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The LDD Interview

Better by design: Mary Beth Raven on Lotus Workplace design

Interview by
John Chamberlain

This month the developerWorks Lotus interviewer takes a rest and lets another writer do the interviewing. John Chamberlain helps us this month by interviewing Mary Beth Raven about user-centered design, having imaginary friends, and why the recumbent bicycle is a good thing.

Mary Beth, could you introduce yourself and your role on the Lotus Workplace project?
I am a User Interaction Designer on the Lotus Workplace product design team. We're responsible for designing the interactions between the product and our human users—not just the look-and-feel, but also the mechanics of how users work with the product features. Most of the people on the team formerly worked on individual products like Notes and Sametime. For Lotus Workplace, we have been formed into a single team so that all features of the product have a cohesive design from the beginning. This consistency is critical to the success of Lotus Workplace, which includes many different components such as email, calendar and scheduling, and Web conferencing all under a single umbrella.

Can you tell us a little bit about your background?
When I went to college, there was no such profession as user interaction designer. I double-majored in English and French, and I taught high school French for a couple of years. But I was always very interested in writing, so I went to Rensselaer Polytechnic Institute in Troy, NY for training in technical writing. I ended up staying to get a Ph.D in Rhetoric. That sounds very esoteric, but rhetoric is based on effective communication, and that's what Lotus is all about! My background in English and rhetoric definitely helps me do my job, which is to communicate to our users how to use the software they just purchased.

I've been at IBM for five years and started as the user interface designer for Lotus Sametime. I was hired when the product was still just an idea dreamed up by the Lotus research group. We had a fabulous four-year ride of taking their ideas and creating real products from them! Then I decided it was time to move on, so I joined the Lotus Workplace project.

The design process for Lotus Workplace is based on a concept called user-centered design. What is that?
User-centered design, or UCD, involves constantly thinking in terms of what the design means for real people. To help us do this in our day-to-day work, we create virtual people, or personas, that have the typical characteristics of our intended users. For example, we've created Laura Hanson, who is a typical executive; Mike Letterman, an administrative assistant; and Rob Turner, a typical knowledge worker. I have pictures of these people and their virtual biographies posted right on my door. Our work is never about the generic user; it's all

about Rob and Laura and Mike and what we can do to make their lives easier! For example, most of them don't want to go to work just to read mail; that's only one thing they need to do to accomplish their real jobs.

From looking at your posters, I see that you give your virtual people very complete lives...
Yes, we have a lot of fun with that. We give them a work history, families, friends, hobbies, likes and dislikes, and everything else!

How did you get started with your imaginary friends?
Alan Cooper advocated the idea of personas in his influential book, *The Inmates Are Running the Asylum: Why High Tech Products Drive Us Crazy and How To Restore The Sanity* . Alan asserted that developers shouldn't be allowed to design products; instead, we should let real users tell us how things should work and how they should look. A couple of years ago, one of my colleagues suggested that we form a reading group to study Alan's book. We got people from Westford (MA), Kentucky, and Israel involved in on-line discussions, reading a chapter a week. We got to the persona section, and it looked like so much fun—besides being useful—that we said, "Let's do it!" We decided to create personas to drive the design of Sametime 2.0.

For Lotus Workplace, we're developing a more robust cast of characters. We use Cooper's method of interviewing real people from our target audience, not just making them up. We try to base every persona on at least ten interviews. Naturally, we pay close attention to what our subjects actually do at work, but we also ask them more personal questions: What kind of car do you drive? What do you do for fun? Which magazines do you read? And so on. Then we create fictional characters based on these interviews that incorporate these personal details. For example, we know that there actually are users who read Model Aviation magazine and drive a red Ford Taurus.

How do you identify the people to interview? Do you go out on the street with a microphone?
No, it's not quite that easy! However, creating personas for administrators and developers isn't too difficult. We have a lot of those people right here in IBM! For Sametime, we also had a Customer Council where many of the members were on the technical side. I asked the council for volunteers and got a good response. From their interviews, we were able to create many administrator and developer personas. Getting to the end users was harder, but I was able to interview a number of people identified by some of our customers' IT managers. I interviewed lawyers, finance people, HR people, and so on. IBM actually has a Web site where people can volunteer for an interview and other UCD studies. If anyone reading this article would like to participate in future projects, please sign up!

By the way, IBM also has an excellent Web site devoted to all aspects of ease-of-use. If you explore this site, you will see that IBM considers UCD part of a larger framework called user engineering. This covers everything the customer experiences when purchasing and using an IBM product, including the sales cycle, training, support, and so on. We are at the early stages of implementing user engineering in Lotus Workplace. We participate in monthly conference calls with the user engineering researchers in IBM, and it's great stuff! For example, the designers like myself are working with the marketing folks to define the terminology for all of Lotus Workplace. Eventually, we will also get input into packaging and other issues.

Do you try to get a diverse population of personas, for example, a balance of male and female?
It would be fabulous to have good diversity, but sometimes I have to take what I can get. For Sametime, I didn't have a large number of candidates, so I basically interviewed everybody who volunteered. However, our new Lotus Workplace design team is improving our persona approach, and we are conducting interviews continuously. Over time, we should be able to significantly enhance the diversity of our personas; we currently have about 20 complete characters and want to build that up into a whole virtual community.

It sounds like creating good personas is a specialized field in itself.
Yes, it is. In our group, we have two people called design ethnographers. Ethnography is related to sociology and involves studying people and their culture: how people talk, how they interact, what do they think, what are their values. In other words, what makes them tick! Design ethnography is basically doing practical sociology in your target audience. For example, if we want to sell collaboration products to pharmaceutical companies, our ethnographers will conduct interviews with the different types of people who work in that industry: chemists, lawyers, and so on. Ideally, they spend several days following their subjects around. The ethnographers then bring back that information to the product designers like myself.

Design ethnography is still an emerging discipline and not too many companies employ it, but there are many independent consultants who specialize in that kind of work. Another term for this kind of research is contextual inquiry. There's a good description of this at the UsabilityNet Web site.

Okay, so you've built up a persona. How do you go about designing a product for that person?
A persona primarily helps us with feature-tradeoff issues. Rob Turner, our primary persona for Workplace, isn't going to help me decide whether to use a set of radio buttons or a listbox, but he will help me prioritize features. For example, is it more important to Rob to have thread maps in his Inbox or to be able to see two calendars side-by-side? Rob is an event planner, planning conferences and stuff like that, and in his case, we know that thread maps are critical to him. His character is based on more than 30 interviews, so we feel very secure making that kind of tradeoff.

We also know that Rob isn't the kind of guy who's going to take time to thoroughly explore his new Lotus Workplace tool because he's got conferences to plan and budgets to prepare, so we know that we're going to have to make all the features very self-evident. We want Rob to say, "Oh! That's how I do that!" Then make a quick gesture to take advantage of a particular feature. On the other hand, a system administrator may be inclined to explore a UI to see how she could do something more efficiently. In general, we've designed Lotus Workplace for the "I don't want to spend a lot of time learning this new tool, I just want to do my job" type of user.

One design trick we do for this type of user is what we call "on-the-fly" preference settings. For example, the first time Rob sends a mail message, we might pop up a dialog box that asks him what he wants to do with sent messages: always save them in his Sent folder, never save them, or ask every time. After he chooses a preference we store it in his personal profile and automatically use it whenever he sends mail.

It seems to me that during the design process you have to put yourself in a lot of other people's shoes and think like a lot of different people. Isn't that difficult?
Well, for some people it's a real challenge, but for people like me, it's a real delight! I enjoy putting myself in Rob Turner's shoes and thinking what it would be like to be an event planner. Or what it would be like to be an executive and to get 500 emails a day: How in the world could I possibly manage all that mail? In a way, I'm behaving like an actress, but I'm not performing on the stage; I'm performing in my head and during design meetings.

At what stage in the design process do the personas get put to work?
We put them to work very early. At the beginning of the Lotus Workplace design effort, we tacked up Rob's picture and descriptions on our walls, and we started talking about Rob during our meetings. I strongly advocate a technique I started in Sametime, which is that you are never allowed to say, "the user." You must always talk about a persona, for example, "Laura would do this" or "Rob wouldn't understand that." The UI spec and every other document that refers to end users must refer to a specific persona so that we're constantly thinking in terms of Rob and Laura and our other characters.

Do you ever get into arguments with the designers or developers about what Rob would like or not like?

Just the other day I got into a heated discussion with some of the other designers. I'm focused on the Personal Productivity client for Workplace, which is a rich client with some features similar to Lotus Notes or Microsoft Outlook. Rob is my primary design persona. Now Lotus Workplace also has a Web-based experience, and we've developed a different persona for that: Kathy Robins, an acquisitions manager at a bank. Kathy only uses the Web portlets and doesn't even have the rich client installed. We got into a discussion about consistency between the rich client and the portlets, and I said, "It doesn't matter if they're not consistent because Rob is never going to use the portlets." The counter argument was, "But what if Rob is on a road trip and forgets his laptop and wants to check his email in an Internet cafe?" Well, in my opinion, if it doesn't hurt to be similar, then fine, let's be similar; but don't impoverish Rob's rich-client experience just for the sake of consistency with the portlet.

How does UCD differ from classic usability testing? Where do the personas come in?
UCD is much broader than usability testing. Usability testing assumes that there is something already there to test, even if it's just a paper prototype. UCD starts way before that, ideally at the time that marketing starts thinking of new product concepts. Right at the beginning, you must have a vision of how the product is going to be used, how the customer is going to manage it, and how you are going to sell and deliver it. I get involved in these early phases to make sure that we don't focus on the technology, but rather on what can this do for real people? The personas help us stay focused on the kinds of problems the product is supposed to solve.

But there is still an important role for hands-on usability testing. Ideally, we run usability tests several times during the development process, starting with paper prototypes, then code prototypes, and then with the actual product. We use the feedback to make incremental refinements on user interface details. For example, maybe we find at some point that a list of radio buttons has gotten too long, and we need to change it to a drop-down list. There are many details that you can't be sure are properly designed until you have actual humans come in and try them out. However, because the personas are deliberately crafted to represent our intended users, we do try to get people for our usability tests who are similar to the personas.

The usability tests always have specific goals derived from the project's UCD plan. An example goal may be that a new user like Rob Turner can log on and send email within three minutes or seven mouse clicks. We have a list of these goals for each of the major pieces of Lotus Workplace, and the usability tests will tell us if we are achieving these goals. We try hard to make the goals concrete and measurable.

We also have overall usability goals that are measured by "satisfaction surveys" we give to our usability testers and beta customers. For example, our target for the overall Workplace ease-of-use was at least an average of four on a scale of one to five with five representing the easiest. Our target for overall satisfaction was also four with five representing the highest grade.

Going to the bottom line: how does all this user-centered design benefit our users?
Sometimes the benefits are very obvious because user feedback directly influences a design decision. For example, in early releases of Sametime we used a red circle icon next to a name on the buddy list to indicate that the person was away from his desk. However, we observed from usability studies that the icon was too inhibiting; users wouldn't realize that they could still leave a message for a person with a red circle. So we created a bunch of different icons and asked user representatives from 25 of our customers to vote for the icon they thought would be most effective. The winner was the yellow-diamond icon we use in Sametime 3.0. User democracy in action!

The benefits can also be more indirect as well. Our site visits help us understand the tasks that our users do and the type of environments they work in. This knowledge makes it easier for us to envision users doing a task we're trying to design. Imagine an administrative assistant trying to schedule a meeting with a lot of participants and doing freetime searches—that's a complex operation that we need to design very carefully. If we observe real people trying to work through difficult tasks like that, we will be better prepared to design solutions that will truly make their lives easier.

To wrap up, can you give me an example of a really excellent user design?
Actually, my favorite example isn't a software or even a computer example...it's my recumbent bicycle. It has a large and comfortable seat, and the whole bike is designed specifically to support the way people sit naturally, rather than designing a two-wheeled vehicle and then attaching a skinny and uncomfortable seat after the fact.

www.lotus.com/ldd/today.nsf

You can learn all about recumbent bikes at the [Recumbent & HPV Information Center Web site](#).

ABOUT MARY BETH RAVEN

Mary Beth Raven is a Product Designer for Lotus Workplace. Her current focus is on designing the new email client experience, but for Workplace 1.0 she designed the administration experience. Prior to working on Lotus Workplace, Mary Beth was the lead product designer for Lotus Sametime for five years. Before joining IBM in 1997, Mary Beth managed a UI design and usability group for FTP software and designed products for Digital Equipment Corporation. Mary Beth holds a Ph.D. in Communication from Rensselaer Polytechnic Institute. She lives in New Hampshire with her husband, two daughters, and recumbent bicycle.

ABOUT JOHN CHAMBERLAIN

John Chamberlain is a Senior Software Engineer on the Domino 6 Web Server team. He has been on the team since its early days, and recently celebrated his fifteenth anniversary as a Lotus employee.