

# Multitouch and Multiuser Design

Museums and the Web 2011



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# Multitouch & Multiuser Design Outline

- Case Studies: Design - Success! + Failures ;-(
- Design Activity!



# Case Studies: Design - Success + Failures

## Collections

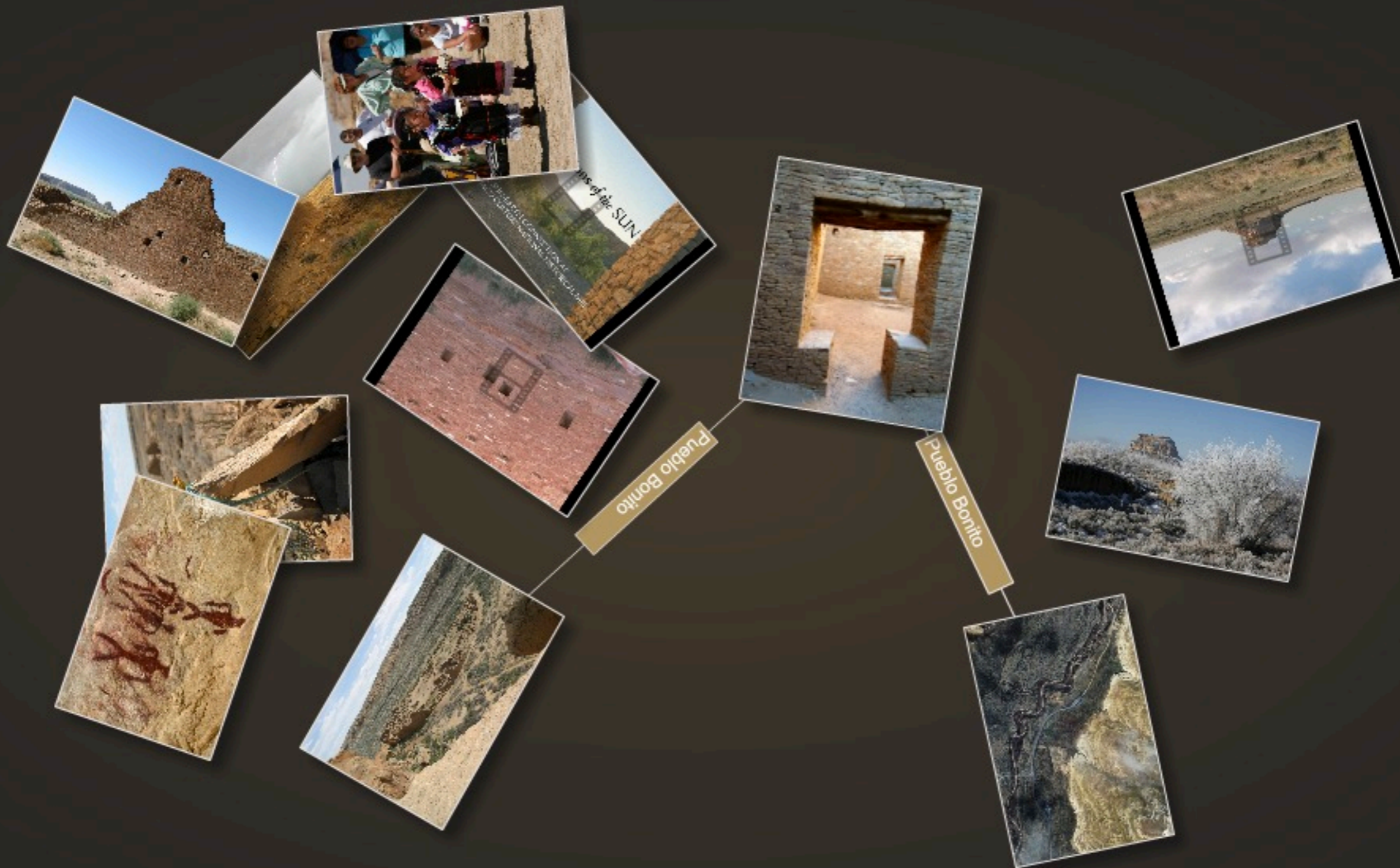
- Collection Viewer
- Comparison Tool
- EM Spectrum



# Exhibit Qualities

*A few things we've picked up along the way about Multitouch/Multiuser Collections Exhibits...*

- Multiuser interaction is what is truly revolutionary. Designing for multiuser interactions is much more complex than designing solely for single-user multitouch.
- “Open ended,” simple applications seem to work best.
- Simple, user interface components can encourage visitors to communicate with each other.
- Control of individual objects and finding a balance between cooperation and conflict is important.



# Collection Viewer



### Pacific Halibut

*Hippoglossus stenolepis*

Halibut are strong swimmers, able to catch and eat a large variety of fish including cod, turbot, pollock and herring. They also eat crab, shrimp, squid and other invertebrates and sometimes larvae.

Halibut are long-lived fish. Females grow faster and live longer than males. The oldest recorded female was 42 years old. The oldest male was 27 years old.



### Alaska Wood Frog

*Rana sylvatica*

#### Diet

Wood frogs eat insects, spiders, snails and other small invertebrates, mostly terrestrial. Wood frog tadpoles eat algae, plant and organic debris. Adult wood frogs will eat other small animals.

#### Life

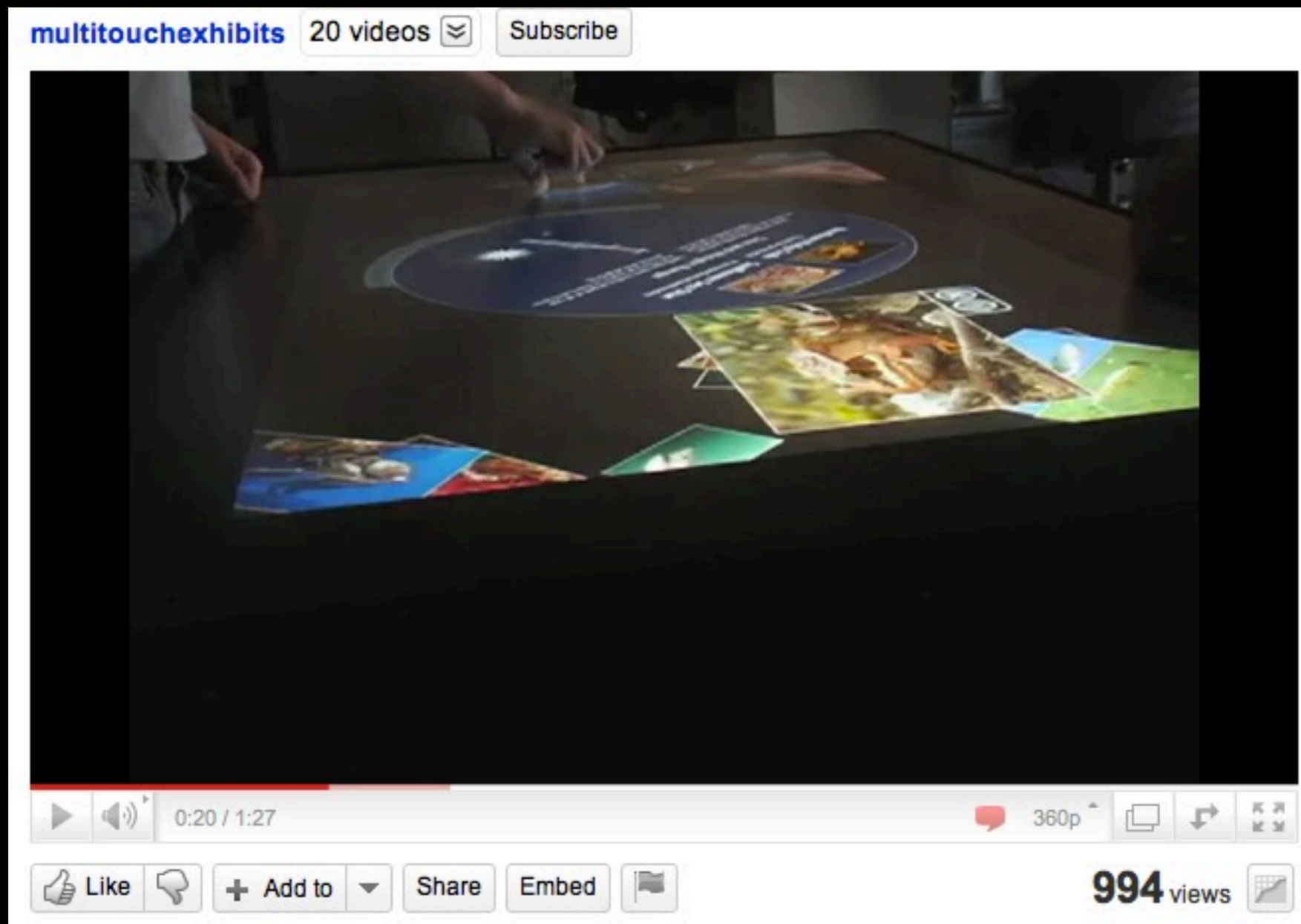


Diet & Lifespan

Size & Weight

How?

# Comparison Tool




[http://www.youtube.com/watch?  
feature=player\\_embedded&v=vtTlIXarl8Q](http://www.youtube.com/watch?feature=player_embedded&v=vtTlIXarl8Q)

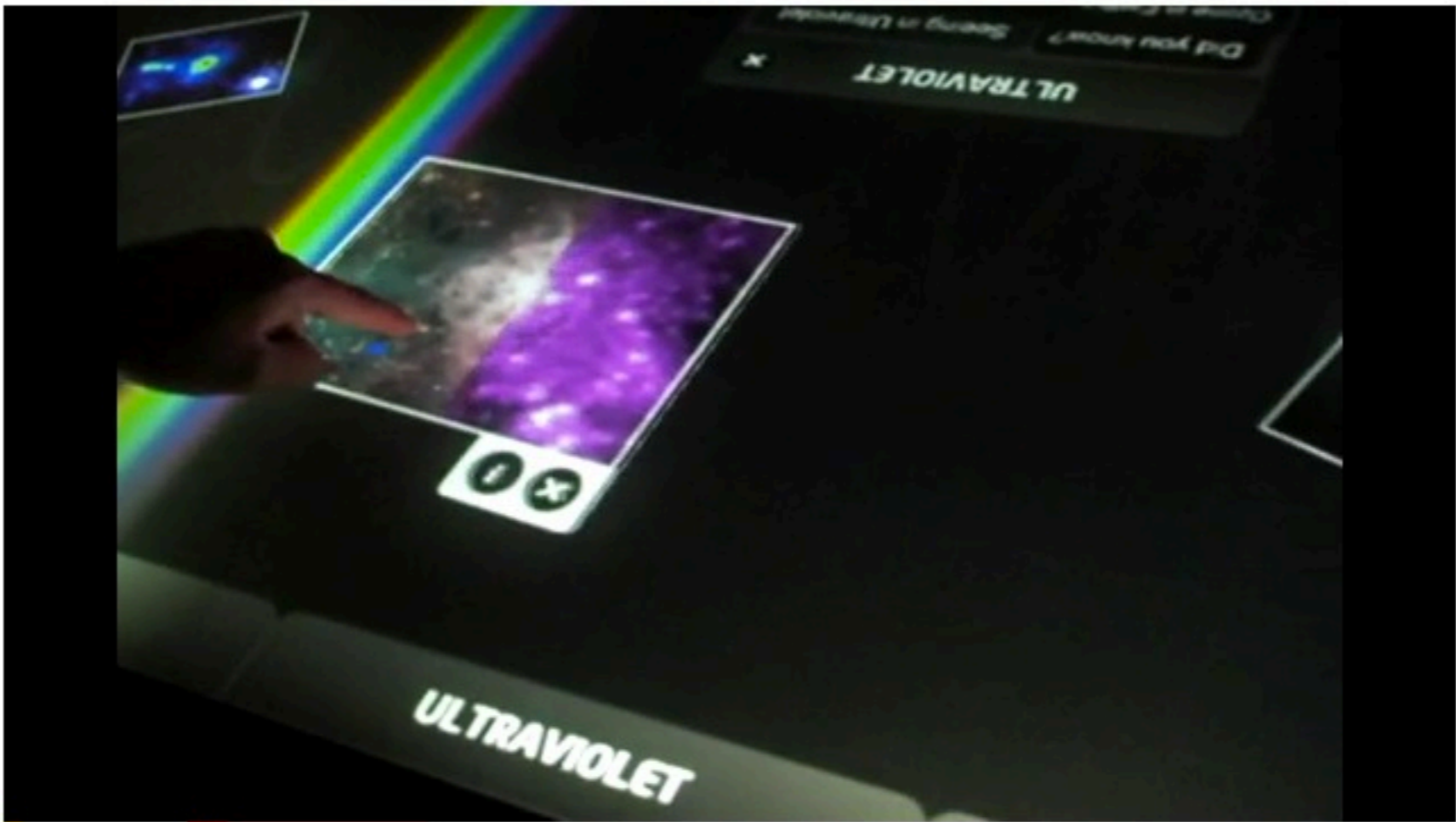





# EM Spectrum













multitouchexhibits 20 videos  Subscribe



0:09 / 1:09 360p   

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49,675 

Uploaded by multitouchexhibits on Oct 28, 2009

A view of the 100" multitouch, multiuser exhibit table developed by Ideum

28 likes, 4 dislikes

[http://www.youtube.com/watch?v=OMEqMyrivRk&feature=channel\\_video\\_title](http://www.youtube.com/watch?v=OMEqMyrivRk&feature=channel_video_title)

# Case Studies: Design - Success + Failures

## Maps

- California Historic Maps
- LA Zone: Mashup
- Oil Spill Application



# Exhibit Qualities

*A few things we've picked up along the way about Multitouch/Multiuser Mapping Exhibits...*

- Maps impose direction, but visitors can still interact from all directions on multitouch tables.
- Limiting map controls to remove “direct gesturing” improved the visitor experience.
- Control of individual objects and balance between cooperation and conflict is important.
- “Tethering” objects to map coordinates is important for exhibits with dynamic mapping.



# California Historic Maps



**Multitouch Table**  
multitouchexhibits's Channel

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The magnifier is resizable and its parameters, along with other settings can be easily customized



0:38 / 1:13

360p



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### Multitouch Mapping Exhibit at Oakland Museum of California



From: multitouchexhibits | May 13, 2010 | 1,374 views


The California Land Grab multitouch, multiuser mapping application developed for the Gallery of California History at the Oakland Museum. This exhibit allows visitors to view detailed maps and other documents from the 18th and 19th centuries.

<http://www.youtube.com/user/multitouchexhibits#p/a/u/1/a738Z4ZjGaQ>



# LA Zone

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0:47 / 1:28 360p

Like Add to ▾ Share Embed 6,750

Uploaded by multitouchexhibits on Feb 4, 2010

An interactive multitouch enabled Google map with KML overlays allows

16 likes, 0 dislikes

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[http://www.youtube.com/watch?v=b2nruh-EODU&feature=channel\\_video\\_title](http://www.youtube.com/watch?v=b2nruh-EODU&feature=channel_video_title)



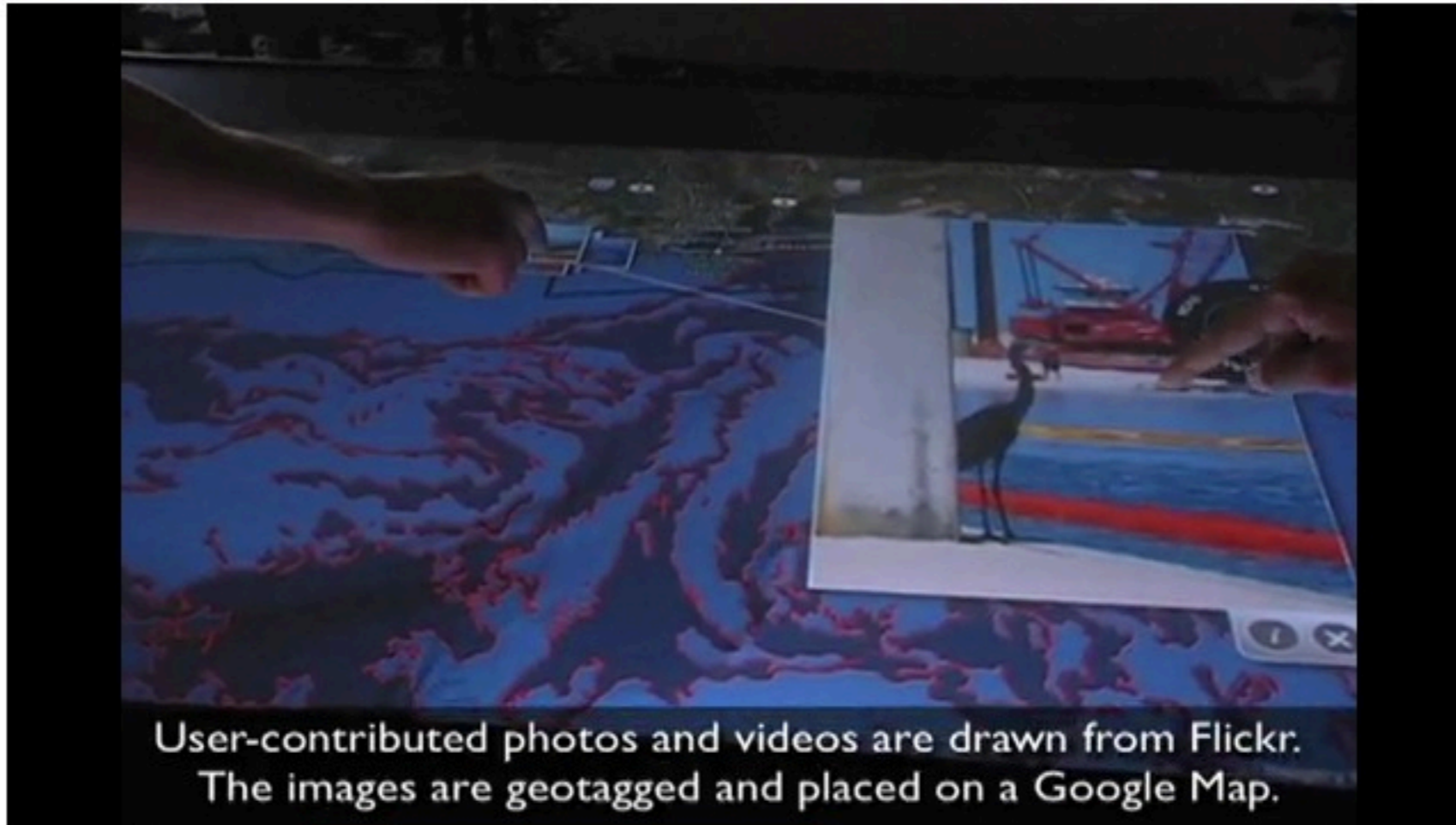


# Gulf Oil Spill Map

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20 videos

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0:23 / 1:30 360p

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1,108

Uploaded by multitouchexhibits on Jun 28, 2010

A multitouch, multiuser mashup shows user-contributed Flickr images and

2 likes, 0 dislikes

[http://www.youtube.com/watch?v=XIyENxvr0cA&feature=channel\\_video\\_title](http://www.youtube.com/watch?v=XIyENxvr0cA&feature=channel_video_title)

# Design Challenges

Questions Going Forward

# Design Challenges

- How do we build multitouch, multiuser exhibits that more effectively encourage (or direct) collaboration?
- How do we move beyond very simple exhibits to create more structured interactions? (And do we want to do that?)
- How can we reduce visitor “conflict” in shared surface environments?
- What happens when the novelty factor wears off?

# The Design Challenge

## The Activity: Introduction

In this rapid design exercise, we will break into four teams: each one charged with the task of designing a multitouch, multiuser interactive exhibit on a different topic. Each team will be given 45 minutes to complete the exercise and to prepare a presentation for entire group

We will present at 11:45 sharp!



Make  
it work

# The Design Challenge

## The Activity

Each group will design a multitouch, multiuser exhibit based on topics provided. Groups can design an application for a table (or tables) of any size, or design for a multitouch wall.

Part of the exercise is to learn about the topics and institution and try to find those elements essential to understanding the subject and to weave them into the exhibit.

Consider the following:  
How do we expect visitors to engage with the exhibit?

Does the exhibit encourage social interaction?

What about technical feasibility?

What are the expected educational outcomes?

What about cost?

*(Are there design criteria that we should incorporate? Please share your thinking during reporting.)*

# The Design Challenge

## The Groups

Group #1: Libby, Steven, Nicholas,  
Dina, Cary

Group #2: Deborah, Francine, Dan,  
Francisco, Ivana

Group #3: Michael, Terri, Kajsas,  
Becca, Sarah

Group #4: Aartjan, Joaguin, Orit,  
Allan, Ken



# The Design Challenge

## The Choice

Wild Weather: Exploring Global Weather - Group 1

Ancient Egypt: The Pyramids - Group 2

Terra Cotta Warriors of China - Group 3

Wild Music: Sounds & Songs of Life - Group 4



# The Design Challenge

## Reporting

Please be specific about the types of interactions that you expect to see. Explain how visitors will interact with the exhibit in as much detail as possible given the time allowed.

Use: sketches, screen grids, flow charts; any visuals that might help describe your approach. Use the large paper and other materials to help share your design concept(s) with the larger group.

You'll have 5 minutes to present and a few minutes for questions.

Consider the following:  
How do we expect visitors to engage with the exhibit?

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What about technical feasibility?

What are the expected educational outcomes?

What about cost?

*(Are there design criteria that we should incorporate? Please share your thinking during reporting.)*