

National Aeronautics and Space Administration



# Usability Work Update 2007-03-29

# Work Since Last MC Meeting

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- Assist in VTool/Ivtool enhancements/fixes
- PDS Style Guide
  - PDS style and process hints
  - Investigation of NASA affinity requirements
- PDS Sharable Icons Review
- PDS Home Page Redesign
  - Helping finalize use cases and requirements
  - User testing and feedback on mockups
  - User interviews (w.r.t. current design)
  - Working prototypes of new search paradigms

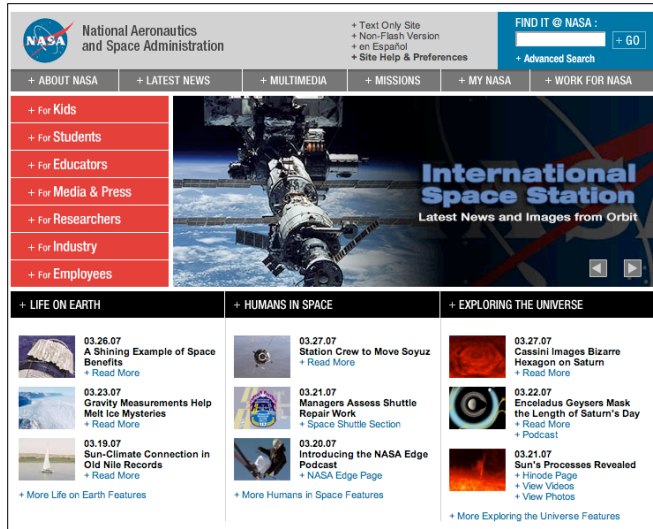
# PDS Web Style Guide

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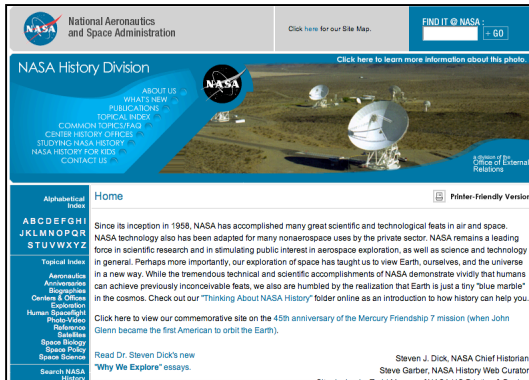
- Initial version delivered to EN group
  - Some review
  - Lacks specific guidelines in many areas (but depends on home page redesign)
- Upcoming enhancements (May telecon)
  - Widget guidelines
  - NASA affinity guidelines
- Future enhancements (coincident with home page rework approval)
  - Specific guidelines for layout, fonts, colors, menu

# NASA Look and Affinity

## NASA Portal look-and-feel



## NASA Affinity web sites: various levels of affinity



# NASA Affinity Background

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- Apparently a stopgap; eventual goal is all sites under NASA portal
- Sites not under portal can choose their level of affinity
- Affinity toolkit provides templates, graphics, (some) guidelines
- Other guidelines can be taken from NASA print style guides

# NASA Affinity and the PDS

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- Caveat: There is no one in charge of NASA Affinity right now
  - So blame Mark Rose for this page
- Ways we should conform:
  - Keep NASA logo and gray header and footer
  - Use (some) NASA colors and stylization
- Ways we should deviate:
  - Use “PDS: The Planetary Data System” or similar for banner title (not Natl. Aero. & Space Admin.)
  - Move to “fluid” layout (percentages)
- And, add to style guide with MC blessing

# PDS Sharable Icons Review

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- Goal: Identify and publicize icons suitable to be shared between nodes.

Not sharable (422)



Sharable (16)



After discussion, action items:

- 1) Create EN page with sharable icons
- 2) Help nodes create sharable graphics

# Home Page and Other Usability

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- Several nodes have made changes based on usability recommendations
- Have reviewed some new interfaces, such as new Rings data search tool
- User interviews from home page work show some problems bigger than I initially thought
- Conjecture: Home page redesign will highlight usability problems at the nodes
  - And, may need better search hand-off



# Search Strategy Research

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- PDS should incorporate proven strategies from search research
- Active areas of research
  - Result set display (clustering and grouping)
  - Result space navigation (related results, metadata hierarchies)
  - Integration of searching and browsing
- Some paradigms have proven popular with users and in eCommerce

# Result Categorization

### Narrow These Results By

**Genre**  
[Dance/Electronic International](#)  
[Jazz](#)  
[R&B](#)  
[Rap/Hip-Hop](#)  
[Rock/Pop](#)  
[All Genres](#)

**Title Details**  
[Artist](#)  
[Label](#)  
[Release Year](#)

**Feature**  
[Boxed Sets](#)  
[Compilations](#)

### Refine Results

**Senders**  
[Internet Chess Club](#) (150)  
[technews](#) (15)  
[Jean Troendle](#) (6)  
[icc@chessclub.com](#) (1)  
[Pam Shay](#) (1)  
[Barnes & Noble Membership](#)

**Message Status**  
[Unflagged](#) (174)  
[Read](#) (141)  
[Unread](#) (33)

### Current Search Terms

Click  to remove a search term, or start a [new search](#).

Target: [all](#) > [MARS](#)

### Narrow Your Search

Search within results:

Or, narrow your results to one of the categories below:

**Data product type**

<a href="#">ARRAY</a> (2)	<a href="#">SPICE KERNEL</a> (4)
<a href="#">FILE</a> (5)	<a href="#">SPREADSHEET</a> (2)
<a href="#">IMAGE</a> (123)	<a href="#">TABLE</a> (75)
<a href="#">N/A</a> (2)	<a href="#">TEXT</a> (2)
<a href="#">SPECTRAL_CUBE</a> (5)	<a href="#">TIME_SERIES</a> (4)
<a href="#">SPECTRUM</a> (3)	

**Instrument type**

<a href="#">ABRADER</a> (2)	<a href="#">METEOROLOGY</a> (8)
<a href="#">ACCELEROMETER</a> (5)	<a href="#">N/A</a> (14)
<a href="#">ALTIMETER / RANGEFINDER</a> (6)	<a href="#">PARTICLE DETECTOR / COUNTER</a> (1)
<a href="#">CAMERA / IMAGER</a> (137)	<a href="#">RADAR</a> (2)
<a href="#">ELECTROSTATIC ANALYZER</a> (1)	<a href="#">RADIO SCIENCE</a> (11)
<a href="#">INFRARED INTERFEROMETER</a> (1)	

Tower Records

Yahoo! Mail

PDS?

# Clustering and Related Results

Sort by:   Group by:

## CASSINI-HUYGENS (2)

[CASSINI ORBITER EARTH/VENUS/JUPITER ISSNA/ISSWA 2 EDR V1.0](#)   
Cassini Imaging Science Subsystem EARTH/VENUS/JUPITER Experiment Data Record  
CASSINI-HUYGENS - CO-E/V/J-ISSNA/ISSWA-2-EDR-V1.0 - starting 1999-009T08:13:58.687

[CASSINI ORBITER SATURN ISSNA/ISSWA 2 EDR VERSION 1.0](#)   
Cassini Imaging Science Subsystem SATURN Experiment Data Record  
CASSINI-HUYGENS - CO-S-ISSNA/ISSWA-2-EDR-V1.0 - starting 2004-037T02:07:06.458

## COMET SL9/JUPITER COLLISION (2)

[HST SATURN WFPC2 3 RING PLANE CROSSING V1.0](#)   
HST/WFPC2 images of Saturn from before and during the ring plane crossings of 1995  
COMET SL9/JUPITER COLLISION - HST-S-WFPC2-3-RPX-V1.0 - starting Sat Oct 01 07:00:00 UTC

[VG1/VG2 SATURN IMAGING SCIENCE SUBSYSTEM EDITED EDR V2.0](#)   
Voyager 1 & Voyager 2 Imaging (ISS) Saturn Experiment Data Records  
COMET SL9/JUPITER COLLISION - VG1/VG2-S-ISS-2-EDR-V2.0 - starting 1980-09-28

## DEEP IMPACT (1)

[DEEP IMPACT 9P/TEMPEL CRUISE - RAW ITS CALIB DATA](#)   
Raw science calibration images acquired by the Deep Impact Impactor Targeting Ser  
CCD during the 9P cruise phase of the mission

Results clustered  
by mission (example)

Search tools as  
search results  
(search for “asteroid”)

## Search Tools Found

4 results

These tools let you search for data products matching your query. This is usually the best way to access the data. If no tool looks appropriate, you can browse the matching data sets, below.

### [Comet Data Searcher](#)

Search for cometary data from PDS Small Bodies Node web site.

### [Galileo Image Search](#)

Use the Planetary Atlas to search for images from the Galileo mission from Jupiter or the Earth, Moon, or Venus encounters.

### [Galileo Solid State Imager Search](#)

Search for images from the Solid State Imager instrument from the Galileo mission.

### [Small Bodies Data Ferret](#)

Search for information on small bodies targets using the Data Ferret from the Small Bodies Node Asteroid/Dust Subnode.

# Problems Limiting Search Quality

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- Central catalog problems
  - Things in peer review or added by nodes
  - Longer-term problem, but needs to be solved: must be central & accurate, or federated
- Examples of metadata problems
  - Completeness: Data set name same as DATA\_SET\_TERSE\_DESCRIPTION
  - Inconsistency: “N/A” vs. another value; date formats and values
  - Errors (QUADRAPOLE vs. QUADRUPOLE)
- TARGET unreliability for some data sets

# Metadata Modeling Limitations

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- Product type problems
  - DATA\_OBJECT\_TYPE is physical, rather than logical
  - Inconsistency (SPECTRA vs. TABLE)
- Not constrained enough (or aliases?)
  - INFRARED IMAGER vs. INFRARED IMAGING DEVICE
  - CERES vs. 1 CERES
  - LASER RANGEFINDER vs. LASER ALTIMETER
- No hierarchy: SPECTROMETER family, CAMERA/IMAGER family, name vs. type interactions, etc.
- Question: Fix or augment?

# Strategic Search Questions

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- Catalog: Central or federated or ?
- Metadata model enhancements? PDS3 or 4?
- New metadata: New data set or update to old data set or not-a-data-set?
  - Rings: New targeting info
  - Geo/Imaging: Image reprojections
  - Mission planning data
- Can we search well in the near-term?
  - Near-term: Must augment metadata?
  - Medium-term: Better metadata modeling?
  - Long-term: Metadata as overlaid data set?
- (PDS4 rides over hill, bugle blaring...)

# Questions?

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