

Usability in Digital Exhibitions

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What is usability

What usability is not

The DYI Usability Cycle

Participants

Tasks

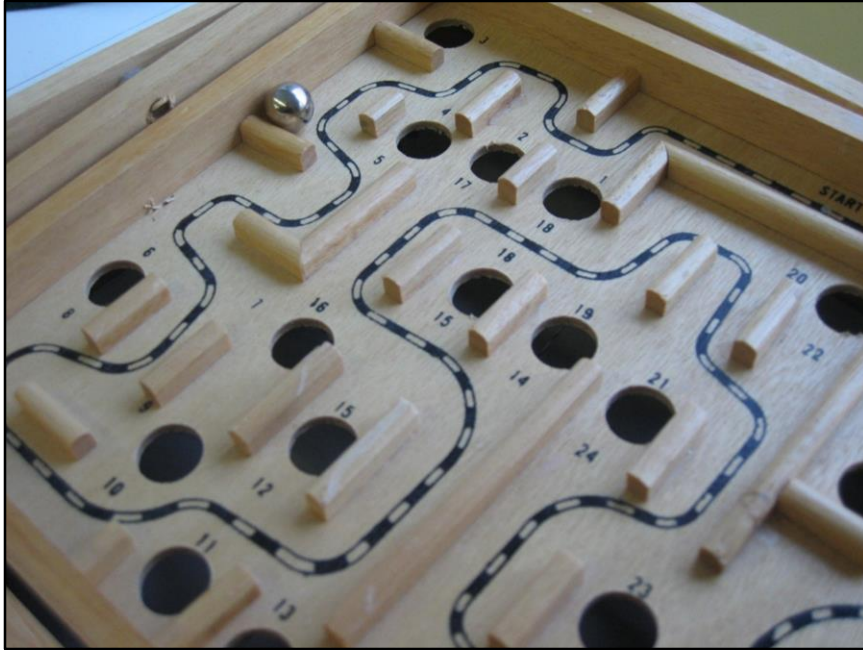
Metrics

Results and Implementation

Here's my plan for what I will cover.

The most important area of this talk will cover the a cycle of usability that involves 4 components. (you can start from any one of these 4 areas depending on what kind of problems you're trying to address)

My goal is to help inspire some of you to try to integrate some of these methods into your digital exhibition development work.



I know your work already feels like this.

I'm sorry in advance that I'm suggesting that we add more to your task lists but usability can help eliminate some of these traps and barriers that you encounter in your digital exhibition work.

Usability will:

- benefit your visitors;
- help contribute to your organization's brand and prestige
- help you build evidence for resource needs either with the developer community or the administration in your organization; and
- help build better relationships with your visitors

What Usability Is

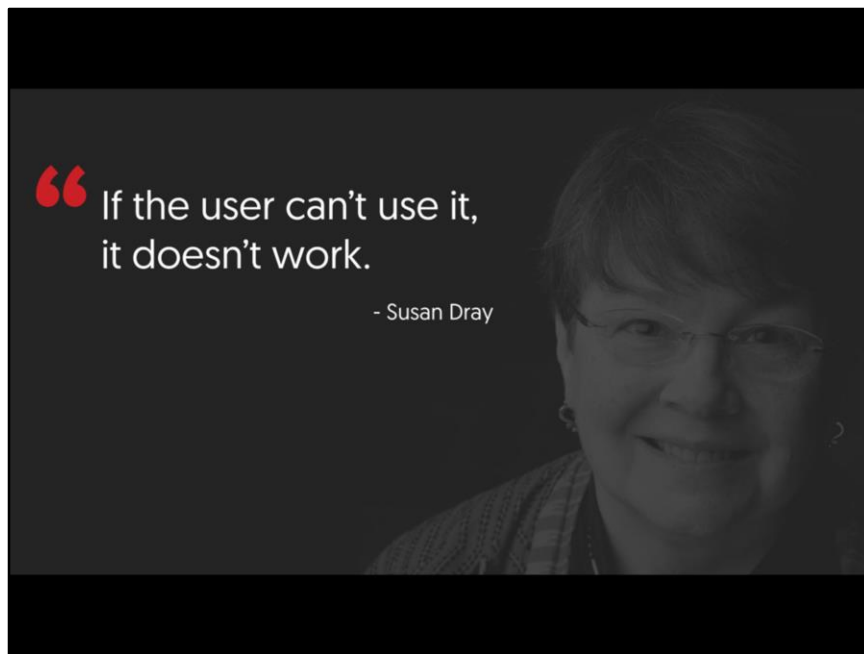
This is the technical definition of usability from the International Standards Organization.

Note three phrases in this definition:

- specified users
- specified goals
- effectiveness

Who gets to decide any of these three things? They're all variable based on your project and needs.

- specified users – this is complex, in many cases you won't get to work towards a particular users, the new normal is all kinds of users on all kinds of spectrums.
- specified goals – Think about what tasks you would like your visitor to be able to do but also make sure to ask which them if there are other things they would like to do. What are they?
- effectiveness – who gets to decide effectiveness? More on that later with metrics. You can decide what kinds of metrics you want to use to measure success.



I think this is a beautiful definition of usability. Note that the fault doesn't rest on the visitors back, it falls on us to craft digital exhibitions that are easy to use.

Usability is the. . .

“extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness.”

(ISO 9241, 2010, p.3)

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What is this?

What do you think happened?

- perhaps design by committee
- perhaps too many functions are being crammed into one interface

* This is a time to take a moment to honor designers and their craft. Don't make designers do things like this. If you have designers that do things like this, help them.



How many of you have every used one of these? How many have experience with the one on the left?

A designer and engineers thought about how a tool would work better in a person's hand. The pivoting peeler is still there, looks almost the same but the is now a cover over one side. The sharp tip is covered in the updated design. The function is still there but now made of a duller plastic point. The handle is improved for the human hand to use.

I like to think of usability as a kind of ergonomics or even mental ergonomics.

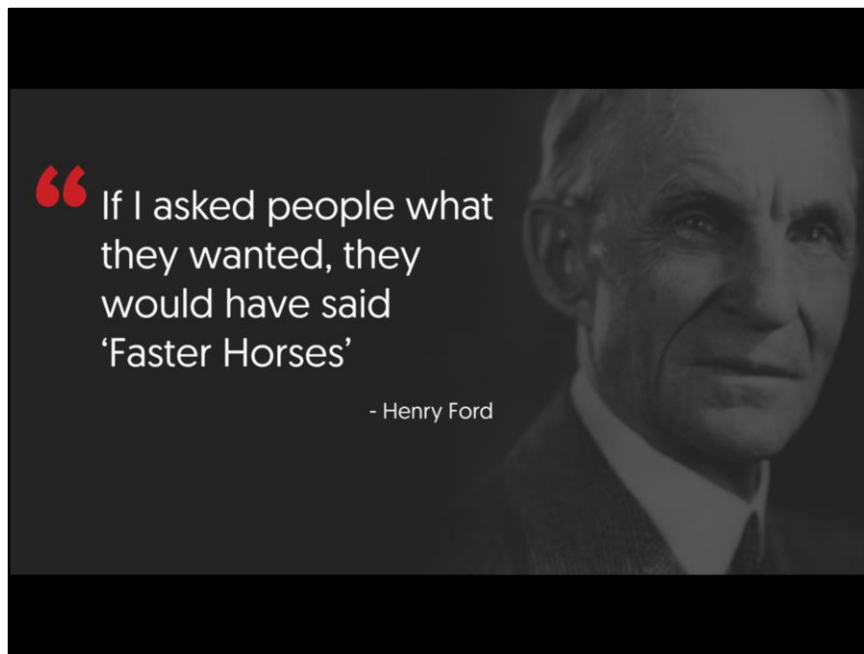


This is what I believe is the real heart of usability -- connecting with the people who use your services in order to learn if they can use them.

This is the place where you can measure how well you're doing, if you're even asking the right questions, and where you can find out more subjective things like satisfaction, pleasure, etc.

This can all be as simple as using a computer and a note pad (and good questions with an open heart and mind).

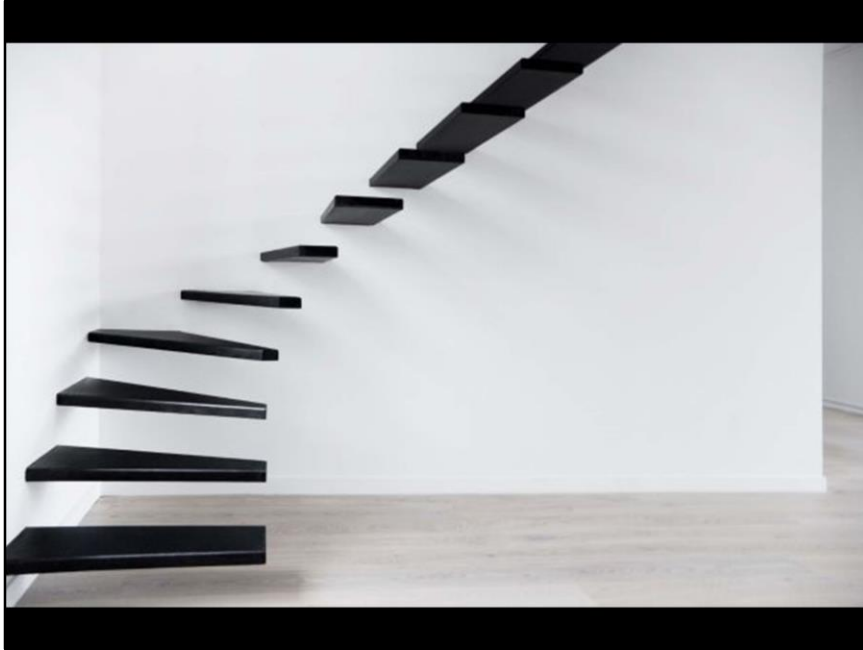
What Usability Is Not



Usability is not seeking opinion, it measures how well your users can operate your exhibit interface.



Usability is not being this complex or expensive – with labs and FTEs dedicated to the work.



Usability is not a design philosophy. It is not minimalism.

Participants

“We must provide for visitors of different ages, different cultural backgrounds, different knowledge levels, different learning styles.”

MacDonald, G., & Alsford, S. (1991). The Museum as Information Utility. *Museum Management and Curatorship*, 10(3), 305-311. doi:10.1080/09647779109515282

This paper has been published several times since 1991. The latest was in 2013 in the book edited by Ross Parry called, “Museums in the Digital Age.” One thing (they cover a number of interesting things) MacDonald & Alsford cover is the challenge of serving up information to all kinds of people on kinds of spectrums such as age, culture, education levels, learning styles.

They also talk about how museums (and by extension I take that to cover libraries and archives) are treasure houses of amazing material but are incredibly disadvantaged at sharing that rich material for a number of reasons. I think that still rings true, even today.



Participants of all ages:

When finding participants, remember to think about your visitors. They can represent a spectrum of ages.

Also, remember, what's happening to her isn't her fault – it's ours.

Are we ready for her as a visitor to our digital exhibitions?



Participants of all ages:

When finding participants, remember to think about your visitors. They can represent a spectrum of ages.

Are we ready for her as a visitor to our digital exhibitions?

What does she want to do with our digital exhibitions. How will she even find them anyway?

Note the device she's using.



Participants from anywhere:

Perhaps you can have some usability study participants who speak and read different languages to talk with you about your digital exhibit? Perhaps they can visit your exhibit as a non-English speaker/reader. What do they do?

People who come from many cultures, etc.

Are we ready for them? Can your website be translated by services like Google Translate in the Chrome browser?



Are we ready for all these various devices your visitors will use?

Ask your participants to bring their devices with them.

Recruit Participants for your studies

- According to Neilson (2012), 5 people are enough to reveal the bulk of your usability problems.
- Eliminate bias - don't recruit people you know or within the organization.
- Emphasize they are not being tested, the interface is.

Neilson, J. (2012, June 4). How Many Test Users in a Usability Study? Retrieved from <https://www.nngroup.com/articles/how-many-test-users/>

Tasks



How many tasks should your visitors be able to perform? What are the top 3 or 5? Measure those. Just measure one if that is all the time you have.

I wish I could tell you that I have the perfect set of tasks to measure the usability of your digital exhibits but I don't.

We have many platforms, many kinds of digital assets to share in a digital exhibit. That makes creating the perfect set of tasks difficult to develop. I'm willing to try if other are. Contact me if you want to work on this with us. vessds@jmu.edu

WB1	Locate the correct link for opening JMU's online library catalog.
WB2	What is the call number for JMU libraries' copy of the book "Pigs in Heaven"?
WB3	Does the library have access to the journal "Brain Research"?
WB4	Find the database Scopus and click on the link to enter the database.
	Find the full text for the journal article, "A Comparison of the Autism Treatment Evaluation Checklist (ATEC) and

These tasks are part of the JMU libraries' website benchmarking project. We measure how well our website does with a core set of tasks we ask students to do every fall.

Jody Fagan, Carl Nelson and others helped create this project to assure that it continued on annually every fall.

Craft (and test) 3-5 tasks

- What should visitors be able to do in your digital exhibit?
 - Navigation and Search
 - View and manipulate assets
 - Easily read text
 - ?

Craft a few open questions

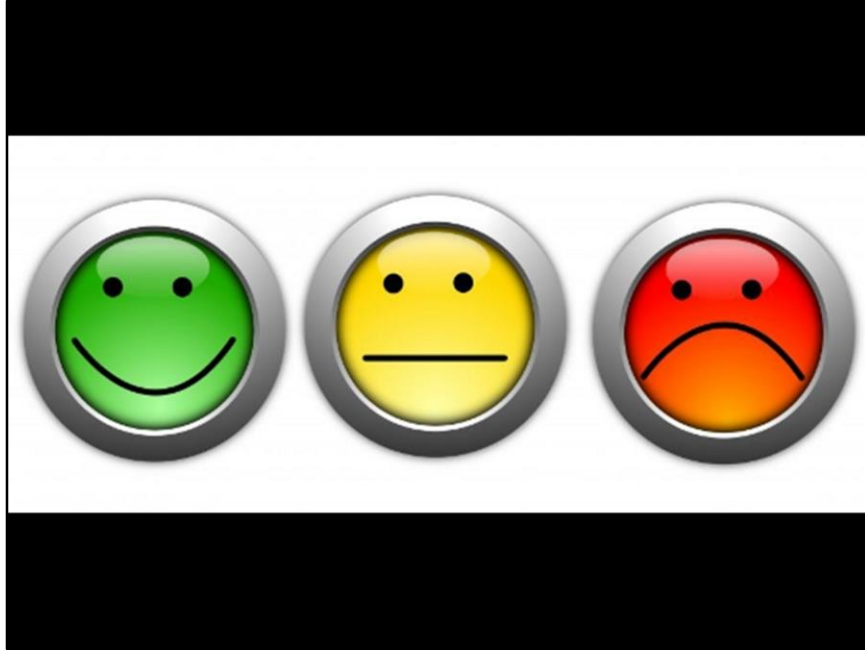
- List negative and positive aspects of the interface
- ?

Metrics

Metrics are key

How are you going to measure success? What kind of measure will you use? If you need to make a case for resources, what kind of metrics will give you the most compelling data? Consider who the gatekeepers are to resources. What kind of evidence will be most compelling to them.

If you need to make the case for changes, what evidence will be most compelling to technical groups you will have to work with?



Subjective things are certainly important to help find out how well you're doing – as long as you also gather more objective data that gives people tangible things to work on.

These are all subjective measures of success. They're also key to thinking of how to build a relationship with your visitors.

- Delightfulness
- Credibility
- Desirability
- ?

Item Code	2009 Success Rate (n=21)	2010 Success Rate (n=25)	2011 Success Rate (n=25)	2012 Success Rate (n=19)	2013 Success Rate (n=15)	2014 Success Rate (n=15)	2015 Success Rate (n=15)
WB1	100%	n/a	n/a	79%	73%	93%	100%
WB2	100%	100%	100%	n/a	100%	100%	93%
WB3	57%	44%	56%	53%	53%	53%	47%
WB4	100%	96%	88%	n/a	100%	80%	87%
WB5	71%	72%	n/a	79%	73%	87%	80%
WB6	100%	100%	84%	n/a	100%	100%	87%
WB7	100%	100%	84%	89%	100%	100%	87%
WB8	100%	88%	56%	79%	60%	60%	53%
WB9	76%	100%	84%	n/a	87%	80%	73%
WB10	81%	96%	n/a	79%	80%	93%	85%
WB11	100%	100%	96%	n/a	100%	100%	93%
WB12	90%	96%	76%	89%	93%	87%	79%

Quantitative data can be quite compelling. Usability has a number of methods to gather quantitative data such as time on task, number of clicks to complete a task, success rate, etc.

Determine Your Metrics

- Task completion percentage
- Error rate
- Time spent to complete task
- Happiness
- Delight
- Credibility
- ?

Results & Implementation

Results and implementation should always be tied together. If either is talked about, then the other should be mentioned.

Don't gather data and not use it. I believe it isn't ethical, respectful, etc.

Only gather data about things you can change.

Perhaps in your particular situation, you should gather data to build a case for changing the system you (have) to use.



Your data should spark change for your visitors by inspiring your colleagues to make changes for the better. Video of someone struggling with a website to perform a simple task is quite compelling.

Capture such video with your phone, share it with your web people.

Sharing your Results and Implementation

- Fix problems as you identify them
- Decide if you need dense reports
- Charts
- Graphs
- Video of users struggling (use your phone)
- Transcripts of discussions or key quotes

Image Credits

Game: http://www.freepik.com/free-photo/a-mazing-game_573535.htm

Susan Dray Quote: <https://robotsandpencils.com/blog/10-quotes-use-next-presentation-mobile/>

Faucet: @aquigley on Twitter at <https://twitter.com/aquigley/status/787177447695331328Minimalist>

Veggie Peelers: <https://www.amazon.com/OXO-Good-Grips-Swivel-Peeler/dp/B00004OCIP/> and <http://amrfi.blogspot.com/2015/03/artikel-appetizer.html>

Two people looking at a computer: <http://s3.amazonaws.com/prod.word/images/264/original.jpg?1335397187>

Henry Ford Quote: <https://robotsandpencils.com/blog/10-quotes-use-next-presentation-mobile/>

Usability Lab: <https://www.experiencedynamics.com/news/2014/02/experience-dynamics-adds-advanced-eyetracking-capabilities-usability-labs>

Minimalist Stairs: <http://userscontent2.emaze.com/images/8a6276a4-386e-475c-91c9-ffe314e9ed48/15280ef6-3d8e-4d03-9961-e76c19a5e29b.jpg>

Lady with a computer: <https://teresainfortworth.files.wordpress.com/2012/08/e-mail-me-grandma.jpg>

Child with Mobile Device: https://pbs.twimg.com/media/Cvyo_f9WcAExiq2.jpg

Signs to cities around the world: http://cx.aos.ask.com/question/aq/1400px-788px/advantages-disadvantages-globalization_d69f694ea3fc997c.jpg

Devices: https://www.flickr.com/photos/brad_frost/7387823392

Tasks Icon: http://icon-icons.com/icons2/220/PNG/512/tasks_25495.png

Image of Tasks: Tasks from JMU Libraries Website Benchmarking Studies.

Icons expressing a range of satisfaction or happiness:

https://tankestrecket.files.wordpress.com/2014/03/happy_customers_or_not.jpg

Image of Data: JMU Libraries Website Benchmarking Studies Data from 2009 to 2015

Match to Match:

https://mayilam.files.wordpress.com/2015/09/177926979_9bd2709608_o.jpg