O pen exhibits DESIGN SUMMIT MARCH 9-11 2011

INTRODUCTION

Open Exhibits is an open source software initiative focusing on multitouch, multiuser, and motion-capture exhibits for science centers, museums, non-profits, and other educational institutions. Funded by the National Science Foundation, the project is in its first year. In November, 2010 Open Exhibits (www.openexhibits.org) launched a community Website that now has over 1,000 members, a shared blog function, and more than a dozen software modules.

Open Exhibits recently held a Design Summit bringing together 30 professionals from the field to help guide future development. The Design Summit was convened in Corrales, New Mexico near the design studios of Ideum, the principal organization of Open Exhibits. It was held March 9th to 11th of 2011.

Attendees came from large and small science centers, planetariums, zoos, local museums, and several other open source software initiatives. They were educators, evaluators, designers, researchers, software engineers, and museum professionals. Participants engaged in a combination of short presentations followed by open discussion, active design exercises, and demos of multitouch exhibits and motion-capture prototypes.

This diverse group of professionals coalesced around a new and complex question that is challenging the exhibit design field: how can we utilize new physical computing technologies to create better exhibits to improve informal science learning? The secondary question of how to build a stronger and more active community of practice to better facilitate this outcome was also explored.

This summary provides a brief overview of the Design Summit with a focus on the main sessions along with the participants, and some of the outcomes. More detailed information, which was "live blogged" during the summit, can be found at:
www.openexhibits.org/designsummit

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CHIP LINDSEY **Associate Director, Don Harrington Discovery Center**

ERIK LIZEE **Director of Exhibit & Media Development, McWane Science Center & Aquarium**

KRIS MCCALL **Director, Sudekum Planetarium, Adventure Science Center**

KATHY MCLEAN **Independent Exhibitions, & Co-PI for ExhibitFiles**

SAUL ROCKMAN **President, Rockman et al**

PETER SAMIS **Associate Curator of Interpretation, SFMOMA; leader of Pachyderm**

GRANT SPICKELMIER **Assistant Director of Education at the Minnesota Zoo & co-PI of Wolf Quest**

BARRY STARR **Director, Stanford at the Tech**

INVITED PARTICIPANTS

RALPH DAS **Chief Technical Officer of SENSUS**

JEFF HEYWOOD **Director of Content, Vancouver Aquarium**

IAN HOLTUM **Developer, Denver Museum of Nature & Science**

JOHN LLEWELLYN **Senior Exhibition Developer, Museum of Science and Industry**

JOYCE MA **Senior Researcher, Exploratorium**

CHRISTIAN MOORE **Founder, NUI Group**

ERIC NARDONE **Manager of Interpretive Media, Monterey Bay Aquarium**

CHRISTINE REICH **Director of Research and Evaluation, Museum of Science, Boston**

NINA SIMON **Independent Exhibit Designer, Museum 2.0 & Author of *The Participatory Museum***

BRUCE WYMAN **Director of Creative Development, Second Story**

BUILDING COMMUNITY

Following an introductory dinner, the group convened for series of short presentations and active design exercises. The first presentation, led by Kathleen McLean and Christian Moore, focused on open source community development. Each shared their own, very different perspective: Kathleen McLean as the co-PI of the NSF-sponsored Exhibit Files site for exhibit designers, and Christian Moore as the founder of the Natural User Interface Group, an online community of 12,000 technology enthusiasts.


WE ARE HERE

A spirited discussion about open source models, community involvement, and the design of online communities followed the short presentations. A critical look at the Open Exhibits "quick start community site" which was built and launched a mere 45 days into the first year of funding was a highlight. Jennifer Borland of Rockman presented initial findings on the Open Exhibits community at the six-month mark. The discussion that followed from this practical session has already influenced a redesign and restructuring of the project.

EXPLORING COLLECTIONS

As museums are entering a new era in computing, many basic applications have to be reinvented. In 2009, Ideum developed the first multitouch, multiuser Collection Viewer that included descriptive metadata. A version of this relatively simple, yet foundational application is freely available on the Open Exhibits website. One of the principal design activities at the Design Summit involved the design of the next generation Collection Viewer.

NINA SIMON discusses ways to encourage museum visitor interaction.
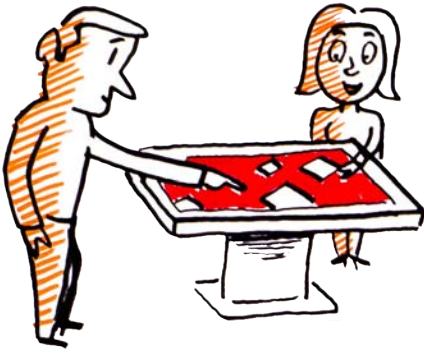
OPEN EXHIBITS SESSIONS

**WELCOME & AN INTRODUCTION
TO OPEN EXHIBITS**
JIM SPADACCINI

BUILDING A COMMUNITY (SITE)
JENNIFER BORLAND
KATHLEEN MCLEAN
CHRISTIAN MOORE

COLLECTION ACTIVITY

Leaders
JIM SPADACCINI
JEFF HEYWOOD
NINA SIMON

Activities
SMALL GROUP BREAK OUTS
REPORTING

RESEARCH GROUP ACTIVITY

Leaders
KATE HALEY GOLDMAN
JENNIFER BORLAND

Activities
RESEARCH GROUP BREAKOUT
RESEARCH GROUP REPORTING

An important deliverable for the Open Exhibits project is the development of a new more advanced and flexible template that will allow museum visitors to use multitouch tables other devices to access collections.

> *" Natural User Interface is organic, it's active by instinct in the same way people learn to wave to other people…you are using human nature in your exhibits "*

CHRISTIAN MOORE
NUI GROUP

An introductory presentation conducted by Museum 2.0 Founder, Nina Simon focused on "Social Opportunities Around a Multitouch Table" helped frame the unique nature of the collaborative spaces that multitouch tables and walls present. Nina's advice was not to just design an exhibit and hope that visitors would connect socially but to be active, "It's important to put the onus of responsibility on the museum to facilitate these connections."
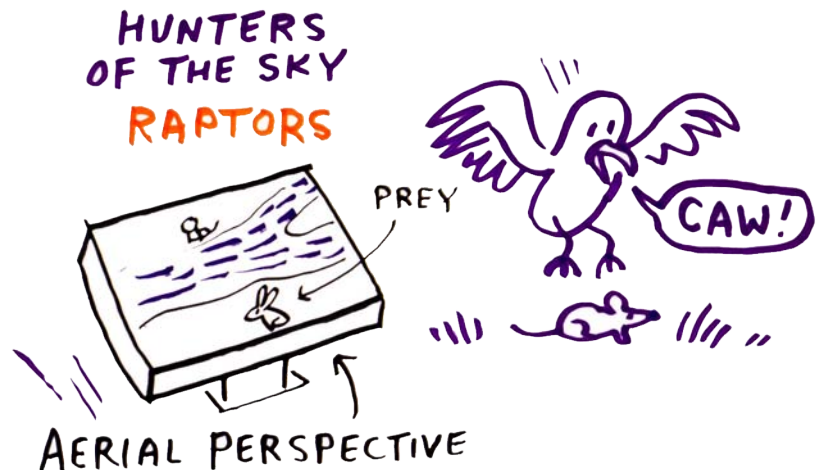
In the design activity that followed, summit participants were broken into small groups and asked to develop original user experiences from themes selected by project advisors. Most of themes concentrated on science related topics. Art and history were included too, as the larger museum community is an important constituency for Open Exhibits.

After the activity, summit attendees came together to share their ideas on how to create compelling visitor experiences that help promote active learning. Most of the group presentations focused on exhibits that enabled visitors to better understand connections between objects and artifacts in the collections and associated contextual materials.

> " A (multitouch) table is an invitation to a social experience. Visitors are primed for that kind of experience, why ignore that? "

KATHLEEN MCLEAN
INDEPENDENT EXHIBITIONS

Ideas for connecting objects, including additional materials that explained the history, location, date, and other interpretive content were presented by some groups. Others focused more on active social, game-like experiences around the objects.

Other ways for visitors to explore objects together, or to collaboratively accomplish tasks and solve problems were also presented.

TIMELINES & MAPPING

In year two and three, the Open Exhibits project is planning to develop additional templates for museums; one is a timeline based multitouch, multiuser viewer and another allows for group exploration of maps and associated data. These two very different types of templates were explored by two sets of groups at the Design Summit.

The complexity of developing a multitouch and multiuser map or timeline cannot be overstated. Just how multiple visitors collaborate using exhibits that are fundamentally built around "gross" navigation of time or space is a challenging question. "Conflict" more than "cooperation" seems to be the experience of the first exhibits that were developed using maps and timelines with a multiuser function.
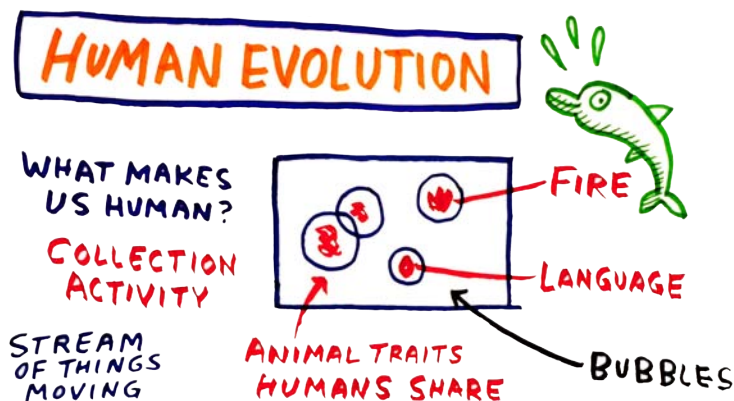
**OPEN EXHIBITS SESSIONS
(CONTINUED)**

BREAKING NEW GROUND:
10-MIN PRESENTATIONS AND DEMOS

RALPH DAS
SENSUS: NATURAL USER NETWORKING

JOHN LLEWELLYN
FUTURE ENERGY – EXHIBITION

IAN HOLTUM
MULTITOUCH EXHIBITS FOR 2 TO 6 YEAR-OLDS

BRUCE WYMAN
TAGGING AND CONNECTIONS
BETWEEN EXHIBITS & MOBILE

JAMES KASSEMI
OPEN EXHIBITS AND KINECT

TIMELINES AND MAPS

Activity Introduction
JIM SPADACCINI
ERIK LIZEE
BRYAN KENNEDY
JOHN LLEWELLYN

Activities
GROUP WARM UP ACTIVITY
SMALL GROUP BREAK OUTS
REPORTING

CLOSING REMARKS & FINAL DISCUSSION

Some early examples of multiuser mapping applications were shared. Participants were encouraged to try using multitouch exhibits on the new multitouch table prototype that Ideum provided for the Design Summit. The examples that were shown explored current events such as the 2010 Gulf Oil Spill along with more complex exhibits such as a look at the geology and geography of the Los Angeles area through a series of map overlays.

" Timelines are a balance between simplicity and complex interrelationships "

JOHN LLEWELLYN
MUSEUM OF SCIENCE AND INDUSTRY

The group activities focused on similarly difficult topics for museums to present such as: earthquakes, human evolution, the relationship between weather and climate change, and historical explorations of ancient sites such as Chaco Canyon and those found along the Silk Road.

" Museums are not research labs, the exhibits have to work "

BRYAN KENNEDY
SCIENCE MUSEUM OF MINNESOTA

With such a diversity of topics and two very different approaches: timelines and maps, there was less coalescence than existed within the Collection activity. Still, the groups reported design approaches and concepts that are helpful in thinking about how to design these more complex templates.

Groups presented timelines with symmetric and interconnected timelines (approached from opposite sides of a multitouch table), network applications that would involve "crowd sourcing" to call up information about current weather events, and a gaming approach that would allow multiple visitors to trade goods along the silk road.

ERIK LIZEE discusses how a multitouch exhibit was rapidly deployed onto the museum floor in response to the 2010 Gulf oil spill.

FINAL THOUGHTS

The Design Summit was an effective mechanism in guiding the future development of the Open Exhibits site. In the short term, the discussion around community has led to a redesign of the Open Exhibits website and major changes in how the Open Exhibits SDK software is made available. A much more open system, based on complete trust of the community was implemented in the months following the summit.

The Design Summit also informed the design and development of the Collection Viewer. Many of the ideas that came out of the design activities and exercises have found their way into prelimary designs for the next version of the Collection Viewer, which our partners will deploy on the museum floor late in 2011.

" This (summit) is going to change the project going forward. This has given us an opportunity to re-envision our project early, at the six-month mark "

JIM SPADACCINI
OPEN EXHIBITS

Another positive outcome was the overwhelmingly upbeat response of the participants. While the primary goal was to inform the Open Exhibits project, many of the participants felt that this project was an important part of their professional development and they expressed a desire to learn more, share outcomes, and connect with others in the field.

Our hope is that the Open Exhibits community can help provide the necessary tools, while informing and inspiring exhibit developers, designers and educators as they explore the potential that these technologies present. While the Design Summit was a formative event for the Open Exhibits project, we are continuing to evolve and grow. We welcome your participation, input and advice.

JOIN US AT
WWW.OPENEXHIBITS.ORG

Open exhibits

LEAD ORGANIZATION

Ideum

PARTNERS/COLLABORATORS

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Don Harrington Discovery Center
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New Mexico Museum of Natural History
Rockman, et, al.

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