

System Design Review

PDS Home Page

July 2nd 2007

Topics

- Phase One Goals
- Requirements
- System Design
 - Software Architecture
 - Software Configuration
 - Static HTML
 - Facet Search Application
 - Cold Fusion Applications
 - Existing Java Applications
 - External Nodes and backup data repository
 - IPDA
 - Interfaces
 - Mirror Site
 - Hardware Architecture
 - Current
 - Phase One

Topics

- Implementation / Integration
 - CM (subversion: applications/tools, CMS: pages)
 - Staffing (roles)
- Test Plan
 - Integration & Test
 - System Testing - navigation, content and application testing
 - Link check
 - User Testing - Usability Test Plan
 - Mirror Site
 - Beta Test (Nodes)
- Schedule

Phase One Goals

- Understand and improve on overall System Architecture
- Update look and feel to make more user friendly
- Increase maintainability of site
- Minimize work required for phase one
- Avoid removal of existing functionality

Requirements

- Finding Data
 - Create facet-based search with finding datasets in mind
 - Update text search to include more relationships between entities
 - Provide direct links to node tools
- Using Data
 - Update to software details and download
- Archiving Data
 - Links to PDS models and standards
 - Facet-based will present users with relevant tools
 - Shifting of data from PDF to HTML content
- Interacting with PDS
 - Update of FAQs
 - Add links to Nodes and additional PDS information
- External
 - Add links to relevant external web pages
 - IPDA placeholder
 - Link to PDS Photojournal
 - Comply with NASA web standards

Software Configuration

- Current
- Phase One

Static HTML

- **Functionality**
 - Basic set of information that PDS users need
- **Tasks**
 - Finalize look and feel
 - Update look and feel across all pages
 - Transfer content from PDF to site
 - Reorganize content
- **File System**
 - Merge content onto one file system
 - Subversion
 - Minimal set of pages and updates makes this quick and easy
 - Current approach
- **Content Management System (Evaluate)**
 - Content repository
 - Eases evolution of site and content
 - No direct manipulation of files
 - No need to CM content
 - Installation and setup of templates
 - Can easily replace several applications
 - Time and effort versus usability and evolution of content

Facet Based Search

- **Functionality**
 - Single source for finding data
 - Simplifies search
 - Reducing interfaces
- **Tasks**
 - Create and Automate Lucene Index
 - Finalize Look and Feel
- **SOLR**
 - Apache Project (Lucene subproject)
 - Tomcat
 - Scalable
 - Adapt to use current index
 - Integration
- **Discussion**
 - Catalog information needs better representation
 - Resource links not fully incorporated

Cold Fusion Applications

- Functionality
 - Phone Book
 - Reference Lookup
 - Subscriptions
 - Software Distribution
 - Data Dictionary Lookup
- Tasks
 - Update look and feel
 - Make links relative
 - Give each application a distinct URL
- Discussion
 - Maintainability
 - Evolvability

Text Based Search (Java App)

- **Functionality**
 - Provides access to catalog information
 - Free text search with relations to entities
 - Flexible to changes in the model
- **Tasks**
 - Update look and feel
 - Both searches should use same index
 - Fix dead end pages
 - Add in all relations available in the catalog
- **Discussion**
 - Move to Engineering Node Site
 - Overlaps with facet based search
 - Presents information that not all users will be interested in

PDS Explorer (Java App)

- **Functionality**
 - Transparent access to the data
 - Traditional volume based view
- **Tasks**
 - Update look and feel
- **Discussion**
 - Remove
 - Move to EN Site
 - Usability
 - More of an administrative tool

Data Set Status (Java App)

- **Functionality**
 - Generates reports on datasets
 - Customizable
- **Tasks**
 - Update look and feel
- **Discussion**
 - Remove
 - Move to EN Site
 - Overlaps with information in search
 - More of a administrative tool

External Nodes

- Same back end services will be running
- URL to applications will change
- Keep existing application running
- No real hook to nodes except maybe links

IPDA

- Put a placeholder and some initial content
- Services running on the back end will not likely affect the web content
- Integration into facet-based search

Interfaces

- Application
 - Retain functionality
 - Location changes
- PDS-D
 - Not changed
- Node Interfaces
 - Content and links
- Resources
 - Databases centralized
 - Content store centralized
- Backup data repository
 - links

Mirror Site

- Hardware configuration - change not required
- Software configuration - software components (static page directory structure, applications, COTS and OS) update
- DNS Fail-over process - change not required
- Implementation - perform remotely from JPL
- Synchronization - auto update cron job per new software configuration
- Monitoring - no change
- Documentation - update per system and user interface changes
- Testing - perform local and remote testing (Standby and Operation modes)

Hardware Architecture

- Current
- Phase One

Implementation / Integration

- Configuration Management
 - Use subversion to manage applications/tools
 - CMS can manage the static pages in phase 2 release

- Staffing (resource allocation)
 - New CMS (for EN site prototype during phase 1 release)
 - Selection: AMES and EN DEV
 - EN prototype: AMES
 - Page look and feel
 - Design: AMES and EN OPS
 - Facet Search Application
 - Development: AMES hands over to EN DEV to complete & integrate
 - HTML pages
 - Content modification: AMES
 - Look and feel modification: EN OPS
 - Integration: EN OPS

Implementation / Integration

- Staffing (roles) continues...
 - Existing cold Fusion Applications
 - Look and feel modification & integration: EN OPS
 - Existing Java Applications
 - Look and feel modification and integration: EN DEV
 - Software Configuration Upgrade: EN OPS
 - Mirror Site Upgrade: EN OPS

Test Plan

- System Integration Test
 - Site navigation
 - Static page content
 - Application test cases
 - Link check
 - System Test plan, procedures and report
- User Test
 - Usability Test plan, procedures and report
 - Selective users
- Beta Test
 - Nodes participation
 - Beta test report

Test Plan

- Mirror Site Test
 - Standby Mode
 - Operational Mode
 - SBM UMD Staff
 - Mirror Site Test Plan and Procedures
- Test Platforms
 - One for I&T, user and beta testing
 - One for Mirror Site
- Staffing
 - System test plan and procedures: EN DEV
 - Integration test (execution and report): EN OPS
 - User test (plan, execution and report): AMES
 - Mirror test (plan, execution and report): EN OPS and SBN staff
 - Beta test (execution and report): Nodes and EN OPS

Schedule

- Page look and feel Design (mid July)
- Development (mid August)
 - Facet Search Application
 - HTML pages
 - Existing old Fusion Applications
 - Existing Java Applications
- Software Configuration Upgrade (mid August)
- Mirror Site Upgrade (end August)
- Test (end Septemeber)
 - System Test
 - User Test
 - Mirror Test
 - Beta Test

Backup

Requirements (Finding Data)

- L4.HP.FD.1 - Tools to find datasets
 - Facet based search focused on getting users to the data fast
 - Old tools remain for phase 1
- L4.HP.FD.2 - Direct links to Node tools
 - Facet search makes it easier to get to these links
- L4.HP.FD.3 - Access to PDS compliant compatible datasets
 - Addressed via content updates
- L4.HP.FD.4 - Inform users when desired data can not be found
 - Addressed through search engine
- L4.HP.FD.5 - Provide users with information on selecting a search tool for archived data
 - Will be addressed via content updates
- L4.HP.FD.6 - Provide users with tutorial information for finding and searching archived datasets
 - Will be addressed via content updates

Requirements (Using Data)

- L4.HP.UD.1 - Allow users to easily find supplemental information and software
 - Reorganize software download content
- L4.HP.UD.2 - Allow users to find appropriate staff for assistance
 - Interface clean for phone book
- L4.HP.UD.3 - Allow users to look up PDS archive citations and bibliographic references
 - Interface clean up for reference lookup
- L4.HP.UD.4 - Provide links to information for proposers
 - Content and link updates only

Requirements (Archiving Data)

- L4.HP.AD.1 - Allow users to easily find PDS data models and standards
 - Content updates
- L4.HP.AD.2 - Help users find and download software tools of interest
 - Content updates
- L4.HP.AD.3 - Help users select tools
 - Content updates
- L4.HP.AD.4 - Access to lookup keyword and values
 - Addressed in next release
- L4.HP.AD.5 - Assist users in archiving data
 - Content updates

Requirements (Interacting with PDS Requirements)

- L4.HP.IP.1 - Provide a FAQ
 - Addressed in next release
- L4.HP.IP.2 - Accept user feedback
 - Addressed in next release
- L4.HP.IP.3 - Allow users to easily view announcements
 - Content updates
- L4.HP.IP.4 - Provide a subscription service to announce when specified archived dataset(s), tool(s), or documentation is released or updated
 - Addressed in next release
- L4.HP.IP.5 - Provide access to node sites
 - Links added to nodes

Requirements (External)

- L4.HP.EX.1 - Links to relevant pages
 - Add links to external sites
- L4.HP.EX.2 - Provide link to Planetary Photojournal
 - Link added
- L4.HP.EX.NF.3 - Comply with NASA web framework requirements
 - Make look and feel abide to requirements