Interaction design in an agile world

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What do we do at LANDesk?

- **Focus** on the customers and users to understand **what** they want to do and **how** they work so we can solve their problems.

- Communicate who the customers are, what their work practices are, what their pains are, and what their needs are to development (and product marketing and outbound marketing…)

"We need to truly understand the customers and do all we can to address their issues and concerns….The end result should be strong customer loyalty." —Joe Wang, CEO LANDesk

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LANDesk history

- Originally founded in 1985 as LAN Systems, LANDesk Software was acquired by Intel Corporation in 1991.

- In 2002, LANDesk Software established as a standalone company, growing from 180 to over 400 employees today worldwide.

- Privately owned LANDesk boasts 17 consecutive quarters of operating profitability, and is growing approximately 50 percent YOY.

"We continue to see success by responding to customers needs for solutions that can help them account for and protect their IT assets."—LANDesk CEO Joe Wang

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The usual process

- Heavy planning process with little direct customer understanding.

- MRD from marketing & PRD from development, followed by a two month arbitration process.

- On-going changes to requirements and priorities from corporate leaders.

- Often "too busy" for customer visits.
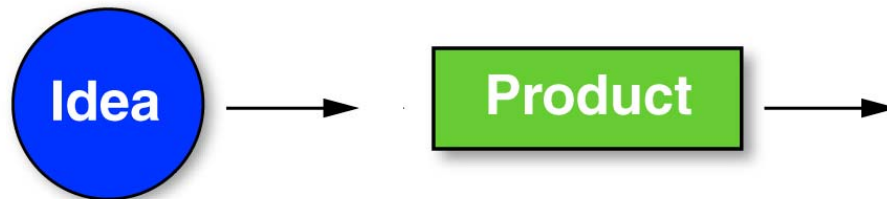
The result?

- Successes in familiar market spaces.
- But some products fall flat or get canned because they are late and way off the mark.

"Please… let's take the time to verify the product features with key customers!"—*Marketing Engineer*

The better process

- Pre-spin out, development began adopting XP programming methodologies to:
  - Reduce development time and wasted effort.
  - Deliver products that more closely meet customer needs.

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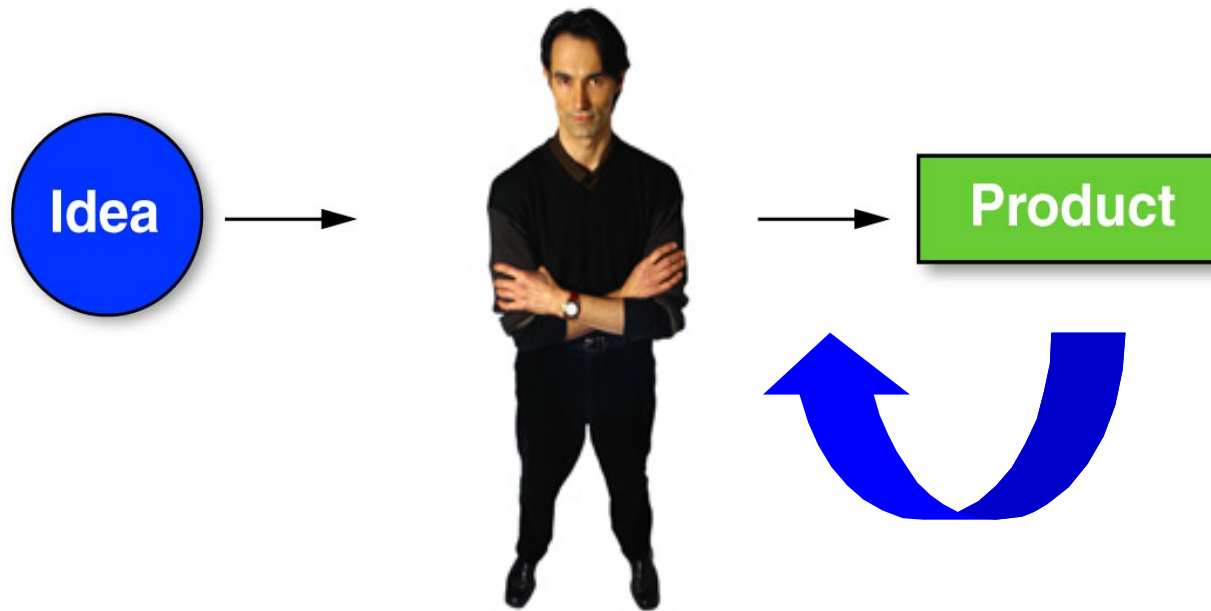
What did it mean for human factors?

- There's no up-front design and plan. Where does human factors (HF) fit into an agile process?
- The organization was unclear of the HF value with XP.
  - If we have "customers," do we need HFs?
- Pre-spinout, headcount had to be reduced throughout the business unit. Perception that HF is a luxury.
  - "If I only have *x* resources, I can't 'afford' HF coverage."
  - HF cut to ½ headcount.

"What's HF do? Don't you just make it look pretty?"
—identity-protected programmer

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What is agile development?

The basics

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What is "agile" development?

- Agile development processes are known by different monikers:
  - XP programming
  - Scrum
  - Crystal
- But per the "Agile Manifesto," they all essentially value:
  - Individuals and interactions over processes and tools
  - Working software over comprehensive documentation
  - Customer collaboration over contract negotiation
  - Responding to change over following a plan

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What does agile do?

- Minimizes up front design and maximizes the feedback cycle.

- Reacts to changing and unclear requirements that in the past have resulted in death marches and productivity highs and lows.

- Attempts to avoid a final product that is late, over budget, or a mismatch with the customers' (or marketing's) expectations.

Why agile?

- ## In the words of the experts:

"You could try and do a better job on the engineering side of getting the details of exactly what they meant by this and spending more and more time on estimation, requirements, specifications, engineering methodology, computer-aided yadda yadda yadda *forever* … and never reach anything like a satisfactory conclusion. " –Kent Beck

"Essentially, the crap rolls downhill and ends up rolling right into the programmer's lap." – Alan Cooper

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What does XP mean at LANDesk?

Customizing an "in-house" process

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XP delivers retail

- XP was designed for in-house projects, not for retail projects.

- But LANDesk's brand of XP delivers a retail product.

- There's no "one" customer voice:
  - LANDesk's customers have from 250 nodes to 80,000 nodes.
  - Customers span industry verticals: financial, education, government, medical, retailers, wholesalers.

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LANDesk stretches the XP process

- ## The development team has several sub-teams.

  - Daily sub-team standup meetings; weekly for big team.

- ## Development sits in a modified bull pen.

  - The team is too big to sit together or communicate in the way that Beck expected.

  - Sub-teams sit in their own pods.

- ## HFs report through documentation, but sit with development.

  - HFs sit in the bull pen area, but float around to many stand-ups, iterations planning meetings, and 1:1 time with developers.

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On-site customer

- Product marketing acts as the on-site customer.
- But they really talk more about the buying persona than the user persona.
  - Requirements about what was needed to be purchased, not details for design describing how it would be used.
- Specific enhancement requests from larger customers.
- But if this is the only source of "customer" information the secondary persona (buyer) masks the primary persona (user).

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LANDesk process basics

- Business determines release dates.

- Top story lines and budget determined at beginning of project.

- Development does initial costing then negotiates with product marketing to determine priorities and which stories to "ZBB."

- Acceptance tests for stories worked out with team.

- Two week iterations.

- Multiple drops to designated XP customers during release cycle.

- Stories or story lines adjusted during project depending on business or customer requests.

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How does HF fit?

Bringing together best practices

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Working with agile at LANDesk

- Various agile methodologies do not inherently have a "home" for HF processes.

- The HF challenge:

  - Bring **practical** HF into the organization.

  - Integrate into the new and **evolving** XP processes.

  - With product marketing, represent the needs and desires of the on-site customer when the customer is no "one" person or organization.

  - Do it, show the value, then "canonize" into the process.

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So many developers…so little time

- With limited resources we had to determine the priorities. We can't do it all.

- Basic ideology:
  - Up-front influence is better than downstream triage.
    - Supply UI prototypes and bring the "customer" into the discussion.
    - Focus on the parts of the product that give us the "biggest bang for the buck" and drive those items.
  - Quick-and-dirty is better than not at all.
    - A little data is better than no data.
    - A rough prototype is better than no prototype
  - Get mindshare from the developers by being visible and creating deliverables that make their jobs easier.

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While-they-work interviews

- Understand what the user needs, not just what they *say* they need. (Or what sales or the analysts says they need.)

- Obtain a more complete view than is possible with surveys, on-site visits or phone calls.

- Communicate the customer and their work to other groups so marketing and development understands the user and their needs.

- Goal: As a team, use what we know—LANDesk technology coupled with the customer's problems and work intents—to create great solutions.

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See them in their natural environment

- Ethnographic research: Visit users at their site while they do their job.

- Master-apprentice relationship—"I'm here to learn how you do your job."

- Communicate what we see and what it means to our products:

  – Email daily visit briefs when on trips.

  – Email key learnings and design ideas from interpretations.

  – Encapsulate data into affinity and personae.

  – Create needed work models.

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Beck methodology meets Cooper and Holtzblatt

- Integrates best-known methods:
  - Contextual inquiry methodology to gather the data.
  - Personae communicate and embody the data.

What's a persona?

A persona:

- Is a customer profile that puts a face on the facts by encapsulating and representing the data.

- Is a fictional person created to represent a particular class of **real users** or system participants.

- Resembles several people we interviewed, but does not exactly match any one of them.

"Not only were the personas not all like us—our personas wouldn't even be able to use the system we were building for them!" —Meg Hourihan

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Why?

- If you know up front who you are designing for you can create a better product with fewer iterative changes.

"It's a more efficient way to design with fewer iterations and less changes because we know up front what we're designing for. From that, you get savings."
Vincent Caride, Medco's Senior Director of E-Commerce Marketing

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What we like

- Personae encapsulate the data into an easy-to-carry model that everyone can relate to and discuss.

- But the Cooper way of ethnographic research is a more casual process that means we lose data details that we might need to refer back to later.

- Using the Holtzblatt/Beyer methodology (CI + Interpretation + affinity + modeling) means we can keep the information details handy for use as needed.

- The personae are well-grounded and "real." They resonate well when the developers meet the real-life "Jon Trents" of the world.

> You are ensuring that our products are 'down to earth' and REAL. Making the personas known to us… Mike Chan, Jeff Gonzales really works well I think to personalize our customer." –LANDesk developer

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How do you create the persona?

Personae are not "made up"; they are discovered as a by-product of the investigative process.

- Created from knowledge of our users gained from:
  - Contextual inquiry (on-site ethnographic research)
  - Educational and experience profiles
  - First-hand knowledge of some key customers
- Validated with product marketing, whose job it is to "own" our customer.

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HF work day-to-day

It's a life in the bull pen

Our work is iteration driven

- We collect the data as we need it. We use it as we need it.

- Gathering data doesn't necessarily imply a big upfront gathering process, nor does data we gather have to wait until the next release to be used.

- Prototype deliverables are created "Just-in-Time" for each iteration and incorporated into acceptance tests.

- UI reviews and text edits are conducted at specific milestones.

- We pair program to fix code details or take advantage of "shared ownership" and check in fixes ourselves.

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Release planning (aka the planning game)

- Pre-kickoff, meet with development management and product line marketing.

- Based on the customer data, we influence the feature list product marketing delivers and the priority or scope of the features.

  - "Analysts" saw a feature in the "desired" curve while real- world customers conveyed different priorities.

  - Examples:

    - OS deployment was dropped from a Server Manager release in favor of the Dashboard because we were able to identify that "sweet-spot customers" were not yet ready to use OSD in their environment. But they didn't know if all their servers were up.

    - During customer visits, Spyware-related issues continually popped up. We pointed this out to product marketing who added it to the Suite release plan.

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Project kick-off

- Present any marketing information the PMs feel is necessary, data highlights, key learnings, design ideas, and the personae.

- Show concept prototypes.

- Provide link to HF project Web site so business, PMs, development and testing can go to one place for the prototypes, personae, and recommended reading.

- Teams focus on their storylines, and come up with design and story ideas in the planning phase.

- HF is at the planning meetings to represent and clarify persona needs and contribute expertise to design ideas.

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Is there more than one persona?

- **Yes.** Especially in the larger companies, IT admins specialize. They have different goals and needs as directed by their daily activities and rewards.

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Server administrator – Mike Chan

More about Mike

Critical patches go out immediately, sometimes by sneaker-net. In a pinch, Mike and his techs walk the patch around on a thumb drive.

Routine patches are tested 3-4 weeks before they are deployed. "It's OK to be behind," says Mike, "as long as it's stable."

The bottom line? "You can't hurt the server."

- "I work on servers remotely—as long as it is guaranteed to work."

- Fast is good. "We do whatever is easiest, quickest, and dirtiest to get the work done."

- Mike's servers run the same OS until they die or go out of warranty.

Key points:

- **One shot to impress. Mike and his guys are too busy to mess with new tools.**

- **Desktops? "That's the *desktop guys'* problem."**

- **Stability trumps "new and improved."**

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Iteration work

- Ideally, HF is one iteration ahead of the dev team. (Realistically prototypes are delivered during iteration.)

- Create prototypes as screenshots or flash animations.

- Review iteration prototypes with product marketing.

- One week before iteration starts, sit down with strategic tester and write acceptance tests so they follow the prototypes.

- When possible or as applicable, review with designated XP customers (happens more or less depending on the time).

- Sit down with dev teams at end of iteration to review all new UI.

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Conclusions

Bringing it all together

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Wins in LANDesk's two-year history

- Organizational commitment to HF skill set and deliverables as part of iterations.

- Visibility and credibility with development management, product marketing, and outbound marketing.

- Real product change and improvements resulted from customer data.

- Product marketing sees us as a partner, not a turf threat.

- Developers know their persona by name and argue for them (even when we're not there).

- Growing recognition from design and agile communities for our work.

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Key learnings (so far)

- You can't do a retail product wholly the "XP way."
  - The product team is just too big.
  - One customer cannot be sole influence of a design.
  - Not every customer is the same. Use affinity to see key patterns.

- Be visible. "Designing for customers" and Web site has helped our visibility and credibility. It has created a positive discussion with the developers and marketing.

- Make your deliverables transparent and accessible.

- When you go on visits, say something. The developers like to know what happened and they like to ask questions.

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Key learnings (so far)

- Say it again…and again…and again…
- Take the time to do interpretations. Or data is lost forever.
- Repeat yourself often.
  - E-mailings targeted to specific topics
  - Team stand-ups
  - Project Web pages
  - Persona posters
  - "In Jon's words" posters

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Key learnings (so far)

- As always, pick your battles.
- Be ready to change.

The human factors team…continues to make a difference in the usability of our product and will help us continue to improve. The contextual inquiry really helped to drive our design and implementation of the products.

Tom Davis, VP LANDesk Software

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Handouts

Links

- Interesting links, source materials, and other related items

- Agile Manifesto: http://www.agilemanifesto.org/

- Kent vs. Cooper: http://www.fawcette.com/interviews/beck_cooper/

- InContext Customer Centered Design: http://incent.com/

- Cooper Design: http://www.cooper.com/

- Alistair Cockburn, Humans and Technology: http://alistair.cockburn.us (pronounced Coburn, the Scottish way)

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Glossary

- Bull pen: Large open area where programmers work together collaboratively.

- Iteration: Two to three week time period in which certain programming tasks or stories are completed.

- OSD: Operating System Deployment.

- PM: Product marketing manager.

- Story: A high level description of something the system will do for the customer.

- XP: eXtreme Programming

- ZBB: Zero Baseline Budget – Items that are ZBB'ed will not be worked on during the release.

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Keep the persona visible

- Handout: In Jon's words

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In Jon's words…

"Profile migration is great!

Because I can migrate user profiles when needed, people are so grateful they didn't lose everything they buy me lunch."

Jon's Goals

- Keep things running well
- Solve any problems that arise quickly.
- Be the solution expert.

Jon Trent
IT administrator

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