Why designers fail and what to do about it

An Event Apart, Seattle
March 28th, 2011

Scott Berkun / @berkun
www.scottberkun.com
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
All men are designers. All that we do, almost all the time, is design, for design is basic to all human activity. ..

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
My three points

- All designers fail 95% of the time
  - Failures on drawing board + failures in real world = ?
- Why designers fail
  - Wrong goals, fail to meet goals
- What to do about it
  - Own your mistakes
  - Study failure and common situations
  - Study how to avoid / mitigate failures
Fourth Edition

How Designers Think
The design process demystified

Bryan Lawson

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Design Methods
Second edition with new prefaces and additional texts

John Chris Jones
Design has no failure analysis

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

- Design? Architecture?
restrooms
Failure
Psychology
Skills
Organization
Research
Q&A
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, basics work but to what standard? Big Dig, Microsoft Office, Local pizza place. Common and debatable.
The stigmas of language

- We are taught to avoid: Disaster, Failure, Mistake
- But there are many kinds of failure:
  - Beautiful
  - Interesting
  - Unavoidable
  - Necessary
  - Breakthrough
  - Stupid*
- We must **Experiment** to create knowledge
- We must reward lessons in what we fear
Failure Psychology Skills Organization Research Q&A
Movie Time:
Matt Wiley,
Royal Academy
different worlds. The architect was the child of poor Jewish immigrants from Estonia, who initially named him Leon Zeisel Mollen. The client was the pumpernickel of a rubber house who was uninterested in his son's architectural education. Kahn grew up in the Philadelphia ghetto. Mollen had a bursary for a student at the University of Pennsylvania, where he indulged and burned white male, a Lithuanian immigrant and a calico gardener. When Mollen had bought the Institute of a magician. Kahn was a demigod and never used to hide in the back seat of taxis as was implied he was somehow by his driver's exploit.

Yet Mollen was something of a traitor to the prevailing dynasty of his father's household. He had no interest in business, and even his love giving Andrew Mellon money away. Kahn's interest in history has tax advantages in America, but when practiced on the scale it turns into an almost self-destructive activity. Kahn's interest in art was an immense curiosity. Kahn was fascinated by the Italian Renaissance. Kahn had been a member of the group of his contemporaries who were considering the problem of the relationship of the building to the environment. Kahn had been a member of the group of his contemporaries who were considering the problem of the relationship of the building to the environment. Kahn had been a member of the group of his contemporaries who were considering the problem of the relationship of the building to the environment.
“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,

...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
Psychological Issues

- Not enough research before design
- Takes limited responsibility for final outcome
- Lack of Conviction
- Fear of risks
- Big ego – expects others to worship
- Not receptive to good feedback
- Ignorant of their skill limitations
- Unwilling to make commitments
Questions of Psychology

- What am I responsible for?
- What are my problem solving tools?
- How do I know when I’m stuck?
- What tools will free me?
- Who can I talk to without embarrassment?
- How can I see the problem from best perspective?
- What fulfils me about my work?
Design traps

- Category—obsessive taxonomy (Plato / IA)
- Puzzle—problem solving for its own sake
- Numbers—believing what’s measured is all there is
- Drawing trap—love the sketch more than what it 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 are needed to fulfill?
- How do I evaluate my proficiency?
- Do other fields have better techniques for this?
- What are my weakest skills? How do I own?
- Who does X better and how can I learn?
- Who will give me honest feedback about my work and work habits? And will I listen?
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
- Difficulty bonding with non-design team members
- Design complexities: missed requirement, bad assumptions, failed case, blown prioritization
- Unaware of business strategy
- Poor schedule estimation skills
<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>
</tr>
</thead>
<tbody>
<tr>
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</table>
All designers are ambassadors for good ideas
How to pitch ideas

- Persuasion is a skill: can be learned
- Explains the idiot who always gets more $$$
- Half of battle: willingness to pitch many times

- All creators face rejection:
  - 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?”
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 / how do I get it?
- How can I work around the system? (Maignot)
- How can I translate what I want into what boss / client 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 incompetent
- Wrong people given power
- No real power granted to designers
- Insistence on using latest tech despite UX impact
- Managers / Clients are conservative (make it blue)
- Pressure to use 1st solution, not good solution
- Only lip service is paid to “user centered” or “usability”
## Design as

<table>
<thead>
<tr>
<th>FRAMING</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROBLEM SOLVING</td>
<td>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.</td>
</tr>
<tr>
<td>FUNCTION AND FORM</td>
<td>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.</td>
</tr>
<tr>
<td>STYLE</td>
<td>Design is the gateway to be hip and cool. Design is stylish, but too often is perceived and practiced as a cosmetic afterthought.</td>
</tr>
<tr>
<td>NO CONSCIOUS DESIGN</td>
<td>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.</td>
</tr>
</tbody>
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**Business + Design**

www.bplusd.org

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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 schedule slip to make this goal?
  - What resources will be dedicated?
  - How will we prioritize Design issues against others?
The Approach

- Goal: provoke conversation, provide baseline
- Survey of 300: Approx breakdown
  - 35% designers
  - 16% Project managers
  - 13% Programmer / Tester
  - 8% usability
  - 6% Group managers
  - 3% Marketing
  - 18% 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

Don’t seek enough data before designing 3.9
Not receptive to critical feedback 3.7
Don’t realize their own skill limitations 3.4
Expect others to cater to their whims 3.4
Lack of willingness to fight for a position 3.1

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

Lack of awareness of the business fundamentals 3.6
Poor persuasion / idea pitching skills 3.5
Over-reliance on one kind of design style 3.5
Poor understanding of domain 3.5
Poor communication / collaboration skills 3.5
Poor schedule estimation skills 3.4
Unaware of informal user-research methods 3.2
Weak bonds with non-design team members 3.2
Weak interaction design skills 3.2
Movie Time:
Windmill goes wrong
Top Organizational Issues

Non-designers making design decisions 4.2
No time is provided for long term thinking 3.8
Only lip-service is paid to "User centered design" 3.6
Dilution of design by letting everyone have their say 3.6
It's never made safe to fail or experiment 3.6
Pressure to use first solution, not a good solution 3.4
Design team is understaffed 3.3
Lack of any "hat-section" rear frame rails to help protect the fuel tank (436 in 1971-72 Pintos)

Front door jam shut preventing escape or rescue from burning car

Filler tube pulls out of fuel tank

Weak bumper

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

Separation of vehicle floorpan at wheelwells allowing fire entry into the passenger compartment

Fuel tank too close to rear perimeter of vehicle

Puncture sources "hostile environment"

Bottom view of Ford Pinto

Design defects of the Ford Pinto fuel tank system

Inadequate construction of the fuel tank

Byron Bloch Consulting Auto Safety Design
Top 10 overall issues

Non-designers making design decisions 4.2
Designers do not seek enough data before starting 3.9
No time is provided for long term thinking 3.8
Designers not receptive to critical feedback 3.7
Designers ignorant of business fundamentals 3.6
Only lip-service is paid to "User centered design" 3.6
Everyone on team has their say on design issues 3.6
It’s never made safe to fail or experiment 3.6
Designers have Poor persuasion / idea pitching skills 3.5
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
“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
Conclusions

- Consensus across roles on top issues
- Design is a failure prone activity
- Learn more from failures than successes
- One frame: psychology, skill, organization
- Top issues: Persuasion & ownership
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