Designing Systems for People

SDM Systems Thinking Webinar Series
Todd Reily
The MITRE Corporation
June 2011
Todd Reily
SDM 2010
Human Factors Engineer, Lead
The MITRE Corporation

• Thesis: “User Experience Design of Complex Systems”
• 11 years designing in industry and government
• HF Engineer, UX Designer, Animator, etc.
• BS in Engineering Psychology, Tufts University, 2000
• De Florez Prize in Human Engineering, 2000
Intent

To provide guiding principles for designing user experiences for complex technology systems

Outline

1. Current situation (5min)
2. Why “UX for Systems” matters (5min)
3. Principles of UX for Systems (30min)
4. Q&A (10min)
Trend:

*User Experience Design is the new differentiator...*

Factors:

- Ever-increasing complexity of technology
- Over-saturation of functionality
- Interconnection of products-services
...but so many companies still get it wrong

Factors:

- Features & Functionality = Short-Term Profits
- No ownership of the system
- Lack of understanding of UX design as an integrated process
But there’s hope…

UX Design = Systems Thinking
So What?
Competitive Advantages of UX for Systems

Internal
1. Improves communication and coordination
2. Enables rapid and inexpensive exploration
3. Provides purpose to align with

External
1. Effectively represents brand
2. Produces integrated consistency
3. Provides sustained customer loyalty
9 principles of designing experiences for complex systems
1. Be a systems thinker

Output: *Integrated project plan*
2. Do your research

Methods for Discovery:
- User Interview
- User Survey
- Ethnographic Research
- Behavioral Psychology
- Human Factors Engineering
- Market Research
- Etc.

Output: **User persona(s)**

© 2011 Todd Reily
3. **Determine intent**

“**To** ______ by ______”

**Purpose**
What you’ll do for the user
(e.g. save time, money, effort)

**Method**
How you’ll do it

Output: *Experience-Driven Requirements*
4. Design the optimal experience

“What if...”

Benefits:
- Shares user needs
- Creates a vision
- Facilitates communication

Output: Conceptual Diagram

© 2011 Todd Reily
5. Keep it simple

1. 

2. 

3. 

© 2011 Todd Reily
6. Engage the team
7. Define workflows and interfaces

“Who needs what...?”

Benefits:
- Exposes interfaces
- Enables walkthroughs
- Prompts innovative ideas

Output: Storyboard

© 2011 Todd Reily
8. Ensure usability & consistency

Benefits:
- Effective users
- Quality representation of brand

Output: Storyboard
9. Maintain focus

Output: Great experience design
Summary of Principles

1. Be a systems thinker
2. Do your research
3. Determine intent
4. Design the optimal experience
5. Keep it simple
6. Engage the team
7. Define workflows and interfaces
8. Ensure usability and consistency
9. Maintain focus

It doesn’t matter what your system does, what matters is what it does for people.

© 2011 Todd Reily
Thank you!

Email: reily@mit.edu
Design Blog: treilanderror.blogspot.com