May Event with Ivan Chong of Informatica
Leadership in Product Management
by Greg Cohen

Ivan Chong, VP of Product Management at Informatica, presented on Leadership in Product Management to a full room at the May 7th meeting of the SVPMA. Ivan Chong stepped the audience through his learning over the past 14 years. The presentation offered both a framework and practical advise for product managers looking to move from "good to great."

Ivan never planned on a career in Product Manager until he received a job offer from Oracle in 1989. He described himself as having wandered through his career trying to understand how to cultivate a product management career. He spent six years with Oracle Tools division, another two with net advertising start-up NetGravity, and the last six with Informatica.

Informatica was founded in 1993. Ivan joined in 1997. Two years later the company went public

(Nasdaq: INFA). Today the company has over 800 employees, 1700 customers, and almost two hundred million in revenue. It is a leader in deploying business analytics across the extended enterprise.

Early in the presentation Ivan introduced the idea that "Good is the enemy of Great." Since product managers are good at so many diverse tasks from writing specifications to sales demonstrations, they often do not rise above the everyday requirements of their positions. But the great product managers have an intangible quality that permits them to become thought leaders in their organizations and drive change.

Ivan shared a leadership model developed by Noel Tichy of the University of Michigan. Leaders gain

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Inside this issue

and More

We Built It But No One Came
by Barbara Nelson, reprinted with permission from Pragmatic Marketing, Inc.

Technology-driven companies still believe, "If you build it, they will come." Out of the brilliance of the engineers comes good fortune. After all, customers don't know what they want, so why listen to them? But the thing that engineers love most about their technology is precisely what prevents them from making money. Money is in AOL users, and yet high-tech firms want to provide high-speed DSL with static IP addresses for web servers from my home. No, home users don't need all of that. They simply want to get on email instantly.

If you understood the market, you would know that.

Why should we be market-driven? According to research published by George Day in *The Market Driven Organization*, companies that are market-driven are 31% more profitable than companies driven by something else.

And don't confuse "customer-driven" with "market-driven". Customer-driven usually means deal driven or contract driven (in other words, sales driven). The danger with contract driven is that we might build something that satisfies a market of one.

Debugging the User Code
Part III: Integrating Users into Product Development
by Steve August

This three part series explores the impact and process of incorporating users into the product design/development process. In the first article of this series, we examined the business case for user oriented product development. In Part II, we examined what user testing looks like during the different stages of development. Part III offers advice and practical tips to implementing user-oriented design/development, including information about cost and budgeting. There is also a case study of these techniques in action on page 11.

In Part II of this series we looked at how to integrate user testing into the product development process observing users to find solutions to their needs and desires, conducting user testing with prototypes to keep the team on target, and collecting user data through support calls, sales force and feature requests. Ideally, this process results in the efficient development of a product that is both useful and usable to the people who count the most - the paying customer.

Unfortunately, we don't live in an ideal world. The pressures of time and budget, of getting a product to market as rapidly as possible, as well as other work factors make it challenging to implement user testing in an ideal fashion. What follows is some practical advice on integrating user testing into your product development process.

Focus on business questions
By its nature, integrating users into the development process forces a team or company to stay focused on the main business question: how do we deliver a product that people will buy? At each stage of development user testing provides answers that can guide the team in building a successful product. During the concept and initial design phase, user testing seeks to answer questions about what fundamental user needs the product or technology can fill, what features and functionality customers desire most, and what opportunities exist in the market. As development proceeds, user testing seeks to answer questions regarding how to organize features and develop an interface that mates the product to the users' workflow. After release, user-testing focuses on specific product improvement goals, such as reducing support calls and their attendant cost, as well as keeping pace with technological advances and user needs. Setting goals and keeping an eye on what it means for the business can help prioritize and determine testing needs.

Budgeting for user testing - how much is enough?
So, how much of a product development budget should be allocated to user-testing? The usability gurus at Nielson Norman Group conducted research to determine if it was possible to determine a rule of thumb regarding how much of a project budget should be devoted to usability testing. They surveyed 863 web and intranet projects that involved systematic usability testing, and found that usability testing costs were between 8% and 13% of the project budget, leading them to suggest 10% of a total product budget as the sweet spot in terms of return on investment. (Nielsen, J, Alertbox: Return on Investment for Usability, January 7, 2003)

Of course, every project is different and depending on the kind of product and the scale and scope of the project, user-testing budgets can vary. While the 10% figure represents just one study's perspective on user

their authority by linking three areas: ideas/business theory, values, and emotional energy/edge.

Ideas/Business Theory

Ideas are a product manager's political capital. They derive from being the expert on the customer, as well as the product, the market, and the engineering team. The model is nearly the same for a product marketing professional, except they must master the customer, the product, the market, and the sales team.

A customer expert identifies customer pain points. This is more than just relaying requests; it requires understanding the motive for the request. You should study research reports and know what drives customer decisions and what other choices they have. Lastly, communicate customer anecdotes. Having customer stories lets you demonstrate your knowledge of the customer and avoid debates of opinion.

Becoming a product expert requires that you experience the product through the eyes of your customer. You should install your product and use your product. Adopt the new releases of your product as soon as possible to become familiar with them. Lastly, demo your product to understand it through the eyes of the prospect.

An expert on the market knows the competition. You should also learn about your partners and their businesses. Understand how other products are used in conjunction with your product. Further, know what other products your customers use.

To be an expert on the engineering team, stay on top of your projects. Always seek multiple sources of information. Speak with the architects, QA, developers, and the project manager. Understand how the engineering team makes its decisions and how much detail they require for an idea to gain traction.

Values

There are two types of values, operational and foundation. The prior focuses on the criteria under which decisions are prioritized and should encourage behavior successful to the business. Operational values are applied to make tough calls and permit decisiveness on tradeoffs. For example, engineers do not respect a list of features that is not prioritized, but do respect a list that clearly delineates the few critical features that should be completed first.

Foundation values mark the traits of an exceptional leader, which Ivan loosely based on *Good to Great*

by Jim Collins. In order to lead as a product manager you must be passionately dedicated to the success of your product and exhibit an exceptional work ethic. Leaders are quick to take credit when things go well and take responsibility when things go poorly. Further, they display compelling modesty and are often understated.

Emotional Energy/Edge

Emotional energy is employed to motivate cross-functional team members. You must show enthusiasm for the project at hand and communicating a clear vision for change. Create a vivid picture of how much better things can be and a realistic roadmap for getting there. Edge, in contrast, is the ability to make tough yes/no decisions.

Influence

In order to influence those around you, you must represent the product and your responsibilities. If you do not make this clear, others will define your role for you. Articulate your role, the timing of when you will be working on everything from requirements to the beta program, your co-workers know what and when to expect things from you. Also, educate your team on their responsibilities and deadlines.

How do you know if you are good or great?

If you are good, you will have an incomplete view of the situation. If you are great, information comes to you. If you are good, you will be left out of the teams decision making loop. If you are great, decisions require your input. If you are good, the team will relegate you to "gofer", if you are great, the do'ers will come to you.

To effectively lead as a product manager, you must be an expert on the customer, the product, the market, and the engineering team. You must be able to prioritize and make tough tradeoffs. Lastly, you must be enthusiastic and dedicated to the product's and the team's success.

> *"In marketing as in warfare, the safest strategy is rapid exploitation of the tactics. Rest is for losers. Winners keep the pressure on."*
>
> From *Bottom-up Makreting* by Al Ries & Jack Trout, McGraw-Hill, Inc.

Sales people always say, "Let's build it for my customer; I'm certain that many others will buy it too." But they rarely do. Being market-driven lets us leverage our precious development resources to build something lots and lots of people will buy, rather than a few customers.

Market-driven starts with listening to the market, looking for unsolved problems, and quantifying what we learn. If we uncover a problem to solve, before we turn it over to development, is it:

• Urgent? Is this a problem people want to solve now?
• Pervasive? Does this problem exist for an entire market segment?
• Valuable? Is this problem critical enough that people are willing to pay someone to solve?

The dot bombs missed the last one. Eyeballs on the website were not enough to sustain a business. And when they went back later and tried to "monetize" the business, they found the answer to the last question was "no, the product wasn't valuable."

Market driven companies build meaningful products by observing customers and potential customers at work. This observation is usually a key function of product management. Product managers can serve the company strategically (by documenting market requirements based on market observation) or tactically (by being "demo boy" or "brochure writer" or "icon picker.") The tactical role doesn't leverage the value of product management at all.

Product management involves many activities, from strategic to tactical (see Figure 1. This can also be found at www.pragmaticmarketing.com). In order to be effective with the tactical activities on the right side of the chart, we must have completed the strategic activities on the left. We determine product features, not based on what is "cool" but based on the problems we encountered in the market. We validate the success of the product and the chosen market segment using Win/Loss analysis (which is a product management function, not a sales function).

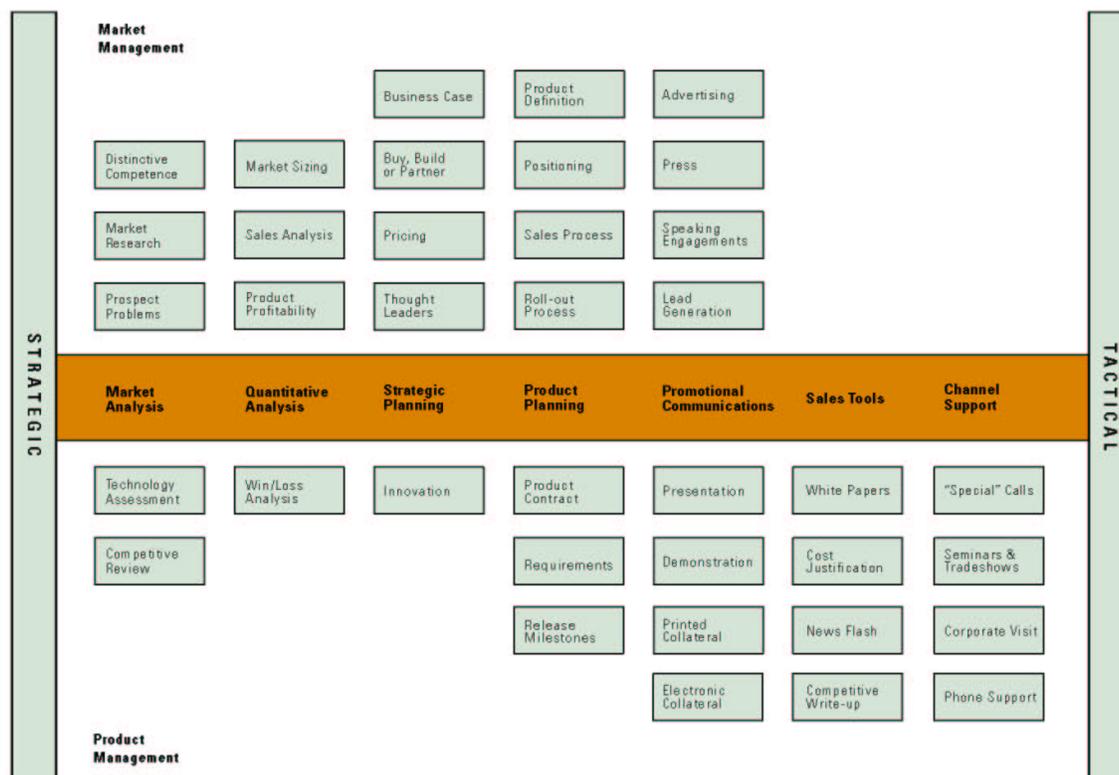## Practical Product Management™
A model for success

Figure 1

June Event with Atul Suklikar of Softrock Systems
Working Effectively with Engineering
by Greg Cohen

Atul Suklikar, Co-founder and Vice President of Softrock Systems, presented on Working Effectively with Engineering to a crowded room at the June 4th meeting of the SVPMA. Atul imparted practical advice on building lasting relationships with the people who actually build the products.

Before co-founding Softrock Systems, Atul spent six years at Siebel, where he was the senior director of the e-business platform. He also understands the engineering perspective through his direct experience as a developer at Oracle for four years. Atul received his BS in electrical engineering from Cal Tech and his MS in Computer Science and MBA from Stanford.

Atul grabbed the audiences attention on his second slide addressing *Engineers Demonization of Product Management*, which included an audio clip from Scottish comedian Billy Connolly. In the sound byte, a boss rattles off a litany of unreasonable demands to his staff. In software terms, this means subsecond

response time, flexibility, usability, standards support, new features, enhancements, bug fixes, plenty of bells and whistles, and to have it all yesterday!

Atul then launched into the core of his presentation: how to work with engineering to ensure that product strategy becomes product reality and have fun in the process. To do this, product management must provide value to engineering by being the voice of the customer, prioritizing product features and themes, guiding product wins, and forwarding the engineering teams careers. This requires the product manager to be the customer expert, a partner to engineering, and a champion of the product.

Being an Expert
The product manager must achieve expertise of the customer, the product, and the market. You must understand how customers use the product across the customer base and then gain deep knowledge of a

few of your accounts. You can demonstrate your expertise by incorporating these learnings into your presentations, conversations, and MRDs. You should also confirm your finding with other customer experts in the organization such as sales and services. When creating requirements, do not just pass on customer request; instead, synthesize the requirements, and understand the customer's business objective.

You should follow a similar method to achieve market expertise, gaining high-level knowledge of a large number of competitors and deep knowledge of a handful. Periodically share this information with engineering, through white papers, demos, and news clippings. Furthermore, use engineering to analyze underlying technology trends to augment your readings.

Becoming a product expert means understanding and using the product. Avoid the mistake of stating the product direction before understanding the current products capabilities. Take the technical training for your product if version already exists. You should install the development builds frequently and participate in testing. Speak with the engineers to understand the architecture of the product, focusing on the what as well as the why. Work to reinforce the perception that you understand the product through references to current behavior in MRD's and in meetings with Engineering.

Build a Partnership
The keys of a good partner are being reasonable, flexible, and personable. Reasonable means clearly communicating priorities and features. Requesting ten times the number of features than can fit in the development time line is. Articulating a multi-release approach is one way to be reasonable while still achieving a broad feature set. While building the relationship, first get agreement on what and then negotiate an agreement on when. Also, work with the engineering architects to own the vision and define the delivery roadmap.

Always keep the big picture in mind. You will repeat the process regularly over many features, releases, and products. Break down large features into granular sub-features so that essential aspects are not compromised. Entertain alternative implementations recommended by engineering that achieve the same goal. When necessary, be willing to make the case to management for additional resources.

Get to know your engineering staff and interact with them in non-work settings. You can go out to lunch or explore common interests such as movies and sports.

Make a point to get to know the junior engineers. Drop by their office to chat about what they are working on, to see demos, and get ad-hoc feedback. Their feedback today is valuable, but they will also be the future senior engineers and architects. Always forward positive feedback from congratulatory emails to success stories from the field. Lastly, attend engineering staff meetings on an as-needed basis and invite the Engineering Manager to your staff meetings.

Be a Champion
Championing the product will contribute to its success and is part of a product managers responsibility. Everyone wants to be involved with a successful product. Further, by keeping engineering informed of product wins, they will remain excited and engaged. In addition, champion the engineering managers and staff members. Give credit to the engineers when speaking with other departments, nominate them for awards, and convey your appreciation to their managers.

Building an effective working relationship with engineering is an important step in creating a successful product. You can achieve this by supporting the engineers so that they are successful. First, become an expert on the customer and market and share that with the engineering team. Second, be reasonable in your product requests and judicious in your prioritization. Third, be a champion of both your product and the engineering team. Lastly, remember you are building a long term relationship that will contribute to your mutual success over many products and releases.

ON THE MOVE

Rich Mirinov has joined AirMagnet, Inc. of Mountain View as Vice President of Marketing. AirMagnet devlops wireless LAN administration applications. Rich was formerly the principal at Mironov Consulting. He may be reached at rich@airmagnet.com

If you or a product manager you know has recently been promoted or started a new job, please email the SVPMA at OnTheMove@svpma.org .

For example, the telecommunications industry is going through huge change right now. Large, established companies are challenged by satisfying their current customers (and continuing to meet revenue and profit targets) while moving into new technologies to protect their future. Data and voice technologies are converging, the Internet is ubiquitous, and communications infrastructure costs a lot of money. New, entrepreneurial companies are attempting to take advantage of the flux by going after untapped markets and by going after the vulnerabilities of the larger, slower-moving competitors. Who is going to win? Is it a zero sum game?

The winner is not going to be the companies with the most features. It's going to be the ones with the right features.

We have too many features, and not the right ones
Technology-driven and sales-driven products tend to have a lot of features. But they are often not the right ones.

For example, here are products that have too many features, and not necessarily the right ones.

Cell phones. Mine has a calculator function. On the surface, that seems kind of cool. One less device to carry. But the execution is terrible (the phone doesn't have +, -, or / keys). Worthless. And a cell phone shouldn't need a 132-page user guide! But wouldn't it be nice to be able to recharge it anywhere, anytime, without a special cradle? Or better yet, get a reliable signal in Silicon Valley, the highest tech of high tech locations?

Remote controls. Mine have too many buttons. And I have too many remotes - TV, satellite, VCR, DVD, stereo, CD changer. I tried a universal remote, but it doesn't work very well with all of the devices. It reminds me of the early digital watches where you had to press those teeny buttons (with a paper clip) to the "function" you wanted to change. Then you pressed the other teeny button to change the date or time. It was easier to buy a new watch during Daylight Savings time rather than figure out how to change the old watch. But why hasn't anyone made a remote with buttons we can read in the dark?

Digital video cameras. Mine is terrible. It has a 100-page user manual and I still can't figure out how to connect the camera to the TV and VCR so I can copy those teeny tapes to a standard VHS tape so my mom can watch it on her VCR. It takes both digital movies and digital still photos (with a flash!), but it has dozens of menus you have to cycle through just to figure out how to erase the digital photos after you've downloaded them so you can take more. Way more features than I need and too complicated for the most common functions!

As we move to new technology platforms, we ask ourselves which features should we provide? The answer is not necessarily the ones we have always had. It is important for us to understand the needs of our target market (assuming we have a well-defined target market, not just a shotgun approach).

• What's important to them?
• What do we need to put in the product that will delight them, make them become outstanding references, tell their neighbors?
• Which are checklist items that shouldn't be over engineered?
• Can we solve problems that haven't been solved before?

The last question is a true measure of a market-driven company. And it isn't done through ivory tower thinking. We do this by knowing our prospects and customers better than they know themselves. Get out in the market and spend time with them, uncovering problems they aren't even articulating. As voice and data technologies converge, what new problems can we solve for people that older technologies couldn't solve? Does the technology have the reliability currently demanded for voice-only technologies? Is there a segment of the market that is OK with this while the reliability is improved? Can we solve new problems TODAY with current technology capabilities (and make money) while the back room R&D continues to improve the reliability of the voice-data convergence? 100% voice-data convergence might be "ahead of the market". If so, it's probably also ahead of the revenue. So we need to figure out how we can make money in the meantime.

If we are moving to new technologies that require our existing customers to make huge investments to migrate, what will motivate them to move? We should be careful not to base our business plans on aggressive migration of existing customers. They will move at their own pace, not ours. It is arrogant of us to think they will migrate on our time schedule. They have additional costs well beyond the cost of our solution infrastructure, personnel, implementation, training, and conversion of existing systems, to name a few.

Shouldn't we be listening to the target market of the NEW business to help us determine what problems we should be solving with new technologies, not only

listening to our existing customers? Let me repeat this important point we should not only listen to our existing customers to determine what problems to solve with new technologies. We should listen to people who have no reason to talk to us, those companies in the market who are NOT looking today. How are they surviving without our technology? What problems do they need to solve to improve their businesses? This is the future of our products.

If we only listen to our existing customers, and respond only to their feature requests (which are often not addressing needs of the market at large, but we do them because they are noisy), we run the risk of building a product only existing customers would buy (at their pace, not ours).

Develop for Regular People
Part of the problem with high technology products is the people who design and build them. We are immersed in the technology. We are technology enthusiasts. We live and breathe new technology. But, we are not regular people. Just because we (the technologists) "get it", doesn't mean the rest of the market (the mainstream people who pay our bills) get it. Not everyone has a Palm Pilot, a home network, DSL, or spends more than an hour on the Internet every day.

Regular people don't have a friend in the business. Something like DSL is incomprehensible. After all, the phone company engineers and cable installers can rarely set it up in one trip! If you want to take high speed Internet to the masses, take a wire, plug it into the computer, self-configure it, and start surfing. High-speed internet can be as easy to use as a toaster (and must be, if we want to make money).

Develop for regular people. Maybe the problems we need to solve for regular people are complex. Then mask the complexity! Intuit was very successful doing this with Quicken. They learned what regular people needed by spending time in people's homes, watching how they managed their home finances. Quicken was the first finance package to use the checkbook metaphor, something regular people already understood. Quicken was hugely successful, and even with dozens of competitors, managed to gain 75% market-share because it was easier to use. It was the first product to take a customer-oriented view instead of a data-centric view.

Stop being driven by the technology
Many high technology companies are driven by the technology rather than by the business problems that need to be solved. Customers want to be sure they aren't in some dead-end technology that will prevent them from adopting future products, but unless your customers are 100% early adopters (and usually there aren't enough of those in a market to sustain us for very long), we can't be delivering technology for technology sake. We must use the technology to solve problems for our market. And when we deliver solutions that include infrastructure investments in a particular technology, we need to make sure we are delivering substantial value to the customers or they won't make the investments or switch to a "newer, better, faster" technology. Even if we want them to.

Engineers often throw in features because they're a cool use of technology. The night before the press announcement for Apple's Newton (one of the first personal digital assistants), a lead developer added a thermometer function. Neat. It measured the temperature INSIDE the Newton. The thermometer was a dumb idea but everyone just winked at how cute it was, when it should have been a firing offense. And yet, handwriting recognition was still crashing the operating system.

Become market-driven
If you want to become market-driven and create products people want to buy, start by looking for unsolved problems in the market. Ensure that they are urgent, pervasive, and valuable.

Challenge your product management people to follow the Technology Product Marketing grid to bring market problems to development.

It does not have to be a zero sum game. If we all continue solving new problems for people, problems lots of people are willing to pay to solve, we can reap the rewards and expand the markets well into the future.

And they will come.

Barbara Nelson is a highly rated instructor of "Practical Product Management" and "Requirements That Work", and prior to joining Pragmatic Marketing, she implemented the market-driven process at her companies. With over 20 years in high tech, Ms. Nelson attributes her successful career to actively listening to the market and applying that knowledge to build products that people want to buy. Barbara may be reached at bnelson@pragmaticmarketing.com

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research budgeting, it does offer a sense of user testing priority in relation to the entire development budget.

Getting buy-in

One of the biggest issues with user testing is getting it to happen in the first place. The twin pressures of time and money are usually the most commonly sited reasons for not conducting testing, especially in the current economic environment. However, as we saw in the first article of this series, user testing generally pays for itself both in time and in money by keeping the project team focused and identifying design issues as they come up, not to mention delivering a product more likely to be accepted by customers. There are numerous objective case studies that demonstrate that in the end, it is much more costly to rebuild a product that customers reject on the first go around than to take the time and money to get it right the first time. Presenting decision makers with real world case studies and strong financial reasons to implement user testing provides the most compelling case (see Article I in this series and the resource list at the end of this article).

It is crucial that the main decision makers on the project team and those managing the budget of the project team see the value of systematic user testing. Without management buy-in, it is not likely that users will be part of the development process and if some user testing is conducted, the feedback will not be valued.

Do what you can on your own

Since user testing works best when it becomes a systematic part of the development process, it may make sense to develop the ability to conduct user testing in house. There are many things teams and companies can do on their own to understand their customers. The first place to start is to maximize the customer information that already exists within the company walls. Support calls, feature requests, sales force feedback and web logs can offer tremendous information about customers and how they relate to the product. When collated and parsed, these disparate pieces of information can yield important insights into customer needs and desires, and identify specific goals for the product team to address (i.e. reducing support calls around a specific feature or installation).

Beyond the information gathered from internal sources, it becomes necessary to solicit feedback from users in a more direct fashion. Using the information from internal sources, project teams can understand and segment the different kinds of users working with the product and make decisions about what kind of testing needs to be done. The kind of information sought determines the type of testing. Broadly, user testing breaks down in to qualitative testing, which

focuses on understanding in-depth the experience of a small number of users, and quantitative, which seeks to understand market issues with a larger number of statistically representative users. Qualitative testing provides answers to questions regarding user experience. Qualitative techniques include usability testing, focus groups, one on one interviews and ethnographic research. Quantitative techniques focus on the development and analysis of surveys, and seek to answer questions about market size and opportunity.

There are several options for both qualitative and quantitative do-it-yourself user testing. For usability testing, you can up a lab on site where you can invite users to work with your product. If space is not available on site, there are off site usability labs that can be rented. Another option to consider is creating a panel of users, ideally representing your target market, to quickly evaluate new features and test prototypes. Users can be incented with discounts on products, priority support or other kinds of compensation.

For quantitative testing, there are web sites that allow you to set up your own surveys and email them to a list of users that you provide or to a sample provided by the site. The sites provide templates on which to build your own surveys. Visit Zoomerang at www.zoomerang.com to see an example of a do-it-yourself survey site.

While all of the above is possible to do in house, it is unrealistic to expect good information from in house user testing without undergoing at least some basic training on how to recruit the right users, conduct usability tests without asking leading questions, and accurately analyze test information. There are user research consultants who will train teams in usability testing techniques. Several local universities also offer extension courses on the topic of user testing (often they are coupled with interface design classes).

Working with consultants

While there is a lot that you can do on your own, there is an art and a science to user testing. As with any skill, the experience and training of the people conducting the testing can have a big impact on the quality of the results. Using a professional usability consultant can dramatically improve the quality of the testing, as well as help get the most out of the resources available. Bringing in someone outside the company also provides a degree of objectivity that is simply impossible when doing testing internally. Many consultants will also manage the recruiting process which can be time consuming and is extremely important in getting the right people to test. An outside hand can also lighten the load on the

Debugging the User Code *from previous page*

project team.

In choosing a user testing or usability consultant, it is important to look for a research background, especially if you are looking for help creating the test methodology. Organizations such as San Francisco Bay Area Computer Human Interface Group (BayCHI) and the Usability Professionals Association (UPA) can help you track down a usability consultant. Nearly as important as finding qualified consultant, is finding someone who you can work with, who integrates easily with the project team. Interview any potential candidates to understand how they work, and if their personal style gels with you and the team.

Rates for user testing vary by project and by vendor. Remember, however, that most vendors' price for a given round of testing is somewhat negotiable. You can work with the consultant to get the most for your money. For example, you can ask the vendor if they are willing to give less formal reports or test with the minimum number of users. Basically, it's best if you have in your mind what your ideal situation is and then find the consultant who will match you in terms of service and price.

Believe your users
In the course of developing a product, the team and the company become immersed in the products inner workings. The product team and the company make assumptions based on this intimacy, and one of the most important things user testing does is to check these closely held assumptions with the people who will buy and use the product. Sometimes it can be an uncomfortable process, especially when user testing challenges those basic assumptions. As human beings, we generally find it hard to accept that customers do not see the product the same way we do. One of the toughest challenges with user testing is not rejecting user feedback when we disagree with the message. It is important that user feedback, especially when it challenges preconceived notions, be seriously considered. After all, at the end of the day, it is the customer who pays for the product and the salaries of all the people who build the product.

Helpful resources
Over the course of this series of article, I have referred to different texts, web sites and other resources. The following is an annotated list.

IBM Ease of Use Web Site www.ibm.com/easy
This site features IBM's take on user-centered design. It features detailed information about implementing user-centered design, business case studies and interviews. The site is a great starting point with links to conferences, articles and books.

Nielson Norman Group Web Site
www.nngroup.com / www.useit.com
These sites are the home of Jakob Nielson and Donald Norman, who are considered two of the leading thought leaders in web, software and product usability. The sites contain articles and other reports pertaining to usability, and you can sign up for their Alertbox email newsletter. As thought leaders, their opinions are often on the mark, though sometimes controversial.

Good Experience Newsletter   Site
www.goodexperience.com
This e-news newsletter chronicles usability and customer experience foibles and achievements in a light and lively style.

San Francisco Bay Area Computer Human Interface Group (BayCHI)
Devoted to computer/human interaction, BayCHI offers a number of different events around the Bay Area each month. For more information, go to the BayCHI web site at www.baychi.org.

Usability Professionals Association (UPA)
Another organization devoted to promoting usability techniques and concepts. There is a Bay Area chapter that sponsors events. For more information, go to the UPA web site at www.upassoc.org.

Contextual Design
Hugh Beyer and Karen Holtzblatt's enlightening text on their method of customer-centered product development.

Steve August is the Director of Business Development for KDA Research (www.kdaresearch.com), a San Francisco based consulting company that specializes in integrating consumer and user experience into products and communications. He can be reached at steve@kdaresearch.com.

Learn more about these techniques in a case study on the Zip Drive on the next page!

Debugging the User Code
Case Study of the Zip Dive
by Steve August

The story of the Zip drive is an excellent example of how melding continual focus on customer needs and desires with a compelling product vision and the ability to quickly deliver a product as promised can produce a smash success.

Before the Zip drive Iomega was struggling, producing and selling only a few thousand Bernoulli drives every year. In 1994, then new CEO Kim Edwards had a vision to create a removable storage drive that could hold up to 100mb of data and would cost $200, and he committed the company to making it a reality. Iomega hired an outside design and research company to test Edward's assumptions and gather information that would inform the design of the drive. Researchers observed people using floppy drives, conducted focus groups and surveyed thousands of users to determine if they were on the right path.

The researchers came back with a number of insights that drove the development of the drive. They indeed found that many users were looking for a personal storage format that would help them transfer larger files and backup their data. Most importantly, the research confirmed that consumers would snap up a 100mb drive that was priced at $200.

The user research also pointed out opportunities to create a more usable product. It turned out that many users were scared that their floppies would disappear forever into their computer because they couldn't see their disks when they put them in their floppy drives. To address this fear, it was decided that the new drive would have a window. They also observed that men and women worked with disks differently, as many women with long fingernails needed to cock their finger in order to grip the disk, so the new drive would have a notch to facilitate women with long fingernails.   The research also revealed that most people considered the data on their drives to be "their stuff, " so Iomega decided to market the drive as a place to stash your stuff, even shipping the drives with labels for media that read "Old Stuff" "Work Stuff," and other labels that allowed users to personalize their drive.

Armed with this information, the designers and engineers raced to quickly develop a prototype for the drive. The first prototype featured a top-loading door, inspired by those found on portable CD players. However, before committing the prototype design to production, the drive was tested with users to gauge their responses. Their response was surprisingly negative. Users felt the top-loading door was not only too flimsy to withstand the rigors of everyday use, but also would allow dust and other contaminates easy access to their precious data.

The designers and engineers went back to the drawing board, and the drive was redesigned to accommodate the now familiar front-loading door. The case was designed so that the drive could be oriented vertically or horizontally, and was made of a molded blue plastic that immediately gave the drive a more personal feel. Eleven months after the initial concept, the final version debuted at Comdex in 1995, and was met with rave reviews. With a six month lead over competing drives, the Zip drive was a runaway hit selling one million drives its first year, elevating Iomega from a niche company making specialty storage products to a big player in the consumer electronics market.

Steve August is the Director of Business Development for KDA Research (www.kdaresearch.com), a San Francisco based consulting company that specializes in integrating consumer and user experience into products and communications. He can be reached at steve@kdaresearch.com.

BOOK REVIEW
Out of the Box by John Hagel III
by Rajesh Raman

My interest in Web Services technology led me to a book titled *Out of the Box* by John Hagel III. I wanted to find in-depth case studies and information about how J2EE or .NET have helped companies save money. I was hoping for real quantitative analysis. Instead, like Columbus, I discovered something else. I found a fascinating discussion about how focus has created tremendous value for organizations worldwide.

Roughly half the book is about Web Services and how its use has helped enterprises link applications together. The other half covers how businesses can capture additional value by becoming more nimble by reforming themselves into a more loosely-coupled entity.

Hagel describes how creation and manipulation of "**Process Networks**" has helped numerous companies reap tremendous profits. One of the examples in the book is about a family-run business based out of Hong Kong by the name of Li & Fung. The company used to be a broker, matching buyers and sellers of a broad array of low-value products. It then moved up the value chain by creating a network of suppliers on one side and customers on the other. Li & Fung transformed itself into the kingpin in a series of networks that it could shape and grow depending on the needs of the market. First, it created many small divisions, each dedicated to a single customer. These small divisions understood all aspects of their customers' business. It also created a string of relationships with producers around the world. It developed a detailed understanding of their capabilities, strengths and weaknesses. For example, the company *"might purchase yarn from Korea, have it woven and dyed in Taiwan, cut in Bangladesh, and then shipped to Thailand for final assembly, where it will be matched with zippers from a Japanese company and, finally, delivered to geographically dispersed retailers in quantities and time frames specified well in advance*." By focusing in on its customers and knowing them intimately and developing an equally detailed understanding of sellers worldwide, it positioned itself at the center of a vast network of buyers and sellers. No single retailer or producer could match the knowledge and relationships that Li & Fung had created. The network that it built allowed it the flexibility to grow or shrink depending on the needs of the market. Other examples cited are those of Cisco and Nike, each as sole orchestrators of their networks, who captured the lion's share of the value of their respective networks.

I have observed the same thing happening in the software business today. A major IT outsourcing and services firm, Wipro Infotech, is helping WindRiver move core OS development offshore. Wipro will help WindRiver set up an offshore development center that will be staffed by a team of 30 engineers dedicated to WindRiver. Wipro will likely do this with all of its outsourcing customers. It will hire engineers and move them between projects and customers. It will set up and shut down teams depending on the needs of the market. Wipro is creating the same kind of process network of which it is the sole orchestrator. It alone understands both ends of the market intimately

The book also talks about the benefits of "**Unbundling and rebundling**". It talks about how companies today are an unnatural bundle of three types of businesses :

• *Customer Relationship* This type of business involves identifying a target segment of customers, knowing them intimately and then connecting them with goods and services tailored to their needs.
• *Infrastructure Management* These businesses focus on high-volume, routing processing activities and cover a broad range of business activities, such as management of a logistics network of trucks, facilities management etc.
• *Product Innovation and Commercialization* These businesses develop a deep understanding of certain technologies or market trends and organize their creative talent in coming up with new products or services.

Each of these types of businesses requires different skills from the employees as well as different marketing approaches to their customers. The book argues persuasively that "unbundling and rebundling" will not necessarily lead to increasing fragmentation in business activity but could lead to the creation of more economic value as businesses narrow their focus on their core competencies.

The book is a fascinating read, both for its description of the practical uses of Web Services technology as well as the analogies it draws between business processes and Web Services. More information can be found at http://www.johnhagel.com .

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