Why designers fail and what to do about it

User Interface Conference 13 October 15th, 2008

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Hi. I’m Scott.

- IE 1.0 -> 5.0, Windows, MSN
- Since 2003: Author / Speaker
- Bestsellers:
  - Making things happen, (O’Reilly 2008)
  - The myths of Innovation, (O’Reilly, 2007)
- www.scottberkun.com
  - Blog, essays, podcasts, videos
WEB BLOOPERS

60 COMMON WEB DESIGN MISTAKES AND HOW TO AVOID THEM
All men are designers. All that we do, almost all the time, is design, for design is basic to all human activity. The planning and patterning of any act toward a desired, foreseeable end constitutes the design process.

Any attempt to separate design, to make it a thing-by-itself, works counter to the fact that design is the primary underlying matrix of life. Design is composing an epic poem, executing a mural, painting a masterpiece, writing a concerto.

But design is also cleaning and reorganizing a desk drawer, pulling an impacted tooth, baking an apple pie, choosing sides for a backlot baseball game, and educating a child.

Victor Papernak, Design for the Real World
Why the Things You Buy Are Expensive, Badly Designed, Unsafe, and Usually Don’t Work!
With some startling practical alternatives -- like a radio that costs 9c, a $6 refrigerator, a television set for $8, and much, much more!

Design For The Real World
by Victor Papanek
Human Ecology and Social Change
With an Introduction by R. Buckminster Fuller
Completely Illustrated
My three points

▪ All designers fail 95% of the time
  ▫ Failures on drawing board + failures in real world = ?

▪ Why designers fail
  ▫ Set the wrong goals, Fail to meet goals, Never had a chance

▪ What to do about it
  ▫ Own your mistakes
  ▫ Study failure and common situations
  ▫ Study how to avoid / mitigate failures
WHOEVER

DESIGNER

DEVELOPER

CUSTOMER
WHOEVER

DESIGNER

DEVELOPER

CUSTOMER
A Completely Revised Third Edition

How Designers Think

The Design Process Demystified

Bryan Lawson
Design has no failure analysis

- Doctors: M&M (Morbidity & Mortality)
- Forensics: Autopsy
- Air Force: mission debriefing
- Manufacturing: failure analysis
- Software: Postmortem

- Design? Architecture?
restrooms
MOVIE TIME:
TACOMA NARROWS
Two kinds of failure

- Fundamental – system collapse, people die, etc: Tacoma Narrows, Maginot line, Microsoft Bob. Rare and dramatic.

- Partial / Subjective – Mixed results, YMMV, basic functions work but to what standard? Big Dig, Microsoft Vista. Common and debatable.
FAILURE HERE MAY MEAN DEATH BELOW

SAFETY FIRST
The stigmas of language

- Embarrassing out we are taught to avoid at all costs: Disaster, Failure, Mistake
- But there are many kinds of failure:
  - Beautiful
  - Interesting
  - Unavoidable
  - Necessary
  - Breakthrough
  - Stupid*

- We must **Experiment** to create new design knowledge
- We must reward those who find lessons in what we fear
The Logic of Failure

Recognising and Avoiding Complex Situations

Dietrich Dörner

To Engineer Is Human

The Role of Failure in Successful Design

With a new afterword by the author

"Serious, amusing, probing, sometimes frightening and always literate."

—Los Angeles Times

Henry Petroski

Author of The Evolution of Useful Things
From the Japanese computer journal "ASCII"

The greatest news of the Data Show was the announcement of the Xerox Information Network System XNS. From the way in which not only the Data Show attendees but also the other makers’ exhibitions were invited to the display booth, it is fair to say that both attendees and exhibitions received a great cheer.

In developing the personal computer, Xerox saw not the future methods of computer usage by the user, and declared an open networking system. Knowing that developed the personal computer and local networking systems, Xerox announced an office distributed processing system one step away from the dream personal computer, the “workstation” on the Ethernet, at the May 91 NCC in Chicago.
MOVIE TIME:
MATT WILLEY, ROYAL ACADEMY
LIGHT WORK

Visionary architect Louis Kahn designed soaring buildings, open to the environment and the free exchange of ideas. Peter Connell describes his creative relationship with his patron Paul Mellon, whose patience and deep pockets enabled Kahn to design the luminous Yale Center for British Art.

Kohn...
I put the video together for a magazine design workshop I run in Denmark... actually as an example of things not going well but more importantly to dismiss the myth with the students that there is some sort of magical formula for editorial design, and that sometimes, on a bad day, you just move stuff around a page until it feels ok, whilst drinking too much coffee and cursing the client every time they change something.

-Matt Wiley, http://www.studio8design.co.uk
Questions of Psychology

- What am I responsible for?
- What are my problem solving tools?
- How do I know when I’m stuck?
- What are my tools for getting unstuck?
- Who can I talk to about this without embarrassment?
- How can I see the problem from the best perspective?
- What fulfills me about my work?
Psychological Issues

- Unwilling to take political risks
- Not enough research before design
- Takes limited responsibility for final outcome
- Lack of Conviction
- Desire to be safe / not stand out
- Big ego – expects others to worship
- Not receptive to good feedback
- Ignorant of their own skill limitations
- Unwilling to make firm commitments
On NBC's 'My Own Worst Enemy,' Christian Slater's real foe is the plot ★★★★★

BY DAVID HINCKLEY

Monday, October 13th 2008, 4:00 AM

"My Own Worst Enemy," an action drama showcasing Christian Slater, spends almost all of tonight's premiere episode trying to convince the viewer things aren't as confusing as they seem.

Sorry, NBC. They are.

"My Own Worst Enemy" is hard to watch confusing, which
Not enough influence

- Psychology: how hard will you work to get more influence?
- Who has the power to determine your influence? (Your boss, VP, Project manager, etc.)
- Have you talked to them?
- In their language? In terms of their goals?
- Who do you have the best reputation with? Can they be your advocate/ally to managers?
- Recognize: everyone wants more power. You are not alone.
- If you can’t design a path towards the influence you want: accept it or leave.
Design traps

- Category trap – making assumptions without realizing.
- Puzzle trap – problem solving for its own sake.
- Numbers trap – believing what’s measured is all there is.
- Drawing trap – Love of the sketch / prototype instead of what the drawing represents.

Ref: How designers think, Bryan Lawson, pg.227-240
Failure Psychology Skills Organization Research Q&A
Questions of Skill

- What am I responsible for?
- What skills do I need to fulfill each responsibility?
- How do I evaluate my proficiency at each skill?
- Who does X well and how can I learn?
- Do other design fields have better techniques for this than my own?
- What are my weakest skills and how do I own them? (Do I deny them or help them improve?).
- Who will give me honest feedback about my work and work habits?
Skill Issues

- Poor collaboration skills
- Poor understanding of domain
- Poor understanding of technology
- Poor communication skills
- Poor persuasion / pitching skills
- Weak interaction design skills
- Lack of awareness of user-research methods
- Unaware of business strategy
- Poor schedule estimation skills
- Difficulty bonding with non-design team members
- Design complexities: missed requirement, blown assumption, failed case, blown prioritization
<table>
<thead>
<tr>
<th>What does the project need?</th>
<th>What skills do I have?</th>
<th>How will we close the gap?</th>
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How to pitch ideas

- Persuasion is a skill: It can be learned
- It explains that idiot who always gets more budget than you do
- Half of persuasion: willingness to pitch again and again
- Every creative faces 10 to 1 rejection ratio:
  - Frank Lloyd Wright, Rem Koolhaas, Hemmingway...
  - Artists, painters, programmers, writers, you name it
- Learn something in every pitch
  - “What could I have done differently that might have helped me convince you?”
How to pitch ideas

- Sometimes you have to pitch the same person, multiple times, with different arguments
  - Business, Customer, Technology, By-Association
- 3 parts: Enthusiasm, clarity, knowing your audience
- Best tip ever – apply design process to the pitch:
  - Get video camera
  - Pitch your idea on video
  - Watch & critique, alone & with co-workers
  - Revise pitch
  - Repeat
- Google “pitch an idea”
Failure Psychology Skills Organization Research Q&A
Question of O

▪ What power do I need vs. what I have?
▪ How will I make up the difference?
▪ Who has the power I need and how do I get it from them?
▪ How can I work around the system? (Maignot)
▪ How can I translate what I want into terms of what my boss wants?
▪ How much responsibility do I take?
Organizational issues

- Too much chaos for good design to happen
- It's never made safe to fail or experiment
- Managers are completely incompetent
- Wrong people given power to make design decisions
- No real power (staff/budget) granted to designers
- Insistence on using latest technology despite UX impact
- Managers insist on conservative design (make it blue)
- Organizational pressure to use first solution, not a good solution
- Only lip service is paid to “user centered” or “usability”
Design as

Framing
Design redefines the challenges facing the organization.
Framing sets the agenda, outlines the boundaries and axes of interest, and moves design from executing strategy to shaping strategy. Disruptive innovation lives here.

Problem Solving
Design finds new opportunities by solving existing problems.
Design process generates alternatives within a problem space. Design also narrows down those options to a specific solution.

Function and Form
Design makes things work better.
This is the classic practice of design - but it’s still commonly limited to incremental improvements through iteration over existing solutions.

Style
Design is the gateway to be hip and cool.
Design is stylish, but too often is perceived and practiced as a cosmetic afterthought.

No Conscious Design
Design value isn’t recognized.
This attitude fosters design by default - however things come out is fine, because there are more important issues to deal with.

Force tradeoffs from day 1

- Is <thing you want> explicitly stated in goals?
- If not, do not expect it to happen
- If yes, ask:
  - Will the schedule be slipped to make this goal?
  - What engineering resources will be dedicated 100% to user experience tasks? (at discretion of UX team)
  - How will we prioritize UI bugs against others?
  - What assurance do I have this goal will be defended by non-UX management?
Failure
Psychology
Skills
Organization
Research
Q&A
MOVIE TIME:
WINDMILL GOES WRONG
The Approach

- Goal: provoke conversation, provide baseline
- Survey of 300: Approx breakdown
  - 35.2% designers
  - 16.5% Project managers
  - 13% Programmer / Tester
  - 8% usability
  - 6% Group managers
  - 3% Marketing
  - 18.3% Other
- 49% manage or lead a team
- Sources: IXda mailing list, pmclinic list, my blog
Disclaimers

- Not intended for rigorous quantitative analysis – purely qualitative
- Some issues overlap, by design
- Some questions are leading, by design
- This presentation edits issue descriptions to fit on screen
Top Psychological Issues

Do not seek enough data before designing
3.86

Not receptive to critical feedback
3.68

Do not realize their own skill limitations 3.4
Expect others to cater to their whims 3.38
Lack of willingness to fight for a position 3.09

Each issue was rated on 1 to 5 scale, 5 = most
## Top Skill Issues

<table>
<thead>
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<th>Issue</th>
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<td>Lack of awareness of the business fundamentals</td>
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<tr>
<td>Poor persuasion / idea pitching skills</td>
<td>3.53</td>
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<tr>
<td>Over-reliance on one kind of design style</td>
<td>3.52</td>
</tr>
<tr>
<td>Poor understanding of domain</td>
<td>3.5</td>
</tr>
<tr>
<td>Poor communication / collaboration skills</td>
<td>3.47</td>
</tr>
<tr>
<td>Poor schedule estimation skills</td>
<td>3.37</td>
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<tr>
<td>Unaware of informal user-research methods</td>
<td>3.22</td>
</tr>
<tr>
<td>Weak bonds with non-design team members</td>
<td>3.16</td>
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<tr>
<td>Weak interaction design skills</td>
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# Top Organizational Issues

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<td>Dilution of design by letting everyone have their say</td>
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<td>It's never made safe to fail or experiment</td>
<td>3.61</td>
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<tr>
<td>Pressure to use first solution, not a good solution</td>
<td>3.43</td>
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<tr>
<td>Design team is understaffed</td>
<td>3.33</td>
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Lack of any "Hat-Section" Rear Frame Rails to help protect the fuel tank (especially in 1971-72 Pintos)

Front door jam shot preventing escape or rescue from burning car

Filler tube pulls out of fuel tank

"Exposed" fuel tank vulnerable to direct impact, crushing, and puncturing in rear-impact collisions

Puncture sources "hostile environment"

Shock absorber bracket

Inner edge of subframe member (in 1973-78 cars)

Rear leaf spring shackle plate and bracket

Differential housing edges and bolts

Mounting strap brackets and bolts

Exhaust muffler brackets

Design defects of the Ford Pinto fuel tank system

Inadequate construction of the fuel tank
Top 10 overall issues

- Non-designers making design decisions 4.17
- Untrained managers making design decisions 4.12
- Designers do not seek enough data before starting 3.86
- No time is provided for long term thinking 3.78
- Designers not receptive to critical feedback 3.68
- Designers ignorance of business fundamentals 3.64
- Only lip-service is paid to "User centered design" 3.64
- Everyone on team has their say on design issues 3.62
- It’s never made safe to fail or experiment 3.61
- Designers have Poor persuasion / idea pitching skills 3.53
In my oversimplified view, the keys are: passion, dedication to the idea, willingness to see it through technical implementation, and the skills to share & convince people of your vision.

If there are a handful of problems, a good team can compensate, [But] once you have issues at too many levels in a team, then yes, the designer is destined to fail.

- Project Manager
Exploration vs. maintenance: if it takes the majority of staff time to keep up with on-going (read: relentless) maintenance, who will do the big (read: fun/inspiring) design projects? "Optimal staffing" especially in economically lean times, generally translates to the fun stuff going to an outside agency, who will indeed have great ideas and get lots of praise.

The design/dev staff, however, gets to sit on the sidelines (rather righteously) sulking and go about fixing broken links and designing another email banner. Staffing models need a core element that tends to the care and feeding of the design staff's creative needs or they'll reap the heaps of burned out clock punchers. Design is a muscle - you can't pop up off of the maintenance couch and perform brilliantly in the triathlon.
“In many organizations, design is not seen as a critical thinking skill, it is thought of as a process for execution once the hard decisions are made. “

- Designer
Survey: Next Steps

- Comparison to other disciplines:
  - PM, Engineering, Management
  - “How do PMs fail?” , etc
- Tactics per situation
  - How to avoid each situation
  - How to recover
- Proper data analysis and correlation
- Any volunteers?
Conclusions

▪ Design is a failure prone activity
▪ We learn more from failures than successes
▪ One frame: psychology, skill, organization
▪ Top issues: Persuasion skills, Defending ownership, Design by Managers, Not enough data
▪ Managers & Individuals share views
▪ Designers & Non-Designers share views
My three points

- All designers fail 95% of the time
  - Failures on drawing board + failures in real world = ?
- Why designers fail
  - Set the wrong goals, Fail to meet goals, Never had a chance
- What to do about it
  - Own your mistakes
  - Study failure and common situations
  - Study how to avoid / mitigate failures
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- http://www.sxc.hu/photo/910278 (Face)
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- http://www.halobattleguide.com/images/blog/tech/MSBobStudy.JPG
- http://www.flickr.com/photos/clintjcl/2105516149/ (Mousetrap)
- http://www.sxc.hu/photo/253955 (Rubic)
- http://www.sxc.hu/photo/74493 (Ship)
Why designers fail: and what to do about it

Slides & survey data will be posted next week at:

www.scottberkun.com/blog
and the IxDA mailing list