

# You Are Not Your User

Dispelling Usability Myths with Harvard's Dataverse

Gustavo Durand + Elizabeth Quigley Institute for Quantitative Social Science Harvard University



## Session Description

All of us have experience in developing Java applications, but how many of us know how best to make them usable? UX is a team effort, not just one person's role. This presentation goes over some common UX myths and how a developer and a UXer can work together to improve the UX of an application. Reviewing examples from the development effort of Harvard's Dataverse Project, it shows how this project has dispelled some of these myths and solved them with Java techniques. It also shares some simple ways to incorporate UX practices into your product development cycle.

## Dataverse Team

- Began in 2006
- Number of developers has varied over years
- Currently:
  - 4 dedicated developers
  - o 1 lead
  - o shared QA
  - o shared UX specialist and UI designer
- Initially, involved internal users for UI design /reviews
- In 2013, hired students from Simmons College to do a Usability Review
  - o afterwards, brought UX specialist (Elizabeth) on full time

## Dataverse Technology

## Glassfish Server 4.1



## Java SE7

- plan to upgrade to Java SE8

## Java EE7

- Presentation: JSF (PrimeFaces), RESTful API
- Business: EJB, Transactions, Asynchronous, Timers
- Storage: JPA (Entities), Bean Validation

Software framework for publishing, citing and preserving research data (open source on github for others to install)

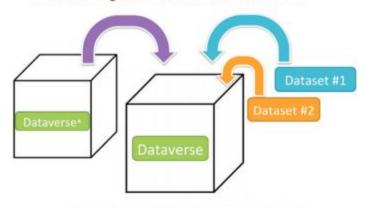
# Provides incentives for researchers to share:

- Recognition & credit via data citations
- Control over data & branding
- •Fulfill Data Management Plan requirements



## What is a Dataverse or Dataset?

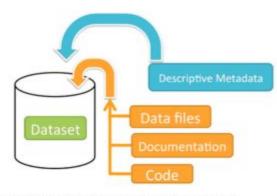
Schematic Diagram of a Dataverse in Dataverse 4.0



Container for your Datasets and/or Dataverses\*

\* Dataverses can now contain other Dataverses (this replaces Collections & Subnetworks)

Schematic Diagram of a Dataset in Dataverse 4.0



Container for your data, documentation, and code.

Image created by: Eleni Castro



What are UX myths?

"UX Myths collects the most frequent user experience misconceptions and explains why they don't hold true." - <a href="https://www.uxmyths.com">uxmyths.com</a>

Created by Zoltan Gocza and Zoltan Kollin

"Our goal is to provide evidence in user experience design that can help stakeholders move away from design decisions that are based merely on beliefs and personal opinions.

But you should still do your own research, check how your design performs."



# UX design is a step in a project

&

UX design is about usability

## UX Design is a step in a project

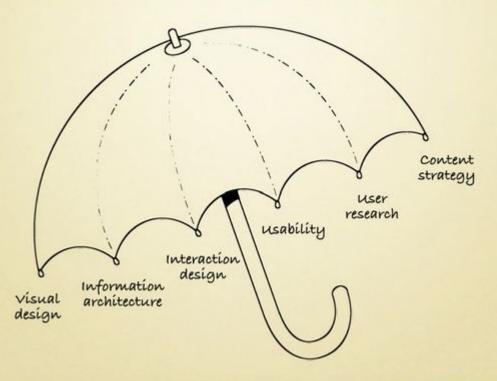
Many think that user experience design is confined to sketching the interfaces. However, UX design is a much broader process that - ideally - *starts at the strategy level and affects the whole lifecycle of a project or a business*.

## UX Design is about usability

*Usability* allows people to *easily accomplish their goals*. *UX design* covers more than that, it's about *giving people a delightful and meaningful experience*.

A good design is pleasurable, thoughtfully crafted, makes you happy, and gets you immersed.

## HOW UX SOLVES PROBLEMS





Luke Wroblewski @lukew - Oct 13 User research delivers insights, not answers.



## priorities:

- 1. useful
- 2. usable
- 3. desirable somethings never change.

### Functional Requirements Document

#### UI Workflows:

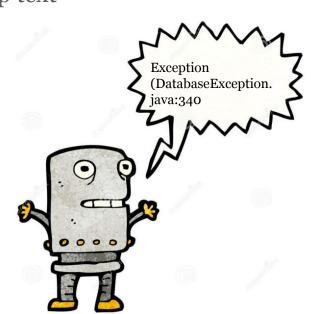
- Log In->Account Page->Data Related to Me Tab
- Log In->Account Page->Data Related to Me Tab->click on facet to narrow down to only dataverses
- Log In->Account Page->Data Related to Me Tab->click on facet to only see datasets
- Log In->Account Page->Data Related to Me Tab->click on facet to only see files
- Log In->Account Page->Data Related to Me Tab->Add Data->New Dataverse->Pop up saying, "This dataverse will be created under the Harvard Dataverse."
- Log In->Account Page->Data Related to Me Tab->Add Data->New Dataset->Pop up saying, "This dataset will be created under the Harvard Dataverse."

## The importance of content

• Be open to changing terminology, labels, and help text

Be aware of robot terminology in UI

- Have a connected experience:
  - Links to guides in the application
  - Don't make users hunt for what they are looking for





## Usability testing is expensive

In fact, usability tests can be **both fast and relatively cheap**. You **don't need expensive prototypes**; **low-tech paper prototype tests** can also bring valuable results. You don't need a lot of participants either, even 5 users can be enough to test for specific tasks, and the recruiting can also be done guerilla-style. For many projects, **you can even use remote and unmoderated tests**.

## Remote Moderated Usability Testing

Connect with users around the world

Reduces cost of incentives

Easier to manage

• Shows me how our products work on other computers and browsers

## Remote Moderated Usability Testing Tools

### *For connecting:*

• Google Hangouts

• Skype

• join.me

Go to Meeting

## For recording:

Morae

Quicktime

Silverback



# <u>Usability testing = focus groups</u>

When it comes to collecting feedback from users, usability tests and focus groups are often confused although their goals are completely different.

**Focus groups assess what users say:** a number of people gather in order to discuss their feelings, attitudes and thoughts on a given topic to reveal their motivations and preferences.

*Usability testing,* on the other hand, is *about observing how people actually use a product*, by assigning key tasks to users and analyzing their performance and experience.

doesn't want usability testing done?

But what if your boss or the stakeholder

## Contextual Inquiries

No scenario or tasks planned

 Takes place in the user's office, home, wherever they are comfortable and where they use the product most

 Sit there and watch the user interact with the product as they complete tasks they normally do



If you are an expert, you don't need to test your design

When it comes to evaluating the usability of an interface, user testing is often considered unnecessary if an expert has already reviewed it. Since people rarely behave the way you expect, an expert can find major usability problems, but usability tests always reveal surprising issues.

Usability testing and expert reviews are both useful and tend to have different findings, therefore it's usually recommended to combine the two in order to get the most comprehensive analysis of the interface.

	Gary King Dataverse		erse
	Inherit Roles + Permissions   ☑ Inherit all the roles and permissions	sions from the parent dataverse to this dataverse.	
(9 Search Dai	Permissions Groups Roles		Data
☑ Dataverses	Users/Groups Dataverses Datasets Files		
☑ Datasets	State		
☑ Files	Invite User Invite a user to create a Dataverse account, and as	esign them a role to your dataverse	
Affiliation	Invite a user to create a butaverse account, and as	oign them a role to your dutaverse.	
Mindion			
	User/Group Role Select	ct role ▼ Assign	
Publication Date			
	Filter		
Author Name	Select All Revoke Selected Showing 10 of 220 Role Ass	signments « 1 2 3 4 »	
	User/Group Role	Object Action	
Keyword	Guest (n/a) Non-Registered (Root Datave	erse) All Revoke	
	Pete Privileged (pete@malinator.com)  Pete Privileged Admin (Root Dataverse)	All	
Subject	Uma Underprivileged (uma@malinator.com) Curator (Root Dataverse)	All	
Contributor Tuno	Carrie Contributor (carrie@malinator.com)	All	
Contributor Type	Carl Contributor (carl@malinator.com)	2 Datasets Revoke	
Contributor Name	Candy Contributor (candy@malinator.com)  Contributor	1 Dataverse Revoke	
	Carson Contributor (carson@malinator.com)	All	

#### **Beta Dataverse**

#### Beta Dataverse > Permissions

#### Permissions ^

Here is the current access configuration to your dataverse.

Edit Access

#### Who can add to this dataverse?

Anyone with a Dataverse account can add sub dataverses and datasets

#### What should be the default role for someone adding datasets to this dataverse?

Curator - Edit metadata, upload files, and edit files, edit Terms, Guestbook, File Restrictions (Files Access + Use), Edit Permissions/Assign Roles + Publish

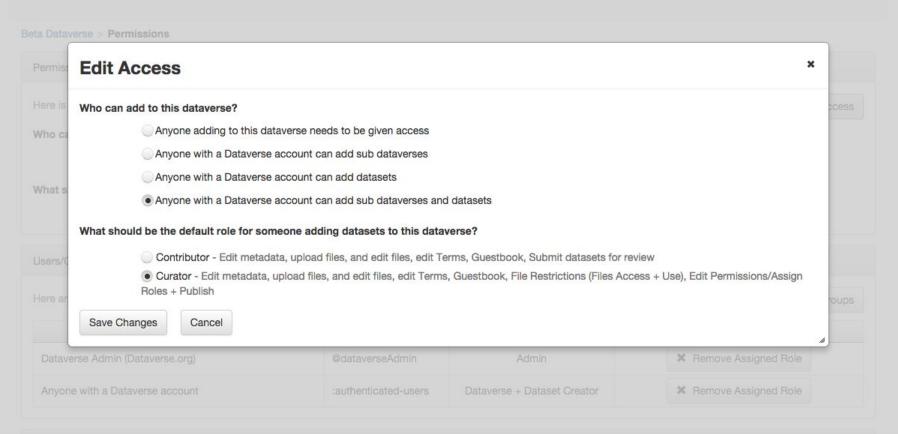
#### Users/Groups ▲

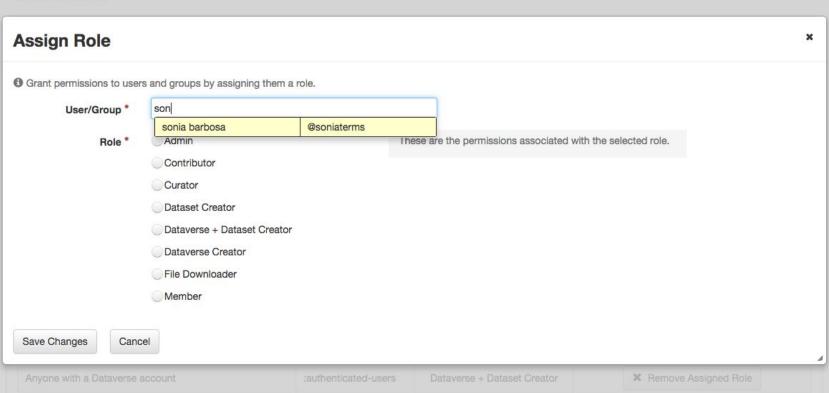
Here are all the users and groups that have access to your dataverse.

Assign Roles to Users/Groups

User/Group Name (Affiliation)	ID	Role	Action
Dataverse Admin (Dataverse.org)	@dataverseAdmin	Admin	* Remove Assigned Role
Anyone with a Dataverse account	:authenticated-users	Dataverse + Dataset Creator	★ Remove Assigned Role

#### Beta Dataverse







## Design has to be original

Many designers would rather attempt reinventing the wheel than to adapt conventional user interface design patterns. It should be considered, however, that such *design conventions are well-working because they've already been introduced and tested for usability*.

Since the users know them well, you don't need any explanation or instruction manual. As users

appreciate usability over novelties, standard patterns will eventually benefit your

audience.

It might occur that a new approach is needed, but you must be 100% positive that your solution is better than the existing pattern.

Search this dataverse...

Q Find

Advanced Search









#### **Dataverse Category**

Researcher (378)

Research Project (170)

Organization or Institution (126)

Journal (60)

Teaching Course (8)

#### **Publication Date**

2015 (15,128)

2011 (10,074)

2007 (9,586)

2012 (8,642)

2009 (6,251)

More...

#### Subject

Social Sciences (5,186)

Earth and Environmental Sciences (249)

Medicine, Health and Life Sciences (226)

Other (179)

Computer and Information Science (107)

More...

#### **Author Name**

Digital Archive of Massachusetts Anti-Slavery

#### 1 to 10 of 60,699 Results



#### Replication Data to Effect of Subliminal Lexical Priming on the Subjective Perception of Images: a Machine Learning Approach



Oct 29, 2015



Menoth Mohan, Dhanya; Kumar, Parmod; Mahmood, Faisal; Foong Wong, Kian; Agrawal, Abhishek; Elgendi, Mohamed; Shukla, Rohit; Ang, Natania; Ching, April; Dauwels, Justin; Chan, Alice H.D., 2015, "Replication Data to Effect of Subliminal Lexical Priming on the Subjective Perception of Images: a Machine Learning Approach", http://dx.doi.org/10.7910/DVN/VIWTIQ, Harvard Dataverse, V1

The purpose of the study is to examine the effect of subliminal priming in terms of the perception of images influenced by words with positive, negative, and neutral emotional content, through electroencephalograms (EEGs). Participants were instructed to rate how much they like t...

#### Reproduction files for "The Generalizability of Survey Experiments"



Oct 29, 2015 - Thomas J. Leeper Dataverse



Mullinix, Kevin J.; Leeper, Thomas J.; Druckman, James N.; Freese, Jeremy, 2015, "Reproduction files for "The Generalizability of Survey Experiments"", http://dx.doi.org/10.7910/DVN/MUJHGR, Harvard Dataverse, V1

This archive contains datasets, R analysis files, and supplemental materials for: Mullinix, Kevin J., Thomas J. Leeper, James N. Druckman, and Jeremy Freese. "The Generalizability of Survey Experiments." Journal of Experimental Political Science, Forthcoming, See README for detai...

#### Mau Forest Household baseline



Oct 29, 2015 - Nile-Congo Dataverse

Baraka, Paul; Okia, Clement; Chiputwa, Brian; Gassner, Anja; Makui, Permutia, 2015, "Mau Forest Household baseline", http://dx.doi.org/10.7910/DVN/3PEMLB, Harvard Dataverse, V1

Household baseline data collected in the Mau sentinel site.

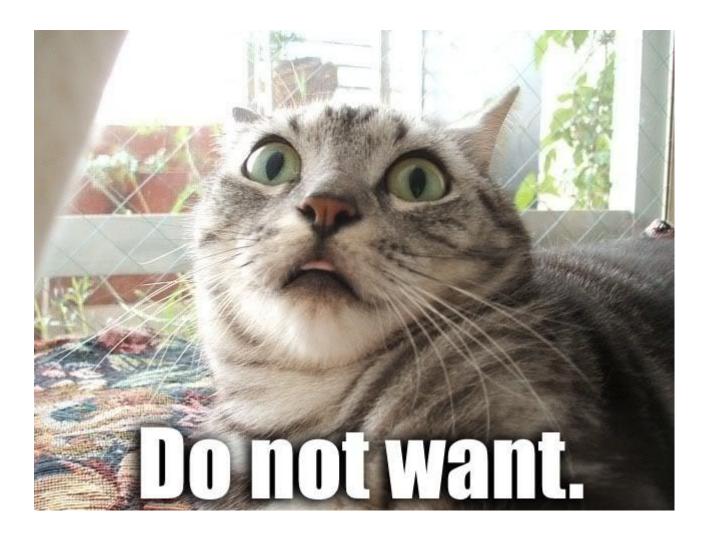
#### Nile-Congo Dataverse (World Agroforestry Centre)



Oct 29, 2015 Sentinel Landscapes Dataverse

This dataverse holds data collected at the Household and Village level of the Nile-Congo sentinel site.

8



But what if you don't have

standards to follow?

## United States Digital Services + 18F

• Two groups in the U.S. government working towards improving websites and applications produced by the U.S. government

- Jointly created the <u>U.S. Web Design Standards</u>
  - Includes code available on Github to download for UI components

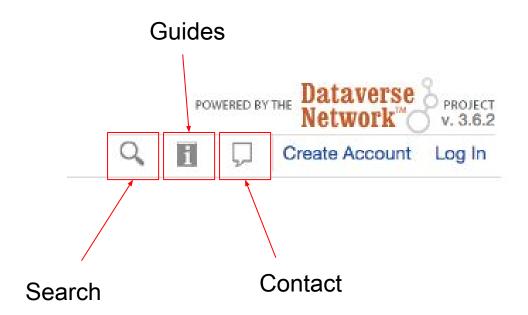


## Icons enhance usability

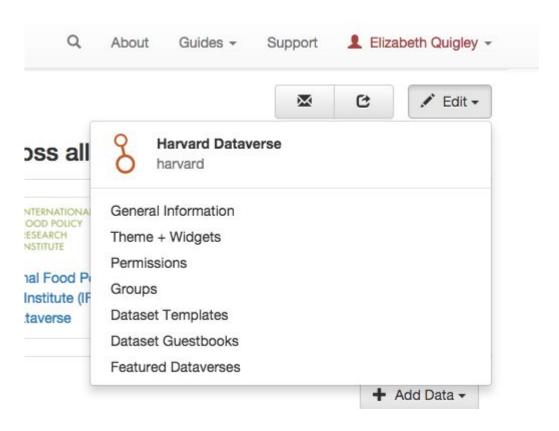
Many researchers have shown that *icons are hard to memorize and are often highly inefficient*. The Microsoft Outlook toolbar is a good example: the former icon-only toolbar had poor usability and changing the icons and their positioning didn't help much. What did *help was the introduction of text labels next to the icons*. It immediately fixed the usability issues and people started to use the toolbar. In another study, the team of UIE observed that *people remember a button's position instead of the graphic interpretation of the function*.

In most projects, icons are very difficult to get right and need a lot of testing. For abstract things, icons rarely work well.

## Dataverse v3.6.2



## Dataverse v4



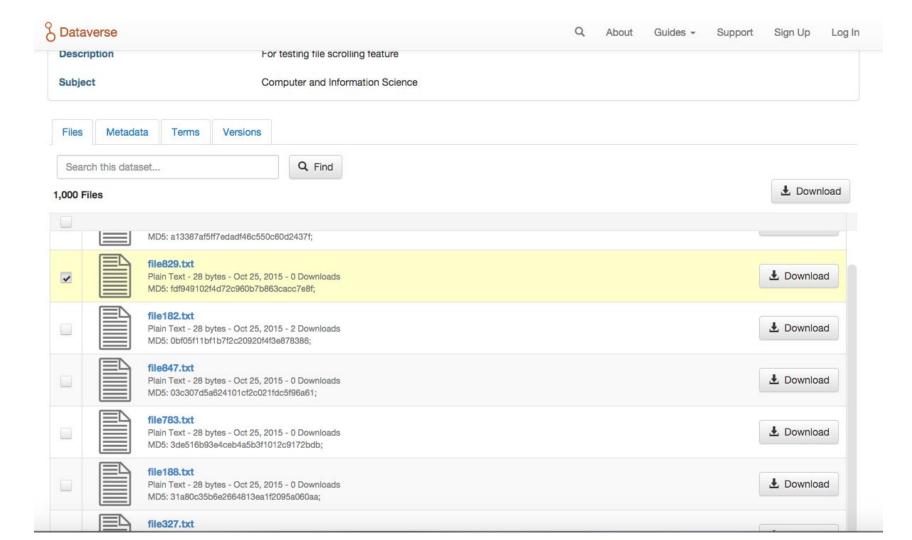


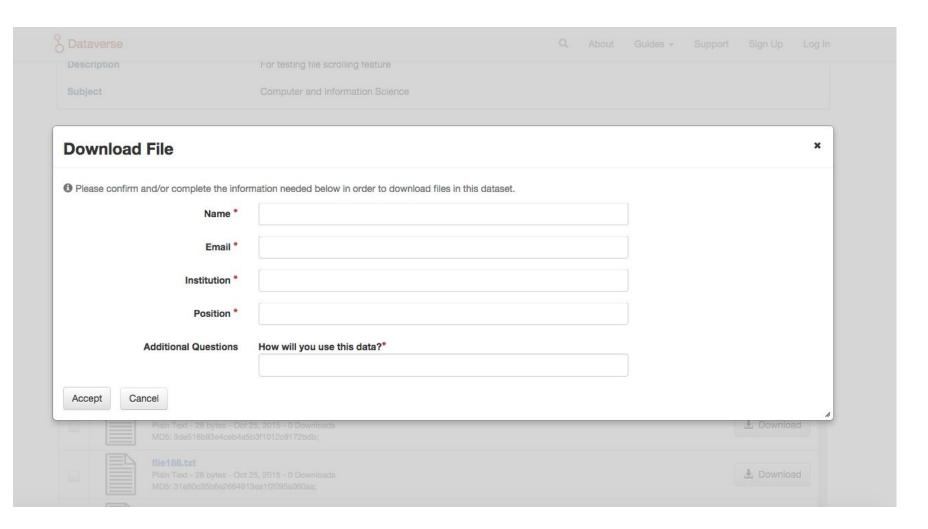
# People always use your product the way you imagined they would

Even if a product was designed to fulfill specific and known user needs, customers don't always use it the way and for the purpose the product was originally intended.

In many cases, *users don't care or don't understand how a product works*, and once they find a way to use it, they'll stick to it. Many people, for example, type URLs into the Google search bar instead of the browser's address bar.

You should, therefore, never take your design for granted and always collect feedback on how your product is actually used to reveal the real user needs and to get ideas of innovation.







## You are like your users

When designing a website, it's easy to assume that everybody is like you. However, this leads to a strong bias and often ends in an inefficient design.

You evidently know a lot about your services and your website; you're passionate about them. Your users, on the other hand, are likely to not care that much. They have *different attitudes and goals, and just want to get things done on your website.* 

To avoid this bias, you need to learn about your users, involve them in the design process, and interact with them.



AS IT TURNS OUT,
EVERY USER WE
TALKED TO WAS AN
IDIOT, AND THEIR
DUMB SUGGESTIONS
RUINED OUR PRODUCT.

₾2012

IN HINDSIGHT, WE PROBABLY SHOULD HAVE TALKED TO PEOPLE WHO WORK OUTSIDE THIS BUILDING.

# If the user can't use it, it doesn't work. — Susan Dray

Thank you! Any questions?

Contact: gdurand@iq.harvard.edu or equigley@iq.harvard.edu