

Title: Using Usability Analysis to Direct the NBS Web Site Redesign

Category: Business Solutions

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Abstract

Strategic usability analysis is an evolving system design component of human-computer technologies. To many interactive system developers usability is a function of the interface but not of the overall system. However, user-centered system functionality is analogous to a usable system and, ultimately, must meet users' needs and expectations. Academic and empirical research show that meeting users expectations requires understanding users motivations and cognitive needs. This can best be accomplished through usability analysis.

As usability analysis practitioners keenly know, understanding user needs requires observing and interviewing users *in situ* on how they get their jobs done. Practitioners who actively engage users as primary members of the design process are, in fact, using some form of participatory design—actively engaging users in the system design process. Participatory design is an increasingly recognized methodology used to define user requirements—based on motivation and needs—for designing user-centered systems. We will present a usability analysis study in which participatory design was a primary component used to direct the redesign of the NBS web site.

The Institutional Business Systems web team is responsible for the design, implementation, and maintenance of the New Business Systems (NBS) web site. The web site comprises system status and support material relating to NBS business applications, the majority of which are accessed from the NBS Toolkit page. In 2002, the web site team agreed to use usability analysis to determine how to better meet these two NBS web site objectives:

1. To deliver a smart web site that increases user interaction with the support material, enabling users to be more productive
2. To provide a more effective gateway to the NBS-supported tools

Analysis has been completed for objective one; usability analysis will be conducted on objective two in early 2003. Focusing on objective one, we will candidly discuss what usability analysis has taught us about our users: How do they use the NBS web site? What support material do they find useful? How can the web site be more usable? We will discuss improvements—driven by usability analysis findings—users can expect in the near future to see on the new NBS web site.

Summary

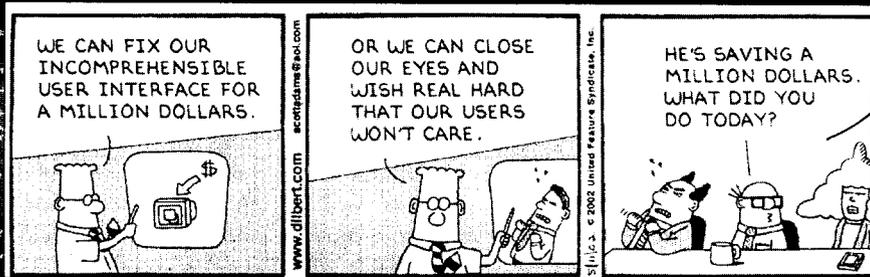
The NBS web site contains system status and support material for NBS applications. How do users actually use the site? How can it be more usable? We will discuss improvements—driven by usability analysis findings—users can expect in the near future to see on the new NBS web site.

Using Usability Analysis to Direct the NBS Web Site Redesign

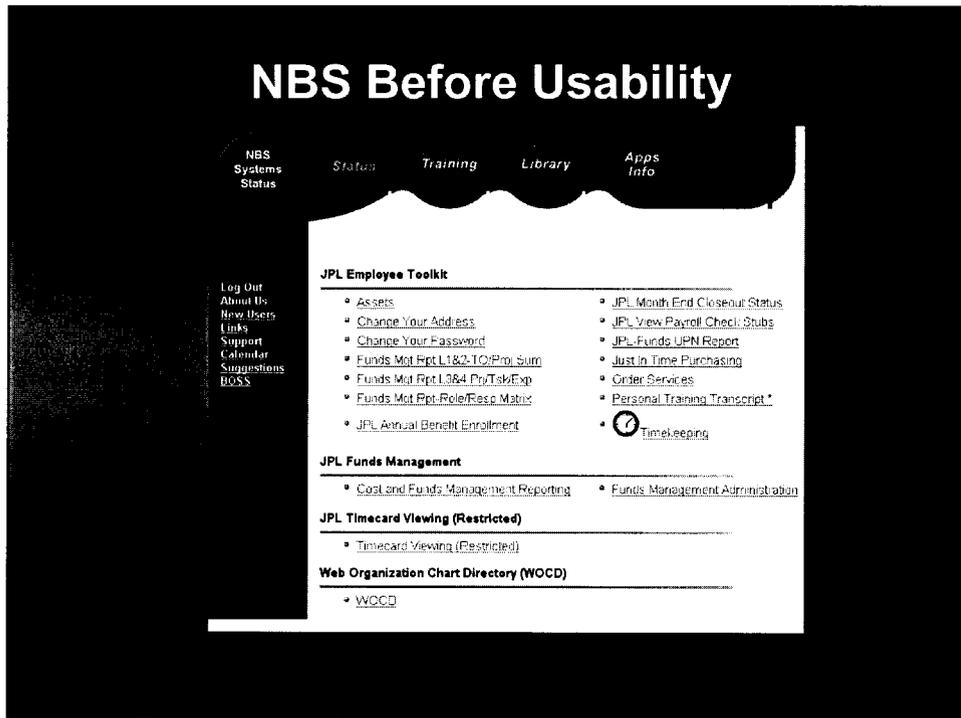
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Carol Guerrero, Section 2202



Dilbert on Usability



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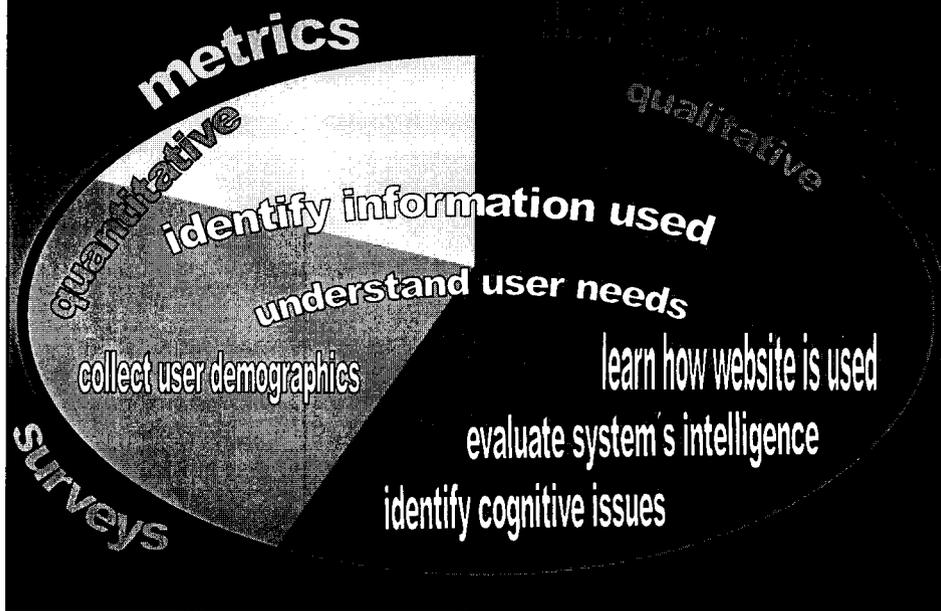


NBS usability study objectives

Provide recommendations to

1. deliver a smart web site that increases user interaction with the support material, enabling users to be more productive
2. provide a more effective gateway to the the NBS-supported tools
(Conduct usability analysis: 2003)

Usability Analysis Techniques



Key findings: support material

	Never	Once	Rarely	Occasionally	Frequently
News	60%		20%		20% (wkly)
Status	60%	30%	10%		
Training	80%		20%	10%	10%
Library	70%		10%		
Apps Info	80%		20%	10%	
Help Desk	90%				
Total	73%			27%	



**Is the support
material useful?**



**The Problem:
Why aren't users using the
support material?**

How Users Spend Their Day

8:00am

Noon

5:00pm

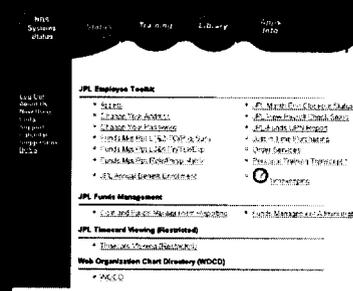
Doing work that doesn't require an NBS tool

Visiting NBS Website

Using an NBS Supported Tool



Key Findings: What is Home?



Home = primary focus

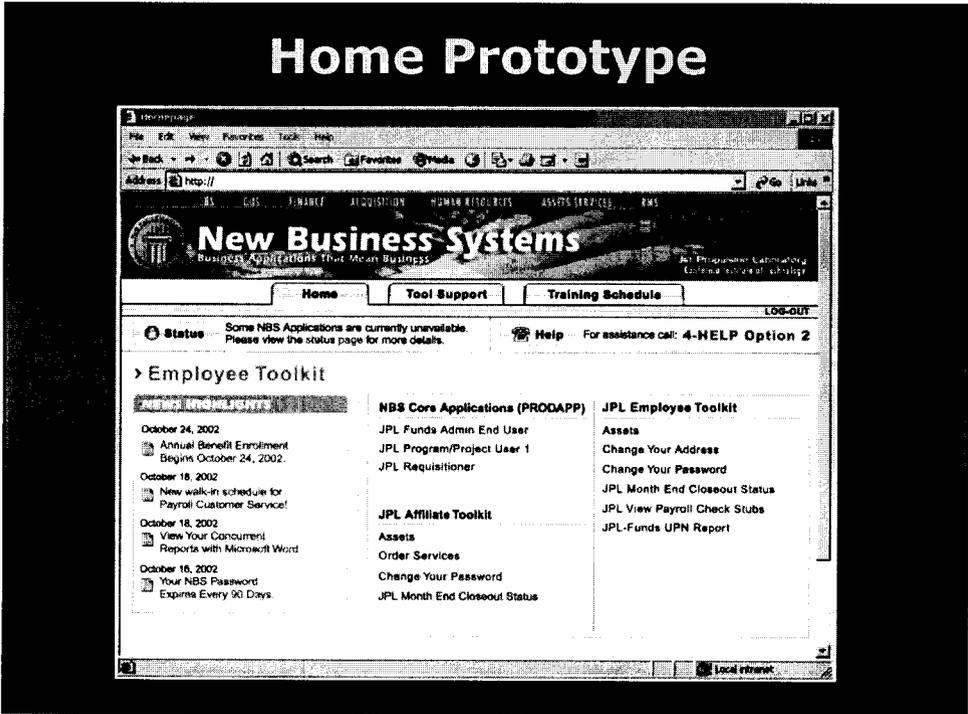
Cognition and Communication Schema

Cognitive Needs	NBS web site content	What Users say.....
Critical	System/application status, login problems	Why isn't my NBS Tool working?
Important to know	Policies & procedures, system upgrades and/or enhancements that may impact work	I hear there's a new feature that will help me.....
May require assistance	Patches, Tools to download	How do I install Data Extractor?
Useful but low energy (Self-help)	Application descriptions (about tools you have or don't have), new features, new products	I'd liked to find out what other tools are available for my position.
Training (May require assistance/ Useful but low energy)	Training schedules, Manuals, tutorials, tips,	I'd like to try to take an NBS Class within the next few weeks.

Translating the schema to a web site structure

Web site components	Cognitive Needs	Contents
Login	Critical	<ul style="list-style-type: none"> ▪ Login and password reset ▪ Help contact
Home	<ul style="list-style-type: none"> • Primary focus • Critical • Important to know 	<ul style="list-style-type: none"> ▪ Toolkit ▪ Help contact ▪ System Status ▪ News headlines
Tools Support Area	<ul style="list-style-type: none"> • May require assistance • Useful but low energy (self-help) 	<ul style="list-style-type: none"> ▪ Patches, downloads ▪ Help contact ▪ Tool Descriptions ▪ Tutorials, manuals, tips
NBS Responsible Training	<ul style="list-style-type: none"> • May require assistance • Useful but low energy 	<ul style="list-style-type: none"> ▪ Training schedule ▪ Training contact

NBS After Usability



Tools Support Prototype

New Business Systems
Business Applications That Mean Business

Home | Tool Support | Training Schedule

Status: Some NBS Applications are currently unavailable. Please view the status page for more details. Help: For assistance call: 4-HELP Option 2

> Tool Information | Sort By Alpha | Sort By Function

Tool Name	Business Function	Description
2X Actual vs. Budget	Finance	A reporting system which compares actuals against budgets.
Complete AAP	Human Resources	Application tracks demographics to insure compliance with federal and state laws.
CE/AR Cash Management	Finance	A bank reconciliation module for Oracle. This is an internal financial application.
Chargeback	Finance	The Chargeback application distributes costs of telephone and Desktop Network Services (DNS) charges across projects based on work hours charged to specific project/tasks for the accounting period.
CLEI	Acquisitions	Custom application that allows the Subcontract Payment section to import and process electronic invoices.
CWAWA	Acquisitions	Web-based application used to authorize JPL Contractors to charge their time to specific project/tasks. More...
ECI	Human Resource	This form is used to notify an employee of any changes made to his/her employee status. More...
Fixed Assets	Human Resources	This form is used to notify an employee of any changes made to his/her employee status. More...

Tools Support Detail Prototype

New Business Systems
Business Applications That Mean Business

Home | Tool Support | Training Schedule

Status: Some NBS Applications are currently unavailable. Please view the status page for more details. Help: For assistance call: 4-HELP Option 2

> Tool Information

Funds Administration

Business Function: Finance

Description:
The Funds Administration module is a custom bolt-on to the standard Oracle Financials software, developed to track the NASA prime contract task order funding, along with NASA and non-NASA source documents. The module provides functionality to:

- enter and store the above data
- associate projects and their incurred actuals and encumbrances to the data
- produce status of funds reports and other information to satisfy reporting requirements

User Base:
- Resource Administrators
- Contract Administrators
- Project Managers
- Anyone needing financial status information.

Support Materials:

- Funds Administration - Job Aid
- Funds Administration - Patch
- Funds Administration - User Guide
- Access Request Form

Close Window

Training Prototype

New Business Systems
Business Applications That Mean Business

Home | Tool Support | Training Schedule | LOG-OUT

Status Some NBS Applications are currently unavailable. Please view the status page for more details. **Help** For assistance call: 4-HELP Option 2

> Training Schedule

◀ OCTOBER 2002 ▶

Sun	1	2	3	4	5
		CPMR Level 1			
6	7 Data Extractor Foundations	8	9	10 Data Extractor Foundations	11
12	13	14	15 Basic Discoverer	16	17 CPMR Level 1
18	19	20	21 Perform	22	23
24	25	26	27	28 Data Extractor Advanced	29
30	31				

Data Extractor Foundations
Date: Monday October 7, 2002
Time: 1:00 p.m.
Location: 500 Woodbury
Room: 601-153

Data Extractor is a custom built query tool created here at JPL. It extracts data directly from the Oracle database, using an instance of Oracle called Prodepp.
Who should attend: Beginners or occasional users.
How to Sign Up: Sign up at HIRE-T or contact Christy McAlister 43-6700

Summary of Changes

- Integrated support material
- Support material located with tools
- Critical information prominently displayed
- Classroom training included
- Better integration with other system components

Website Rollout
Support Material
Targeted January 2003

Now Accepting Participants
for Toolkit Study
Conducted Jan/Feb 2003