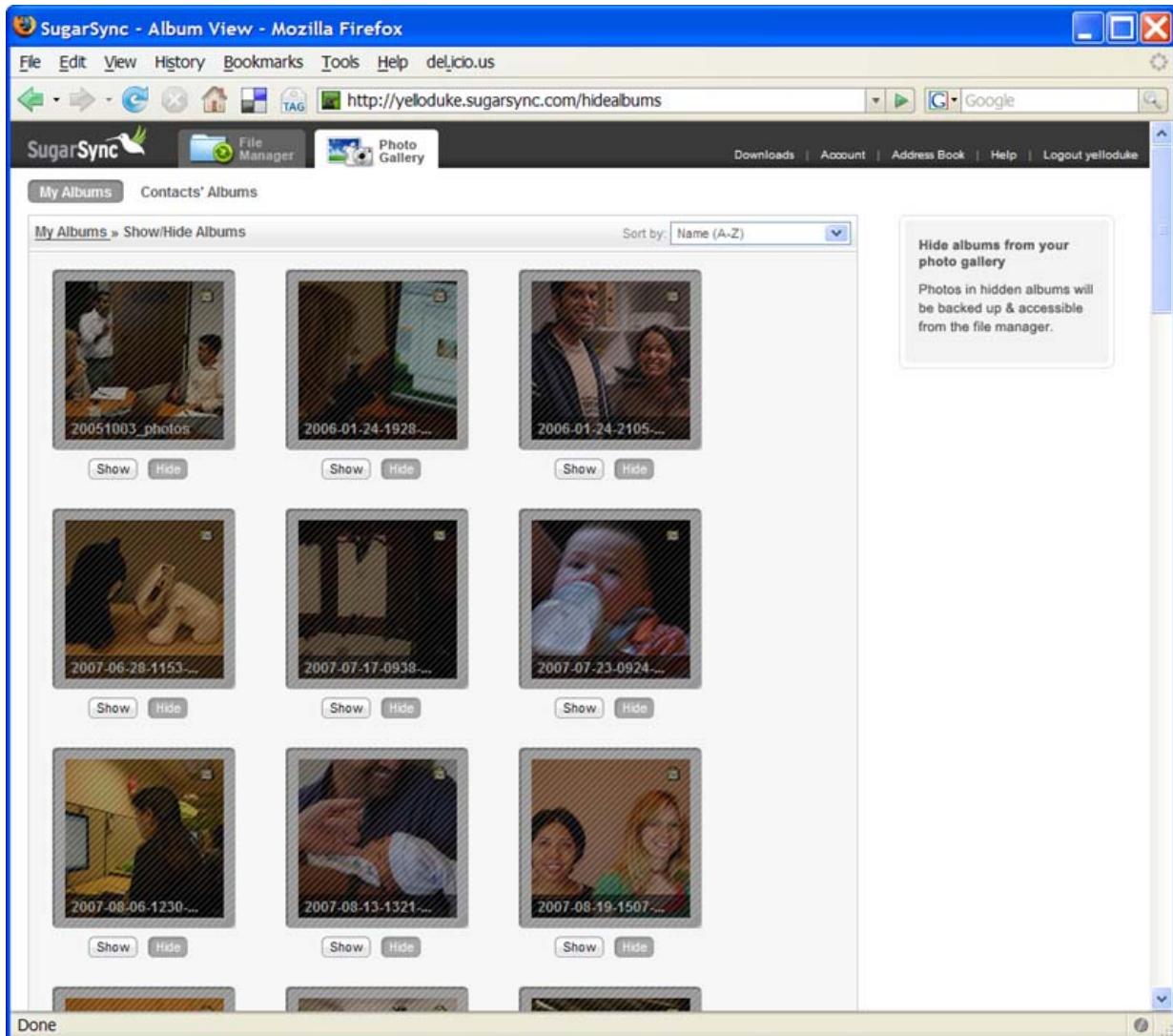
Navigation links on the top right go to Downloads (the SugarSync desktop application), Account, Address Book, Help and Logout. The Address Book is a Web-based contact manager, intended to make it easier to share media with their friends. It can import contacts from several Web-based e-mail clients but, oddly, not from Outlook or CSV.



The file manager within the Web application works as similarly as possible to the native applications given the constraints of the Web interface. Here the learning experience from one environment will carry over into other environments with little issue. (However, full consistency is not always desirable, as discussed below in the context of the mobile user experience, where providing the full set of features from the Web and PC apps would have backfired.)



The Web application offers one distinct feature which is not found in the native applications. Jpeg images from synced folders are extracted and displayed in this online-only interface. Albums are private by default but they can be shared in a public photo gallery with very little additional effort. This must be one of the least effortful ways of creating online albums.



*Because it crawls all synced folders for jpeg, the photo gallery may create albums from random jpeg unnecessarily. Such albums can easily be removed by "hiding" them (to delete them would cause a problem with the file metaphor—have they then been deleted from the computer as well?).*

## MOBILE

The mobile application contains similar elements to the desktop application, but with a single-pane folder view to accommodate the smaller screens found on mobile devices. Users drill down to the file list, rather than having access to a viewing pane.

Obviously the phone application interface was not designed to be fully consistent with the desktop UI—this is one area where consistency would be pointless, as the tasks that users perform on their phones are very different to the tasks they perform on PCs. Sharpcast have realized this and offered just the most portable application

features on the phone—browsing photos from the online store and syncing photos from the phone.

Getting access to documents is possible but doesn't take up the same proportion of real estate on the phone as on the desktop as it is a much less frequent mobile task. In fact, on Blackberry devices the File Vault opens in a browser instance. This makes a lot of sense, as the browser already knows how to handle multiple file formats. Rather than spending time coding this functionality into their application, Sharpcast were sensible enough to utilize existing technology and instead concentrate their development resources on other areas. This does lead to a slightly less polished user interface (especially with the constraints of the Blackberry browser), but the end result is still functional.

There are also features for synchronizing and viewing pictures taken with a camera phone. Using the SugarSync mobile application, users can move a photo from their phone to their desktop and the Web in one click. They can also send files of any size to anyone or select a recipient from their SugarSync Address Book list. These are the tasks that users are most likely to want to perform while away from a PC.



*There is a challenge in designing for a wide variety of mobile platforms without standard interaction styles or screen sizes. SugarSync is available in a native version for Windows Mobile and Blackberry, and a Web version optimized for iPhone. Other devices can make use of a mobile-specific Web interface to view synced files which are stored online.*

The mobile interface comes in a couple of different flavors to accommodate different phone operating systems, including Windows Mobile, Blackberry and iPhone. Users on any other Internet enabled cell-phone can use a mobile Web interface to access, download or upload files, or view the photo gallery, but without the live sync feature.



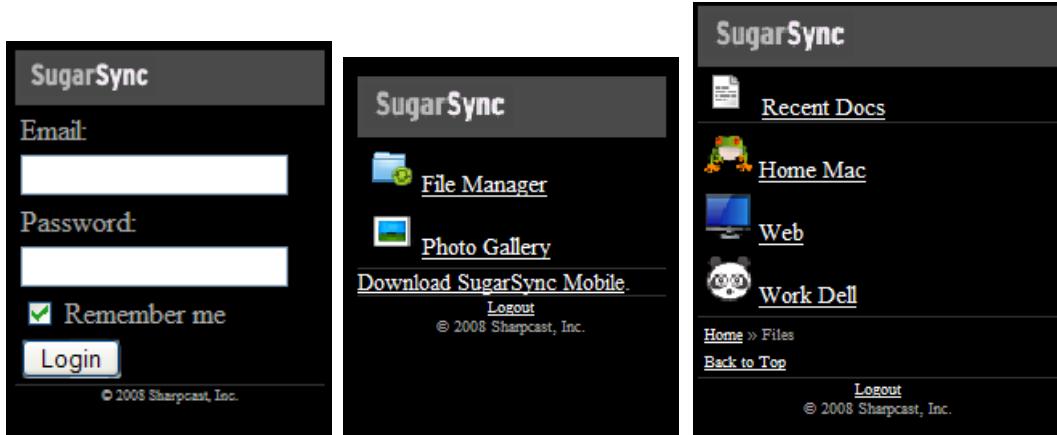
*Adding a mobile device is made much simpler by the addition of SMS links—rather than having to type in a URL, the application will send an SMS to your phone. The SMS contains the link which will navigate you to the correct location.*



*Mobile application, Windows Mobile and Blackberry versions.*



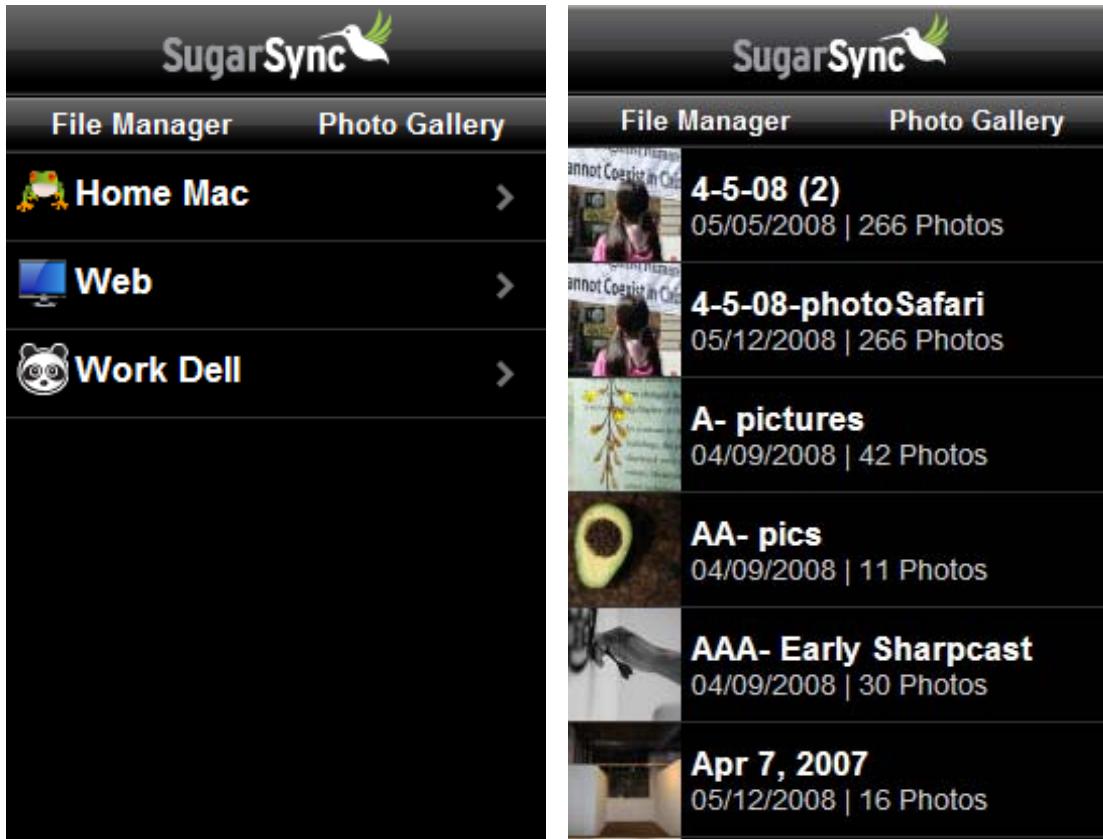
*The photo gallery (left) and Mobile Photos menu (right) in the Windows Mobile Application*



*For other mobile devices, there is a specific Web interface. Signing in (left) gives access to the file manager and photo gallery (middle) along with a link to download the mobile application for compatible devices. Inside the file manager (right), users navigate to the file they want using links. These files can then be viewed or sent to a recipient's e-mail address.*



*The Web interface to the photo gallery on mobile devices includes thumbnail images to help choose the correct album. Images—even tiny ones—help users to choose the correct item because they allow fast recognition.*



*Sharpcast have developed a version of their Mobile website (left) which is optimized for the iPhone. Note the large target areas to allow for easy selection using the iPhone's touch screen even with big fingers.*

*The Mobile Web photo gallery has also been optimized for the iPhone (right). Note that this has involved removing the "Share" option which is present in the regular Web interface. The iPhone provides a large enough viewing experience for immediate sharing to take place on the device.*

## INTERFACE ELEMENTS

Because the application deploys across multiple platforms, the challenge of a consistent interface is exponentially more difficult. The trick was to figure out the right approach to a wide variety of environments, not all of which contain the same capabilities. In the end, the design team decided to tailor each application to the controls most familiar to the given environment.

"The design team works daily on Vista, Mac, XP, Windows Mobile, and the iPhone to stay in tune with the UI constructs on each of these platforms," says Patel. "The same design team created the design for all the different platforms."

The design team considered the tradeoffs of working with platform specific user interfaces, but mostly followed the constraints of the Qt Cross-Platform Application Framework which was used to develop SugarSync. A Mac platform client was pushed through to beta because of user demand. Due to time limitations, the team wasn't able to exploit the native Mac interface as well as they would have liked (for instance, the button skinning), but that's only a temporary obstacle.

"With respect to other elements, we were careful to create an interface that would be well received and familiar to both PC and Mac users," says Patel.

During the development process, designers experimented with several buttons on the toolbar, including various elements from Windows Explorer and Finder. But in the end, the team chose to present only primary actions, such as "Add/Edit Sync Folders." A Finder-style dialog was used to handle moving and copying files among multiple computers on the website since it could operate in a fixed amount of space and did not require vertical page scrolling.

The Web interface obviously spans operating systems, which requires a decision as to whether a Mac or PC interface should be used for common interface elements. Sharpcast again chose the Mac's Finder control for file management rather than Windows' Explorer UI. As this control can display multiple hierarchy levels without a tree view, and requires no vertical page scrolling it provides fast online control over folder navigation. Given the fact that the product is aimed particularly at multi-platform users, this design decision makes good usability sense.

The dropdown menu for switching computers was also carefully chosen to reduce the possibility for confusion by overwhelming the user with a view of all the folders on all their computers at once. There are some tradeoffs here in terms of control (for instance, channeling the option to drag material from one computer to another through the Magic Briefcase), but it's a sensible tradeoff considering the alternatives. The design team is considering possible changes to this approach for future versions based on user feedback.

## HELP AND ERROR MESSAGING

The setup process provides extensive handholding and coaching about how to use SugarSync and what the application will be doing in the background while the user attends to other tasks. The wizard-style setup also provides instructions on how to set up other locations (such as a notebook or mobile phone), including images of some of the other formats.

The designers were conscious of helping users get accustomed to the system. A dynamic help/tip bubble system on the website will pop up with different tips or suggestions, based on the state of the user's account.

These tips include information about a recent release or suggestions about new ways of enhancing the desktop application. Diagrams and "pithy" explanations help fortify concepts which might be otherwise hard to understand due to the product's innovative nature, Patel says.

Online, the first time that users open an area of the product that they have yet to configure, they are presented with a graphical explanation of its purpose. This encourages exploration of the UI and gives users a second opportunity to learn about the product beyond the setup process. Bringing assistance into the UI in this way increases the likelihood that users will see and understand the different features available to them.

If users do need additional help, this is available in the desktop product versions as a link to the online assistance topics. Additionally, "What Is...?" and "how to" links are listed under the desktop Help menu which lead to single pane explanations very similar in style to the online diagrams. Online assistance allows for the regular search and browse functions of most help systems but additionally provides sections covering tutorials and the most popular and recent topics. A support contact e-mail address is also highly visible on the page.

The screenshot shows the SugarSync web interface. At the top, there's a navigation bar with the SugarSync logo, a search bar, and a 'Logout' link. Below the navigation is a sidebar titled 'Knowledge Base' containing links to General Information, SugarSync Manager, Personal Website, Mobile Website, SugarSync Mobile, and Account/Billing Information. The main content area has a heading 'Accessing Your Personal Website'. It contains two numbered steps: 1. You can login to your personal website from [www.sugarsync.com/login](http://www.sugarsync.com/login). 2. Create an account and download the SugarSync Manager (the software used to sync your folders). In the SugarSync Manager, click on the "View in Personal Website" button in the bottom left corner. Below these steps is a file manager interface showing a tree view of folders and two buttons: 'Go to Personal Website' and 'Go to Photo Gallery'. At the bottom of the main content area, a note says: 'Your website has a personal URL that is based on the nickname that you chose during the signup process ([nickname.sugarsync.com](http://nickname.sugarsync.com)). You can visit your personal website at any time by typing in your personal URL.' There's also a 'Back to Top' link. The bottom section is titled 'Getting Around in the File Manager' and describes it as a secure, online vault for sync and backup folders. It includes a screenshot of the SugarSync File Manager interface, which shows a toolbar with File Manager, Photo Gallery, Downloads, Account, and Address Book. The main area shows a file tree with 'Desktop' and 'Magic Briefcase' selected, and a list view with columns for Name, Date Modified, Size, and Type. Buttons for New Folder, Add File, Zip, Copy, Move, Delete, and View in Gallery are at the top of the list view.

*Online help is image-rich to help orient users to features whose names they may be unaware of.*

## INNOVATION VS. CONVENTION

Indeed, developers knew they were introducing unusual concepts that might be difficult for users to immediately grasp. For example, the “Lite Sync” concept discussed above, which allows users work on a server file without creating a permanent sync location on the computer where the editing is being done.

“This is powerful, but difficult to understand and explain,” Patel says. “We tried to balance this innovative approach with familiarity by relying on usability paradigms that the user is already familiar with, such as the design of Windows Explorer. We also tried to adopt familiar views on the website for sharing files and based these on an email metaphor.”

Getting users setup on a mobile device was also challenging, since it’s difficult to explain the value proposition, Patel says. In addition, there are the usual problems mobile users experience—such as the difficulty of typing in Web addresses on a phone or smartphone, which were resolved using common tactics (in this case texting the URL to the phone via SMS).

SugarSync’s developers also sought a balance between an attractive, clean design for the target users and one that would still be easy to use for a “newbie.”

The visual designer and interaction designer worked closely together—even sitting next to each other while evaluating design concepts in Photoshop. To resolve differences, they would often submit a design for user testing.

## USABILITY PROCESS

User testing was an integral part of the design process.

In some tests, developers simply observed as a user installed, set up and used the product. At other times, a user was given a list of tasks to perform. If an area was suspected to be problematic, a user would be asked to take part in further evaluation. Wireframes, sketches and prototypes were also tested at various stages in the process.

Beta users were both surveyed and interviewed about product usability. One business partner also conducted an in-depth five-person usability survey which evaluated the entire experience using a standardized usability questionnaire. Feedback from the various research streams was turned into feature requests, which were added to product tracking efforts. A bug-tracking system was used to monitor problems and short-term items.

“We typically look at patterns, but do not invest in formal summaries of our findings due to current resource constraints,” Patel says. About one man-day per week was devoted to usability process during development for a total of about 50 days.

The developers decided fairly quickly that the product would be aimed at early adopters, and modeled their users accordingly.

SugarSync broke the target audience down into broad groups which it used to develop four key personas for Sharpcast’s wider range of synchronization products. Two of these were directly targeted to SugarSync, the other two cover the broader category of Sharpcast customers acquired through ISPs and other sources.

The SugarSync personas included “Mobile Professional” and “Prosumer.” Each is described in substantial detail, including how they use the application and additional biographical detail which can be used to extrapolate about how they might want to use the application in the future. The persona descriptions were posted at strategic locations around the office, to keep them at the forefront of team members’ decisions.

## TEAM

Team members included Vivek Patel, Director of Product Management; Nicci Gabriel, Creative Lead; Ashish Chordia, Product Manager; and Mark Dixon, Director of Products.

Patel says he was heavily influenced by classes he took at Stanford during his undergraduate and graduate school programs. He has studied with UI experts such as Terry Winograd and Don Norman. Patel previously was a co-founder of a startup that was sold to Handspring, where he was influenced by Jeff Hawkins and Rob Haitani. His love of photography has also been an asset to him in designing the photo-related portion of SugarSync.

Gabriel has a visual design background and is heavily influenced by Apple from both a design and interface perspective. During graduate school she was studied under and worked with traditional designers such as Maira Kalman, Steve Heller and Stefan Sagmeister, among others. She strongly believes in an equal marriage of form and function.



*Vivek Patel and Nicci Gabriel*

## WHY THEY WERE CHOSEN

The Sharpcast team has solved a long-time problem with a conceptually simple application which successfully spans different operating systems and takes a leap beyond simple backup and in to file sharing and replication. Although still a young product, SugarSync shows how strong focus on a core user task and a set user group can result in innovative and user-centric solutions.

Whether by design or through time and resource constraints, the interface is pleasantly minimal. It describes several new concepts in terms that the target audience should be able to easily understand. The team's challenge will now be to build on these concepts in a way which makes the product accessible to a broader group of potential users without introducing clutter or extraneous features into the interaction.

# SuperSaaS

## COMPANY INFORMATION

**Company:** SuperSaaS

**Application:** SuperSaaS (Super Schedule)

**Headquarters:** Amsterdam, the Netherlands

**Number of employees:** 1

**Design team:** Jan Maurits Faber

**Design motto:** "You should not need an IT department to run your business."

## OVERVIEW/MOTTO

Super Schedule is a flexible Web-based application used to create online scheduling and reservation systems by SuperSaaS.

SaaS stands for "Software as a Service," because the application is intended to create other applications, which are then deployed to the public. So the end-user of Super Schedule is not the end user of the scheduling application; it's the person responsible for creating the scheduling application.

The application is accessed over the Internet. The development engine is hosted on SuperSaaS servers; the finished scheduling application can be hosted by SuperSaaS with the option to use a custom URL. The user can control who accesses the system and what privileges they have. Both the application's process flow and the visual layout can be tailored to match the user's website. The application is intended to run on all major browsers, in three languages.

The aim is to empower users to create a fully functional reservation system including options for payment and a custom URL in 15 minutes without the need for technical assistance from a human and with no knowledge of Web scripting or server configuration. SuperSaaS integrates APIs from Paypal and GoDaddy for payment and DNS tasks respectively.

As you can imagine, there's a lot going on under the hood to make all these parts work together smoothly. Our usability analysis looks at the development engine rather than the final product, although we'll touch on that too.

"Using software should be easier. You should not need an IT department to run your business," says Jan Maurits Faber, SuperSaaS president and CEO and the designer of the application. In Faber's view, SuperSaaS is a step toward IT freedom.

"Applications that need a central server, such as e-mail, greatly benefit from economies of scale when outsourced," he says. For most companies that are not primarily concerned with technology as a product, IT functions should be migrating toward the software-as-service model, he says. Super Schedule is the first module in a planned SuperSaaS suite.

## Quickly create a free online reservation system

Use SuperSaaS to build very flexible web based scheduling and reservation systems:

- ➡ Accept online appointments for your business
- ➡ Let employees reserve company meeting rooms
- ➡ Show when your boat is available for rent
- ➡ Let members of the tennis club book courts
- ➡ ... and much more

Use it as a simple shared agenda or as a complete booking solution integrated into your own web site.



A screenshot of the SuperSaaS booking system. The interface includes a top navigation bar with links like 'Home', 'Demos', 'Pricing', 'Sign up', 'Dashboard', and 'Support'. Below this is a main content area featuring a calendar view for January 2008. A specific appointment is highlighted in red for 'Mon 1-21 9:00 - 11:00' with the note '2 waiting'. To the right of the calendar is a 'Demo' button. A callout box with the text 'Runs straight from any browser' points to the demo button.



### Get something up and running in minutes

1. Sign up for an account, the basic version is **free**
2. Build your schedule by simply picking options from a web page
3. Try out the working schedule, you get the web link right away
4. When you're satisfied put the link on your web site or send it to your users by e-mail

And you're done! No worries about operating your own server, everything runs straight from any browser.

*The homepage. This part of the application is only seen by superusers—those who have a need to create a scheduling system which will then be used by the superuser's users. Note that the term superuser refers to a role, not a level of experience, and the Web application is created with this caveat in mind as a superuser may not have much prior experience with hosted applications.*

## WHAT DOES IT DO?

SuperSaaS is used to create Web-based scheduling systems—balancing flexibility with simplicity. The scheduling systems created then have users of their own, creating a two-pronged usability challenge.

Faber boasts that superusers can—in just 15 minutes—create a fully functioning reservation system with a custom URL and a payment system (the 15 minutes doesn't include signing up for Paypal). The task is accomplished “without any involvement from other humans and without any scripting or changing configuration files,” says Faber.

The Paypal API does the “heavy lifting” on payment, and the GoDaddy.com API manages the DNS interface. SuperSaaS combines these features into a continuous interface that lets superusers avoid dirtying their hands with hardcore development tools.

Key features include:

- An entire reservation system can be configured by picking options from interactive Web forms.
- Access control can be tuned to a fine pitch—including setting the business hours and controlling who can make or change reservations.
- The process flow can be adjusted for the type of business and appointment.
- The layout is also highly customizable.
- Strong browser compatibility.
- Multilingual application (English, Dutch and Portuguese currently implemented)

## WHO IS THE USER?

Superusers—those who use the SuperSaaS development engine—typically fall into two categories—1) professional website builders and 2) business people who want the convenience of a Web scheduling system but who do not specialize in online content.

The latter category ranges from owners of small- to medium-sized enterprises to managers and professionals with schedule-sensitive vocations (such as in academics or the medical field)—basically, anyone.

That makes for a pretty diverse user base. Web-oriented entrepreneurs bring a certain amount of expertise to the job. Even among this group, levels of proficiency and technical knowledge can vary widely. When it comes to SME owners, that wide variation expands to a chasm.

Anything from a garage to a caterer to a yoga studio can usefully employ online scheduling. A user approaching the development engine for the first time could be a near-novice who simply wishes to share an agenda or schedule with a few colleagues or friends.

You see, in addition to the superusers, there are the user's users, those who will use the scheduling application created by SuperSaaS to make appointments. More simply put, according to Faber, “those who create a booking system, and those who use the resulting booking system.”

The latter category can include virtually anyone who uses the Internet. So in addition to creating a low threshold for development-side users, the end product also contains a second usability component that aims to serve to just about anyone who uses the Internet.

As this report went to press, SuperSaaS hosted more than 600 reservation systems, with growth of about 20 percent each month. Each scheduling application also has its own user base, which can range in size from a handful to hundreds or more.

## Demonstration Fitness Club Booking System

In this example the administrator creates time slots that users can subsequently book. The capacity of the slots has been set to a low number so you can see the waiting list appearing when a slot fills up. This schedule is set up to automatically place people from the waiting list when a space opens up and the event has not taken place yet.

Feel free to add or delete reservations to the classes to see how it works. For the purpose of this demonstration, everyone can view and edit everyone else's entries, even when not logged in.

[Leave demo](#)

◀ Week 18 ▶
Today
Month
Day
Available

Sun 27/4	Mon 28/4	Tue 29/4	Wed 30/4	Thu 1/5	Fri 2/5	Sat 3/5
9:00	9:00 - 11:00 Pilates Beginner Anyone can sign up	9:00 - 11:00 Pilates Beginner Anyone can sign up	9:00 - 11:00 Pilates Beginner Anyone can sign up	9:00 - 11:00 Pilates Beginner Anyone can sign up	9:00 - 11:00 Pilates Beginner Anyone can sign up	
10:00						
11:00	11:00 - 13:00 Body Balance Room 1 Feel zen again	11:00 - 13:00 Body Balance Room 1 Feel zen again	11:00 - 13:00 Extra Class	11:00 - 13:00 Body Balance Room 1 Feel zen again	11:00 - 13:00 Body Balance Room 1 Feel zen again	11:00 - 13:00 Body Balance Room 1 Feel zen again
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13:00	13:00 - 15:00 Running Bring sensible shoes	13:00 - 15:00 Running Bring sensible shoes	13:00 - 15:00 Running Bring sensible shoes	13:00 - 15:00 Running Bring sensible shoes	13:00 - 15:00 Running Bring sensible shoes	
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◀ April 2008 ▶

30	31	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	1	2	3

A schedule created with SuperSaaS. This demonstration schedule shows some of the variables which must be considered; how long is an "appointment"? How many people can attend at a time? What cost is associated with each schedule item? How do you show free/busy times?



## SuperSaaS Administrator Dashboard

You don't have any applications yet.

- You probably first want to set up a [New Schedule](#)
- Or perhaps you would first like to view a [tour](#) of the features?
- Or you can start by choosing one of the other links from the list below

Return here at any time by clicking the 'Dashboard' link in the top right corner.

Controls	Description
<a href="#">New Schedule</a>	Create a new schedule application
<a href="#">User Management</a>	Add or remove users or superusers
<a href="#">Access Control</a>	Control who can access your applications
<a href="#">Account Info</a>	Change your password or other personal details
<a href="#">Layout Settings</a>	Change the appearance of your applications
<a href="#">Subscription Status</a>	Find out about the benefits of upgrading
<a href="#">Usage Information</a>	See statistics on usage of your applications

*On first login, users are presented with their main options (creating a schedule or learning more on the tour), but they are also given access to all other features so that they can explore on their own if they choose.*

### Applications

[Dashboard](#)  
[New Schedule](#)  
[Product Details](#)  
[Support](#)

### Users

[User Management](#)  
[Access Control](#)  
[Download](#)

### Preferences

[Account Info](#)  
[Layout Settings](#)  
[Subscription Status](#)  
[Usage Information](#)  
[Payment Setup](#)

## NARRATIVE/WALKTHROUGH

The original prototype for the SuperSaaS development engine was open-ended. Test users reported they were overwhelmed with the options presented, so a wizard interface was introduced as the entry point for most people setting out to design a scheduling system.

First-time application builders sign in and land on a dashboard interface. A tour is offered from the start, with demos and tutorials available for those who prefer to have more guidance. These novice options are relegated to the help pages after the user builds his or her first app. It's nice to have this abundance of training options, but the wizard also provides plenty of guidance for those who want to jump right in.

At each step in the wizard, a few lines of text explain the user's options. "Help me choose" leads to an even more detailed explanation. Options are laid out in plain English, with dropdowns, text boxes and buttons as appropriate. Each step in the wizard is fairly concise—efficient to the point that an expert user likely won't feel constrained by the format.

But for hardcore geeks and the truly driven, an expert mode option cuts out what little fat the wizard contains and offers direct access to advanced options such as access control, a decision point which the wizard defers until later with a default setting.

The advanced wizard is essentially the prototype interface. Even in this expert mode, the interface offers a hand-holding and context-sensitive help. However, it's a no-frills affair. It will appeal to highly technical users of the sort who feel nostalgic for the good, old DOS command prompt.

The main difference is the intimidation factor—the advanced wizard loads virtually all options for configuring the schedule application in one place. But since most superusers—especially new ones—won't need all of the options presented, it makes perfect sense to keep them out of sight and out of mind in most cases.

The carefully tuned suite of default settings allows most users to create a perfectly acceptable scheduling app from the basic wizard without ever dirtying their hands.

For the users' users—those who will make appointments with the deployed scheduling application—the object is to make learning virtually moot. These users want to come in, perform a single task, and exit in no more than minutes. Nobody would be willing to read a manual to set up a hygiene appointment with their dentist.

The system is therefore simple, but includes tooltips, context sensitive help and verbose error messages. Superusers can also roll out usability features targeting end users. Among the more notable options, the configuration settings available to superusers allow the person running the scheduling system to customize text prompts. SuperSaaS serves a choice of predetermined labels—including client, employee, student, or simply user—and also allows superusers to create their own labels as appropriate. For instance, an acupuncturist could create a schedule that describes a user as a "client" or enter a custom term like "patient."

Another powerful usability feature for superusers is the process management screen. From here, the superuser can control what information a schedule user is required to provide, as well as controlling notifications and restricting the parameters within which an appointment is made. For instance, users can be required to set up

appointments at least 24 hours in advance, or they can be prevented from cancelling with less than 24 hours notice.

The screenshot shows the SuperSaaS application interface. At the top, there is a logo with three stylized letters 'SSS' in red, green, and blue, followed by the word 'SuperSaaS' and a 'BETA' badge. To the right, there is a navigation bar with links: 'Signed in as administrator for jmberger', 'Sign Out', 'Dashboard', and 'Help'. Below the header, a breadcrumb trail shows 'SuperSaaS.com > Dashboard > Wizard New Schedule – Step 1'. On the left, a sidebar titled 'Applications' contains links for 'Dashboard', 'New Schedule', 'Product Details', and 'Support'. Under 'Users', there are links for 'User Management', 'Access Control', and 'Download'. Under 'Preferences', there are links for 'Account Info', 'Layout Settings', 'Subscription Status', 'Usage Information', and 'Payment Setup'. The main content area is titled 'New Super Schedule Application Wizard' and shows 'Step 1'. It contains two sections: 'Capacity schedule' and 'Resource schedule', each with examples and descriptions. A 'Help me choose' link is also present. A checkbox for 'Show advanced wizard' is shown. A 'Next step »' button is at the bottom. A 'Back to Dashboard' link is at the very bottom.

Signed in as administrator for jmberger Sign Out Dashboard Help

SuperSaaS.com > Dashboard > Wizard New Schedule – Step 1

New Super Schedule Application Wizard

Step 1

Capacity schedule: You create 'slots' in the schedule and your users can sign up for those slots. You can allow multiple bookings per slot or just one.

- Example: You create a slot for each class that you teach and you let students sign up until it's full
- Example: You create several options on the schedule for your clients to come to see you, they can pick one

Resource schedule: You create one or more 'resources' which your users can book whenever they are available. Each resource can only be booked once.

- Example: You create a resource for each meeting room in your company and employees can sign up for a room whenever it is free
- Example: You create a schedule for your clients, they can pick any time you're free within the business hours you set

[Help me choose.](#) Don't worry if you are unsure about any of the options, just pick one and try it out. You can always come back to make changes.

Show advanced wizard: Only recommended for experienced users.

[Next step »](#)

[Back to Dashboard](#)

*The wizard was developed after user feedback that the list of options was too confusing. By adopting this approach, each question can be asked in turn, with more space for descriptive text. Notice that the Help Me Choose option opens even greater levels of assistance. On the other hand, checking the Advanced Wizard box reduces prompts to the bare minimum. In this way, one interface start point serves many user types. Note also the reassurance that changes can be made at any time.*

The screenshot shows a web browser window titled "Super Schedule Wizard" with the URL [http://www.supersaas.com/super\\_schedule/wizard\\_name?amount=one&type=b](http://www.supersaas.com/super_schedule/wizard_name?amount=one&type=b). The page header includes the SuperSaaS logo, a sign-in message ("Signed in as administrator for demo"), and links for "Sign Out", "Dashboard", and "Help". A breadcrumb navigation bar at the top says "Supersaas.com > Dashboard > Wizard New Schedule – Step 4".

**New Super Schedule Application Wizard**

**Step 4: Enter a name for your schedule**

Enter a descriptive name for what you want to schedule, for example: "Consultant" or "Boat"

Name:

The name will be part of the web address that you give to your users to access the schedule, so short is preferable:  
"www.supersaas.com/schedule/demo/YourScheduleName"

[« Previous step](#) [Next step »](#)

**Applications**

- Dashboard
- New Schedule
- Product Details
- Support

**Users**

- User Management
- Access Control
- Download

**Preferences**

- Account Info
- Layout Settings
- Subscription Status
- Usage Information

[Back to Dashboard](#)

*The sign of a good wizard: here the text describes not just what to enter, but also where it will be used, ensuring that schedule designers don't create inappropriate names which will later show up in a URL.*

## NAVIGATION PATHS/CHOICE

The original prototype (which can be seen as the advanced wizard) was open-ended in terms of the user experience, a collection of settings which could be saved. The basic wizard format pushes users through a series of choices to a “destination”—a default-configured scheduling system which can then be tweaked through a variety of methods. Once a schedule has been deployed, the path is iterative, allowing superusers to keep going over the setup and tweak virtually everything about how end users see and use the schedule.

Redundancy is pervasive throughout the site. While we generally don’t like to see redundant navigation on Web pages, it works here thanks in equal parts to careful design decisions and the iterative nature of the site’s narrative. Faber says he was careful not to create redundant *controls*—meaning more than one interface to handle the same task. So while there is more than one path to a task, all roads lead to Rome.

Users are never *forced* to repeat steps; rather the system offers multiple interfaces and navigational paths to execute any given task. For instance, the time controls described previously on the process management page are also found by selecting “Supervise” from the controls and selecting the tab for “Opening Hours.”

On paper, this might raise concerns about creating confusion, but in practice, a user can feel their way through the application and quickly find the function they need. The alternate navigation is either de-emphasized by its placement, or made to look fresh by the addition of descriptive handholding tips (see below).

Most users are unlikely to consciously grasp the redundancy, since they will stop looking for a feature once they find it the first time. What they will notice instead is that they’re usually not many away from the feature or control for which they are looking.

And there are plenty of controls to choose from.

SuperSaaS strongly steers superusers toward a baseline of usability, but it rarely demands that they stay with the defaults. And with great power comes great responsibility.

“We have tried to ‘game’ the system so that it is unlikely that a user will produce a booking system with bad usability by providing sensible defaults everywhere,” says Faber. “The large freedom on the user’s part does mean it is impossible to prevent him from, say, changing the default help text to something very unhelpful.”

## New Custom Super Schedule Application

Step  
2 of 3

### Resource Details

#### Name of the resource(s):

(For example: meeting room, tennis court, vacation home)

If there are multiple similar resources (such as: room North, room South, meeting room) then you can enter a list here.

#### Days of the week on which the resource is available:

Sunday  Monday  Tuesday  Wednesday  Thursday  Friday  Saturday  
(You can modify opening hours per day and add exceptions for specific dates such as holidays later)

#### Term used to describe an entry on the schedule

- reservation
- meeting
- appointment
- event
- other:

#### Time constraints for new entries

Minimum length of new reservations 1 minutes ▾

Maximum length of new reservations  minutes (blank means unlimited)

Default length of new reservations 60 minutes (blank means minimum)

Buffer time in between reservations 0 minutes Zero means they can be adjacent (they can never overlap)

You can use the buffer time, for example, if a room needs cleaning in between two reservations.

#### Constrain start times to

For example: "9:00am, 1:30pm, 3pm" would only allow those start times for new reservations

Round all entered times to the nearest minute ▾

Note that the appearance of the time selection interface in the application changes depending on this setting, for example when rounding to days no hours will be shown.

### Access Authorization

Of course, you can always make changes to the schedule yourself. This section details what users have to do to use the application. You can optionally assign "superusers" with different abilities in the [user section](#).

The login system is shared for all your applications. One global setting determines who can create a login name. The current setting is: Anyone who knows the web address can create a login name. This can be changed on the [global access details](#) page.

#### Who can see the schedule?

- Anyone who knows the web address can see the schedule, no login required
- Users have to log in to see the schedule (and create a login name if they don't already have one)

#### Who can add new entries to the calendar?

- Anyone who can see the schedule can add something
- Users have to log in to add something (and create a login name if they don't already have one)
- Only you, or superusers you authorize, can make any kind of change to the schedule

#### Who can update or delete entries?

- Anyone who can add something, can update or delete all entries, including those of others
- Anyone who can add something, can update or delete his own entries (requires users to [create an account](#))
- Only you, or superusers you authorize, can update or delete entries

#### Can a user see details of entries created by someone else?

- The schedule shows all information, clicking entries shows a pop-up window with details
- The schedule shows the first field of entries (if there is enough room in the view)
- The schedule shows when a resource is booked, but without any further details

#### What additional things can a superuser do? (in case you choose to assign superusers)

- Allow superusers to change the holiday schedule and change opening hours
- Allow superusers and the administrator to make reservations outside opening hours and in holidays
- Allow superusers to change the layout of the schedule (change color, logo and informational messages)
- Allow superusers to block and unlock the application for other users

#### Can the schedule be accessed through the webcal link?

- Block access with calendar programs such as Outlook and Google calendar

*The Advanced path through schedule creation. The form creates a conversation with the user which initially looks to be overly verbose, but in fact keeps the task flowing through sensible field order and the use of formatting to group options.*

## Supervisor options for Yoga Class

[Overview](#)[Opening Hours](#)[Special Days](#)[Download](#)

## Opening Hours

Use this page to set the availability of Yoga Class. Note that the available hours can be set differently from the visible hours on schedule. Which hours are visible can be changed in the [layout details](#).

## Regular Availability

	Open	Closed	Opening Time	Closing Time
Sunday	<input type="radio"/>	<input checked="" type="radio"/>		Closed
Monday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Tuesday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Wednesday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Thursday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Friday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Saturday	<input type="radio"/>	<input checked="" type="radio"/>		Closed

## Begin and End Date

Closed before	<input type="text"/>
Closed after	<input type="text"/>
(Blank means no limit)	
Exceptions defined: 0 ( <a href="#">Edit</a> )	

*Supervisor options provide a place to set overarching variables. Again, assistance in the page means that if users get to this page by mistake, they can quickly reorient themselves without having to visit a help page.*

Manage Guests

Signed in as administrator for OceanWorld Sign Out Dashboard Help



Supersaas.com » Dashboard » Guest Management

## Guest Management

Guests and superusers listed here have access to all applications on your account. Current access setting: Anyone who knows the web address can create a login name. (Change access [here](#))

Role	Login name / E-mail	Full name	Created on
Guest	████████@students.citysun.ac.uk	laura burn	2008-1-17 10:44
Guest	████████@student.gla.ac.uk	Joanna Gallagher	2008-2-17 6:34
Guest	████████@sympatico.ca		2008-1-19 20:47
Guest	████████@mun.ca		
Guest	████████@m		
Guest	████████@thomasdealerships.co	Ablackb	
Guest	████████@gmail.com		
Guest	████████@sympatico.ca		
Guest	████████@yahoo.com		
Guest	████████@gmail.com		
<a href="#">New guest / superuser</a>			
1 2 3 4 5 6 7 8 9 ... 48 49			

New Guest X

E-mail  \*  
The e-mail address is the login name

Password

Full name

Phone

Address

\* Indicates required field

Role  Guest  Superuser

[Create Guest](#) [Cancel](#)

[Back to Dashboard](#)

User management allows control over "guests" (users of the scheduling tool) and superusers.

## INTERFACE ELEMENTS

Generally, the SuperSaaS interface follows existing design conventions.

"Typically, the benefit of introducing a new widget seldom outweighs the cost of reduced familiarity," says Faber.

Where SuperSaaS does depart from the Web-based script, it exploits another set of conventions that will be familiar to most users.

"Many screens use a desktop metaphor to avoid the modal way of presenting a sequence of pages as found on most other reservation systems," says Faber. For example, creating a new slot on the schedule opens a non-modal "window" inside the page which can be dragged and closed using familiar controls. While the window is open, users can still work on the main body of the page.

"Although the desktop metaphor is seldom used on websites, it is very familiar to anyone who has used a computer," Faber says.

This can be helpful when dealing with large amounts of information. For instance, the desktop metaphor kicks in when a superuser is reviewing appointments that have been booked by end users. In the case of a yoga class, for instance, this could involve multiple times during a week and dozens of customers in each class.

When a supervisor clicks on an entry to review its details, he or she is presented with a new "window" that adds information while the overall schedule page remains accessible behind it.

"Editing the information opens another window still; all the while staying on the same page and at any time the windows can be closed or moved out of the way," says Faber. (However they can't be minimized or moved to the background, which could result in users "losing" those windows.)

SuperSaaS's button scheme follows W3C guidelines. Buttons are used for actions that create a persistent change in conditions, while links are used for non-persistent actions such as navigating and accessing help. Although Faber says this occasionally results in an inconsistent look, he points out that the visual incongruity doesn't impede user understanding.

In some cases, however, SuperSaaS has opted to make concessions to style over substance, using a visual button where a link better fits the rules. It's a small concession to style that doesn't detract from usability. In this case, eliminating the visual distraction is probably a net positive in usability terms. And, like most application designers, Faber says good looks do serve a purpose for the company.

"Looking 'professional' is very important to make a sale," Faber points out. "The paying customer is the creator of the web application, not the end user. While we have an ambition to 'enlighten the masses' with regards to usability, it should not hurt our sales too much."

"We have tried to find a middle ground" Faber says.

## Configure application Yoga Class

Yoga Class Schedule

[Use](#)   [Supervise](#)   [Configure](#)

[Overview](#)

[Resources](#)

[Access](#)

[Process](#)

[Layout](#)

[Edit Process Details](#)

This is what your process looks like to the user:



- 1 The user goes to "www.supersaas.com/schedule/jmberger/Yoga\_Class"
- 2 The user is presented with a detailed schedule view
- 3 When the user wants to enter a reservation he is asked to log in
- 4 The user enters a new reservation for a slot
- The reservation is stored in the database

Process  
manager

Information the user has to enter with each reservation

Mandatory   Optional   Don't ask

- |                       |                                  |                                  |                                |   |
|-----------------------|----------------------------------|----------------------------------|--------------------------------|---|
| <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | Full name                      | * |
| <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | Telephone number               | * |
| <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | Mobile phone                   |   |
| <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | Address                        | * |
| <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | Country                        |   |
| <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | Additional text field: Remarks |   |

The login name is always stored with a reservation. Marked fields (\*) are also asked when the user creates a login name, the values will be used as defaults when entering the reservation. The fields to be filled in when creating a login can be changed on the [global access settings](#) page. Note that e-mail is not asked because it will have been entered upon log in.

### Payment or approval

- No payment or approval required
- Request approval from the administrator before continuing ([Set up](#))
- Complete payment (or request approval if the price too low) before continuing ([Set up payment](#))
- Automatically approve reservations created by a superuser or administrator

### Should we confirm the reservation by e-mail?

- No e-mail confirmation
- Send a confirmation e-mail (unless made by a superuser or the administrator)

Note: The user's e-mail address is currently not verified to be valid. You can ensure that users enter a valid e-mail address in the [account access](#) process. No e-mail will be sent if the reservation is made by a superuser or the administrator.

### Should we notify anyone else of a new or changed reservation?

Send an e-mail  to e-mail address

### How long in advance can a user add or change his reservation?

Cannot change or delete less than  days  in advance. (Zero means no limit, can even change past reservations)

Cannot add less than  minutes  in advance. (Zero means no limit, can even add reservations afterwards)

Cannot add more than  days  in advance. (Zero means no limit)

The limit check is not applied when you are logged in as administrator so you will still be able to make changes outside these limits yourself.

The time zone needs to be set correctly for these options to work. The time zone is currently set to EDT (DST) America - New York ([change](#)).

[Save changes](#)

[Cancel](#)



Signed in as administrator for jmberger Sign Out Dashboard Help

[SuperSaaS.com](#) » [Dashboard](#) » [Configure My Schedule](#) » [Edit Process](#)

### Yoga Class Schedule

[Use](#) [Supervise](#) [Configure](#)

## Configure application My Schedule

Overview

Resources

Access

Process

Layout

### Edit Process Details

This is what your process looks like to the user:



The user goes to "www.supersaas.com/schedule/jmberger/My\_Schedule"

The user is presented with a detailed schedule view

When the user wants to enter a reservation he is asked to log in

The user enters a new reservation for a slot

The reservation is stored in the database

Information the user has to enter with each reservation

Mandatory Optional Don't ask



Full name

\*



Telephone number

\*

*The process manager is a clever way of summarizing the steps that have been created for users to follow. In this way, a superuser can quickly work out whether they designed the scheduling system the way they intended. Without this interface, superusers would probably end up logging in as an end user just to check the functionality.*

## Supervisor options for Fitness Club

Fitness Club Schedule

User    Supervisor    Configure

**Overview**

Opening Hours

Special Days

Download

### Overview

Your schedule is located at the following website:

<http://www.supersaaS.com/sched>

Show history

When	To	Title
Mon 2008-4-7 11:00	- 13:00	Body Balance
Mon 2008-4-7 13:00	- 15:00	Running
Tue 2008-4-8 9:00	- 11:00	Pilates Beginner
Tue 2008-4-8 10:00	- 12:00	New Slot
Tue 2008-4-8 11:00	- 13:00	Body Balance
Tue 2008-4-8 13:00	- 15:00	Running
Wed 2008-4-9 9:00	- 11:00	Pilates Beginner
Wed 2008-4-9 10:00	- 12:00	Body Balance
Wed 2008-4-9 12:00	- 14:00	None
Thu 2008-4-10 9:00	- 11:00	1 / 3

**Create new Slot**      Latest addition on 2008-4-5 13:23     

Search all slots containing  in field

**View Slot**  **Reservations**  **Edit Reservation**  **New Reservation**

Full name: linnette garcia      \* Indicates required field  
 Created on: 2008-4-5 2:34  
 Updated on: 2008-4-5 2:34

Full name: Demonstration Company      \* Indicates required field

### Controls

### Description

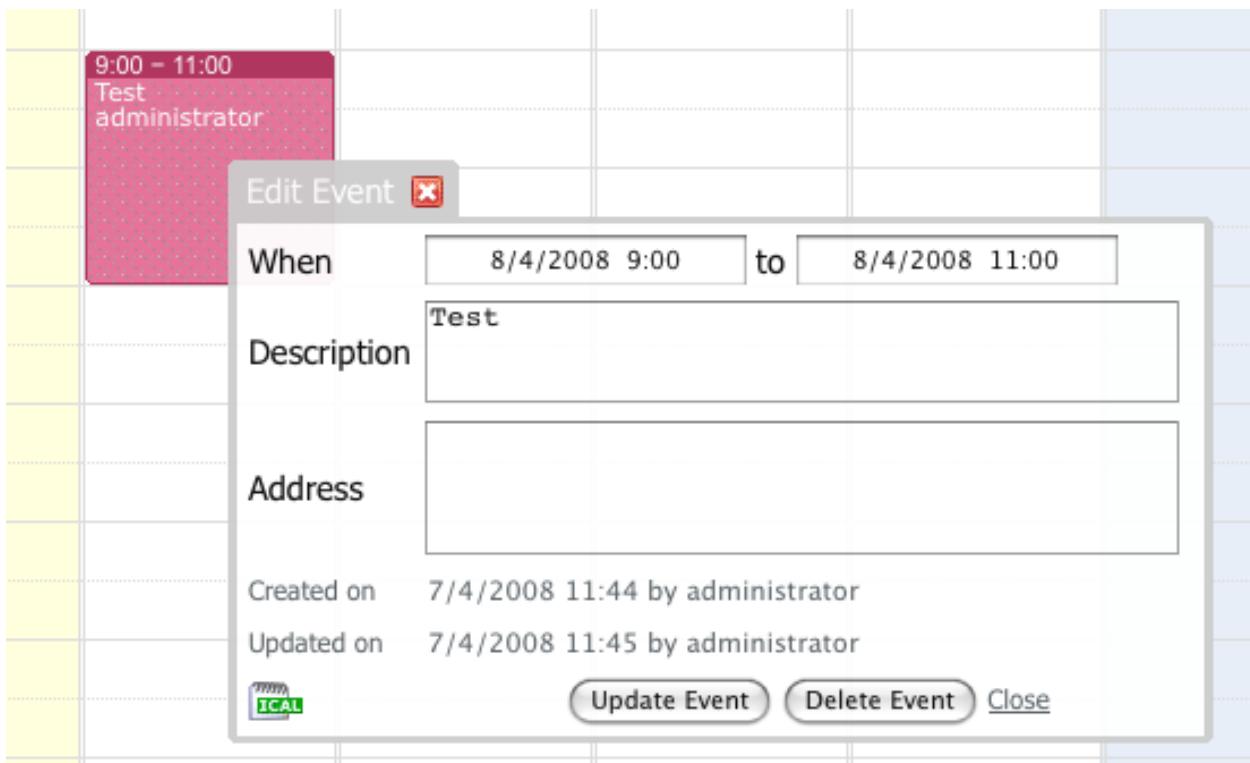
[Stop application](#)

Block access to the schedule for regular users

[User Management](#)

Add or remove users and superusers

*SuperSaaS uses elements of the Desktop metaphor by invoking non-modal dialog boxes for data entry and property viewing. These dialog boxes only appear for superusers and are constrained within the page, meaning that they can't get "lost" behind the main window (a typical problem with dialog boxes spawned from Web pages). The use of these dialog boxes prevents navigation away from the main dataset, which is useful in providing an overview.*



*Typically the designers of SuperSaaS attempted to use buttons for actions and links for navigation. The decision was made in keeping with W3C guidelines, under which persistent changes are effected with a button and non-persistent changes are effected with a link. For some users (who may not have studied W3C), this may appear to be an inconsistency, but Faber says this has not been reported as a problem. The situation arises infrequently and is applied consistently across the application.*

## Layout Settings

The options listed here affect the behavior of all your SuperSaaS applications. You can further customize each application on its own configuration page.

### Global Settings

#### What should the applications call your users?

- user
- client
- employee
- student
- other:

#### Regional options

It's now Thu 4/24/2008 12:26pm EDT (DST) America - New York

Time zone: America - New York

Time format: 1:00pm

Date format: 12/31/2008

Week starts on: Sunday

Default language: English

Default country: United States ([change](#))

Show a language selector at the top of the screen

Note that support for languages other than English is limited at this time. Only the pages seen by users appear in another language, the configuration screens are in English.

## Appearance

### Logo and colors

Upload your logo:

Your URL:  (Where people go when they click your logo)

Text color:



}

Please use [HTML hex color codes](#), leave blank for default colors

Background color:

Hide the logo, swoosh and the footer (useful when embedding an application inside a frame on another site)

### Your own web address (URL)

You can show your own web address instead of 'supersaas.com' in the address bar and in outgoing e-mails. This does require some technical skill. Go to the [advanced settings](#) page to find out more.

### Contact Information to show when a user clicks help:



Example: Please call +1 800 12345 or e-mail [johnzdrake@yahoo.com](mailto:johnzdrake@yahoo.com)

### Message to add to e-mail messages to new users:

Example: Thank you for signing up for our online agenda.

Note: You cannot add HTML codes to e-mails

## Applications

Dashboard  
New Schedule  
Product Details  
Support

## Users

User Management  
Access Control  
Download

## Preferences

Account Info  
Layout Settings  
Subscription Status  
Usage Information  
Payment Setup

*There are many options for controlling the appearance of the scheduling application. Sensible defaults are suggested, but all are customizable to fit in with an existing website.*

## INNOVATION VS. CONVENTION

A usability issue that came up consistently was providing users a route to see what their scheduling application would look like, while giving them a quick path back to their configuration controls. The solution to this was a floating menu “fiche.”



*Menu Fiche*

After setting up a scheduling application, the user is returned to the dashboard, where the options include “use,” “supervise” and “configure.” Those options are duplicated on the fiche. When a superuser previews the finished application, the menu fiche appears in roughly the same location on the screen. It’s only visible to superusers (the creator of the schedule and designated supervisors). Visually, the fiche has a distinct look, clueing superusers in that the feature doesn’t appear on the end user’s page.

The fiche floats in the same position on each page. This element of continuity keeps users in a navigational box around each scheduling app and the unanchored nature of the fiche makes it look less like a navigational element. The color and 3-D buttons make the element stand out against the relatively flat elements that surround it, so there’s little chance of confusion about how to use the fiche.

Departures from convention need to be powerfully justified—familiarity is key to usability. A similar departure is the right-column navigation menu in the dashboard view. Typically right-column navigation is used for secondary controls, and here it could be argued that this is the case.

SuperSaaS comes equipped with a pretty extensive array of redundant navigation. This increases the number of routes to any given destination, but risks overloading viewers with too many options.

By placing navigation in an “off lead” position (like the fiche) or in a low-traffic position (like the right-hand column), you give users several additional navigation points while also minimizing the negative impact of information overload and redundancy. The right-hand column is also visually soft, further reducing its intrusion into the user experience.

In other words, a user who is lost will search around for additional navigation and find it fairly easily, but the element won’t crowd into the consciousness of a user who isn’t lost.



Signed in as administrator for jmberger Sign Out Dashboard Help

[SuperSaaS.com](#) > [Dashboard](#) > [Supervise My Schedule](#) > Opening Hours

## Supervisor options for My Schedule

**Yoga Class Schedule**

[Use](#) [Supervise](#) [Configure](#)

[Overview](#) **Opening Hours** [Special Days](#) [Download](#)

### Opening Hours

Use this page to set the availability of My Schedule. Note that the available hours can be set differently from the visible hours on schedule. Which hours are visible can be changed in the [layout details](#).

	Open	Closed	Opening Time	Closing Time
Sunday	<input type="radio"/>	<input checked="" type="radio"/>	Closed	
Monday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Tuesday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Wednesday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Thursday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Friday	<input checked="" type="radio"/>	<input type="radio"/>	12:00am	Midnight
Saturday	<input type="radio"/>	<input checked="" type="radio"/>	Closed	

**Begin and End Date**

Closed before

Closed after

(Blank means no limit)

Exceptions defined: 0 ([Edit](#))

*The Menu Fiche in context. This element only appears on the page for superusers, and it allows fast access to configuration and supervisory functions.*

The screenshot shows the SuperSaaS Administrator Dashboard. On the left, there's a main content area with a header "SuperSaaS Administrator Dashboard" and a section titled "Applications" containing a table with one row. The table has columns for Name, Status, Since, and Controls. The "Controls" column contains three buttons: "Use", "Supervise", and "Configure". To the right of this main area is a vertical sidebar with three main sections: "Applications", "Users", and "Preferences". Each section has a list of links. The "Applications" section includes "Dashboard", "New Schedule", "Product Details", and "Support". The "Users" section includes "User Management", "Access Control", and "Download". The "Preferences" section includes "Account Info", "Layout Settings", "Subscription Status", "Usage Information", and "Payment Setup".

Name	Status	Since	Controls
My Schedule	Running	4/21/2008 10:33pm	<a href="#">Use</a> <a href="#">Supervise</a> <a href="#">Configure</a>

Controls	Description
<a href="#">New Schedule</a>	Create a new schedule application
<a href="#">User Management</a>	Add or remove users or superusers
<a href="#">Access Control</a>	Control who can access your applications
<a href="#">Account Info</a>	Change your password or other personal details
<a href="#">Layout Settings</a>	Change the appearance of your applications
<a href="#">Subscription Status</a>	Find out about the benefits of upgrading
<a href="#">Usage Information</a>	See statistics on usage of your applications

*Secondary or redundant navigation appears on the right hand side and bottom of the page. Notice that here, the Fiche controls are embedded in the Applications table because they could apply to one of several schedules.*

Another redundant navigation option is a table that appears at the bottom of some pages, in cases where the user has a number of possible destinations ahead. The table includes descriptive text that explains briefly the nature of each available function.

"(A) problem with an application of such high complexity is how menu labels can be created that are still descriptive enough to make sense, but not so unwieldy that the menus would take over the entire screen," Faber says.

These are artful uses of negative space, but we'd advise developers reading this to think long and hard before trying to implement redundant navigation themselves. It's a complicated balancing act. Even minor changes to the SuperSaaS template could tip the balance from helpful to confusing.

## HELP AND ERROR MESSAGING

Descriptive cues are characteristic of SuperSaaS, which frequently prompts users about possible routes and outcomes.

"Since the user task is quite complex we decided to provide a lot of handholding features," Faber says.

All icons include tooltips that explain their use. When many menu options are available, short descriptions outline each choice. And the wizard is heavy on text and explanation. The redundant navigation features do double-duty as cheat sheets about how various functions and application sections work.

"In our usability tests we found the help pages rarely got consulted, but the other features are being put to good use," Faber says.

Tutorials and demos are pushed heavily at the first login, and many superusers will view these materials in order to get a look at what lies ahead, Faber says.

These features and an FAQ are available by clicking help from the dashboard screen seen at login. Clicking help from other pages in the program usually brings up a context-sensitive page.



## Help for schedule Fitness Club

All text on the schedule, including this help text can be customized. Use the editor on our configuration page or copy/paste your own HTML and graphics.

### Navigating the schedule

You can navigate to a different date by clicking the triangles next to the current date, or by clicking inside the month navigator on the right hand side. You can select between different views of the schedule, for example you can show a whole month or just one day on a page, by clicking the corresponding light blue tab. You can get a list of available places in the agenda by clicking on the 'Available' tab.

### Creating reservations

Create new reservations by clicking an available slot. You can edit previously created reservations by clicking on them in the slot where they were created. The table below indicates who is allowed to create or edit reservations. The administrator determines which information needs to be entered and who can make changes to the schedule. When a window is in the way you can simply move it by dragging on its title bar.

### Access settings for this schedule

**Who can create a login name:** Anyone who knows the web address can create a login name.

**Who can see the schedule:** Anyone who knows the web address can see it

**Who can add reservations:** Anyone who can see can add something

**Who can change reservations:** Anyone who can add something, can change all reservations

### Key to the symbols used

Key to the symbols used	
	Available slot, click to register
	Full slot, click for more information
	You are registered or waitlisted for this slot

[Back](#)

*Help comes in two flavors within SuperSaaS; there is help for creating schedules, and then there is help for using them. Here, the (completely customizable) help for using schedules is shown in its basic form.*

## Accommodation Booking Tutorial



### Using SuperSaaS to set up a booking system for a Bed & Breakfast or small Hotel

SuperSaaS offers several features that may be of specific interest to the accommodations industry, for example:

- ➡ Online booking or just show availability, switch with a few clicks
- ➡ Optionally allow clients to pick individual rooms
- ➡ Optionally send customized e-mail confirmations and reminders
- ➡ Enforce advanced booking policies on changing and canceling reservations

This page shows an example set up for a Bed & Breakfast, resort property or a small hotel. If you only want to show availability and not allow people to book over the internet, the booking functionality can be easily switched off as the tutorial will show.

#### Step 0: How will your users find you?

Although you can use a SuperSaaS reservation schedule by itself, you will probably want a few web pages describing your rooms and listing contact information and such. If you don't have a web page for your rooms yet there are free services on the internet that help you set these up, such as [bed & breakfast listings from Business Support](#).

When you create a reservation schedule you get a web link to your schedule that looks something like "www.supersaas.com/schedule/Your\_Hotel". You can then put that link on your web page with a label such as "book here" or "show availability". You could also put that link on a flyer or an e-mail.

#### Step 1: Create an account

Click "Signup" on the top of this page and fill out the form. Be sure to pick an account name that will make sense to your customers, since it will show up in your web address. The system will send you an e-mail with a link to enable your account. Apologies for this inconvenient step, but it helps to keep spammers off our site. Once you have clicked the link in your mail you can log in, which will take you to the Dashboard page.

#### Step 2: Create a schedule

In the right hand menu click "New schedule" to go to the new schedule wizard. Most of the questions the wizard will ask are self explanatory. The first question about whether you want a "resource" or "capacity" schedule can be answered either way for a Bed & Breakfast, but a resource

#### Examples of different views

Schedule for One Room

Click on an empty space to create a new reservation.

January 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	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	1	2

January 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	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	1	2

New Reservation

When: 14/1/2008 to 14/1/2008

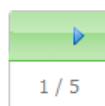
Full name:

Phone:

(Create Reservation) CANCEL

*Assistance for superusers (schedule creators) includes tutorials such as this one. Working through the tutorial examples gives users an understanding of the feature set that they can then apply to their own schedule.*

## SuperSaaS Tour



- ➡ Use super schedule to take customer orders
- Use super schedule as a shared agenda
- Take full control with supervisor options
- Build a new schedule in minutes
- Manage all your schedules in one place

When your customers can book online you spend less time on the phone and you increase customer service

The screenshot shows a software application titled "The Career Coach". At the top right, there are links for "Signed in as brown@gmail.com", "Sign Out", "Your Settings", and "Help". Below the title, there's a "Schedule for Career Counseling" section. It includes a welcome message: "Welcome to The Career Company! Click on an empty space in the schedule to create a new session." A note says "Your first half hour session is free!". There are three navigation tabs at the top of the schedule area: "Week 30", "Today", and "Month". The "Month" tab is selected, showing the month of July 2007. The 24th is highlighted with a yellow box and labeled "2". The 26th is also highlighted with a yellow box and labeled "26". A tooltip "3" is shown over the "Month" tab. In the bottom right corner of the schedule area, there's a "New Session" dialog box. It has fields for "When" (set to "24/7/2007 8:30" to "24/7/2007 9:30"), "Full name" ("Mr Brown" with a yellow box and label "4"), and "Phone". A note says "\* Indicates required field". Buttons for "Create Session" and "Cancel" are at the bottom of the dialog.

- 1 The schedule can be customized to show your own logo and colors. You can also add text and graphics to show product and pricing information.
- 2 An intuitive date picker shows your availability at a glance and lets your users navigate quickly to where they want to go.

- 3 There are several different views to choose from, you choose which one your customer sees first and which details are shown.
- 4 Clicking the schedule pops up an entry form with known information already filled in. You have detailed control over what the customer needs to fill out.

*The tour is higher level than the tutorial—it provides an overview of the application's functionality and is more marketing oriented, yet it still gives superusers a good starting point for creating their own schedule.*

## Demonstrations

Watch a [slide show](#), read more about the [features](#) or try out a working system in one of the demos below.



### Demo 1: Book a fitness class

- ➡ Shows a reservation system that allows multiple bookings per time period
- ➡ Adds a waiting list to full slots
- ➡ Can be used for: Restaurants, Seminars, Tennis courts and more



### Demo 2: Schedule an appointment with a therapist

- ➡ Shows a reservations system suitable for one reservation per resource
- ➡ Adds a grid to indicate time periods that are still available
- ➡ Can be used for: Hair salons, Driving schools, Piano lessons and more



### Demo 3: Reserve a Meeting Room

- ➡ Shows a free context reservation system with variable appointment length
- ➡ View the calendar by day, week, month and zoom in to a resource
- ➡ Can be used for: Car pooling, Time shares, Event calendars and more

*Demos are working example scheduling systems which have been created to showcase the different features available in the application. Giving superusers a way to "play before they pay" will help them decide whether the reservation systems that SuperSaaS creates are right for their user base.*



Please pick an option before continuing

## New Super Schedule Application Wizard

Step  
1

### Step 1: Choose the type of schedule

- Capacity schedule:** You create 'slots' in the schedule and your users can sign up for those slots. You can allow multiple bookings per slot or just one.
  - Example: You create a slot for each class that you teach and you let students sign up until it's full
  - Example: You create several options on the schedule for your clients to come to see you, they can pick one
- Resource schedule:** You create one or more 'resources' which your users can book whenever they are available. Each resource can only be booked once.
  - Example: You create a resource for each meeting room in your company and employees can sign up for a room whenever it is free
  - Example: You create a schedule for your clients, they can pick any time you're free within the business hours you set

[Help me choose.](#) Don't worry if you are unsure about any of the options, just pick one and try it out. You can always come back to make changes.

- Show advanced wizard:** Only recommended for experienced users.

[Next step »](#)

The sidebar menu is organized into three main sections: Applications, Users, and Preferences. The Applications section includes links for Dashboard, New Schedule, Product Details, and Support. The Users section includes links for User Management, Access Control, and Download. The Preferences section includes links for Account Info, Layout Settings, Subscription Status, Usage Information, and Payment Setup.

<b>Applications</b>
Dashboard
New Schedule
Product Details
Support
<b>Users</b>
User Management
Access Control
Download
<b>Preferences</b>
Account Info
Layout Settings
Subscription Status
Usage Information
Payment Setup

*Error messaging for superusers is sparse but typically informative. Users would often overlook this type of restrained presentation of an error message, which is why we have commented favorably on some of the more forceful presentation styles used by other winners in this report. However, for SuperSaaS, the simple error message style works because these screens use a particularly muted color scheme, making the bright error color stand out. (Even so, had the message font size been half that chosen here—which we've seen in many other applications—we would still expect users to get into trouble. Presenting noticeable error messages is a delicate business.)*



SuperSaaS.com » Dashboard » Use Grooming

## Grooming Reservations

Please book one pet per slot, even if you are bringing more than one at a time. This helps keep other users from overbooking.

Appointment times are the start of times listed, please show up on time. (ie if your appointment slot says 9-9:30, your appointment time is at 9, don't show up at 9:30)

At the moment we can only accept cash or check. Please make checks out to:  
"Clean Paws Pet Grooming" Thanks.

We are creating a New Reservation for 100 and France Ave N in Brooklyn Center, MN.

**3 errors prohibited this reservation from being saved**

There were problems with the following fields:

- Species and breed can't be blank
- Bath or haircut w/bath can't be blank
- Address can't be blank

Full name	<input type="text" value="Bad User"/>	*
Phone	<input type="text" value=""/>	



*Error messaging in the finished scheduling application is more verbose and is presented in a modal dialog, as the user cannot continue without resolving the issues.*

*Also note that error messages for end users have a more in-your-face style than the error messages for superusers shown in the previous screenshot. This is appropriate, because end users have less patience and are likely to abandon their reservation if they think the application doesn't work because they overlooked an error message.*

## USABILITY PROCESS

Usability testing was conducted at two junctures. The first round of testing was performed on a closed alpha release of the application. In this form, the advanced wizard was essentially the main interface, and users understandably felt overwhelmed. Feedback was collected from users and changes were made to the program's process flow, resulting in the simplified wizard interface.

Toward the end of the production cycle, another round of user testing was implemented to fine-tune the process flow and other interface elements, including a few new items that had been added since the initial testing.

During the formal usability testing, users were asked to follow a relatively open ended story script (i.e., "You are the owner of a tennis club with three tennis courts, and you need a reservation system."). Metrics collected include time on task and errors.

Additional formal testing is planned for when significant new features are added, Faber says.

The tasks that were evaluated included:

- Signing up to use the system.
- Configuring a reservation system (including making changes to the layout and 50 other configuration parameters).
- Create supervisors/superusers.
- Setting up user access control (i.e., designating a user who can perform administrative functions and instructing SuperSaaS on how to specific types of users).
- Set up a custom URL.
- Downloading user or calendar information for use in Microsoft Office.

Usability was also evaluated for end-user tasks, including:

- Look for a free spot on a calendar.
- Make a reservation (and optional payment).
- Sign up to use the system (an optional feature).
- Change or cancel a reservation.
- Change sign up information and registered e-mail address.

Users are screened for basic Internet proficiency before testing—they don't have to be savants, but they do have to have a clue. (For instance, test users were asked if they knew how to access their e-mail from a friend's computer.)

In addition to the formal testing, SuperSaaS routinely tracks user activity logs on an ongoing basis. The logs track clicks, showing which elements users are employing, as well as providing a window onto which content pages and error messages the users are encountering.

SuperSaaS is currently a one-man operation, consisting of Faber (and the occasional contractor), so there isn't a line-item budget for usability process. But Faber guesstimates that he spent 80 hours and about 3 percent of the development budget on usability process and testing, not counting the ongoing log analysis.

## TEAM

Jan Maurits Faber describes himself as “a usability engineer by vocation.” He studied Computer Science at Delft University of Technology and spent a year writing his master’s thesis at Bell Communication Research under the guidance of Nielsen Norman Group principal Jakob Nielsen.<sup>3</sup>

His 1994 thesis and a 1995 follow-up paper dealt with Parallel User Interface design in 1994 ([http://www.useit.com/papers/parallel\\_design/](http://www.useit.com/papers/parallel_design/)).

His first business venture was a computer game. Unhappy with the software engineering career path, he decided (after a few sidebars) to become a consultant working to advise companies on e-business strategies. After obtaining an MBA from MIT, he started a successful consulting company with some colleagues.

He sold his stake and went back to the independent life in 2005. Much of his focus remains on software-as-a-service, a model that he believes will grow to eventually crowd out the internal IT department at many companies.

“Why buy your own server and install software from CD-ROM when you can just get the service cheaper from a website?” Faber says. “For many businesses this is obviously the way to go once Internet adoption in their field is at an adequate level.”

He initially expected to rely on contract help to build SuperSaaS, but found that once he had been working on explanatory prototypes and pitches for several months that the programming wasn’t really all that much more investment, so he built the site and its programming himself, shopping out some pieces of the visual design using guru.com.

“It is somewhat satisfying that my original training has not completely gone to waste, and my inner nerd rather enjoys programming,” Faber says, “but I do expect to enlarge the team soon with bona fide developers while I focus more on the business side of things and future projects.”



*J.M. Faber*

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<sup>3</sup> SuperSaaS was first selected as a finalist in two rounds of judging by people who were unaware of Faber’s prior professional relationship with Nielsen. Given this fact and the 14 years since the association, it was determined that no conflict of interest existed.

## WHY THEY WERE CHOSEN

SuperSaas must satisfy both its customers and its customers' customers. As with other applications in this annual, the schedule creation tool does this by balancing the fine line between confusion (which occurs when the application does not lead well enough) and frustration (when it tries to take control of too much of the interaction). SuperSaas shows that this is not only possible but actually ideal for the target "superuser" group of busy small business owners.

The true superuser has not however been forgotten. For service providers who use SuperSaaS regularly to set up reservation systems for their clients (yes, another level of abstraction), there is an unobtrusive Advanced mode which does away with much of the assistance in order to just speed through the process. This increase in efficiency will be welcomed by users who have familiarity with the product through frequent use.

Ultimately, the goal is to produce a reservation system which is properly configured for the task in hand and which fits with the look of the parent site where necessary. SuperSaas allows this to happen easily and because of its flexible nature, if something changes on the rest of the site, updates should be quick to apply in the product as well.

# Wufoo

## COMPANY INFORMATION

**Company:** Infinity Box Inc.

**Design team:**

**Application:** Wufoo

Kevin Hale

**Headquarters:** Tampa, Fla.

Chris Campbell

**Number of employees:** 3

Ryan Campbell

## OVERVIEW/MOTTO

When you think about fun, you probably don't think about creating Web forms. Wufoo wants to change your mind.

Infinity Box Inc.'s Wufoo product is a Web application that aims to simplify online HTML form-building without sacrificing features.

It's much faster than hand-coding and offers a compelling combination of powerful customization with ease of use. Even non-technical users can create and deploy a fairly sophisticated form in short order.

The object of the program is "helping web developers and designers create beautiful HTML form interfaces," said Kevin Hale, Infinity Box co-founder.

Company founders Hale, Chris Campbell and Ryan Campbell developed Wufoo on the belief that HTML forms were the starting point for building anything useful on the Web. But while forms streamline and enable information collection, they felt there wasn't a sufficiently streamlined way for developers to create good-looking (and usable) forms.

In order to make this happen, the Wufoo team has created a UI that lightens the mood without cluttering the mind or slowing down the process.

"When I started working on Wufoo, I saw the user as a wild beast that needed to be tamed. I always wanted the users to use the tool the way I designed it. Thinking back, I remember being angry all of the time," Hale says.

He soon realized that his attitude was counterproductive. When customer inquiries start coming in and "you're the one who has to answer the questions and complaints," you focus on what is easy as possible for the user to understand, Hale says.

Good designers should be more like matchmakers trying to enhance the relationship between the tool and the user, Hale believes.

"If you know anything about relationships, then you know that this is extremely difficult," he adds. As in any good relationship, a successful designer, like a successful partner, has to "listen constantly and carefully."

Sign Up & Pricing

Login!

# WUFOO

Making forms easy + fast + fun.

Build a form.  
Gather information.  
Use it like a champ.



Sign Up for Free!  
Get Up and Running in Minutes

**Why Wufoo?**  
The Top 10 Reasons

**Form Gallery**  
The Possibilities of Wufoo

**Read the Buzz**  
What are People Saying?

**See the Action**  
Interface Screenshots

Learn More

Wufoo - Infinity Box Inc. - Tampa, FL  
About • Blog • Gallery • Forums • Terms • Privacy • Help • Contact

WUFOO

The Wufoo homepage clearly states the product's intended use—gathering and analyzing information by using Web forms.

## WHAT DOES IT DO?

Using Wufoo, users can easily create online forms, surveys, invitations and simple payment orders. They can also send invitations and manage event registrations.

When a user designs a form with Wufoo, the application automatically builds all necessary database fields, backend logic and scripts.

So while a form-creation wizard invites users to the table, the information management tool under the hood is, in some ways, the real draw.

"Wufoo's main function is to help anyone create HTML forms, but ultimately we strive to be the easiest way to collect information over the Internet," Hale says.

The application's information management functions include:

- Filtering entries.
- Creating reports.
- Building graphs based on collected data.
- Sharing data (with security features).

"Because we host everything, all you need is a browser, an Internet connection and a few minutes to build a form and start using it right away," Hale says.

## WHO IS THE USER?

Hale estimates Wufoo currently has over 80,000 users worldwide. Most are concentrated in English-speaking nations, but they come from a variety of industries, markets and verticals and include individuals, developers, designers, non-profits, teachers, students, universities, research, real estate, marketing, healthcare, banks and SMBs.

Wufoo also has enterprise clients, including Microsoft, Sony, Panasonic, FOX, Discovery Channel, National Geographic, Kodak, Disney, SourceForge, Billboard, JCrew, Lands End and the U.S. Navy.

Within these many client bases, job functions range from secretaries to high-level IT managers. Students may use the application to collect and manage data for a research paper, while their universities might use it to accept online payments.

Obviously, a universal profile isn't happening. If anything unites this base, it's a desire not to be bothered.

"I think what they all have in common is that they want to skip the tedious parts of creating an HTML form," says Hale. Tedium is defined here to include maintaining a host, database management, coding, programming, data validation, spam protection, design and pretty much anything else that costs a significant amount of time or money.



*On first login, users are led through the process of creating a form in a lighthearted manner.*

## THE APPLICATION

While there are any number of possible paths for a user who is established with Wufoo, there's only one point of entry and that's creating an HTML form.

Although some potential users are research-oriented (taking the tour, reading documentation or watching the "getting started" video), most tend to dive right in, create a free account and start using the program.

"I guess we do prefer users to learn this way, because we think the true value of Wufoo is in the experience," says Hale.

The developers tried to make the first steps as obvious as possible to allow users to quickly create their first form. First-time users are immediately steered into the form creation interface with a humorous message.

The initial screen presents a left-hand panel showing a series of buttons representing fields from which the user can begin to assemble a form.

Buttons can be clicked or dragged into a right-pane workspace that doubles as a live preview. Clicking on the field after it has been added to the workspace fills the left pane with a form (property inspector) which can be used to customize the field.

The left pane is tabbed, so users can toggle back to the field chooser, or forward to select settings for the overall form. Virtually every manipulation of the form being created is a click or two away at any given moment.

Green plus and red minus icons appear at the lower right of each field in the workspace, as well as within multiple choice fields where the user can add choices. The plus sign adds a copy of the selected field, or adds choices to the field, and the minus sign deletes the same.

Depending on the complexity of the desired form and the inclination of the user, this initial phase can take a long time or it can be over before you know it. The form creation interface—like the rest of Wufoo—caters to tinkerers. The design team doesn't expect users to follow a strongly fixed narrative path.

"If you've ever taught in a classroom setting, then you know that different people learn in a lot of different ways and so we try to sneak in learning everywhere we can," Hale says.

The screenshot shows the Wufoo form builder interface. At the top, there's a navigation bar with links for 'Forms', 'Reports', 'Themes', 'Account', and 'Logout'. Below the navigation, the title 'Untitled Form' is displayed, followed by the placeholder text 'This is my form. Please fill it out. It's awesome!'. On the left side, there's a sidebar titled 'Add a Field' with tabs for 'Field Settings' and 'Form Settings'. A large button says 'Click or Drag to Add a Field'. Below this are sections for 'Standard' and 'Fancy Pants' field types, each with several options like 'Single Line Text', 'Number', 'Paragraph Text', etc. On the right, a green box highlights a 'Checkboxes' field. A prominent message box says '← No Fields! You should add a field.' with the subtext 'This is a live preview of your form. Currently, you don't have any fields. Use the buttons under the Add a Field tab on the left to create inputs for your form. Click on the fields to change their properties.' At the bottom, there's a footer with links for 'Wufoo · Infinity Box Inc. · Tampa, FLI', 'About', 'Blog', 'Gallery', 'Forums', 'Terms', 'Privacy', 'Help', and 'Contact', along with the Wufoo logo.

*Items are added to a form by clicking or dragging. Form titles and instructional text are pre-filled, but in a way which encourages the user to edit them. Assistance is built in to the product in the form of instructions which are context sensitive—a lack of form fields triggers the “add a field” assistance information shown above, but once fields have been added this information disappears.*

3.

**Workshop Registration**  
Register now while seats are available!

**Name \***  Title First  Last  Suffix

**Address \***  Street Address  
 Address Line 2  
 City  State / Province / Region  
 Postal / Zip Code  Country

**Email \***  We will never share your email with third parties.

**Phone Number \***  -  -   
(###) ### - ####

**Field Label (?)**: Email  
**Field Type (?)**: Email  
**Field Size (?)**: Medium  
**Options**:  Required (?)  
 No Duplicates (?)  
**Show Field to**:  Everyone (?)  
 Admin Only (?)

**Predefined Value (?)**:

**Instructions for User (?)**: We will never share your email with third parties.

**Advanced CSS Layout Options**:

**Duplicate** **Delete** **Add Field** **Add Another Field** **Save Form**

**Wufoo · Infinity Box Inc. · Tampa, FL**  
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**Field Instructions**  
 This is an optional property that displays the text specified to your users while they're filling out that particular field. They appear off to the right side of the field.

*Assistance is also available in the form of click tips next to most field properties. Clicking the "(?)" next to each field title provides useful contextual information about the purpose, use or display of the field property.*

## Form Manager

O, what men dare do!

[New Form!](#)[Statistics](#)

IT Job Applications



## 1. IT Job Applications

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Gray

Active 

## 2. Workshop Registration (1)

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Summer

Active 

## 3. Bug Tracker

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Orange

Active 

## 4. Wedding Invitation

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Pink

Active 

## 5. Exercise Tracker

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Light Green

Active 

## 6. Satisfaction Survey

[Entries](#) [Edit](#) [View](#) [Invite](#) [Code](#) [Notifications](#) [Payment](#)

Indigo

Active 

*The Form Manager view allows easy access to the separate forms that users have created. It provides a quick view into the usage frequency and allows access to change and administer each form or invite users to fill it in.*

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**WUFOO**

*The "Fancy Pants" form elements provide pre-formatted chunks for common entry requirements such as address or phone number. This form was created in no more than three seconds by dragging just four elements from the left to the right of the page. By providing these chunks which conform to standard design patterns, Wufoo make it faster for the form creator but more importantly they make form filling easier for end users who will recognize the common layout. It's one of the oldest lessons in usability that the way to get developers to design better user interfaces is to make good UI easier to build than bad UI.*

While there's a great potential for "play," you can get right down to business when you need to using a suite of preset fields covering the most common options. Because these presets typically follow "standard" design patterns, end users who are filling in the form will be able to quickly identify what information is required because they will have seen the same pattern many times before.

"In the early design stages, we knew that we wanted to make two large departures from other form/interface builders," Hale says.

- The database infrastructure would follow the design, and not the other way around.
- Wufoo would reduce the number choices the user needed to make to get a basic Web form set up.

However, reducing the number of *necessary* choices is not the same thing as reducing the number of *possible* choices. If you're not in a hurry, each generic field type and preset can be clicked and customized pretty extensively. The fast and highly visual interface makes it easy to experiment and most users will.

## TEMPLATES

The form builder is about as easy as it could possibly be. But things can be easier still. Users are presented with an option to access about 40 predesigned forms that cover the most common situations. The HTML gallery can be navigated according to seven types of form (Forms, Surveys, Invitations, Registrations, Lead Generation, Online Orders and Tracking), or five categories.

A left-column navigation bar contains the types and categories in two distinct groups. Clicking one opens up a submenu bar on the left hand of the interior pane of the page with more specific types (such as birthday party invitations or mortgage applications, among many others). Form types can appear in more than one category, as appropriate, for ease of finding. A search function is also available, which Hale says will be more helpful as Wufoo implements plans to add more templates.

From the gallery level, the forms can't be customized, but once a form has been selected and saved to the user's Wufoo account, all fields can be completely customized using the Form Builder.

Users can further customize template forms using predesigned CSS palettes—the Form Gallery (which can be accessed at various stages of form management) offers about 50 different predesigned color schemes using a fairly simple selector interface.

"See a swatch that you like and it'll show you a live preview on the right," Hale says.

Home → Gallery

The Wufoo  
**FORM  
GALLERY**

1. Forms
2. Surveys
3. Invitations
4. Registrations
5. Lead Generation
6. Online Orders
7. Tracking

**HTML TEMPLATES** ← SEARCH → **CSS THEMES**

**Featured Templates**

1. Customer Satisfaction Survey	6. Mailing List
2. Workshop Registration	7. Online Petition
3. Employment Application	8. T-Shirt Order Form
4. Contact Form	9. Event Planner
5. Wedding Invitation	10. Bug Tracker

**Featured Themes**

W L I F H	Modern Office
W L I F H	Firenze
W L I F H	Flower Shop
W L I F H	Japanese Garden
W L I F H	Cubicle Blue
W L I F H	Pistachio
W L I F H	Marie Antoinette

Wufoo · Infinity Box Inc. · Tampa, FL  
[About](#) · [Blog](#) · [Gallery](#) · [Forums](#) · [Terms](#) · [Privacy](#) · [Support](#) · [Contact](#)

**WUFOO**

*Wufoo have done all the hard work to produce a set of template forms which users can select and customize. They have also produced themes which make even the most color-challenged form designer look professional; just choose a color swatch from the list, preview it on your form, and then send it live.*

The screenshot shows the Wufoo Form Gallery. At the top, there's a navigation bar with 'Home' → 'Gallery' → 'Templates'. On the right, there's a 'Login' button and a small icon of a horse. Below the navigation is the 'The Wufoo FORM GALLERY' logo. To the left is a sidebar with a search bar and a list of categories: Forms, Surveys, Invitations, Registrations, Lead Generation, Online Orders, Tracking, Business, Personal, Education, Community, and Healthcare. A large yellow box on the right lists ten form templates numbered 1 to 10: Mailing List, Employment Application, Contact Form, Emergency Contact and Medical Info, Online Petition, Medical History, To Do List, Change of Major, Seminar Form, and Meeting Form. The 'Contact Form' is highlighted with a green background. The main content area shows a 'Contact Form' template with fields for 'Message \*' (a large text area), 'Email Address' (an input field), and a 'Submit' button. At the bottom, a note says 'This template would look great with one of our CSS Theme Templates!' with a link. The footer contains links to 'Wufoo • Infinity Box Inc. • Tampa, FL' and 'About • Blog • Gallery • Forums • Terms • Privacy • Support • Contact'. The Wufoo logo is also in the footer.

*Template forms are categorized two ways—by type (forms, surveys, invitations, etc.) and by usage (business, personal, education, etc.). Some forms appear in several categories because of their wide appeal. As the list of forms grows over time, the search feature will become more necessary as an alternative to browsing categories.*

## NAVIGATION PATHS/CHOICE

Once an initial form has been created and saved, the program shifts into an open-ended mode. Users are taken to a dashboard where additional options can be added to the form, the visual look of the form can be customized, or the code for the form can be downloaded. Above the dashboard are tabbed sections for Forms, Reports and Themes, adding users and Wufoo account settings.

There isn't a strong sense of direction at this stage, but the set-up here is familiar to Web users with moderate experience. (Since Wufoo delivers HTML code as its final product, most users will have at least this level of experience.)

The additional features are well designed, with less focus on play and more on getting the job done in an intuitive manner. Getting code, setting notifications and

creating a payment function have been simplified to the point of being pretty perfunctory. That's not a bad thing at all; the interface pages are well-designed and clear and the steps are easy to perform.

Payment settings, for instance, are managed relationships with outside vendors, set up in a three-stage horizontal step process.

"Configuring the payment settings can be thought of as an equation," Hale says. "As you add a field from your form to the equation, the amount of money that can be received per form submission will change. The second step of the payment settings allows you to add fields to the equation, and to get a visual overview of what your users will have to pay you in order to submit the form."

The screenshot shows the 'Payment Settings' page in the Wufoo interface. At the top, there are tabs for 'Forms', 'Reports', 'Themes', 'Account', and 'Logout'. Below the tabs, there are two buttons: 'Save Settings' with a checkmark icon and 'Cancel' with a red X icon. The main content area is titled 'Web Design Workshop Registration'. It features three numbered steps:

- 1. Get Setup →** This section includes fields for selecting a merchant (Paypal), email address (kevin@wuf0o.com), currency (\$ U.S. Dollar), language (English (American)), and recurring billing.
- 2. Add to the Equation →** This section shows how items are calculated into a total. It includes a dropdown for 'Choose a Field' with 'No Available Field' selected, and a calculation table:

Which workshop are you registering for today? (Drop Down)	\$ 100.00
+ Base Amount (\$ 100.00)	\$ TOTAL AMOUNT
- 3. Assign the Prices ↑** This section lists workshop prices: Design Workshop (\$ 50.00), Code Workshop (\$ 75.00), and Business Workshop (\$ 25.00). There is a 'Remove from Total' button next to the Code Workshop entry. A 'Base Amount' field is also present.

At the bottom left, there is a footer with links: 'Wufoo · Infinity Box Inc. · Tampa, FL', 'About', 'Blog', 'Gallery', 'Forums', 'Terms', 'Privacy', 'Help', and 'Contact'. The Wufoo logo is at the bottom right.

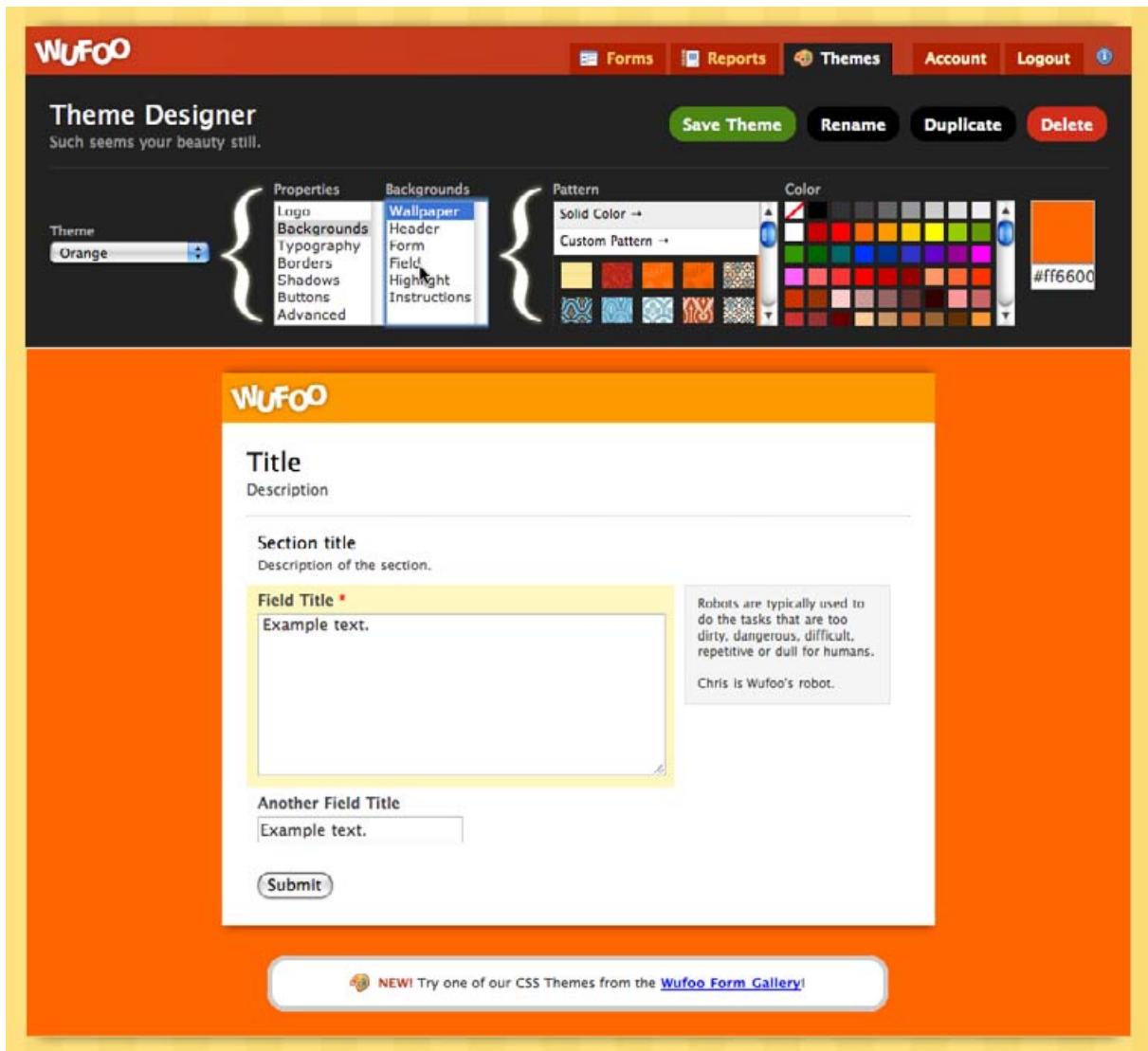
*Payment integration steps users through the equation used to calculate totals. Each part of the equation is pulled from fields added to the form.*

The area where most users spend their time, however, is the Themes section, which allows customization of the user-created form.

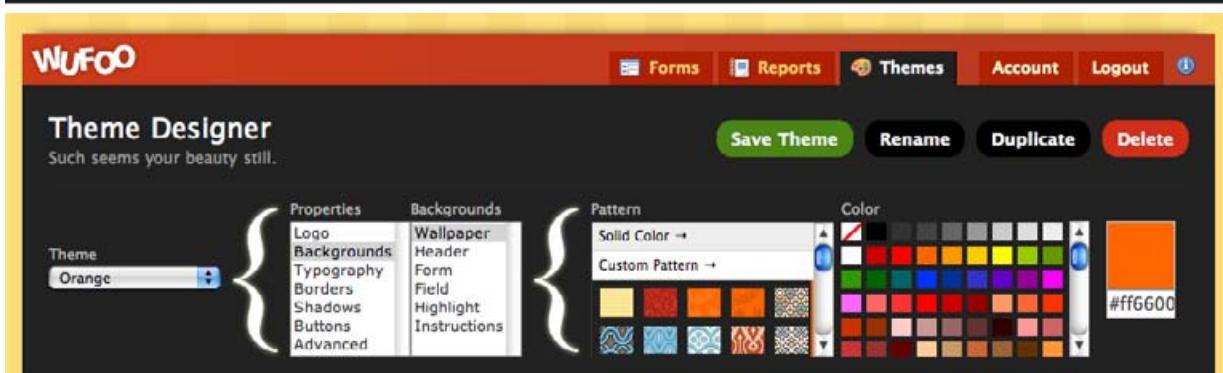
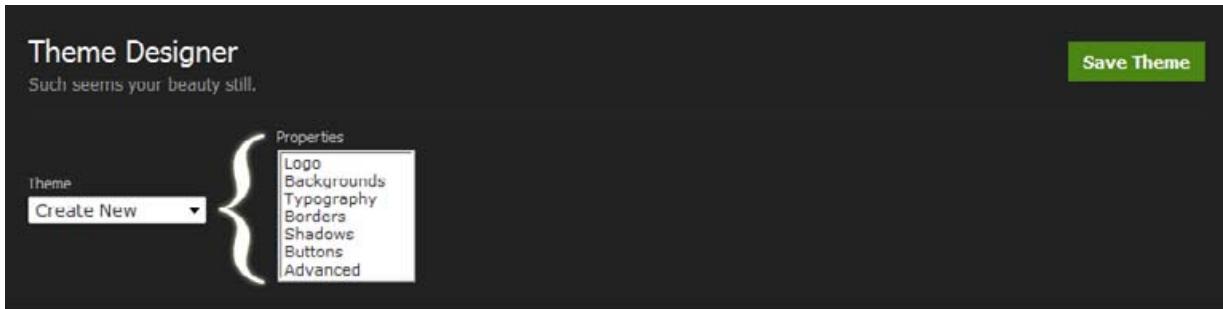
"To most people, the database and validation scripts are all just magic that happens behind the curtain and so you never hear anyone ask about schemas and query efficiency," says Hale. About 80 percent of user interaction with Wufoo takes place in the Themes section.

The simplest forms of customization are the aforementioned HTML templates and CSS themes, which have been designed to universally mix and match as users please.

The more advanced feature is Wufoo's Theme Designer, which allows users to create visual themes in which every element can be customized to fit the user's existing Web identity (or just for fun).



*If users are not satisfied with the built-in theme choices, or if they need to match the design of an existing site, they can create their own CSS theme. Changes selected in the top section of the page are immediately shown in the preview section below.*



*The theme designer squeezes many choices into a small area by using a progressive disclosure technique. Selecting a property (here, Typography) displays the options associated with that property (font face, size and color). Moving to a different property displays different options (say, color and pattern for Backgrounds).*

The Theme Designer features a live preview underneath a series of menus. The controls start minimized with a simple list of customizable form parts. Clicking the label for any of the parts starts a progressive disclosure scheme that unfolds additional choices in stages across a horizontal field. Changes are applied instantly, allowing for a quick read on how the item will look and equally quick revisions, if necessary.

## INFORMATION DISPLAY

Wufoo isn't all play and design. After a form has been created, the application takes on a data manager function. Information submitted through a Wufoo form is loaded into the user's Wufoo account for further manipulation.

Collected data goes into Wufoo's Entry Manager, a browsing tool divided into two parts—a viewing tool at the top for examining individual submissions and a data grid below for viewing recent entries and otherwise organizing the body of submissions. Items can be sorted by column, and the columns can be customized.

A series of colorful buttons on the right side of the viewing tool allow users to edit submitted text, create new entries themselves and print, e-mail or delete submissions. New entries are created with the user's Wufoo form. Entries can also be commented for internal use.

The screenshot displays the Wufoo interface for managing form entries. At the top, there's a navigation bar with links for 'Forms', 'Reports', 'Themes', 'Account', and 'Logout'. Below the navigation is a contact form entry for 'Entry #1'.

**Contact Form Entry #1:**

- Name: Kevin Hale
- Address: 16057 W Tampa Palms Blvd, Tampa, Florida 33635
- Photo: kevin.jpg (12.93 KB · JPG)
- Web Site: <http://particletree.com>
- Email: [kevin@wufuu.com](mailto:kevin@wufuu.com)

Timestamps and IP Address:

- Created: 1 Oct 2007 6:15:41 PM (MASTER)
- IP Address: 127.0.0.1
- Updated: 1 Oct 2007 6:27:52 PM (MASTER)

**Comment Area:**

Viewing Entry #1

1 Comment

Kevin · 1 minute ago  
Always invite to parties.

Add a Comment

Your Name: Kevin

Save Comment

**Recent Entries Table:**

#	Name	Last	Web Site	Email	Photo	State
1	Kevin	Hale	<a href="http://particletree.com">http://particletree.com</a>	<a href="mailto:kevin@wufuu.com">kevin@wufuu.com</a>	kevin.jpg	Florida
2	Ryan	Campbell	<a href="http://particletree.com">http://particletree.com</a>	<a href="mailto:ryan@wufuu.com">ryan@wufuu.com</a>	ryan.jpg	Florida
3	Chris	Campbell	<a href="http://particletree.com">http://particletree.com</a>	<a href="mailto:chris@wufuu.com">chris@wufuu.com</a>	chris.jpg	Florida
4	Chuck	Norris	<a href="http://chucknorris.co...">http://chucknorris.co...</a>	<a href="mailto:kick@chucknorris.com">kick@chucknorris.com</a>	chuck.jpg	Texas
5	Jessica	Alba	<a href="http://jessicaalba.net">http://jessicaalba.net</a>	<a href="mailto:hot@alba.com">hot@alba.com</a>	jessica.jpg	California
6	Godzilla		<a href="http://godzilla.com">http://godzilla.com</a>	<a href="mailto:firemouth@godzilla.com">firemouth@godzilla.com</a>	godzilla.jpg	Hibernating

*Form entries are managed using a three-part interface which shows the data as it was entered, a comment area, and a table of all entries which can be used for browsing and selecting individual entries.*

*An earlier version the Entry Manager shows how the design has evolved. Now, more space is given over to viewing data and less to managing it.*

Data can be filtered using a prominently displayed search key, and advanced options are also available. Once filtering has been applied, the selected entries can be deleted or exported in an Excel-compatible format.

The display is attractive and easy enough to deal with, although users who need to do serious data crunching will either be heading for the export button and Excel, or for Wufoo's Reports feature.

As far as ease of use, there's no contest between Excel and Wufoo Reports. The format for creating reports is essentially a wizard compacted into a single page, combining step-based simplicity with the ability to quickly scan the whole collection of settings. The display format choices are flexible enough to give the user ownership, but constrained enough to keep users firmly on a track toward completion.

Users can select from a wide range of options offering two types of choice—dropdown menus for multiple choice with a single selectable option, and checkboxes for multiple choice where multiple selections are possible. Options are presented in plain English, with handholding throughout.

The actual reports are very readable, with customizable charts and columnar displays. While the data management tools don't offer professional-grade power, they're more than sufficient for a substantial number of users who just want a quick and easy snapshot of the data they have collected. For users who don't have extensive spreadsheet skills, there's a certain "wow" factor at the ease with which an attractive report can be created and navigated.

## 2. The Data!

Tell us what information you want to use in this report.

Use  from  that match  of the following conditions :

### Table Settings

- Show my Data as a Table in the Report
- Allow User to Add Columns in the Table

Show 25 Entries per Page

### Which Columns Do You Want to Show?

- |  |  |                                       |
|--|--|---------------------------------------|
| <input type="checkbox"/> Show All                              | <input checked="" type="checkbox"/> Assign To: | <input type="checkbox"/> Created By   |
| <input checked="" type="checkbox"/> Where did you find it?     | <input checked="" type="checkbox"/> Severity   | <input type="checkbox"/> Date Created |
| <input checked="" type="checkbox"/> Describe in detail what... | <input checked="" type="checkbox"/> Fixed?     | <input type="checkbox"/> Updated By   |
| <input checked="" type="checkbox"/> Operating System           | <input type="checkbox"/> Payment Status        | <input type="checkbox"/> Date Updated |
| <input checked="" type="checkbox"/> Browser                    | <input type="checkbox"/> Payment Total         | <input type="checkbox"/> IP Address   |
| <input checked="" type="checkbox"/> Upload a Screenshot        | <input type="checkbox"/> Payment Confirmation  |                                       |

*Report filtering uses conditional drop-down list boxes and check boxes based on form fields to create custom views on data. This interface is designed with more advanced users in mind, but still provides a relatively simple way to create complex information visualizations. For full manipulation, experienced users can export the raw data to Excel.*



*Reports produced in the application look professional and allow for still further data browsing and manipulation.*

## User Management

Uneasy lies the head that wears a crown.

[New User!](#)[Activity Log](#)

Your Users		6
	Kevin Account Creator	<a href="#">-</a> <a href="#">+</a>
	Ryan Admin	<a href="#">-</a> <a href="#">+</a>
	Chris	<a href="#">-</a> <a href="#">+</a>
	Elaine	<a href="#">-</a> <a href="#">+</a>
	Tim	<a href="#">-</a> <a href="#">+</a>
	Alex	<a href="#">-</a> <a href="#">+</a>



This user can do the following :

Create new forms, reports and themes.

Name \*  
Kevin

Email Address \*  
kevin@wufuu.com

Company  
Infinity Box Inc.

Time Zone  
(-5:00) Eastern

Administrator (?)

[Save Profile](#)

This User Can Do the Following :

Create new forms, reports and themes.

This User Can Access :

Forms Reports Themes

This user has access to all forms.

[Add Permissions](#)

You have 2 users left. ([Upgrade](#))

Wufoo recognized that different individuals within an organization may be responsible for creating forms and analyzing data. Users can be given specific roles and permissions within the application.

The screenshot shows the 'Notification Settings' page in Wufoo. At the top, there are links for 'Forms', 'Reports', 'Themes', 'Account', and 'Logout'. Below that, there are 'Save Settings' and 'Cancel' buttons. The main content area is titled 'Send Notifications from Workshop Registration'.

- To My Inbox:** Contains fields for 'Your Email Address' (joe@gmail.com) and 'Set Reply To:' (No Reply To Selected). It also has checkboxes for 'Send Me Emails About:' (New Entries and New Comments).
- To My Mobile Device:** Contains fields for 'Your Phone Number' (5551234567) and 'Carrier' (AT&T). It also has checkboxes for 'Send Me Text Messages About:' (New Entries and New Comments).
- To My Feedreader:** Contains a link to 'Subscribe to the Feeds Below:' and two buttons: 'New Entries' and 'New Comments'. It includes a note about security: 'Security Notice: All Wufoo RSS feeds are encrypted and password protected. Use your Wufoo account email address and password to access them.' It also states that 'Secure RSS feeds are not supported by all feed readers. If you are unsure how to use credentials in your feed reader, please contact their support department.'

*Users can also choose to receive notification when specific events occur. For high volume forms this could be overkill, but to ensure fast response to less frequently used forms, notifications can be very valuable.*

## HELP AND HANDHOLDING

Virtually every control in Wufoo has a question mark next to the title that provides additional information about how the control works. The instructions appear in a small pop-up window with good, clear text—enough to explain the control, not so much as to overwhelm.

The application also steers users along various paths toward completing their task, often with a light humorous touch. Employing humor in an application is not always the safest choice, but it works here, given the overall focus on a fun user experience.

The help pages are extensive and offer several paths to reach support, including FAQs, a Knowledgebase, tutorials, forums, a glossary, and a prominent link to contact technical support. The latter has an option to upload a screenshot of the error, which is a nice touch, and also includes an option to describe the user's "emotional state" (wisely, this is a dropdown menu and not a free text input field).

These pages have also been designed to be more scannable with more illustrations, screenshots and even movies where necessary. Error messages include descriptive text and a link to find more information about the problem.

Moreover, the team is committed to helping international users make their forms just as good as the English equivalent. "To help the cause, we've created an interface to

make it easier to submit and manage translations of default error messages and field titles in Wufoo," Hale says.

New languages, corrections, and suggestions are easy to submit, and are actively maintained by the team. Documentation pages present an individualized table of contents and a mini FAQ about features and actions for that aspect of Wufoo. This controlled implementation of crowdsourcing makes use of users' enthusiasm to improve the product while still ensuring that ultimate responsibility for the application rests with the development team.



*Rather than leaving users to deduce what they should do on a page, empty sections make use of humorous assistance text to provide direction. Humor often doesn't mix well with support, given users' typical level of frustration when they finally go to the help system, but this type of assistance is aimed at keeping users away from help files in the first place so a certain levity is acceptable given the application's overall tone.*



*As mentioned earlier, assistance is provided in the application through on-screen descriptions and through click tips—field level help which is available should users require it, but which does not clutter the interface for more experienced (or adventurous) users. Note that this field level help and subsequent help text takes a much more serious and straightforward tone than the in-page assistance text.*

Home → Docs

**Don't worry. We're here to help.**

Try searching our [Docs](#) on the left, perusing our [Knowledge Base](#), or asking some friends in the [The Forums](#). If you can't find what you're looking for, submit a [Support Request](#).

General Questions	Billing & Accounts
<ol style="list-style-type: none"> <li>1. What is Wufoo?</li> <li>2. How secure is Wufoo?</li> <li>3. Who are the people behind Wufoo?</li> <li>4. Is Wufoo right for me?</li> </ol>	<ol style="list-style-type: none"> <li>1. How do I cancel my account?</li> <li>2. What if I exceed my entry limit?</li> <li>3. What types of payment do you accept?</li> <li>4. How do I view my invoices?</li> <li>5. Can I change my account name/subdomain?</li> </ol>
Forms & Email	Data & Reports
<ol style="list-style-type: none"> <li>1. How do I integrate my Wufoo form into my website?</li> <li>2. How do I have an email sent to me each time a form is completed?</li> <li>3. Why am I not receiving any email notifications?</li> <li>4. Why can't I see the submit button?</li> <li>5. How do I duplicate a form?</li> <li>6. Why's my form saying "only one submission per user"?</li> </ol>	<ol style="list-style-type: none"> <li>1. How do I view and access my entries?</li> <li>2. Can I print a report/graph?</li> <li>3. How can I view my files?</li> <li>4. Why is all of the data being exported even if it is not visible in the report?</li> <li>5. How do I export my data?</li> <li>6. How do I delete my entries?</li> <li>7. How long do you keep my information?</li> </ol>

*Support comes in several flavors. There are regular help documents, forums, a knowledge base and FAQ lists. If all else fails, users can contact the team directly. The emphasis on self help and the resulting quality of help documentation is necessary given the small team size and their desire to create new features rather than supporting existing ones.*

Home → Docs → Form Builder

**Form Builder**

**On this Page**

1. Video Introduction
2. Adding a Field
3. Editing a Field
4. Form Settings
5. Reorder, Duplicate and Delete
6. The Different Field Types

**Related Material**

1. Form Settings
2. Field Settings
3. Field Types

**FAQs**

1. How exactly do admin-only fields work?
2. How do "Advanced CSS Layout Options" work (hiding fields, instructions, multiple fields on one line)?
3. How do I send and customize confirmation emails to the people who fill out a form?
4. How can I restrict a form to allow only one entry per user?
5. How can I add HTML or images to a form?
6. Can I copy a field from one form to another form?

**Introduction**

The Form Builder is the heart and soul of Wufoo. This is where all forms are created. The form builder provides the tools to add and remove fields, edit forms, configure email receipts and more. The interface for the form builder is divided into two halves — the right half is a preview of your form while the left half is for editing and building your form.

*Help documentation takes a task rather than feature based approach, which is ideal for less experienced users. It frequently includes videos and Frequently Asked Questions sections which appear to have been culled from real issues rather than from what some marketing department wants to promote.*

## INNOVATION VS. CONVENTION

Wufoo's designers always tried to take a fresh approach to new interfaces and features, but they were wary of creating anything that felt unfamiliar or confusing. "We don't think the problem is about too much innovation but a lack of clarity," Hale says. "If you have nothing but core functionality then there's always something you can add to make it more obvious, whether that's signposts, giant arrows or even a video demonstration."

A major visual goal with Wufoo was to create software that didn't constantly remind users they were working in a cubicle. Bright colors and informal type run throughout the application, complimenting the irreverent tone of the text throughout.

"I'm very lucky to have as much creative freedom as I want on my team and so there wasn't really any tension about that. If you're a good designer with a good sense of aesthetics, you can't help but make something as beautiful as possible," he says.

The bright colors and large buttons throughout Wufoo stand in sharp contrast to the more familiar button schemes that many applications implement "off the shelf" from developer toolkits or Windows defaults. The differences aren't generally enough to be confusing, but the Wufoo interface works double-time to make sure. Every clickable and editable item changes state on rollover, so it's easy enough to figure out where to click.

The appeal of aesthetics needs to be balanced by a visualization of incoming support requests, says Hale. "It became very tempting to put in eye-candy effects," he says.

One of Hale's primary tasks was to make sure the team didn't take "ourselves too seriously" and not to get carried away over any one interface or feature.

"For example, we'd use a (a fake modal dialog) for asking the user for additional input or advanced settings that didn't need to be built into a main screen," Hale says. "In the beginning, we had the boxes fade in and slightly grow from a smaller size. It looked nice, but after we were behind the interface using the service for a few months, we found the extra 0.5 seconds for the animation to complete to be a little annoying. We tried speeding it up to 0.3 seconds, but even that felt like the interface was robbing me of time. Eventually we removed the animation altogether."

## USABILITY PROCESS

Infinity Box, as a three-person company, never had a formal budget assigning funds to any specific project area. Hale estimates that about a third of the company's resources were dedicated to usability.

"Everyone on the team, and even our users are expected to speak up," he says.

The team started usability testing once a working XHMTL/Javascript prototype was created, about three weeks into the initial design process. The team was invited to weekly dinners with other companies supported by its seed capital supplier (Y Combinator), where participants would trade feedback on their projects under development.

Early into the process—before a live database had been attached to the interface—a demo of Wufoo's form-builder went into circulation on a number of social networking sites, resulting in a surge of interest before an actual application technically existed. Along with that interest came feedback about what worked and what didn't, which was integrated into the frontend while the backend was in development.

The screenshot shows the Wufoo homepage with a red header and a yellow footer. The header features the Wufoo logo and a sub-header 'Form Builder'. Below the header, there's a large 'WUFOO' logo with the tagline 'Making forms easy + fast + fun.' A green button for 'Sign Up for Free' and a blue button for 'Tour' are visible. To the right of the main content area, there are four examples of different forms: 'Mortgage Application', 'Customer Satisfaction Survey', 'Workshop Registration', and 'Contact Form'. Below these examples is a navigation bar with links to 'Home', 'About', 'Clients', 'FAQ', 'Features', 'Examples', and 'Pricing'. The main content area contains several sections: 'What is Wufoo?' (describing it as the easiest way to collect information over the Internet), 'Why us?' (listing top 10 reasons), 'The Gallery' (viewing and customizing templates), 'The Buzz' (reading user reviews), and '3 for Free!' (offering a free trial). The footer includes links to 'Learn About Wufoo Powered by', 'Individuals', 'Teams', 'Business', 'Education', 'Events', 'Payments', and a 'WUFOO' logo.

**WUFOO : Form Builder**

# WUFOO

Making forms easy + fast + fun.

[Sign Up for Free](#) [Tour](#)

[Home](#) · [About](#) · [Clients](#) · [FAQ](#) · [Features](#) · [Examples](#) · [Pricing](#)

**What is Wufoo?**  
Wufoo strives to be the easiest way to collect information over the Internet.

Our [HTML form builder](#) helps you create contact forms, web surveys, and invitations so you can collect the data, registrations and online payments you need without writing a single line of code.

**Why us?**  
Here's the top 10 reasons you should use Wufoo to collect information online.

**The Gallery**  
View and customize over 80 templates and themes from our form gallery.

**The Buzz**  
Check out all the great things people are saying about our service.

**3 for Free!**  
Try out Wufoo for yourself. Create an account today and use 3 forms for **FREE**.

Learn About Wufoo Powered by: [Individuals](#) · [Teams](#) · [Business](#) · [Education](#) · [Events](#) · [Payments](#)

[Wufoo](#) · [Infinity Box Inc.](#) · [Tampa, FL](#)  
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**Latest News** [RSS](#)

- How to Track Users with Wufoo
- Evolution of Email Notifications
- Form Builder Upgrades
- New Templating API
- Try Out Wufoo Payment Integration
- Wufoo Docs V2.0

*Continuous improvement: The homepage has been redesigned since the contest entry was submitted to emphasize the call to action and provide more details before a click is required.*

Hale also implemented what he called “The Girlfriend Test.”<sup>4</sup> The team members watched silently while their girlfriends, who were not computer professionals, designed a form. When they were finished, the team questioned them in depth as to why they took certain actions that ran counter to the team’s expectations. As a result of this feedback, the team re-designed “about 50 percent” of the application, Hale says.

The usability process mostly consisted of this sort of informal feedback; quantitative metrics such as time-on-task were not tracked. Instead, questions and exploration focused on whether users understood basic concepts and were continually making progress toward their goals. Questions included:

- Did users know how to create a new form?
- Did users understand features that weren’t explicitly explained, such as rearranging and editing with drag and drop?
- Could the secretaries I’ve met<sup>5</sup> use this without having to ask someone from IT for help?
- Could the girlfriends I’ve had use this without having to ask me for help?

Items that users found confusing or frustrating were reworked. This was crucial since the application was always meant to be targeted to less technically proficient users, Hale says.

Usability vetting is constant and ongoing, Hale says.

“Wufoo gets tested for usability every time we demo the service, use it ourselves and as support requests come in from our users,” Hale says.

The team initially used volunteer beta testers to test new features. But they found the volunteers rarely gave quality feedback and often gave no feedback at all. Instead, the team now simply rolls out new or experimental features to a random batch of current users.

“Then we wait and see how it changes the support requests that come in,” Hale says. “If everything seems kosher, we roll out to a larger batch until the feature is implemented for every user.”

Many of the new features are aimed specifically at reducing the number of support requests. Customer support does not scale easily in a three-person company, says Hale. “That’s why we invest so much time on documentation, screencasts and usability.”

Support provides a window into real-life usability, says Hale.

“On a Web application, the design breathes through customer support. It’s in support requests that Wufoo lets us know when something isn’t working. It’s there that she lets me know when I’ve done something right,” Hale says.

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<sup>4</sup> Editor’s note: Don’t write to us, we didn’t come up with it.

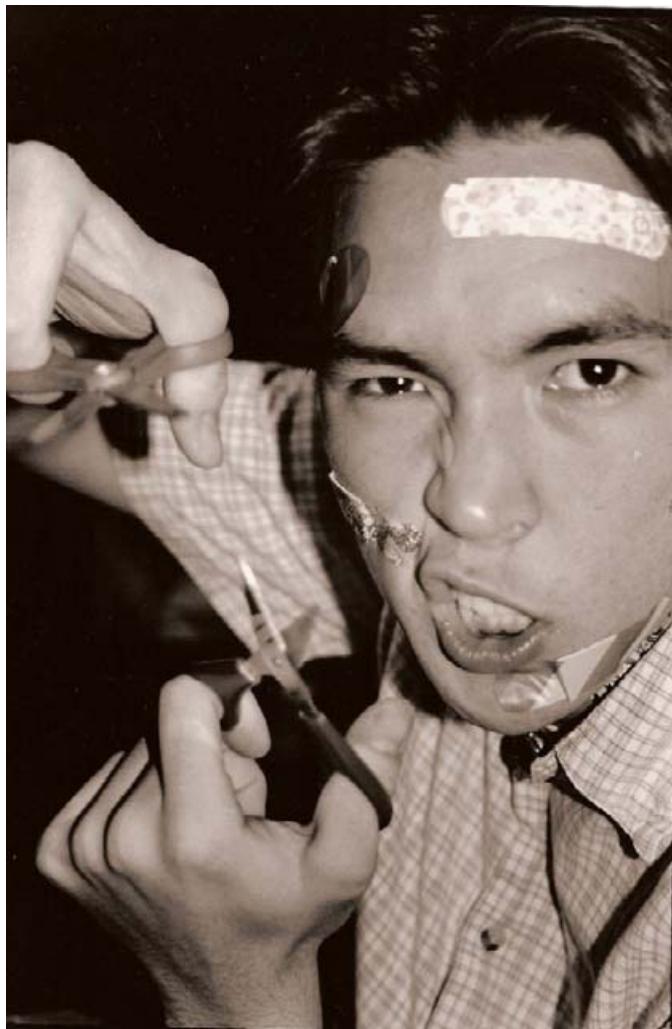
<sup>5</sup> Editor’s note: See previous editor’s note.

## TEAM

Infinity Box is the second company created by Chris Campbell, Ryan Campbell and Hale. Their first, Particletree Inc., is responsible for the web development blog, Particletree, and the monthly PDF web development magazine, Treehouse.

Hale is responsible for safeguarding and designing the Wufoo user experience. He writes about interface design issues for Particletree and served as editor-in-chief of the Web development magazine, Treehouse. Hale studied Digital Arts and Modern American English Literature at Stetson University in Florida.

As a child, he "was the kid in class who ate a box of crayons for a dollar," Hale says.



*Kevin Hale*

## WHY THEY WERE CHOSEN

To be successful, Wufoo had not only to create a highly usable development environment but also to ensure that the output from that environment was usable as well. A well constructed form creation tool which allowed users to create terrible forms would not make the users or Wufoo look good. Thankfully, the manner in which Wufoo encourages users to create forms from pre-structured elements means that it would take quite some effort to deploy a badly designed survey.

For most users, their ultimate task is not to create a survey or interface, but to gather and analyze the data for business insight. To this end, smart defaults, minimum decision making and maximum insight from the collected data are essential. Again, in the reports section of the application Wufoo streamline the data display and analysis to ensure that form administrators can quickly gain insight or collect money from their end users.

# Xero

## COMPANY INFORMATION

**Company:** Xero

**Application:** Xero

**Headquarters:** Wellington, New Zealand

**Number of employees:** 50

**Design team:**

- Philip Fierlinger, Head of Design
- Grant Robinson, Senior Interaction Designer

**Design motto:** "Rapid prototyping and rapid development lead to rapid improvement."

## OVERVIEW/MOTTO

Xero has as their mission statement "less accounting, more business." We imagine they get a lot of takers on that proposition.

"The aim of Xero is to remove complexity, automate common tasks and clarify financial performance for accounting experts and non-experts alike," the company states.

As a Web-based application, Xero addresses multiple issues of concern to both computer users and accountants alike. The recent trend toward Web apps builds on the appeal of a no-install, no-maintain software that doesn't clutter a desktop computer (see SuperSaaS for more).

Accounting, specifically, depends on consistency of data. Arguably, that's the very definition of the term. So it's easy to understand the appeal of a Web interface that allows all changes to happen in real-time and to be updated for all users instantly.

Xero, the company, was founded in New Zealand in 2006 by "serial-entrepreneur" Rod Drury and small business accountant Hamish Edwards. The company employs 50 people in 4 locations in New Zealand and England. In June 2007, Xero was listed on the NZ stock exchange after raising \$15 million (NZD) in its IPO.

The company develops its products on an iterative model, rolling out new features and making revisions based on user response. "Rapid prototyping and rapid development lead to rapid improvement," says Philip Fierlinger, Xero's Head of Design.

## WHAT DOES IT DO?

Xero is a full-function accounting program for small businesses and those who balance their books. It provides multiple tools toward this end, including cashbook, general ledger, invoicing and reporting.

Functions and information are unified in a dashboard view, which provides a real-time view of a company's financial status, enhanced by manual input and feeds of bank information. The application offers sophisticated options for reconciling accounts and generating interactive reports. It also matches up contact information

with financial transactions, allowing close coordination between client activity, communication and accounting.

Information is stored securely on Xero servers, backed up daily, and complete transaction history is always available. The application can share information among unlimited users (two to five is the norm) and manage an unlimited number of organizations from one account.

The screenshot shows the Xero homepage with a teal header bar. The header includes the Xero logo, the tagline "The world's easiest accounting system.", navigation links for "About us", "Contact Xero", "Help", a search bar, and "Find answers!". Below the header are links for "Home", "What is Xero?", "Who's using Xero?", "Find an Advisor", "Blog", "Sign Up", and "Login".

## THE SUM OF ALL PARTS

With Xero, your frontline employees help the business run better. Now your staff can enter invoices, expense claims and manage contacts. Letting you focus on what really matters. [Learn more](#)

[Try Xero for free ▶](#)

**Employees** **Owner** **Accountant**

**The world's easiest accounting system**

- ✓ 24/7 secure online access
- ✓ Your cashflow at-a-glance
- ✓ Unlimited users
- ✓ Free upgrades
- ✓ [Dare to compare Xero](#)

**Bank reconciliation**  
Xero learns how you code your transactions.

**"As soon as I saw Xero I could see the benefits."**

**XERO IN YOUR POCKET.**   
**Fresh from the Xero labs**  
Introducing a customised version of Xero for iPhone.

[Feature overview ▶](#) [Call 0800 GET XERO](#)

[Home](#) [Sign up](#) [Help](#) [Contact us](#) [Login](#) [What is Xero?](#) [Why go Xero?](#) [Compare](#) [Pricing](#) [Frequent questions](#) [Feature overview](#) [Who's using Xero?](#) [Case studies](#) [Find an advisor](#) [About us](#) [The Xero story](#) [Investor centre](#) [People](#) [Careers](#) [Press centre](#) [Contact us](#) [Change location](#) [International](#) [Privacy policy](#) [Terms of use](#) [Microsites](#)

*Xero's Web presence serves two purposes—it is both a marketing site and a portal to the application itself. Users can log in from most browsers (including the iPhone) to check on or work with their data.*

## WHO IS THE USER?

Xero users include a business's owners, advisors (including accountants and bookkeepers), investors and employees. Users can be in different geographic locations, and they usually are. Accounting and financial professionals can also use Xero to manage multiple clients (the average is two to three, but increasingly there are firms with dozens of clients).

Xero needs to accommodate the viewpoints, priorities and learning of all these user types. For instance, business owners are mainly interested in cash flow, directors are interested in revenue and profits, bookkeepers work to keep everything properly organized, while accountants are focused on tax compliance. Employees, on the other hand, only need access to perform very specific and limited tasks.

## THE APPLICATION

After signing up for the Xero service (a fairly minimal affair), users are taken into a wizard to set up their first accounts.

"For a long time we resisted creating a wizard because we felt it was too restrictive and didn't provide instant gratification," says Fierlinger. "Then we started noticing that some people weren't entering their starting balances."

This is a pretty central problem in accounting, but one which can lie dormant for a long time and only surface later in the process, when the problem has escalated to significant proportions. Although the wizard can't entirely save people from themselves, it does provide some much needed consistency to the process of getting started, and it educates users about important concepts from day one. We've included screenshots of the entire wizard process (following pages), which we think can be instructive given the deep complexity of the task.<sup>6</sup>

The education doesn't stop with the wizard, however. Key pages feature "Getting Started" panels which introduce key concepts and link to related features and help. Messaging here is extensive but to the point, and the panel can easily be hidden for those who have graduated to the next level.

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<sup>6</sup> Note: Images are from an updated version of Xero. Live updates are served regularly. In most other cases, we have used the version of the application originally submitted for consideration in the contest.

**Wizardry**

Setup Guide

Introduction Organisation Settings > Invoice Settings > Invite Users > Chart of Accounts > Account Balances > Done >

**Get setup for day-to-day business in Xero**

Follow the steps in this guide to get your organisation setup smoothly and accurately in Xero. By entering some key financial information now, you'll be ready to start using Xero for day-to-day business.

**Print the Setup Guide PDF**

 We recommend you print out this full outline of the steps in the setup process so you can refer to it at any time. [Open the Setup Guide PDF \(125KB\)](#)

**Common setup questions**

- What do I need?
- How long does it take?
- Can I quit at any time?

**Watch a guide to the setup process**

 Video guide for new businesses  
(2 minutes long)

 Video guide for businesses converting from another accounting system  
(5 minutes long)

Click the 'Next' button to begin.

**Next** ➔

*The first screen of the wizard contains both PDF and video instructions to help new users follow along with the setup process. It also provides links to the information that users will need during the process and the potential time the process will take. All of this information is essential to reassure people before they embark on the process of setting up their financial information.*

**Wizardry**

Setup Guide

Introduction → **Organisation Settings** → Invoice Settings → Invite Users → Chart of Accounts → Account Balances → Done.

### Enter your organisation's details

**Organisation Name**

Display Name: Wizardry (The name you want displayed in Xero)

Legal / Trading Name: Wizardry (The name as it will appear on your GST return, reports and invoices)

**Financial Settings**

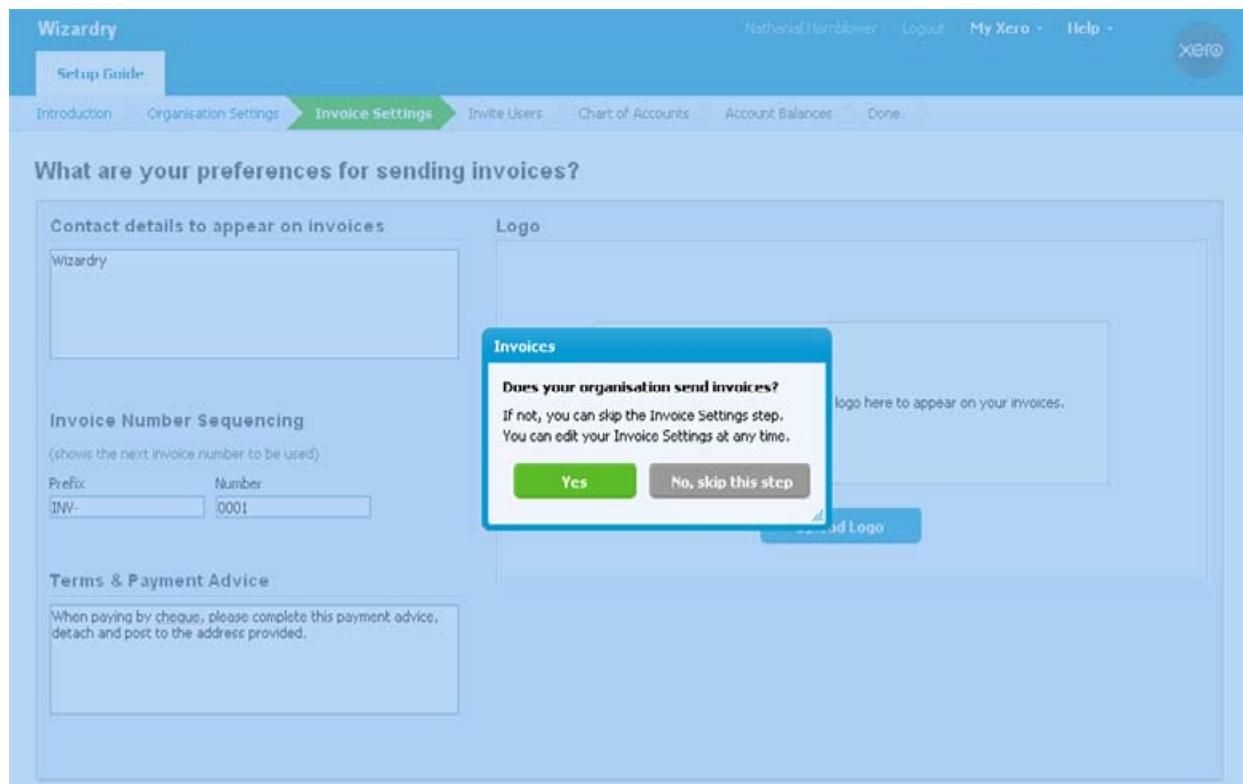
Financial Year End: 31 March, GST Period: [dropdown], GST Basis: [dropdown], GST Number: [dropdown], Time Zone: (GMT +12:00) Auckland, Wellington

**Contact Details**

Postal Address	Physical Address	Telephone
Street Address or PO Box: [text]	Street Address: [text]	Country: [dropdown] Area: [dropdown] Number: [text]
Town / City: [text]	Town / City: [text]	Fax: Country: [dropdown] Area: [dropdown] Number: [text]
State / Region: [text]	State / Region: [text]	Mobile: Country: [dropdown] Area: [dropdown] Number: [text]
Postal Code: [text]	Postal Code: [text]	DDI: Country: [dropdown] Area: [dropdown] Number: [text]
Country: [dropdown]	Country: [dropdown]	

**Buttons:** Back, Save and Quit, Next →

*Status is shown along the top of the screen, and there is the option to save and quit at any point during the wizard. Information is requested in an order and format that users will be familiar with, and smart defaults are provided for some fields.*



*Dialog boxes are displayed to save users' time. We often see users missing online dialog messages because they have clicked on the content behind, but the "lightbox" technique used by Xero (making the background inaccessible) ensures that users will see and interact with the message before continuing.*

**Wizardry**

Setup Guide

Introduction > Organisation Settings > **Invoice Settings** > Invite Users > Chart of Accounts > Account Balances > Done... >

### What are your preferences for sending invoices?

Contact details to appear on invoices

Wizardry

Logo

No logo uploaded yet. Upload a logo here to appear on your invoices.

Upload Logo

**Invoice Number Sequencing**  
(shows the next invoice number to be used)

Prefix	Number
INV-	0001

**Terms & Payment Advice**  
When paying by cheque, please complete this payment advice, detach and post to the address provided.

◀ Back

Save and Quit

Next ➔

Again, Xero have prepopulated some fields with smart default values, and by focusing on only the core tasks, they have reduced the number of items that users must think about during setup to a manageable level. Buttons are labeled with their action ("Upload Logo"), making it easy for users to see at a glance what is required. The assistance text in the empty logo space also describes where the logo will be used, which helps users decide what size image to upload.

The screenshot shows the Xero Wizardry interface. At the top, there's a blue header bar with the Xero logo and navigation links like 'Logout', 'My Xero', and 'Help'. Below the header, a breadcrumb trail shows the user has reached the 'Invite Users' step: 'Introduction > Organisation Settings > Invoice Settings > Invite Users'. The main content area is titled 'Invite others to access your organisation'. It includes a note about inviting users and two buttons: 'Invite a User' and 'Invite Xero Customer Care'. A table lists a single user: 'Nathaniel Hornblower (Subscriber)' with 'Standard + Manage Users' permissions, marked as 'Active' with a last login of '21 May 2008, 4:44 p.m.' and 2 logins this week. Below the table, a note says 'When you have finished inviting users, click the "Next" button to continue.' At the bottom, there are 'Back', 'Save and Quit', and 'Next' buttons.

*"Permissions" are handled using language that users will be familiar with. It makes good sense to invite others to access the information rather than talking in typical computer jargon about accounts, restrictions and such like.*

**Wizardry**

**Setup Guide**

Introduction > Organisation Settings > Invoice Settings > **Invite Users** > Chart of Accounts > Account Balances > Done.

### Invite others to access your organisation

If you'd like your accountant or financial adviser to review the information you have entered or to complete the setup process for you, invite them by filling out their details below. We recommend you give them 'Financial Adviser' permissions. We'll send them an email invitation which they can use to log in and help you complete the setup process.

**Enter their details**

First Name	Last Name	Email	Pending
<input type="text"/>	<input type="text"/>	<input type="text"/>	

**Set their permissions**

Choose the level of access you want this user to have:

	Bank reconciliation	Invoices & expense claims	Edit system settings	View reports	Publish reports	Lock dates
<input type="radio"/> Cash Manager	Comments only					
<input type="radio"/> Employee		Raise drafts only				
<input checked="" type="radio"/> Standard	✓	✓	✓	✓		
<input type="radio"/> Financial Adviser	✓	✓	✓	✓	✓	✓

**Manage Users**

Allow this user to add and remove users and change permissions.

**Continue** **Cancel**

The screenshot shows a user interface for inviting others to access an organization. At the top, there's a navigation bar with links like 'Introduction', 'Organisation Settings', 'Invoice Settings', 'Invite Users' (which is highlighted in green), 'Chart of Accounts', 'Account Balances', and 'Done'. Below this, a section titled 'Invite others to access your organisation' explains how to invite accountants or financial advisers. It includes fields for 'First Name', 'Last Name', and 'Email', with a status indicator 'Pending' to the right. The main focus is a table titled 'Set their permissions' where users can choose from four levels: 'Cash Manager', 'Employee', 'Standard', and 'Financial Adviser'. Each row in the table has a radio button next to it. The 'Standard' row is selected and highlighted with a green background. The 'Financial Adviser' row also has a green background. The table columns represent various system permissions: Bank reconciliation, Invoices & expense claims, Edit system settings, View reports, Publish reports, and Lock dates. A 'Manage Users' section at the bottom allows the user to enable or disable permission to add and remove users and change permissions. Finally, there are 'Continue' and 'Cancel' buttons at the bottom right.

*Choosing permission levels is easy—four radio buttons distinguish the different levels. Xero have chosen a visual display of the different access granted to each level. This saves much space and repetition in comparison to a textual description and allows for descriptive help just one click away.*

The screenshot shows a software interface titled "Wizardry" with a "Setup Guide" tab selected. The main title is "How would you like to setup your Chart of Accounts?". Below it, a note says: "Your Chart of Accounts is a list of all the accounts used to code your transactions. You can use Xero's default accounts or import your own." Three radio button options are listed: "Use the default Chart of Accounts provided by Xero" (unchecked), "Import from file (Xero, MYOB and Banklink)" (unchecked), and "Keep the current Chart of Accounts" (checked). At the bottom are "Back" and "Next" buttons, with "Save and Quit" in the center.

*Often users won't know which option to pick. By "suggesting" the most suitable option through the use of pre-selected radio buttons (smart defaults), the application helps users to quickly move forward.*

**Wizardry**

Setup Guide

Nathaniel Hombleyer Logout My Xero Help Xero

Introduction Organisation Settings Invoice Settings Invite Users **Chart of Accounts** Account Balances Done

### Confirm your Chart of Accounts

You can modify your Chart of Accounts by adding, editing or deleting accounts from the list below. Use the 'Add Bank Account' button to setup bank accounts and credit cards for use in processing cash transactions. Read our help on [Chart of Accounts](#) for more information.

**Add Account** **Add Bank Account**

All Accounts Assets Liabilities Equity Expenses Revenue

**Delete** No accounts selected

Code	Name	Type	Tax
200	Sales Income from any normal business activity	Revenue	GST on Income
260	Other Revenue Any other income that does not relate to normal business activities and is not recurring	Revenue	GST on Income
270	Interest Income Gross interest income (i.e. before deducting Residential Withholding Tax), such as bank interest	Revenue	No GST
400	Advertising Expenses incurred for advertising while trying to increase sales	Overhead	GST on Expenses
404	Bank Fees Fees charged by your bank for transactions regarding your bank account(s).	Overhead	No GST
408	Cleaning Expenses incurred for cleaning business property.	Overhead	GST on Expenses
412	Consulting & Accounting Expenses related to paying consultants	Overhead	GST on Expenses
416	Depreciation The amount of the asset's cost (based on the useful life) that was consumed during the period	Overhead	No GST
420	Entertainment 50% of the total expense relating to business-related entertainment. E.g. shouting clients or employees a drink or a meal etc.	Overhead	GST on Expenses
424	Entertainment - Non deductible Expenses paid by company for the business but are not deductible for income tax purposes.	Overhead	No GST
425	Freight & Courier Expenses incurred on courier & freight costs	Overhead	GST on Expenses
429	General Expenses General expenses related to the running of the business.	Overhead	GST on Expenses
433	Insurance Expenses incurred for insuring the business' assets	Overhead	GST on Expenses
437	Interest Expense Any interest expenses paid to IRD, business bank accounts or credit card accounts.	Overhead	No GST
441	Legal Expenses Expenses incurred on any legal matters	Overhead	GST on Expenses
445	Light, Power, Heating Expenses incurred for lighting, powering or heating the premises	Overhead	GST on Expenses
449	Motor Vehicle Expenses Expenses incurred on the running of company motor vehicles	Overhead	GST on Expenses
453	Office Expenses General expenses related to the running of the business office.	Overhead	GST on Expenses
461	Printing & Stationery Expenses incurred by the entity as a result of printing and stationery	Overhead	GST on Expenses
469	Rent The payment to lease a building or area.	Overhead	GST on Expenses
473	Repairs and Maintenance Expenses incurred on a damaged or run down asset that will bring the asset back to its original condition.	Overhead	GST on Expenses
477	Salaries Payment to employees in exchange for their resources	Overhead	No GST
485	Subscriptions E.g. Magazines, professional bodies.	Overhead	GST on Expenses
489	Telephone & Internet Expenditure incurred from any business-related phone calls, phone lines, or internet connections	Overhead	GST on Expenses
493	Travel - National Expenses incurred from domestic travel which has a business purpose	Overhead	GST on Expenses

Page 1 of 2 (49 total items) Showing 25 items per page **Next >** **End »**

When you have finished customising your accounts, click the 'Next' button to continue.

**Back** **Save and Quit** **Next**

*Even when dealing with more complex data presentations, the interface follows a familiar format—here, the Chart of Accounts is presented in a very*

*similar manner to Web-based e-mail accounts. It should be easy for users to scan the list and make changes where necessary.*

<input type="checkbox"/> 437	Interest, Exchange Any interest expenses paid to IRD, business bank accounts or credit card accounts.	Overhead	No GST
<input type="checkbox"/> 441	Legal expenses Expenses incurred on any legal matters	Overhead	GST on Expenses
<input type="checkbox"/> 445	Light, Power, Heating Expenses incurred for lighting, powering or heating the premises	Overhead	GST on Expenses
<input type="checkbox"/> 449	Motor Vehicle Expenses Expenses incurred on the running of company motor vehicles	Overhead	GST on Expenses
<input type="checkbox"/> 453	Office Expenses General expenses related to the running of the business office.	Overhead	GST on Expenses
<input type="checkbox"/> 461	Printing & Stationery Expenses incurred by the entity as a result of printing and stationery	Overhead	GST on Expenses
<input type="checkbox"/> 469	Rent The payment to lease a building or area.	Overhead	GST on Expenses
<input type="checkbox"/> 473	Repairs and Maintenance Expenses incurred on a damaged or run down asset that will bring the asset back to its original condition.	Overhead	GST on Expenses
<input type="checkbox"/> 477	Salaries Payment to employees in exchange for their services	Overhead	No GST
<input type="checkbox"/> 485	Subscriptions E.g. Magazines, professional bodies.	Overhead	GST on Expenses
<input type="checkbox"/> 489	Telephone & Internet Expenditure incurred from any business-related telephone or internet connection	Overhead	GST on Expenses
<input type="checkbox"/> 493	Travel - National Expenses incurred from domestic travel which are not included in other categories	Overhead	GST on Expenses

No Bank Accounts Added  
You have not added any bank accounts. You can do this by clicking the 'Add Bank Account' button on this screen.  
Do you want to continue without adding any bank accounts?

[Yes, continue anyway](#) [No](#)

1 2 [Next >](#) [End »](#)

When you have finished customising your accounts, click the "Next" button to continue.

[Back](#) [Save and Quit](#) [Next >](#)

*Users often just hit "Next" through wizards. Xero detects this behavior on screens where it is likely that changes should be made. Note that no blame or criticism is implied in the message.*

**Wizardry**

Setup Guide

Introduction > Organisation Settings > Invoice Settings > Invite Users > Chart of Accounts > **Account Balances** > Done.

**Set your conversion date**

**Conversion Date**

Enter the date that you intend to begin processing all your transactions in Xero. It's easiest when you set your conversion date to be the start of a GST period. [Tips for Choosing a Conversion Date](#).

Month: March Year: 2008

In the next step you will be asked to provide account balances as at: **29 Feb 2008**.

**Back** **Save and Quit** **Next**

*Assistance text suggests a sensible way forward and provides links to more information. The next step is also clearly signposted.*

**Wizardry**

Setup Guide

Introduction > Organisation Settings > Invoice Settings > Invite Users > Chart of Accounts > **Account Balances** > Done.

**Enter your account balances as at 29 Feb 2008**

Account	+ Add Account	Debit	Credit
610 - Accounts Receivable		0.00	
800 - Accounts Payable			0.00

**Add a new line** Show all accounts Remove zero balances

**Total Debits** 0.00 **Total Credits** 0.00

**Adjustments**  
This accounts for the difference between debits and credits

**Tips for entering balances**

- Print a complete set of your existing account balances (Trial Balance) as at **29 Feb 2008**
- Add a new line for each account and enter the account balance in either the Debit or Credit column.
- Xero only has one account for GST.** If you have more than one GST account in your previous accounting system you will need to total up these balances and enter that total as the balance for the GST account.
- If your debits and credits don't match then the difference will be recorded as an Adjustment. You can update your accounts at any time to bring your Debits and Credits into balance.
- Enter your bank account balances in the debit column (with any overdrawn balances as a negative amount).

**Back** **Save and Quit** **Next**

*Tips appear on pages within the Wizard where users may experience confusion with accounting practices. Here, the tips walk users through the process of entering starting balances.*

The screenshot shows the Xero Wizardry setup process completed. The top navigation bar includes 'Nathaniel Hornblower' (Logout), 'My Xero', 'Help', and the Xero logo. The breadcrumb trail at the top right shows the path: 'Introduction > Organisation Settings > Invoice Settings > Invite Users > Chart of Accounts > Account Balances > Done.' A green 'Done' button is highlighted. The main content area is titled 'Setup Complete!' with the message: 'You're nearly done. Just click 'Finish' to start using Xero for your day-to-day business.' It includes sections for 'Not sure about your numbers?' and 'What happens next?'. Below this is a summary of what happens when you click 'Finish'. At the bottom are buttons for 'Back to Start', 'Back', 'Save and Quit' (in blue), and a large green 'Finish' button.

You're nearly done. Just click 'Finish' to start using Xero for your day-to-day business.

**Not sure about your numbers?**

At this stage everything is saved within the setup process but not yet committed into Xero. If you're at all unsure about anything you've entered you can go back and review it, start again or ask your financial adviser to log in and do this for you. If you haven't invited your financial adviser yet, you can do so now by returning to the Invite Users step.

**What happens next?**

- When you click the Finish button, all the information you've entered will be saved into Xero, you'll then be taken to your dashboard.
- Your accounts will be 'locked' as at your conversion date. This prevents you from accidentally entering data before this date.
- If you know about journals, you can read our help on The Accounting behind Xero to find out what's happening behind the scenes.

**Back to Start** **Back** **Save and Quit** **Finish**

*Although the Wizard is sequential, users can return to previous steps at any point and the rest of their data will be retained.*

## NAVIGATION PATHS/CHOICE

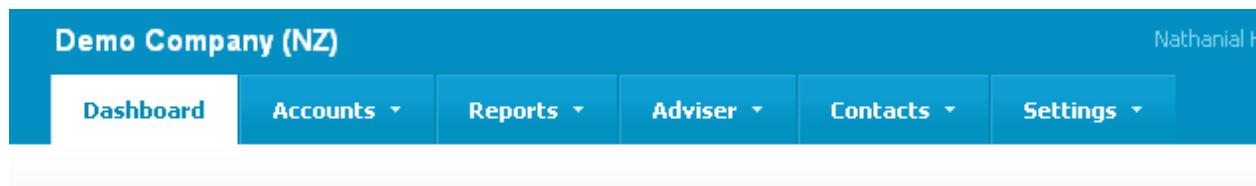
Once the setup phase is completed, the next natural step is to move to the dashboard. Although the dashboard interface is a gateway to all of Xero's other functions, the view itself is strongly constrained.

The decision to limit user freedom ensured that the right data gets presented in the right way. Only one panel on the dashboard offers options, and that's the Account Watchlist, which allows the user to select which accounts are monitored at this level.

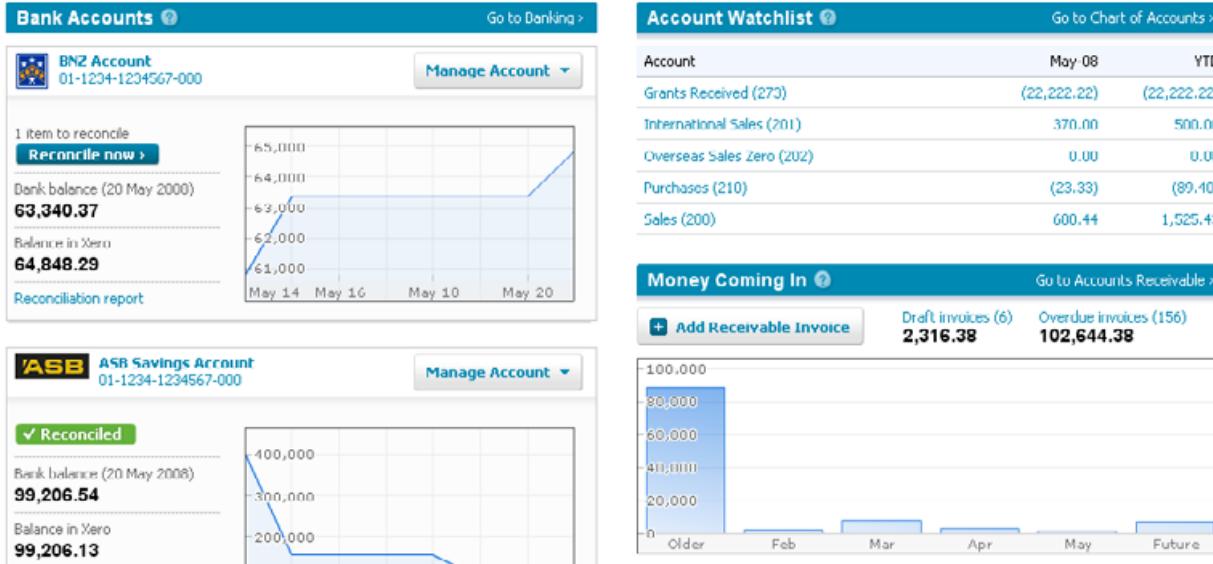
Each module features a link in its title bar that takes the user to a more in-depth section of the application where they can get more information or take action.

The modules are echoed but not precisely duplicated by the top level navigation, a series of big, fat clickable buttons across the top of every screen for the major areas of Xero—Dashboard, Accounts, Reports, Adviser, Contacts, Settings and Help.

The color and 3-D texture of the menu buttons ensure they stand out—not to the point of distraction, but they hold the user's attention and clearly represent the primary navigation function. The dropdowns are similarly styled and similarly effective.



*Buttons on a menu bar provide the primary navigation. These drop-down buttons also highlight like tabs to allow users to see their current location in the application.*



Dashboard items are designed to provide a quick overview rather than being highly customizable. Still, several actions are available from each item using both buttons and links.

Demo Company (NZ) Switch Organisation ▾

Logged in as Philip Fierlinger My Xero Logout xero

Dashboard Accounts Reports Adviser Contacts Settings Help

## Demo Company (NZ)

**Getting Started With Xero**

These are some common ways to start using Xero...

1. Watch the Getting Started tour.
2. Print the Getting Started Guide . This document has a list of the information you'll need to gather to get started, and a step-by-step guide.
3. Complete your Organisation Settings and Invoice Settings.
4. Setup your bank accounts you plan to balance in Xero.
5. Invite other users such as your accountant or financial adviser to access your organisation.

The Getting Started Guide contains other steps you should complete with the assistance of your accountant or financial adviser.

**Notifications** Go to Notifications >

- GST is due in 6 weeks
- Payment due 20 Feb 00 to City Cleaners for 200.11
- Spending in Marketing for February has exceeded 2,000.00
- Note (from Nathaniel Hornblower on 4 Feb 00): Please tell me who was at this ...
- Management Report published 4 Feb 00

**Account Watchlist** Go to Chart of Accounts >

Account	Feb-08	YTD
Advertising - Television (289/1)	0.00	8,268.80
Sales - documentation (202/4)	155.36	10,764.78

**Money Coming In** Go to Accounts Receivable >

Add Receivable Invoice



**Bank Accounts** Go to Bank Accounts >

**BNZ Cheque** 02-4567-7091234-000 Manage Account ▾

14 items to reconcile. **Reconcile now**

Bank balance (25 Feb 6:27am) **2,464.79**

Balance in Xero **1,992.43**

**BNZ Savings** 02-0541-1234567-500 Manage Account ▾

Your last import was 3 days ago. **Get daily bank feeds free!**

3 items to reconcile. **Reconcile now**

Bank balance (25 Feb 10:01am) **539.97**

Balance in Xero **2,246.24**

**Account Watchlist** Go to Chart of Accounts >

Account	Feb-08	YTD
Advertising - Television (289/1)	0.00	8,268.80
Sales - documentation (202/4)	155.36	10,764.78

**Money Going Out** Go to Accounts Payable >

Add Payable Invoice



**Expense Claims**

Your Current Claim	All Current Claims (2)
<b>298.20</b>	<b>318.20</b>

Awaiting Authorisation (12)	Awaiting Payment (7)
<b>5,159.27</b>	<b>1,124.24</b>

*The dashboard gives a quick overview and allows for drill-down. Xero decided not to allow configuration of each module in an attempt to simplify the story for the user. Users can drill down from the dashboard into the relevant areas of the application to quickly gather more detail on problem areas. Advanced users can gather more information by looking at the provided reports.*

## INTERFACE ELEMENTS

One of the most important interface elements is the text attached to a control or message, says Fierlinger. While picking the right text is always a huge consideration in usability design, it's even more important for Xero's customers.

"It's important to keep words absolutely concise and unambiguous, especially when it comes to menus and buttons," he says. "With accounting terminology this can be extremely difficult, because many terms have multiple meanings depending on context."

For instance, the word account can refer to a bank account, a sales account, accounts payable, accounts receivable or the user's account with Xero (which the team branded as a "profile" in order to circumvent the issue).

Critical accounting terms are also often two or more words, frequently a main term with a modifier. Words like payment, invoice or credit need a modifier specifying if they are being sent or received by the company. Even accountants can misplace or misuse accounting terms, so clarity is a top focus.

## BUTTONS

In addition to the menu buttons, dialog and action buttons throughout the program have a consistent look and feel. All buttons throughout feature a 3-D patina and most feature color.

"It took us a few months and many iterations to establish a well defined button style," says Fierlinger. "The big considerations were size, color and placement. We ended up using fairly big and brightly colored buttons as our standard design, to give them relatively big target areas that standout."

Major action buttons (such as "Save" or "Publish") are brightly colored. Buttons which are represent neutral or intermediary steps (submitting a draft for approval or refreshing a display) are a more muted blue. Non-action buttons such as "Back" or "Cancel" are gray.

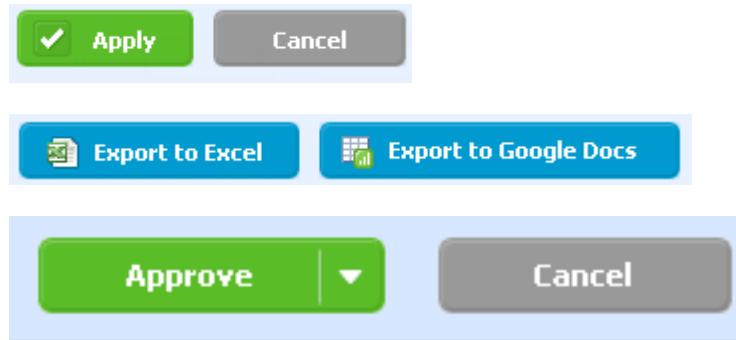
"We've struggled with the use of red for Delete functionality," says Fierlinger. "We want to call attention to the destructiveness and permanence of a delete, but ironically in doing so it calls far too much attention to itself. We're gradually removing the use of red in favor of gray with a red rollover."

The team experimented with button placement in early iterations of the application, switching between right and left align positions. Users complained about the left-aligned buttons but had no comment about the right, resolving the issue quickly.

Button size throughout the program is fairly consistent, with most being significantly larger than a Windows standard button, but not so large as to create distractions.

The screenshot shows a budgeting interface in Xero. At the top, there are dropdown menus for 'Budget start date' (April 2008), 'Months of actuals to show' (3 Months), 'Months to budget from start date' (12 Months), and an 'Update' button. Below this is a grid showing monthly financial data from Jan-00 to Aug-00. A modal dialog titled 'Apply Formula' is open over the grid. The dialog contains three radio button options: 'Apply fixed amount to each months:' (with a value of 30), 'Adjust by amount each month:' (with a value of 0), and 'Adjust by percentage each month:' (which is selected, with a value of 5%). There are 'Apply' and 'Cancel' buttons at the bottom of the dialog.

*Buttons look sufficiently clickable. The default action button is always green, and secondary actions are shown by blue buttons.*



*Button detail: Labels are descriptive and typically start with a verb. Xero also makes use of split buttons, which have a default action and also additional related actions behind the drop-down arrow. This style of button is becoming more popular as it allows several related commands to be displayed in a smaller area and clearly signals the default action. (Note, though, that the secondary commands truly do become secondary with this design, since they are out of sight, and thus often out of mind as well, especially for less-skilled users. Thus, split buttons are best for cases where one command is used)*

*(much more than the rest and where the secondary commands are mainly expert features.)*

## MENUS/BREADCRUMBS

The process of defining industry standards for online applications is still evolving, nowhere more noticeably than in the use (or non-use) of menus. We saw a lot of different approaches to the menu problem among contest entrants, including examples in which menus had been entirely discarded (see FotoFlexer, page 38).

Xero's approach was to make the menus count with strong placement and sharply curtailed options—keeping the number of menus contained, constraining dropdowns to ideally six options or fewer, using brief descriptive labels and eschewing nested menus altogether. The result is a command-and-control interface which doesn't intimidate.

"This is one key reason why people perceive Xero to be so easy," says Fierlinger. "It's much more approachable and less overwhelming than most accounting systems."

Menu and button labels received a lot of attention from the design team, which "agonized and debated fiercely" over each one, Fierlinger said. "There is a never ending struggle between varying mental models, levels of expertise and varying contexts."

Because the application uses the full screen for transactional data displays and input fields, the decision was made to keep the menu navigation horizontal rather than the more common left-hand column approach. Thanks to the size and texture of the menus, this works just fine.

The dropdown menus were added after early experiments with a list of links. As the list of links grew longer, the dropdown format became more attractive, because it limited the number of choices on screen at any given moment.

The menus are split-button style. Clicking "Reports" simply takes users to the reports category page, whereas clicking a down-arrow next to the label drops down a menu of specific reports to choose from.

"These split button menus have provided an extremely economical mechanism to offer a wider range of functionality in a convenient, yet unobtrusive form factor," says Fierlinger.

## DIALOGS AND MESSAGING

The program uses "popover" dialogs to add data in certain contexts without leaving the current page, for instance, when adding a new account. Severe errors or critical confirmations—such as deleting important data—are marked with modal dialogs. Colored banners are used for confirmations and general notifications, but the Xero team has been refining the visual treatment to make sure they get the user's attention.

"We've increased the size and visual intensity of the banners, but still they are often overlooked," Fierlinger says. "We're exploring other visual cues, like animation."

Inline highlight messages are used occasionally, when input data is incorrectly formatted or otherwise incorrect.

The screenshot shows a software interface for 'Thobi's Toi Shop'. At the top, there is a navigation bar with tabs: Dashboard, Accounts, Reports, Contacts, and Settings. The 'Accounts' tab is currently selected, and a dropdown menu is open beneath it. The dropdown menu items are: Bank Accounts, Accounts Receivable, Accounts Payable, Expense Claims, and Budget Manager. The 'Expense Claims' option is highlighted with a dark blue background. Below the dropdown menu, there is a section titled 'Edit an' with a sub-section 'Awaiting Approval'. On the left, there is a 'To' field containing 'De African Toy Shop'. In the center, there are fields for 'Due Date' (set to '19 Aug 2007') and 'Invoice #' (set to '\*TTS\*0000000000'). Below these fields, there is a checkbox labeled 'Include Tax' which is checked, followed by the text 'Line item amounts are: Tax Exclusive' with a radio button next to it. Further down, there is a table with columns 'Description', 'Quantity', and 'Unit Price'. A single row is visible in the table, showing 'Tin Soldiers' with a quantity of '20.00' and a unit price of '2.00'. At the bottom of the table, there are dropdown menus for 'Account' (set to '200 - Sales') and 'Tax Rate' (set to 'GST on Income'), each with an '+Add' link. To the right of the table, there is another dropdown menu for 'Toys' with an '+Add' link.

*Drop-down menu lists from the toolbar are typically short and never cascade. This makes it easier for users to select the correct option.*

Demo Company (NZ) Switch Organisation ▾

Logged in as Philip Fierlinger My Xero

Dashboard Accounts Reports Contacts Settings

Reports > Draft >

## Profit and Loss

Compare Periods Show Date Range

Date: February 2008 Period: 1 month Compare With: Previous 3 Periods Show YTD Update

More options

### Profit and Loss

Demo Company (NZ)

For the 12 months ended 29 February 2008

Account	Feb-08	Jan-08	Dec-07	Nov-07
<b>Income</b>				
Sales - development	135.00	0.00	0.00	0.00
Sales - documentation		0.00	0.00	0.00
Sales - licences		650.00	0.00	250.00
Sales - reseller - Adobe	0.00	0.00	0.00	0.00
Sales - reseller - MS	0.00	0.00	0.00	0.00
Sales - services	150.00	0.00	100.00	550.00
<b>Total Income</b>	<b>150.00</b>	<b>650.00</b>	<b>100.00</b>	<b>800.00</b>

Contextual menus are also provided within the data itself to allow quick access to item-specific tasks.

The screenshot shows the Xero Budget Manager interface. At the top, there's a navigation bar with links for Dashboard, Accounts, Reports, Contacts, Settings, Help, and a user account section. Below the navigation bar, the title "Budget Manager" is displayed. Underneath the title, there are three dropdown menus for setting the budget start date (April 2007), months of actuals to show (3 Months), and months to budget from start date (12 Months). A blue "Update" button is located next to these dropdowns. The main area is a grid table showing financial data for the months of Jan-07 through Aug-07. The table has several sections: Income, Less Cost of Sales, Total Cost of Sales, Gross Profit, and Other Income. An "Apply Formula" dialog box is overlaid on the grid, centered over the April row. The dialog box has three options: "Apply fixed amount to each months:" (radio button selected), "Adjust by amount each month:" (radio button), and "Adjust by percentage each month:". It also contains "Apply" and "Cancel" buttons. At the bottom of the grid, there are "Export to Excel" and "Save" buttons.

*Dialog boxes appear to float above the page, but because they are coded as part of the page they can never be "lost" behind the main screen—a problem we consistently see with Web applications.*

The screenshot shows the Xero accounting software interface. At the top, there's a navigation bar with links for Dashboard, Accounts, Reports, Adviser, Contacts, and Settings. The user is logged in as Nathaniel Hornblower. On the right, there are links for Logout, My Xero, and Help, along with the Xero logo.

The main title is "Chart of Accounts". Below it, there are several buttons: Add Account, Add Bank Account, Print PDF, Import, and Export. There are also tabs for All Accounts, Assets, Liabilities, Equity, Expenses, Revenue, and Archives.

A modal dialog box titled "Delete Accounts" is open. It contains a message: "You have selected 8 Accounts to be Deleted!" followed by two notifications: "1 account will be Deleted" and "7 accounts cannot be Deleted so they will be Archived". A note below states: "Note: Deleting accounts is permanent and cannot be undone. Archived accounts can be Restored at any time." At the bottom of the dialog are "OK" and "Cancel" buttons.

On the right side of the screen, there's a table showing transaction details. The columns are Tax, YTD, Description, Type, and Date. The table lists various transactions such as GST on Income, Direct Costs, Other Income, and No GST.

*Modal dialogs are used for confirmation and important messaging. These dialogs use a "lightbox" effect to blur out the main content window, providing extra focus on the modal dialog box.*

## HELP AND HANDHOLDING

The complexity of the accounting task, combined with a powerful and feature-laden application, makes it vital to educate users from day one and on an ongoing basis. The Getting Started panels mentioned above are part of an evolving strategy.

"We have plans to make these a bit more narrative by providing a recommended set of day-to-day activities," says Fierlinger. "We believe this will help people maximize the advantages of using our software, guiding them away from transferring their old thinking and old approaches to Xero."

The site features a number other ways to steer and educate users, once they have become acclimated to the application's controls.

- Tutorial videos are offered within the program for several topics, which walk users through a typical scenario from start to finish. In addition, the marketing site has simpler videos showing key features in action.
- A knowledgebase with search steers users to more detailed explanations of features and controls, and can also be accessed through context sensitive help. Clickable tips are available in various places and open in a popover window.
- Industry vertical guides explain how to perform some of the most common accounting tasks using Xero for each industry, including real estate, property investment and sports clubs.
- In the Help menu there is a Contact Support link which opens a panel to let you send an email directly to our support team. It has options for you to categorize your support issue as either a question, a suggestion, or to report a bug.
- A Xero blog is also offered.

Xero initially invested significant effort in creating and building up a user forum, but they didn't get much traction, Fierlinger says, so the team is currently refocusing on other support options.

One idea under consideration is adding "practice tasks" to give people a hands-on education in key concepts, similar to the way video games offer interactive tutorials that coach users while they perform a series of learning tasks.

**Demo Company (NZ)** Switch Organisation ▾

Logged in as Philip Florlinger My Xero Logout Help ▾

## Demo Company (NZ)

**Getting Started With Xero**

These are some common ways to start using Xero...

1. Watch the [Getting Started tour](#).
2. Print the [Getting Started Guide](#). This document has a list of the information you'll need to gather to get started, and a step-by-step guide.
3. Complete your [Organisation Settings](#) and [Invoice Settings](#).
4. [Setup your bank accounts](#) you plan to balance in Xero.
5. [Invite other users](#) such as your accountant or financial adviser to access your organisation.

The [Getting Started Guide](#) contains other steps you should complete with the assistance of your accountant or financial adviser.

**Notifications** Go to Notifications >

- GST is due in 6 weeks. X
- Payment due 28 Feb 08 to City Cleaners for 203.11 X
- Spending in Marketing for February has exceeded 2,000.00 X
- Note (from Nathaniel Hornblower on 1 Feb 08): Please tell me who was at this ... X
- Management Report published 4 Feb 08 X

[7 more notifications >](#) Manage Notifications >

**Account Watchlist** Go to Chart of Accounts >

Account	Feb-08	YTD
Advertising - Television (209/1)	0.00	8,268.80
Sales - documentation (202/4)	155.36	10,764.78

**Money Coming In** Go to Accounts Receivable >

+ Add Receivable Invoice

*Handholding for new users in the dashboard view: It is important that users be given their "next steps" rather than just dumping them in a location where they must deduce their tasks.*

Demo Company (NZ) Switch Organisation ▾

Logged in as Philip Pierlinger My Xero Logout

Dashboard Accounts Reports Adviser Contacts Settings Help

Get your questions answered and join the discussion in the Xero Community Forums. [Open Forums in a new window](#)

Contact Support

Please describe the issue that you are experiencing, including the steps leading up to the issue.

I have a question  
 I have a suggestion  
 Something is broken

Send Cancel

Accounts Receivable > Add an Invoice

To Date Due Date Invoice # Reference

INV-0291

Amounts are Tax Exclusive

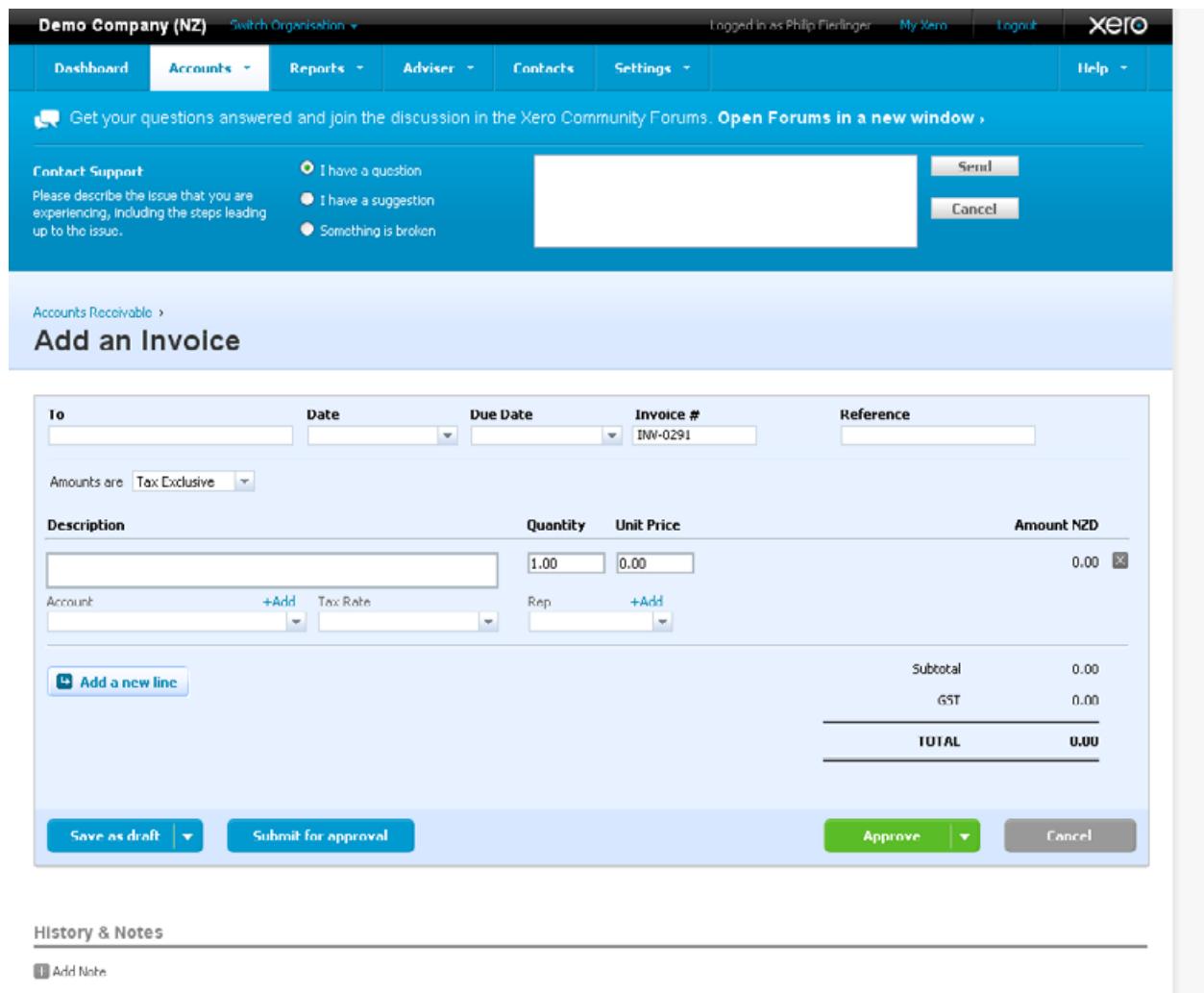
Description	Quantity	Unit Price	Amount NZD
	1.00	0.00	0.00
Account	+Add	Tax Rate	
Rep	+Add		
<a href="#">Add a new line</a>			Subtotal 0.00
			GST 0.00
			<b>TOTAL 0.00</b>

Save as draft | Submit for approval | Approve | Cancel

History & Notes

Add Note

Live support is available from within the application. This allows the support team to know exactly where a user was when they had an issue.



 Xero last updated 19 Feb 2008 [View Changes](#)

## How Do I?

### Getting Started

 [How do I get started?](#)

### Banking

 [How do I set up automated bank feeds?](#)

 [How do I process payments or cash before they've been banked?](#)

 [How do I pay wages?](#)

### Credit Cards

 [How do I manage my business credit card?](#)

 [How do I show personal spending on my business credit card?](#)

### My Xero

 [How do I change my contact details?](#)

 [How do I remove an organisation?](#)

 [How do I change my billing information?](#)

### Not so day-to-day stuff

 [How do I show a purchase that I've paid for with my own money?](#)

 [How do I take cash drawings?](#)

 [How do I handle dishonoured customer payments?](#)

 [How do I record a bad debt?](#)

 [How do I post a manual journal?](#)

## Accounting in Xero

 [The accounting behind Xero](#)

A guide to how Xero does its accounting

## User Guide

 [Recent Changes](#)

 [Getting Started](#)

 [The Xero Dashboard](#)

 [Chart of Accounts](#)

 [Set your Starting Balances](#)

 [Organisation Settings](#)

 [Invoice Settings](#)

 [Tracking](#)

 [Manage your Bank Accounts](#)

 [Accounts Receivable invoices & credit notes](#)

 [Accounts Payable invoices & credit notes](#)

 [Manage your invoices & credit notes](#)

 [Repeating Transactions](#)

 [Expense Claims](#)

 [Create a Budget using Xero's Budget Manager](#)

 [History & Notes](#)

 [Reports](#)

 [Contacts](#)

 [Users](#)

[Help Centre](#) | [What is Xero?](#) | [Privacy Policy](#) | [Terms of Use](#) | © Xero 2007

*Help is written by user task and also by feature area. This means that less experienced users can start from a description of the problem they face, whereas users migrating from a different application can quickly find out how to perform the same action within Xero. There is also a section aimed more at accountants whose clients may have chosen to use Xero.*

## INFORMATION DISPLAY

More than most tasks, accounting is all about the information, and Xero has a lot of different ways to show it to you.

The most important and most frequently accessed information display is the Dashboard, which features five modular boxes containing the most important information users need: Bank Accounts, Account Watchlist, Money Coming In, Money Going Out and Expense Claims. Note the user-centric language in this section of the application.

The modules feature a mix of text and graphical representations, providing a very fast and targeted look at the health of the user's accounts and issues in need of attention. Most of the displays are interactive, offering routine or convenient functions without having to navigate further. For instance, adding new bank transactions, invoices or expense claims is available with a single click from the Dashboard.

In different sections of the application, information is displayed in an efficient sortable tabular format. It offers all the functionality you would expect, but more. In some cases there are additional controls to act on individual fields in a table. Plus, on many screens, multiple items can be selected for bulk action.

Standard data input fields use auto-complete as appropriate, and the application learns over time how the user codes transactions, leading to even more auto-completion.

The design is nicely optimized for readability—with far more white space and more intuitive Gestalt grouping than the spreadsheets users are likely accustomed to.

Transactions are organized by type in different sections of the application; then can be further isolated by payment status using a tab scheme. All lists are sortable and paginated to minimize scrolling. The search function can be used to find specific transactions by invoice number, reference, contact or date range.

Demo Company (NZ) Switch Organisation ▾

Logged in as Philip Fierlinger My Xero Logout xero

Dashboard Accounts Reports Contacts Settings Help

## Accounts Payable

[+ New Invoice](#) [New Repeating Invoice](#)

Summary All Draft Awaiting Approval Awaiting Payment Paid Voided Deleted Credit Notes

[Search](#) in Accounts Payable > Paid

Ref	From	Invoice Date	Due Date	Paid
	Brooklyn City Council	20 Jul 2007	20 Aug 2007	0.00
PWR0707	Victor Power	19 Jul 2007	20 Aug 2007	159.23
	Geraghty Interiors	20 Jun 2007	5 Jul 2007	168.75
	Victor Power	19 May 2007	20 Jun 2007	150.00
DD	Barton Beans	1 May 2007	20 Jun 2007	36.00
TPM44903	Truxton Property Management	30 Apr 2007	31 May 2007	1,101.25
TPM556875	Truxton Property Management	20 Apr 2007	20 May 2007	3,543.75
SPK07016090	Miss Sparkle Cleaning Company	10 Apr 2007	30 Apr 2007	69.95
	Elmira Valet	10 Apr 2007	31 May 2007	33.75
07-12559	Office Max	5 Apr 2007	30 Apr 2007	251.00

Page  of 5 (47 total items) | Showing  items per page | [1](#) [2](#) [3](#) [4](#) [5](#) [Next >](#) [End »](#)

Found 47 Paid Invoices, Totalling 45,784.21

*This screen is typical of the information-rich areas of the application. Users can focus in on specific transactions by searching, sorting (column headings) or filtering (tabs), or can just move through the data using the pagination controls at the bottom of the page.*

Demo Company (NZ) Switch Organisation ▾

Logged in as Philip Fiorlinger My Xero Logout Xero

Dashboard Accounts Reports Contacts Settings Help

## Chart of Accounts

[+ Add Account](#) [+ Add Bank Account](#) [Print PDF](#) [Import](#) [Export](#)

All Accounts Assets Liabilities Equity Expenses Revenue Archive

[Delete](#) [Archive](#) No accounts selected

Code	Name	Type	Tax	YTD
	ASB Savings	Bank	No GST	539.97
	BNZ Cheque	Bank	No GST	2,464.79
200	Sales - services Income from the normal business activity	Sale	GST on Income	10,735.49
201	Sales - development	Sale	GST on Income	7,510.00
202/1	Sales - reseller - MS	Sale	GST on Income	1,711.67
202/2	Sales - reseller - Adobe	Revenue	GST on Income	3,051.64
202/3	Sales - licences	Revenue	GST on Income	5,100.00
202/4	Sales - documentation	Sale	GST on Income	10,764.70
240	Wages	Direct Costs	No GST	0.00
240/1	Wages #2	Direct Costs	No GST	0.00
272	Dividends Received	Other Income	No GST	0.00
273	Grants Received	Other Income	GST on Income	444.44
274	Interest Received	Other Income	No GST	95.00
277	Rent Received	Other Income	GST on Income	(5,000.00)
279	Sundry Income	Other Income	GST on Income	0.00
285	Accident Compensation Levy	Overhead	GST on Expenses	0.00
207	Accountancy Fees	Overhead	GST on Expenses	0.00
289	Advertising Expenses incurred while trying to increase sales	Expense	GST on Expenses	5,188.16
209/1	Advertising - Television	Overhead	GST on Expenses	8,260.00
209/2	Advertising - Print	Overhead	GST on Expenses	1,777.70
300	Bad Debts	Overhead	GST on Expenses	420.44
302	Bank Charges	Overhead	No GST	10.00
308	Cleaning & Laundry	Overhead	GST on Expenses	591.74
313	Computer Expenses	Overhead	GST on Expenses	0.00
317	Consultancy	Overhead	GST on Expenses	0.00

Page 1 of 4 (80 total items) Showing 25 items per page [1](#) [2](#) [3](#) [4](#) [Next >](#) [End »](#)

In other areas of the application where lists of accounts or similar information are shown, the same sorting and filtering activities are available to users. This design pattern is one that most users will be familiar with from regular use of e-mail applications.

## INNOVATION VS. CONVENTION

Xero can collect information automatically from most of New Zealand's major banks, so account information is always current, saving the substantial time and risk of error attached to data entry. Once the data is downloaded, users must reconcile the bank transactions to invoices, expense accounts and other corresponding line items.

The bank reconciliation is a hybrid of information display and interaction, and one of the more unique features of Xero.

Xero automatically lines up the most likely matches in two columns (one for the bank statement and one for recorded transactions), then users must confirm correct matches. When there is no likely match, Xero's interface allows the user to create one on the spot, record it and clear the row. The transaction field features three tabs—one for automatically identified matches, one for creating a transaction and one for recording a transfer of funds from among company bank accounts. Once an item has been reconciled, the row flashes and disappears and the other rows slide up the screen.

"The interaction of the bank reconciliation has been described by users as fun, addictive and reminiscent of *Tetris*," says Fierlinger. "As you make matches you click OK to clear the row, pushing items off the stack and bringing up the next one until you're done."

As a matter of pure theory, it's pretty risky introducing a gamelike element to a serious application—accounting, no less, where mistakes and frivolity can cost users money or more. But the reconciliation function here is not only a complete success but an inspiration. It works for a couple of reasons:

- The task itself has an inherent element of puzzle or game—pattern-matching is one of the basic mechanics of play.
- The bells and whistles are restrained. The interaction might feel like a game, but it doesn't look or act like one. The actions are natural and appropriate—clearing the row and moving the next item up. (Just imagine if the UI had featured sound effects reminiscent of the *Bejeweled* computer game, complete with cheering when the user matched a transaction and jeering if they took too long. Inappropriate, to say the least.)
- Although elements of how the reconciliation is depicted are novel, the mechanics of what the user does are conventional—enter data in a field and click OK.

"In our approach to interaction design we focus on understanding and respecting existing conventions," says Fierlinger. "We analyze the underlying motivation behind an existing convention, then consider alternatives and opportunities to make improvements."

While there are conventions about how to reconcile in accounting software, these conventions aren't nearly as well established as, say, a print dialog box. Furthermore, Xero's features render some of the conventional practices unnecessary.

"With Xero you don't enter your starting and closing balances. Most software requires you to type in all your bank statement data," says Fierlinger. "Even with software that lets you import the data, you're still not matching transactions from the bank with transactions in your software, you're essentially re-keying the bank's

data. We've never seen an accounting system that presents your bank statement data side-by-side with your matching business transactions."

Fierlinger says the Xero system of side-by-side comparisons draws on how reconciliation is done on paper. Since there isn't strong precedent for how reconciliations should be done (and considering the additional features Xero offers), the price of innovation here is negligible and the potential benefits are great.

"We might defy existing software conventions, but only when we can create a solution that's better aligned with how people naturally think and behave," says Fierlinger. "There are cases where we have decided to stick with a convention even when we believe there's potentially a better way."

For instance, the design team hotly debated whether to add a feature that could tag transactions, rather than using the accounting standard model for categorization. In the end they decided that the benefits wouldn't outweigh the negatives of user education and possible rejection.

Another place where the designers decided to take a risk was the contacts field. Rather than working with a fixed contact format (like the "New Contact" fields in Outlook), contact entry is free-form and auto-completed. When a user starts typing contact information, the system looks for matches throughout its data set and suggests possibilities. Only when information can't be found otherwise does it create and format a new contact record.

In most cases, Fierlinger says, users quickly adapt to the innovations and start using the new controls. But Xero tracks when they encounter obstacles and works to educate users about how and why to use the feature.

**Demo Company (NZ) Switch Organisation** Logged in as Philip Flexlinger My Xero Logout xero

Bank Accounts > BNZ Cheque > **Bank Reconciliation** BNZ Cheque 02-4567-7891234-000 

**Review imported bank statement lines...**

	Spent	Received
08 Aug 2007 Saatchi SS06105	4,500.00	
09 Aug 2007 DUTCHESS OTI0626		79.90
31 Aug 2007 Toner Depot FFT 11-9700	14.75	
01 Sep 2007 ASB Monthly a/c fee	10.00	
05 Sep 2007 Vodafone AC21395306-16	122.36	
03 Oct 2007 WCC OTI0701 installment 2		200.00
03 Oct 2007 WCC OTI0701 installment 3		275.00

**...then create or find matching transactions in Xero**

	Spent	Received
Name: <input type="text"/> Desc: <input type="text"/> <b>OK</b>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>
09 Aug 2007 A. Dutchess		79.90
Name: Toner Depot Desc: Laser refill <b>OK</b>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>
ASB Monthly bank fee <b>OK</b>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>
2 Possible Matches Found <b>Choose One</b>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>
Name: <input type="text"/> Desc: <input type="text"/> <b>OK</b>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>	<b>Match</b> <b>Create</b> <b>Transfer</b> <a href="#">Find &amp; Match</a>

Page 1 of 2 (14 items to be reconciled) | Jump to page: **1**  **Next >** **End >>**

*Xero's reconciliation function allows users to visually match transactions with downloaded bank statements. The side-by-side placement and the fact that matched transactions "disappear" have led to great customer feedback.*

## VISUAL DESIGN VS. FUNCTIONALITY

For many designers, the look and feel of an application or website can precede the function. Xero postponed the visual design part of the job to the 11th hour.

"We didn't want to be precious about visual details until we had a strong architectural framework in place," Fierlinger says.

Once the framework of the application's function was in place, however, the team spent a substantial amount of time refining the look, from page layouts to white space to element color, shape and texture. Many of those design choices have already been discussed above.

"Visual design is an essential aspect of usability," says Fierlinger. "Visual clarity and visual details determine what gets attention, it determines how ideas are perceived, and perhaps most importantly, it determines the emotional response to an experience."

Screen width was set as a fixed 970 pixels, for target 1024 screen resolutions. "We felt that a completely fluid layout would cause scannability problems and make data entry very cumbersome."

Standard text size was set to 11pt Tahoma, which Fierlinger says is narrower and easier to read than many other screen fonts. The width was an important consideration, since it dictates how much information will fit on a screen.

## USABILITY PROCESS

During earliest development, a task analysis matrix was drafted and organized to identify key user roles: business owners, bookkeepers, accountants, employees, and financial advisers. Regular tasks were identified for each user type, then refined to anticipate the frequency of the task (daily, weekly, monthly, quarterly, or annual). Core features emerged from this analysis.

"When we first started out, we spent several weeks modeling our product architecture simply by putting sticky notes on a wall," Fierlinger says. "As we revised the hierarchy of features we would continually evaluate how the structure suited our user roles, based on their task requirements."

Although a lot of consideration was given to how each user would approach the product, the Xero team deliberately avoided using personas.

"We do evaluate design decisions by considering how representative users would respond, but we reference real customers and real scenarios, rather than manufactured personas," says Fierlinger.

Xero Demo (Select Organisation) Rod Drury (Logout) Xero

Main Dashboard Select Organisation	Payments Bank Accounts Accounts Receivable Accounts Payable Expense Claims	Reports Trial Balance Profit & Loss Balance Sheet Journal Report GST Report	Setup Chart of Accounts Change Password
--	--	--	---

**Menu ▾** **Support ▾**

Expense Claims > Rod Drury's Expense Claim > **APPROVE RECEIPT**

Pay To LaFare	Invoice Date 20 Nov 2006	Reference Number	Invoice Total 50.00
------------------	-----------------------------	------------------	------------------------

**Invoice Includes Tax** The line item amounts are entered as:  Tax Exclusive  Tax Inclusive

Description	Account	Qty	Unit Price	Tax	Amount
Coffee	327/02 - Entertainment Nondeductible	1.00	50.00	Exempt	50.00

**Add Item**

**Sub total:** 50.00  
**Taxes:** 0.00  
**Total:** 50.00

Authorise Receipt  Decline Receipt

**Save** **Cancel**

An earlier version menu design. While the items are more visible, a large amount of screen real estate is taken up with options which may be used infrequently. This design is also hard to scale—for instance if the Reports section gains three new items, then three lines of content are lost. (And content is definitely king in accounting: you want to see your money and where it's going.)

The interaction design phase was primarily concerned with usability issues, Fierlinger says, along with about half of software development and 60 percent of customer care efforts. Like some of the other winners in this year's contest, customer care input is favored over formal usability testing. Fierlinger estimated that Xero spent 40 to 60 hours on usability testing such as user interviews, screenflow testing and contextual inquiry.

"Our entire interaction design and product development process revolves around screenflow prototypes," says Fierlinger, "simple Flash movies that show a simulation of every screen design, mouse click, and simulated user input necessary to complete a given task, from start to finish."

During early development, testers were guided through the screenflows by the designers explaining each task and screen. Input was collected as to how the screens were viewed and understood and user expectations. A functional prototype was used for one set of controls in order to get a feel for the speed and ease of data entry.

Beta testing proved significantly more informative than early stage testing, Fierlinger says.

"Getting feedback based on hypothetical scenarios is no match for getting feedback from people using live software with their real data, under real circumstances," he says.

This insight fuels a five-step process for ongoing development.

1. Prioritize desired features.
2. Create an iteration of the design that supports those features.
3. Release the software.
4. Get user feedback.
5. Refine and repeat.

Although beta testing has come forward as a primary tool, product development still revolves around screenflow designs. A design iteration is based on input from in-house business analysts and product experts. The customer care team and sales teams also provide important feedback in their roles as the most direct conduit to user opinion. The development team conducts occasional formal usability testing and monitors Web 2.0 sources like blogs and Twitter to gauge user sentiment. Usage statistics are also mined for usability metrics.

## TEAM

Xero's development team was inspired to think about usability largely by example, including such creators as Google, Apple, Flickr, LinkedIn and Facebook. The usability sensibilities of Web application designer 37signals were also a major influence.

Xero's Head of Design Fierlinger came to development from an education in industrial design. With his brother Peter, he founded digital design firm Turntable (<http://turntablemedia.com>) and ran it for 10 years, doing groundbreaking work in multimedia and innovative interactive platforms. He moved to New Zealand in 2001 and helped found Xero in 2006.

He works closely with Grant Robinson, Senior Interaction Designer, whose previous experience includes design work for Shift, the BBC and British Telecom, and popular personal projects such as "Guess-the-Google".

"We both love code. We both love Flash," says Fierlinger. "We are constantly hunting and adopting successful design patterns."



*Philip Fierlinger, left, and Grant Robinson.*

## **WHY THEY WERE CHOSEN**

The Xero team re-examined a process which has changed little since its migration from paper to the PC and found that there are many improvements to be made. They have focused on users' key tasks, and on presenting these tasks in an inductive manner which draws users into the process rather than forcing them to deduce their next step. By doing this, it is possible to provide learning experiences which complement rather than interfering with the interface.

These innovations have not been introduced at the expense of accounting standards. Users moving to Xero from a different system should find it familiar, but where there is no set way of proceeding—for instance when reconciling online statements—the Xero team have created well thought out and ultimately successful new interaction styles.

## **Applications Not Selected: Common Issues**

It was hard to choose winners given the overall quality of submissions for this annual. However, while we never name or show examples from the applications which did not make it into this year's top 10, some of the distinguishing factors which we saw across submissions that are not in the winning group are listed below.

### **UNCLEAR GOALS**

The purpose of the application has to be clear to the developer, otherwise it will never be clear to potential users. Some entries did not list the application's goals as if they were self evident. However, although they may be clear to someone who has been immersed in development for some time, that is not sufficient. A clear, concise statement of the goals should be easy to provide and those same goals should be apparent in the interface.

### **NO APPARENT FOCUS ON USERS**

Without an understanding of your user base, it will be next to impossible to develop for them. This understanding can be gained in many ways and can be described to different levels—from a thumbnail sketch to a detailed set of personas. If entrants could not describe their users succinctly, their interfaces seemed to suffer as a result.

### **POOR USE OF INTERFACE ELEMENTS**

Interface standards exist for a reason; certain controls were developed to perform certain tasks. Users have become familiar with these standards and so any deviation has to be well planned in order for the target audience to stand any chance of understanding what is required of them. This does not prevent innovation. Some of the controls and layouts in the top ten applications are far from usual, but they have each been developed to solve a novel problem and typically were tested with users and iterated until they performed well. Coherent arrangement of standard elements is essential to help guide users through their task.

### **SPOTTY OR NON-EXISTENT ASSISTANCE**

Assistance is not just the contents of help files. Clear on-screen instructions, sensible field and control labels, calm and descriptive error messages and even well-stated screen titles all contribute to clear understanding. Without this constant attention to user education and guidance, the application will not tell a good story to its users and they will become frustrated.

## Selection Criteria and Process

As this is the first year that we have run the Application Usability competition, we were pleasantly surprised by the number and quality of submissions. In response to a call for submissions on <http://www.useit.com>, teams sent us screenshots of their application along with explicit descriptions of the functionality and the design process including information about the expected users of the application and the application's goals.

Judging followed a four-step process:

1. Initial expert design reviews and numeric rankings of every entry to determine the top submissions
2. Follow-up questions to the teams where necessary
3. Thorough design reviews to choose the top 10
4. Follow-up interviews with the top 10 to gain more insight into the application and design process followed.

## INITIAL DESIGN REVIEWS AND NUMERIC RANKINGS

Working from the information provided in the initial submissions, the three judges (see About the Authors) conducted design reviews of each submission to narrow down the list of entrants to the tier one submissions.

In addition to written commentary, we rated each site numerically. These ratings were based on common application design criteria and are key to application usability. They included (among others):

Design for Comprehension

- Layout, consistency and narrative flow

Correct use of Components

- Widgets and design patterns used as users would expect

Ease of Adding/Editing info

- Easy manipulation, quick recovery from errors

Workflow appropriate for users

- Clear flow which leads where necessary but leaves users in control

Communicating with users

- Clear notifications and error messages, good assistance and support

Design and Development Process

- Good consideration of user groups and iterative design which involved user feedback

## **FOLLOW-UP QUESTIONS**

After we finished reviewing the initial submissions, there were often areas which required clarification. We sent a follow-up questionnaire to the top tier teams which delved into specific areas of interest including their design philosophy, the types of user-centered work they performed, and additional questions on the applications themselves. Some of these questions were best answered with additional screen shots, others with a text description.

## **FOLLOW-UP INTERVIEWS WITH THE TOP 10**

After choosing the top 10 submissions, we asked the application creators some general and specific questions about their applications and the development process. As you can tell from the winning entries, the level of user involvement in the development process varied from team to team, but a characteristic of all the winning entries is that they embraced a user-centered approach to the design process. We were interested in finding out what drove the teams to design the applications they did, their methods, their philosophies around innovation versus familiarity, interactivity, even which interface components they used and why. Their answers are interspersed as quotes throughout each application's chapter.

## About the Authors

**Dr. Jakob Nielsen** ([www.useit.com](http://www.useit.com)) is a principal of Nielsen Norman Group. He is the founder of the “discount usability engineering” movement, which emphasizes fast and efficient methods for improving the quality of user interfaces. Nielsen, noted as “the world’s leading expert on Web usability” by *U.S. News and World Report* and “the next best thing to a true time machine” by *USA Today*, is the author of the bestselling book *Designing Web Usability: The Practice of Simplicity* (2000), which has sold more than a quarter of a million copies in twenty-two languages. His other books include *Hypertext and Hypermedia* (1990), *Usability Engineering* (1993), *Usability Inspection Methods* (1994), *International User Interfaces* (1996), *Homepage Usability: 50 Websites Deconstructed* (2001), *Prioritizing Web Usability* (2006), and *Eyetracking Web Usability* (2009). Nielsen’s Alertbox column on Web usability has been published on the Internet since 1995 and currently has about 200,000 readers. From 1994 to 1998, Nielsen was a Sun Microsystems Distinguished Engineer. His previous affiliations include Bell Communications Research, the Technical University of Denmark, and the IBM User Interface Institute. He holds 79 US patents, mainly on ways of making the Internet easier to use.

**J.M. Berger** is a longtime journalist and content designer who has been working online since the late 1990s. Based in Cambridge, Massachusetts, Berger has written for the *Boston Globe*, the *San Francisco Examiner*, National Public Radio and Office.com. He covers business, technology, the Internet, science and, most recently, terrorism. He recently returned from a filming and research trip to Bosnia for a television documentary about U.S. intelligence and al Qaeda’s Balkans network. The program is scheduled to air in spring 2009.

**Chris Nodder** is a User Experience Specialist with Nielsen Norman Group. He works with clients across Europe and the USA, large and small, in industries as diverse as financial services, health care, entertainment, e-commerce, telecommunications, government, intranets, and several highly specialized B2B sectors.

Before joining NN/g, Nodder worked as a senior user researcher at Microsoft Corp. During his seven years at Microsoft, Nodder worked on products as diverse as videoconferencing, programming tools for web developers, home networking, online communities, and delivering Internet content over cell phones. In 2004 he was responsible for the user experience for XP Service Pack 2, a major upgrade to Windows XP (documented in the book *Security and Usability*). He has created personas, reality TV episodes, and even whole rooms (“usertoriums”) as ways of getting developers to walk in their customers’ shoes.

Nodder earned a M.S. in Human Computer Interaction from Guildhall University, London, and a B.S. in Psychology from the Polytechnic of East London. He has presented at and spoken on panels for conferences such as UPA, CHI, CSCW, and British HCI.

He coauthored the NN/g report on B2B usability, conducting focus groups, usability tests, and field studies in a broad variety of business-to-business industries. In the B2C space, Nodder coauthored the research report on wishlists and gift giving, conducting user studies and field research with a broad range of e-commerce sites and physical stores.

## Acknowledgements

The designers and organizations associated with the ten applications in this report deserve many thanks for first being brave enough to submit their work, then for co-operating in sending more material, participating in the interviews we conducted, and for reviewing the report.

We also must thank the many other organizations and individuals who entered their applications in our competition. It was great to see that there are many developers who value usability highly in their production process and are proud enough of their user-centered achievements that they want to share the results with us.

## About Nielsen Norman Group

Nielsen Norman Group (NN/g) is a consulting and research company that is solely focused on user experience. We are not a Web design shop—we will tell you what your customers want and how to vastly increase the business value of your site or intranet, but we won't build the new site for you. We are independent of technology vendors and design agencies, so we can report the unvarnished truth about what works and what doesn't.

Here are some of our most popular services. For the full list (and for current prices), please see our website at [www.nngroup.com/services](http://www.nngroup.com/services)

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We produce an annual conference where world-class experts teach the latest findings about the usability of websites, intranets, and email newsletters. We also teach correct methodology so that you can hone your skills and conduct your own usability projects with more success than if you use weaker methods.

NN/g is the only company that presents high-end usability conferences bringing the same seminars to the United States, Europe, and Australia. For the current conference program, see <http://www.nngroup.com/events>

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- **Fundamental Guidelines for Web Usability** (\$9,000). The basics everybody should know about users' online behavior and how to design better sites.

### PRICES

Prices are stated in U.S. dollars and were valid when this report was published. Travel expenses are extra for all training seminars and for many other services; prices are higher outside the United States. Prices are *subject to change without notice*: for current prices, please see <http://www.nngroup.com/services>

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- Corporate Image: presenting company information in a site's "About Us" area
- PR section of corporate sites: supporting journalists
- Investor Relations area of corporate website: supporting investors
- Site map usability
- B2B: guidelines for converting business users into leads and customers

### INTRANET USABILITY

- Intranet usability guidelines: 10 reports based on user testing of 27 intranets
- Intranet information architecture (IA)
- Intranet design annual: published every year about that year's 10 best intranets
- Sector-specific intranets: financial services, manufacturing, technology, retail, knowledge-intensive, and government agencies
- Intranet portals: report from the trenches
- Social networking and collaboration features on intranets

### E-MAIL USABILITY

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- Transactional email and confirmation messages

### APPLICATION USABILITY

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- Customization usability
- iPad apps usability
- Flash and Rich Internet Applications (RIA)

### SPECIAL USER SEGMENTS

- Usability of websites for children (age 5–12)
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- Beyond ALT text: improving usability for users with disabilities

### USER-CENTERED DESIGN METHODOLOGY

- Agile usability: Best practices for user experience on Agile development projects
- Return on investment (ROI) for usability
- Paper prototyping: a how-to video ([32 minute DVD](#))
- 230 tips to improve the way you run user tests
- Recruiting test participants for user testing
- Testing users with disabilities
- How to conduct eyetracking studies

### OTHER

- Mobile web usability
- Streams, Walls, and Feeds: notifications, messages, and alerts sent through social networks and RSS
- Donation usability for non-profit and charity websites

## Usability Week 2010



Toronto  
August 9-14



San Francisco  
October 3-8



Copenhagen  
October 18-22



Edinburgh  
October 25-29

### The Usability Week 2010 Conference

Many conferences offer cavernous exhibit halls, brief seminars on second-hand discoveries, and a sense of anonymity that can be truly alienating.

Usability Week takes a different approach.

#### Knowledge, Directly from the Source

In place of scattered, shallow talks, Usability Week offers 5 or 6 days of deep learning as international experts lead full-day tutorials on topics such as:

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- Toronto, Canada, August 9-14, 2010
- San Francisco, CA: October 3-8, 2010
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- Edinburgh, Scotland: October 25-29

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Cisco Systems  
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Kaiser Permanente  
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World Bank  
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zooplus AG

## Usability Week 2010



August 9-14



October 3-8



October 18-22

### Application Usability 1: Page-Level Building Blocks for Feature Design

- **Toronto:** Thursday, August 12
- **San Francisco:** Thursday, October 7
- **Copenhagen:** Thursday, October 21

Kara Pernice and Garrett Goldfield  
Full-Day Tutorial

The basics of any application are the screen elements that users interact with to make the application do their bidding.

Graphical user interfaces have a rich vocabulary, with design components for many different situations. Each of these building blocks might seem simple, but people don't always use them correctly. Also, some website controls deviate from standard designs, complicating usability. Both situations have profound implications for the overall user experience.

In this seminar, we'll explore the behavior of each application screen component, or widget, including both standard behaviors that users expect and novel interface components designed for specific interactions.

#### What You'll Learn

- How people think, and why this impacts screen element design
- Which screen element (widget) to use in which circumstance
- How to choose between different widgets that perform similar functions
- The design patterns that users expect for common tasks
- The best ways to communicate information back to your users

#### Course Outline

- Design primitives: When to use which widget, and how
  - Selection: Menus, hierarchies, long lists, tabs
  - Data entry: Form fields, label placement, in-line descriptions and assistance
  - Buttons: Button behavior, radio buttons, checkboxes, tool bars, command links
  - Manipulation: Scrollbars and sliders, multimedia controls, item manipulation controls (handles, frames, rotators)

- Editing: Standard edit controls, selection behaviors
  - Progressive disclosure: Expandable areas on the screen, scrolling areas within the screen
  - Grouping: Group boxes, white space
  - Hybrid controls: Menu and split buttons, choosing exactly  $n$  options, linked controls, timeline controls, image maps as selectors
  - Notifications: Tool tips, balloons, system notifications
- Variations of the standard controls
  - How to handle borderline cases
  - When is it appropriate to “roll your own” controls?
- Window types: Which type to use, and when
  - Kiosk-style, full-screen windows
  - Primary windows
  - Secondary windows: Dialogs, alerts
- Communicating with users
  - Progress indicators
  - Communicating errors
- Design patterns: Layout guidelines for common tasks
  - Structuring and navigating commands and features: Grouping principles, cognitive principles, layout basics
  - Managing and selecting from object lists
  - Form-filling
  - Working with tables
  - Searching
  - Editing
  - Printing
  - Saving
  - Dialog boxes
  - Error messages
  - User assistance

## **Format**

This full-day tutorial includes lectures, exercises, and discussion.

## **Handouts**

Copies of all presentation slides

## **Who Should Attend**

Whether you’re designing website applets or creating a full-blown enterprise application, the fundamental guidelines described in this full-day session will help you better understand your users’ needs and create more efficient and effective applications.

Designers, program managers, usability engineers, and developers can all benefit from this course, which covers interaction design and task analysis, in addition to widget guidelines. No prior knowledge of usability methods is assumed, and the day is intended to appeal to all disciplines. The focus is on the user experience of applications, so no code samples will be discussed; a programming background is not required.

### See Also:

[Application Usability 2: Dialogue and Workflow Design](#) details how to combine the interaction primitives explained in Application Usability 1 into a full-fledged application that optimally supports user tasks. Each of the tutorials is a full-day, self-contained seminar and can be taken independently. Taken together, however, they will cover the full range of usability issues encountered in application design. If you're designing for mobile devices such as the iPhone, Android, or iPad, consider our specialized seminar on [Touchscreen Apps Usability](#).

### Instructors



**Kara Pernice** is the Managing Director of Research at Nielsen Norman Group and heads the company's East Coast operations. She has led many of NN/g's major intercontinental research studies, generated the resulting design guidelines, and coauthored several reports, including [Designing Corporate Intranets](#), [Designing for Accessibility](#), [Designing for People Over the Age of 65](#), and [Designing Websites to Maximize Press Relations](#). She is a leading authority on intranet usability and eyetracking usability (*The Wall Street Journal* called her "an intranet guru"). She judged the submissions for and coauthored NN/g's [Government Intranets Report](#) and its Intranet Design

Annuals in [2001](#), [2002](#), [2003](#), [2005](#), [2006](#), [2007](#), [2008](#), and [2009](#). She has also done extensive research in evaluating emotion and design, given presentations on a wide range of topics, and worked with clients in various industries, including publishing, entertainment, technology, finance, pharmaceuticals, and government. She has more than 15 years of experience in evaluating usability and has established successful usability programs at Lotus Development, Iris Associates (an IBM subsidiary), and Interleaf. She chaired the Usability Professionals' Association 2000 and 2001 conferences, and served as 2002 conference advisor. She holds an M.B.A. from Northeastern University and a B.A. from Simmons College. *Presenting in Toronto and San Francisco*.



**Garrett Goldfield** is a User Experience Specialist at Nielsen Norman Group, where he consults with clients in a broad range of industries, including ecommerce, automotive, health care, finance, media, telecommunications, education, and nonprofits, as well as highly specialized B2B sites. Previously, Garrett managed the User-Centered Design group for Intuit's Tax Division, focusing on incorporating UCD processes within Intuit's development cycle for TurboTax software and its Web applications. Prior to working at Intuit, Goldfield worked at General Electric's Information Systems Division, where he conducted ground-breaking work in ecommerce interactions for marketplace transactions; and at The Aerospace Corporation, where he pioneered standards for HCI telemetry data presentation for Space and Naval Warfare Systems Command. Goldfield's research focuses on usability testing, contextual inquiry, and ethnographic user studies. He has also published and presented on cost justification and ROI for usability practices, brainstorming methodologies, analysis, and interpretation of qualitative user data. *Presenting in Copenhagen*.

## Usability Week 2010



August 9-14



October 3-8



October 18-22

## Application Usability 2: Dialogue and Workflow Design

- **Toronto:** Friday, August 13
- **San Francisco:** Friday, October 8
- **Copenhagen:** Friday, October 22

Kara Pernice and Garrett Goldfield  
Full-Day Tutorial

When building an application, one rule applies above all others: If users are to succeed, they must be able to effectively navigate your UI. This holds for all applications—whether you're building a complex business workflow suite or designing a Flash applet to display ecommerce product-configuration options.

Keeping such requirements and challenges in mind, this course uses real-world examples and results from our user testing to show you not only how to develop effective interface components, but how to assemble them into highly usable and coherent designs. When you accomplish both, users can engage in a dialog with the application. They quickly understand what they need to do and how to do it, and can feel confident that they've completed their tasks successfully.

This seminar moves beyond understanding UI components (as covered in [Application Usability 1](#)), and shows you how to apply UI components to create more effective flows for different tasks.

### What You'll Learn

In this session, you'll learn:

- Templates and techniques for handling common tasks
- Principles to help you overcome any design problems you encounter
- Principles for diagnosing and overcoming usability challenges specific to your own projects
- Methods for integrating flows into applications, drawing on diverse product examples
- How to address internationalization issues and accessibility concerns
- How to make your applications enjoyable to use

### Course Outline

- User-centered application design
  - Tasks versus technology

- Techniques for determining how users work: Users aren't designers, but they can help
  - What users say vs. what they do
  - Task analysis
  - Turning user tasks into applications
- Four key workflow concepts explained
  - Smart defaults
  - Control vs. being led
  - Progressive disclosure
  - Inductive UI
- Workflow structures: Design considerations for different task types
  - Cyclical tasks
  - Checklists and forms
  - Answering known questions
  - Iterate/problem solve to find answers
  - Respond to an anomaly event
  - Share a task
  - Research and buy something
  - Be entertained
- Specific guidelines by application type
  - Wizards
  - Native applications
  - Hosted (client/server and Web) applications
  - Customizing off-the-shelf products
  - Personal applications (such as photo management)
  - Ecommerce applications
  - Collaborative workflow
  - Complex problem solving
  - Mini-applications (applets), ephemeral applications
- Application usability guidance
  - Making the UI seem fast and responsive
  - Error handling
  - Archiving
  - Shortcuts and accelerators, including keyboard commands vs. mouse use
  - Catering to novices and experts in one UI
  - International and multi-language considerations
  - Accessibility concerns
- Integrating a website and an associated application
  - Maintaining user experience continuity
- Rich Internet Applications (RIAs)

- New tools, new techniques, same users: User-comprehension issues/how to teach your visitors what your RIA does
- Designing for user experience
  - Design is everyone's responsibility
  - How to differentiate your application
  - Voice
  - Delighting users

## **Format**

This full-day tutorial includes lectures, exercises, and discussion.

## **Handouts**

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## **Who Should Attend**

Whether you're designing applets for a website or creating a full-blown enterprise application, the fundamental guidelines described in this full-day session will help you better understand your users' needs and thus create more efficient and effective applications.

Designers, program managers, usability engineers, and developers can all benefit from this guidance, as the class covers interaction design and task analysis along with guidelines. No prior knowledge of usability methods is assumed, and the day is intended to appeal to all disciplines. The focus is on how users experience applications, so we won't discuss code samples and you don't need a programming background.

This tutorial does assume knowledge of the user experience implications of basic design components for applications, such as buttons, scrolling, notification dialogs, and windows. This information is covered in the companion tutorial, [Application Usability 1: Page-Level Building Blocks for Feature Design](#).

## **See Also:**

This tutorial is the sequel to [Application Usability 1: Page-Level Building Blocks for Feature Design](#), which covers the page-level components of dialogue design. Each of the tutorials is a full-day, self-contained seminar that you can take independently. Taken together, however, they'll cover the full range of usability issues encountered in application design. If you're designing for mobile devices such as the iPhone, Android, or iPad, consider our specialized seminar on [Touchscreen Apps Usability](#).

## **Instructors**



**Kara Pernice** is the Managing Director of Research at Nielsen Norman Group and heads the company's East Coast operations. She has led many of NN/g's major intercontinental research studies, generated the resulting design guidelines, and coauthored several reports, including [Designing Corporate Intranets](#), [Designing for Accessibility](#), [Designing for People Over the Age of 65](#), and [Designing Websites to Maximize Press Relations](#). She is a leading authority on intranet usability and eyetracking usability (*The Wall Street Journal* called her "an intranet guru"). She judged the submissions for and coauthored NN/g's [Government Intranets Report](#) and its Intranet Design Annuals in [2001](#), [2002](#), [2003](#), [2005](#), [2006](#), [2007](#), [2008](#), and [2009](#). She has also done extensive

research in evaluating emotion and design, given presentations on a wide range of topics, and worked with clients in various industries, including publishing, entertainment, technology, finance, pharmaceuticals, and government. She has more than 15 years of experience in evaluating usability and has established successful usability programs at Lotus Development, Iris Associates (an IBM subsidiary), and Interleaf. She chaired the Usability Professionals' Association 2000 and 2001 conferences, and served as 2002 conference advisor. She holds an M.B.A. from Northeastern University and a B.A. from Simmons College. *Presenting in Toronto and San Francisco.*



**Garrett Goldfield** is a User Experience Specialist at Nielsen Norman Group, where he consults with clients in a broad range of industries, including ecommerce, automotive, health care, finance, media, telecommunications, education, and nonprofits, as well as highly specialized B2B sites. Previously, Garrett managed the User-Centered Design group for Intuit's Tax Division, focusing on incorporating UCD processes within Intuit's development cycle for TurboTax software and its Web applications. Prior to working at Intuit, Goldfield worked at General Electric's Information Systems Division, where he conducted ground-breaking work in ecommerce interactions for marketplace transactions; and at The Aerospace Corporation, where he pioneered standards for HCI telemetry data presentation for Space and Naval Warfare Systems Command. Goldfield's research focuses on usability testing, contextual inquiry, and ethnographic user studies. He has also published and presented on cost justification and ROI for usability practices, brainstorming methodologies, analysis, and interpretation of qualitative user data. *Presenting in Copenhagen.*

## **Usability Week 2010**



October 3-8

### **Mobile User Experience 1: Usability of Websites and Apps on Mobile Devices**

- **San Francisco:** Tuesday, October 5

Raluca Budiu

Full-Day Tutorial

How do we create a satisfactory user experience when limited to a small device?

This seminar is based on expert reviews, as well as international studies with participants ranging from students to early technology adopters and business people using websites on a variety of mobile devices. We also report on the latest findings from articles published in prestigious journals and conferences.

Our user research included smartphones, touchphones, as well as feature phones from several different vendors. The seminar will discuss the issues in designing for this range of devices, with a focus on smartphones and touchphones, since research indicates that these are the primary devices used for mobile Internet access.

In this seminar we target basic mobile usability principles that go beyond any specific phone model.

#### **What You'll Learn**

- What behaviors users engage in when using mobile devices
- Mobile app versus mobile website: which is better
- Guidelines and best practices about how to make your website mobile-friendly, with emphasis on:
  - Features that make mobile sites usable
  - Easy navigation on mobile devices
  - Writing and producing content for mobile device

#### **Course Outline**

##### **Mobile user behaviors:**

- What kinds of activities people do on mobile devices

- Differences between apps and websites
- Browsing for news, entertainment, sports
- Finding specific information (weather, movie times, etc.)
- Transactions (such as online banking and other financial operations)
- Shopping: what do users shop for on mobile
- Designing to support user behaviors

**Design strategy considerations:**

- Creating a dedicated mobile site vs. having mobile users access your regular website
- Designing for high-end models vs. the lowest common denominator
  - Direct manipulation UI for touchphones (e.g., iPhone, BlackBerry Storm)
  - Indirect manipulation for low-end devices
- Creating a mobile application vs. a mobile website; when to use what
  - Differences in designing an app versus a mobile website

**Specific design guidelines for mobile sites and services:**

- Basic interaction
  - Typing
  - Dropdown Boxes, Buttons, and Links
  - Lists and Scrolling
  - Menus
  - Carousels
- Forms
- Logging in and Registering
- Search
- Navigation and information architecture (IA)
- Errors
- Page layout
- Search
- Homepages
- Images, Animation, and Videos
- Content usability
  - How users read on mobile devices
  - Writing for mobile use
  - Presenting text: legibility and readability
- Designing for feature phones: differences from smartphones and touchphones
- How to perform usability testing with mobile devices

## **Format**

This full-day tutorial includes lectures, video highlights from user testing, and some exercises.

## **Handouts**

Copies of the presentation slides

## **Who Should Attend**

Anybody who designs websites, intranets, or online services that have mobile users. People in charge of mobile strategy, including the question of whether to develop dedicated mobile services or simply make the main site more mobile-friendly.

## **See Also:**

This seminar is about the basic usability principles that are valid for both mobile websites and apps and for the full range of mobile devices. A companion seminar, [Mobile User Experience 2](#) focuses on issues specific to designing applications for touchscreen devices.

## **Instructor**



**Raluca Budiu** is a User Experience Specialist with Nielsen Norman Group, where she presents tutorials on academic research findings, mobile usability, and cognitive psychology for designers, and conducts research worldwide on usability for mobile websites and children's websites. She coauthored the NN/g report on [mobile usability](#). Previously, Budiu worked at Xerox PARC, doing HCI research. At PARC, she built computational models of how people search for information in visualizations of large data structures. She also explored new ways of measuring information scent and conducted research on interfaces for social bookmarking systems and on the cognitive benefits of tagging. Budiu was also a user researcher at Microsoft Corporation, where she explored future directions and made strategic recommendations for incorporating user-generated content and social Web features into MSN. Budiu has authored more than 20 articles and conference presentations on HCI, psychology, and cognitive science. She has a PhD from Carnegie Mellon University.

## Usability Week 2010



October 3-8

### Mobile User Experience 2: Touchscreen Application Usability

- **San Francisco:** Wednesday, October 6

Raluca Budiu

Full-Day Tutorial

What makes a good touch-driven application? A new, cool interface? Ease of use? Responding to users' needs? Why do some applications become part of the everyday life of their users, while others are downloaded and never used?

This seminar addresses these questions. In discussing the secrets of a successful iPhone, iPad, or Android app, we use data from our own ethnographic and user-research studies, and from expert reviews. This seminar complements our seminar [Mobile User Experience 1](#), which is focused on basic mobile usability principles that are valid on all platforms. In this seminar we will use examples from existing iPhone, iPad, and Android apps and will focus on the challenges that are specific to designing native apps for touchscreen devices.

#### What You'll Learn

In this session, you'll learn:

- How touchscreen users think and what they expect from an application
- Differences between iPhone, iPad, and Android users
- What types of mobile applications people use repeatedly, and which are one-time wonders
- Patterns of application usage
- Design guidelines and best practices for making a touch-driven application useful and usable
- How to avoid usability pitfalls in mobile user interfaces, including design mistakes made by some pretty famous apps

#### Course Outline

- Types of applications : immersive, productivity, utility applications
- Using the device hardware to your advantage:
  - How to design for the touch screen
  - Using the gestures and multi-touch in your application
  - Accelerometer

- Sound and voice recognition
  - User's location
- Consistency with other applications designed for the same device and conventions
  - How to handle borderline cases
  - When can you depart from conventions
- Design primitives
  - Menus and lists
  - Form fields
  - Buttons and controls
- Design guidelines for common tasks
  - Startup screen
  - Logging in
  - Configuration and settings
  - Data input and form-filling guidelines;
  - Content: text, images, graphics, animation
  - Error messages and help
  - Saving state and "printing"
  - Editing
  - Search
  - Displaying ads
- Alerts and notifications; online versus offline mode; push versus pull
- Customization and Personalization
  - History
  - Preserving state
- Moving from a computer application to a mobile application

### **Format**

This full-day tutorial includes lectures, video highlights from user testing, and some exercises.

### **Handouts**

Copies of the presentation slides

### **Who Should Attend**

Anybody who designs or considers designing iPhone/iPad or Android applications. A secondary audience would be people who target other high-end mobile devices and want their apps to equal the usability of the best iPhone or Android apps. This seminar is solely focused on the user experience and does not cover programming. Although we do discuss nonconventional app interfaces, this seminar is not intended for game developers.

### **See Also:**

The companion seminar [Mobile User Experience 1](#) covers basic mobile usability principles, applicable to all mobile devices.

Separate seminars that focus on application design in general:

- [Application Usability 1: Page-Level Building Blocks for Feature Design](#)
- [Application Usability 2: Dialogue and Workflow Design](#)
- [Designing Complex Applications and Websites](#) (note: complex apps will rarely be suited for mobile use)

## Instructor



**Raluca Budiu** is a User Experience Specialist with Nielsen Norman Group, where she presents tutorials on academic research findings, mobile usability, and cognitive psychology for designers, and conducts research worldwide on usability for mobile websites and children's websites. She coauthored the NN/g report on [mobile usability](#). Previously, Budiu worked at Xerox PARC, doing HCI research. At PARC, she built computational models of how people search for information in visualizations of large data structures. She also explored new ways of measuring information scent and conducted research on interfaces for social bookmarking systems and on the cognitive benefits of tagging. Budiu was also a user researcher at Microsoft Corporation, where she explored future directions and made strategic recommendations for incorporating user-generated content and social Web features into MSN. Budiu has authored more than 20 articles and conference presentations on HCI, psychology, and cognitive science. She has a PhD from Carnegie Mellon University.

Nielsen Norman Group Report:

# Agile Usability: Best Practices for User Experience on Agile Development Projects

2nd edition



119 pages PDF format

\$144 for a single report,

\$298 for the report with a **site license** and the right to make copies within your organization and place on your intranet.

(No shipping/handling fees will be added: it's an immediate download directly from the server.)

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<b>Summary</b>	Rapid Application Development (RAD) processes such as Agile, Scrum, and the like, simultaneously pose an opportunity and a threat to achieving a quality user experience. It all depends on how it's handled. The standard methodologies as described in books don't work in practice, if you care about the usability of your products. But small modifications work wonders, as we found when studying how Agile works on real projects.
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The report contains detailed analyses of five trends we saw in most successful organizations:

- **UX people are bridges:** embedded with the team but also involved in high level/early planning
- **UX work is early, flexible:** done up-front to storyboard level with good expectation setting that changes will happen
- **Low-fi prototype is the ongoing spec:** owned by UX, agreed by stakeholders
- **UX work happens in a parallel track:** pair complex back-end sprints with UX intensive work
- **Guerilla style UX validation:** fast, discount methods run frequently and regularly on early code

The report is based on case studies from 16 organizations that have embraced Agile while also caring about user experience. Further adding to the empirical evidence in the report are the findings from surveying 174 professionals.

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<b>Table of Contents</b>	119-page report. <ol style="list-style-type: none"><li>1. Executive Summary<ul style="list-style-type: none"><li>o The promise of Agile methods</li><li>o The threat of Agile methods</li><li>o Making Agile and usability work</li></ul></li><li>2. Introduction</li><li>3. Agile — theory and history<ul style="list-style-type: none"><li>o What is Agile/Rapid Application Development?</li><li>o The main elements of Agile</li></ul></li></ol>
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- Differences from other development processes
  - Agile benefits for UX practitioners
4. Agile in practice
    - Partial Agile implementations
    - Being the only Agile kid on the block
    - The effects of poor Agile implementations
    - Just do it!
    - Agile in practice: Case study
  5. Challenges for UX practitioners
    - Little up-front design time
    - It's hard to talk about users when they are poorly defined
    - Agile is developer-centric
    - There is little time to test
    - Agile is not conducive to a centralized UX team
    - We have to do Agile by the book, and UX isn't in that book.
    - Challenges: Case study
  6. Integrating UX into Agile teams
    - User Experience people are bridges
    - UX work is early, flexible
    - Low-fidelity prototypes as specification document
    - User Experience work happens in parallel
    - Guerilla-style UX validation
    - Integrating into teams: Case study
  7. Guerilla usability: quick-and-dirty techniques
    - Early work
    - Sprint-specific work
    - Decoupled (holistic) work
    - Post-sprint work
  8. Making it happen
    - UX people have to embrace Agile too!
    - Showing user needs to a fast-moving team
    - Showing your value
    - Essential techniques for short-staffed teams
    - Special challenges for large and distributed teams
    - Making it happen: Case Study
    - Always room to grow

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### What You Get

- Information about **what actually worked** (and didn't work) in **16 companies** that moved to Agile and still cared about user experience.
    - Additional experience from the **174 professionals** we surveyed.
  - Many best practices you can follow when adapting Agile as described in books to actual development practices such that you won't suffer a loss of usability.
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**Comparing the Editions** If you already own the **1st edition** of this report, should you buy the 2nd edition? Probably not, because the main conclusions in the first edition were confirmed in Study Two (though some were refined or extended in the new edition).

Comparison of the editions:

	<b>1st edition</b>	<b>2nd edition</b>
<b>Case Studies</b>	12	16
<b>Professionals Surveyed</b>	105	174
<b>Page count</b>	95	119
<b>Report file size</b>	1 MB	2 MB

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- Who Should Read This Report?** This report has important information for:
- Usability specialists, interaction designers, and other user experience professionals in organizations that have moved (or are thinking of moving) to an Agile development methodology.
  - Anybody in charge of an organization's development methodology, if they don't want to see drastically reduced user experience quality after moving to Agile.