Social Networking and Collaboration at JPL

By Luke Dahl

Jet Propulsion Laboratory, California Institute of Technology

- Manager, Collaborative Engineering and Development Group
- Responsible for social networking and collaboration Software as a Service offering
- Been with JPL for 13 years
JPL is part of both NASA and Caltech

- JPL is a Federally Funded Research and Development Center (FFRDC) Managed by CalTech for NASA
- NASA’s lead center for robotic exploration of the solar system. Have 19 spacecraft and 9 instruments across the solar system and beyond
- $1.7B contract per year, ~ 5,000 employees; 177 acre facility located in Pasadena, CA, with 670K sq. ft. of office space and 900K sq.ft. of labs

- Manages worldwide Deep Space Network
  - 3 Locations - Goldstone CA, Madrid Spain, Canberra Australia
  - Spacecraft Command & Control - Recording scientific data
- 50+ years experience in spacecraft design, production, operation
- JPL spacecraft have visited all planets in our solar system except Pluto!
Near Term Mars & Solar System Exploration Events

- EPOXI Comet Flyby November 2010
- Stardust- NExT Comet Flyby February 2011
- Aquarius June 10 2011
- Juno August 2011
- Dawn Vesta Arrival August 2011 (Ceres, February 2015)
- GRAL September 2011
- Mars Science Laboratory November 2011
- NuSTAR January 2012
Key Takeaways

- Look past the hype around “social” for business relevance and value
- Individuals struggle to manage their view of enterprise information
- Social platforms are key enablers – but are just a start
- Solving collaboration is key to success
Agenda

- The Opportunity: No central place for information
- Building the right architecture
- Lessons learned
- Alignment with an enterprise strategy

“If I can’t keep up with what’s happening, how am I expected to collaborate?”
Opportunity: No central place for information

- **Lab-wide Content**
  - Lab news
  - Lab events
  - Lab announcements

- **Org Level Content**
  - Org news
  - Org events
  - Org announcements

- **Project Content**
  - Project news
  - Project events
  - Project announcements
  - Project collaboration

- **Functional Content**
  - News
  - Events
  - Announcements
Search is not the silver bullet

**Drawbacks:**
- Limited link economy
- Minimal page rank effectiveness
- Limited discovery
- Data rich, information poor
- Results not personalized
Hub-and-spoke (Web Portal)

Lab-wide Content
- Lab news
- Lab events
- Lab announcements

Org Level Content
- Org news
- Org events
- Org announcements

Project Content
- Project news
- Project events
- Project announcements
- Project collaboration

Functional Content
- News
- Events
- Announcements

Drawbacks:
- Information bottleneck
- Portal must manually maintain links
- Does not scale with content growth
- Does not scale with content sources
- Cumbersome for content creators
- Users still have no central site
Peer-to-Peer (Distributed)

Benefits:
- Enables individual users to be content creators
- Personalized aggregation and view of the enterprise
- Very scalable and extensible
- Gateway profile provides users a single “identity” across all JPL sites
- Provides users a showcase for skills/achievements
Some story about JPL that is widely applicable to both JPL employees and projects.

Opportunity Knocks:
A news event on the Mars Rovers…more…

Links:
http://nbs
http://hr
http://rules

Developer 172E
Location: 600-168X
Primary: (818) 555-5555
Mobile: (818) 555-5555
My.Email@jpl.nasa.gov

Project Manager 172E
Location: 600-168
Primary: (818) 555-1234
Mobile: (818) 555-4321
Tie.Email@jpl.nasa.gov

Manager 172
Location: 600-100
Primary: (818) 555-6789
Suit.Email@jpl.nasa.gov
Scalable and Extensible

Newsfeed

JPLSpace

Newsfeed

gateway LineSpace

Newsfeed

gateway TeamSpace

Newsfeed

JPLTube

Newsfeed

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172E

Location: 600-123X
Primary: (818) 555-5555
Mobile: (818) 555-5555
My.Email@jpl.nasa.gov

About Me: I’m awesome!
Responsibilities: Developer, Project Mgmt, Data Architect
Skills: SharePoint 2010, .NET, Deadly Good Looks

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(JPSite) This is a headline from any site.

(Answers) What is an OOR?
Check this out: http://jplwired/oor

We’re now supporting Bootcamp on Mac

Posted the video “Dr Elachi” (http://jpltube/elachi)

Thanks, I missed the live event...

FY 2011 Budget Forum
Some story about JPL that is widely applicable to both JPL employees and projects (http://jplspace/story)

This is going to impact next FY!

Hooray! Raises for all?!!!?

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JPL IT

Newsfeed

Answers

Newsfeed

What is an OOR?

Check this out: http://jplwired/oor

That answered my question – Thanks!

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AnySite

Newsfeed

- This is a headline from any site
- Another headline from this site
- This is a news headline

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Newsfeed

Newsfeed

Newsfeed

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Links:
http://nbs
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Opportunity Knocks
A news event on the Mars Rovers

…”more…”

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Dr. Elachi

Opportunity

...more…

Newsfeed

Newsfeed

Newsfeed

Newsfeed
Lessons Learned

- Determine how to measure value
  - Accept it may be difficult to quantify ROI for social networking
  - Start by defining appropriate usage metrics
    - Site hits
    - Content uploaded, edited, shared
    - Unique users
    - Adoption rate
  - Measure, Analyze and Act

- Acknowledge the following:
  - Deploying capabilities doesn’t define success – enabling communication does
  - Benefits aren’t realized overnight
  - Not everyone is interested in social networking – don’t make it a requirement to collaborate
Lessons Learned (cont.)

- **Marketing**
  - Facebook-style social networking is often frowned upon, LinkedIn has a more positive connotation in the workplace
  - Market the effort on solving collaboration needs over social networking to diminish any negative perceptions
  - Foster a sense of community through branding it to your organization (e.g. JPL Gateway)
  - Develop a road show

- **Ease Of Use**
  - Implement one-click processing to get started
  - Automate information reuse wherever possible
  - Standardize the public profile pages, team areas, etc. to reduce confusion when navigating between areas
  - Provide excellent help areas and tutorials
JPL Gateway User Adoption

~70% Growth Since Upgrade

Initiated “Road Shows”
Lessons Learned (cont.)

- Training
  - Concierge Support
  - E-Learning Courses
  - Video and quick start guides
  - In-house and outsourced training
  - Online-based “Help Center”
  - Technology Demos and Road Shows
Strategic Alignment

- Information management
  - Approaching a Drag + Drop + Sync + Share environment
  - Governance applied and enforced through the Software as a Service solution

- To leverage core features of the Platform as a Service architecture
  - Search
  - Scalability/Elasticity/Performance
  - Workflow
  - Design/End-User Experience
  - Real-Time Collaboration
  - Records Management
User My Site
User Profile
Questions?