

Into the future: The evolution of a NASA Intranet—A case study

Celeste J. Merryman

Knowledge Management and
Collaboration Technologies Office
Jet Propulsion Laboratory
Computer Sciences Corporation
Pasadena, CA, USA
Celeste.Merryman@jpl.nasa.gov

Keri Murphy

Knowledge Management and
Collaboration Technologies Office
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, CA, USA
Keri.Murphy@jpl.nasa.gov

1 Set of Evolving Requirements

- Expectations set by:
 - NASA sponsor
 - Project plan
 - Evolving expectations that users have for Web sites



1 Intranet Web Site

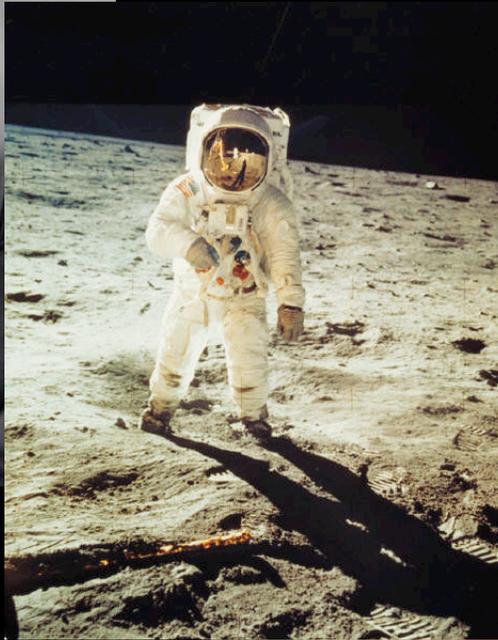
Idea of an 'InsideNASA' begin in January 2002, with major operational roll-out across the agency in March 2005.

Before InsideNASA there was no place for NASA employees to post Agency-wide Announcements.

When Katrina hit in the fall of 2005, it became a valuable and necessary place to communicate emergency and check-in information.

InsideNASA is a common place to congregate for NASA business-related information

62,000 People



1 Redesign Team

- Geographically dispersed workgroup
 - 1 JPL management group in Pasadena, California
 - 2 companies with workers in the San Francisco Bay Area of California
- A focused agenda

= Lots of teleconferences



The Numbers

1 Set of Evolving
Requirements

1 Intranet

1 Redesign Team

*62,000 + people

*(FAIR Inventory Data 2006)

Where to Start



Approach

- Step 1: Bring something to the NASA sponsor to critique
- Step 2: Ask the people what they think
- Step 3: Incorporate what we discovered into a working Intranet Web site
- Step 4: Open access to the beta version for comments
- Step 5: Go live



Bringing the Rock



- We brought a detailed wire-frame mock-up
- A Conglomerate
 - Known weaknesses
 - Research
 - Textbooks on information architecture
 - Review of heavy hitters in the public Web site arena

Breakdown of the Rock

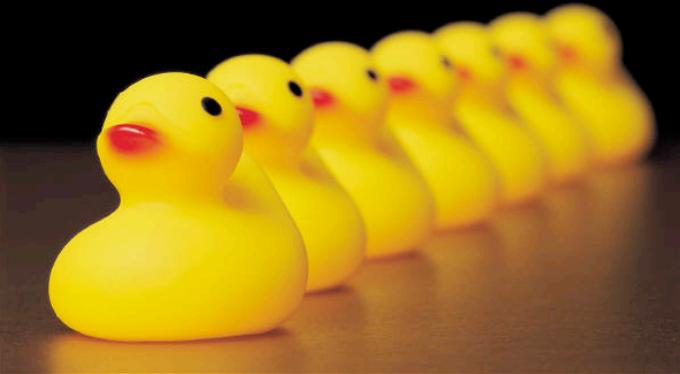
- Known weaknesses
 - The overall basic organizational structure of the Web site
 - The visual aspects of usability frequently dubbed 'look and feel'
 - Search
- Basic research
 - The 'pictorial superiority effect' says that people remember pictorial representations of objects better than the textual representation of objects.
 - The 'category superiority effect' says that people can remember words significantly better if the words are organized into categories.
- Textbook usability and web design
 - "Navigation isn't just a feature of a Web site; it *is* the Web site."
 - "Clear; well-thought-out navigation is one of the best opportunities a site has to create a good impression." (Krug, 2006).
- Internet Web sites
 - Looked at the way different Web sites presented information to site visitors - news sites, sites that would emulate a business Intranet

Take it to the People



What We Wanted to Know

- Their reactions to our detailed wire-frame
- What was important, or valuable regarding content, collaboration features, search
 - Survey requests to 830+ InsideNASA account holders / 104 responded
 - From across 12 Centers, 5 other contracting locations
 - Roles they had in NASA
 - engineers, program/project managers, computer scientist, scientists, IT, human resources, supervisors/line managers, other



What They Said

- Liked / Valued
 - Liked the overall wire-frame and direction
 - News from NASA Headquarters - very important
 - Up-to-date organizational charts - very important
 - Ability to search across multiple NASA data repositories - very important
 - Find information pertaining to doing their job - very important
- Did not want / Was not important
 - Social networking features - moderately to not important
 - Accessing information via RSS feeds - moderately important
 - Access to timekeeping - not important at all
 - Personalization of InsideNASA - not important at all

Outcome

Very busy front page

Navigation on top meant increased scrolling as pages were added

Search located on pages not in header

Before

Fewer portlets on front page

Improved look and navigation

Administrator Q & A

Deputy Blog/ Journaling

Improved search

After

Insert demo

Feedback

- GSFC – “In this case I was looking to report that I like the new look and feel of Inside NASA. It is clean, slick and intuitive.”
- HQ - “this is awesome... THANK YOU!”
Comment on the new Financial Resource page.

What We Processed

- Section 508 compliance issues
- Conflicting technical, political, and usability priorities from high-level internal customers
- Need to have real-time information for NASA
- Return-on-Investment - 'the dirty word'

We Were Successful

- Worked closely with the NASA sponsor and understood the expectation up front
- Great communication within distributed team - weekly telecons, e-mail exchanges
- Each team member understood her/his role, found our niches
- Kept our focus on the end consumer - the site visitors
- Able to meet the needs of the NASA Headquarter customer
- Able to deliver a quality product within our technological scope
- Kept our eye on the prize and avoided scope creep

A big thank you for listening.

Questions ?

Contact: Celeste.Merryman@jpl.nasa.gov

References

- Krug, Steve. *Don't make me think: A common sense approach to Web Usability, 2nd Edition*. Berkeley, California: New Riders Publishing, 2006.
- Nelson D. L., Reed V. S., & Walling J. R. "Pictorial superiority effect," *Journal of Experimental Psychology, Human Learning*, Vol. 2 , No. 5, pp. 523-8 (1976).
- Sharps M. J. , Wilson-Leff, C. A., & Price, J. L. "Relational and item-specific information as determinants of category superiority effects," *Journal of General Psychology*, Vol. 122, No. 3, pp. 271-85 (1995).
- Toggia, M. P., Hinman, P. J., Dayton, B. S., & Catalano, J. F. "The blocked-random effect in pictures and words," *Perception and Motor Skills*, Vol. 84, No. 3, Pt 1, pp. 976-8, (1997)
- 2006 NASA FAIR (Federal Activities Inventory Reform) Act Inventory (<http://competitivesourcing.nasa.gov/2006fairindex.html>)