

Next Generation Museums

Engaging Visitors Through Technology

Jason Haga

Senior Research Scientist
Cyber Physical Cloud Research Group
AIST, Japan

Vivian Kung Haga

Cultural Heritage Consultant
Tsukuba, Ibaraki, Japan

SEAIP 2016, December 7

Next Generation Museums

- Working at the intersection of technology, art, and education
- Leveraging technology that benefits both museum administration and visitors
- Data driven effort
 - Digitized collections with new means to reach the public

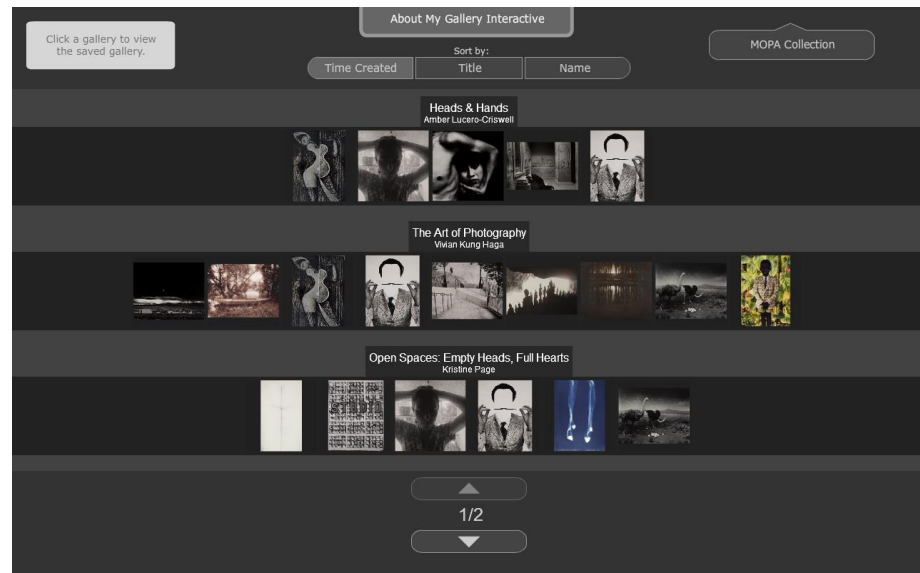
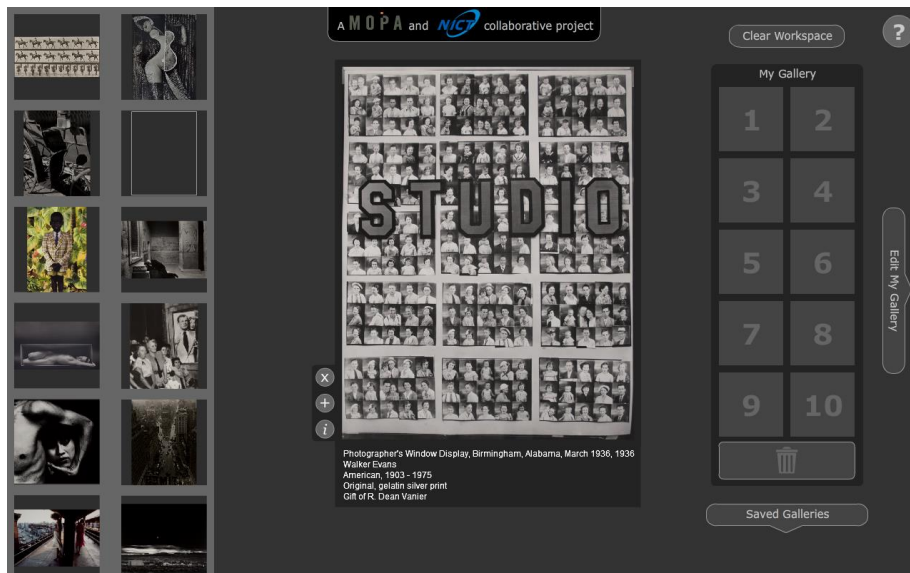
Museums of the Future

- Interactive technologies
 - Accessing data on devices is a new frontier for museums
 - Challenging to deploy in public/non-IT environments
 - Complicated interfaces are not engaging
- User engagement
 - Data access and use, especially for society
 - Learning with technology
 - Appeal to younger generation of visitors

My Gallery 対話型 (Interactive)

2012 Gold
MUSE Student
Award, Amer.
Assoc. of
Museums

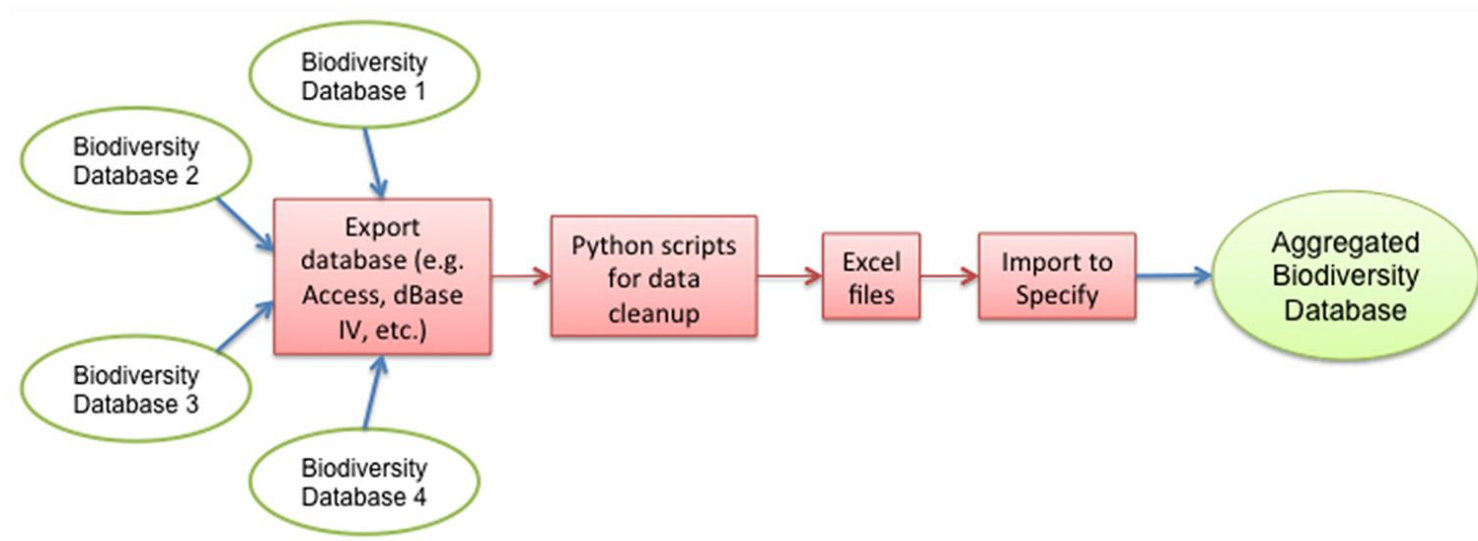
- Multi-touch photography display with 50 photographs from Museum of Photographic Arts in San Diego
- Allow users to create a personal collection, viewable by others on an integrated tiled wall display
- Multi-lingual keyboards (English, Hiragana, and Katakana)
- Knowledge Capital Trial 2011 Exhibition, Osaka





Biodiversity Data Collections

- San Diego Natural History Museum has multiple collections of taxonomy, each stored in its own database
- Aggregated and unified biodiversity data (over 800,000 records) into a standardized database for user interfaces and visualization tools
- Used Specify 6.5 (University of Kansas) as a centralized database.
 - Simple web portal to allow public access to data

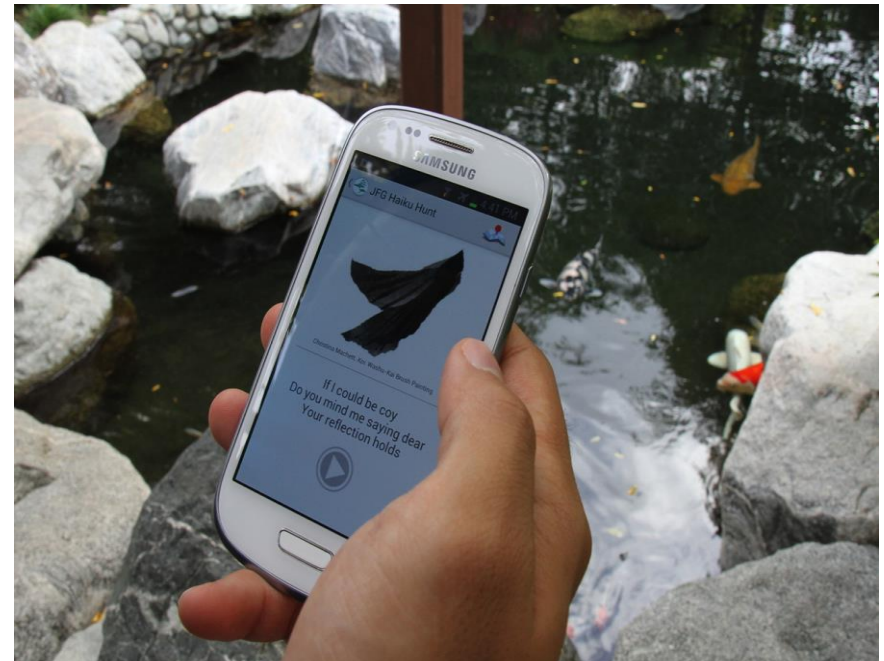


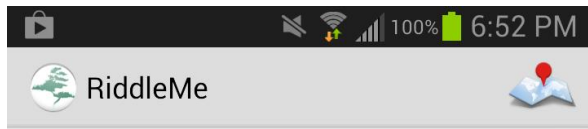
Japanese Friendship Garden

Haiku Hunt

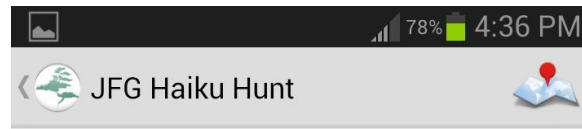
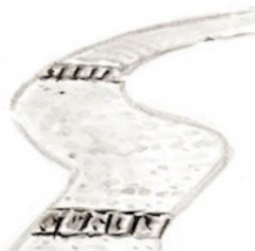
2014 Gold
MUSE Student
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Museums

- Used solar location-based technologies (IoT) to provide additional metadata to users
- Visitors explored an outdoor garden through a riddle-based Android mobile app game





Tap an image to begin

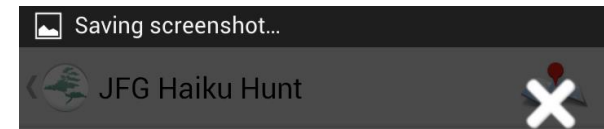


Christina Machett, *Koi*, Washu-Kai Brush Painting

If I could be coy
Do you mind me saying dear
Your reflection holds



You solved it!
Tap on the button for more info



Koi Pond



If I could be coy
Do you mind me saying dear
Your reflection holds

Did you know that in Japan, koi is a homophone for another word that means affection or love. Koi, or nishikigoi are therefore symbols of love and friendship. They also represent longevity.



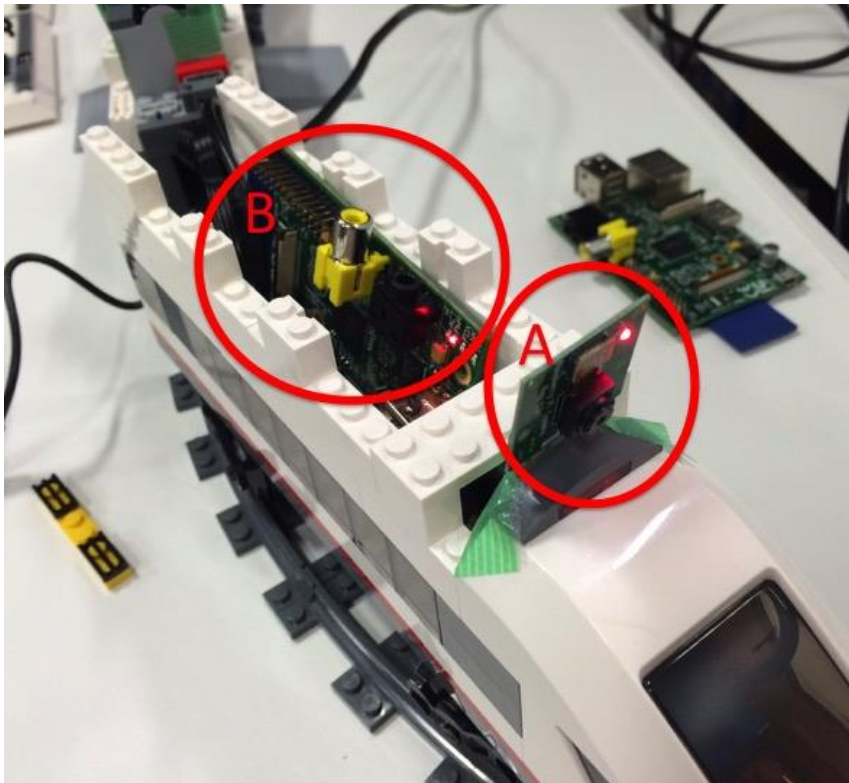
The oldest recorded koi from Japan lived to be 226 years old. Koi are not naturally vibrant and colorful. This is a result of generations of breeding.

Copied to clipboard

Like your dog or cat, our koi receive special care including vaccination shots and weekly check-ups by the Koi Club of San Diego

Interactive Museum Models with Embedded Systems

- Visitors can turn lights and sound on and off via mobile device
- Raspberry Pi to stream video from a moving train
- Knowledge Capital 2014, Lego Models of the Future, Osaka





Framework for Smart Museum Network

- Novel partnerships
 - IT researchers
 - Museum staff (curators, educators, administration)
 - Students
 - Industry
- Share resources and expertise
 - Technologies and infrastructure
 - Public collections
- Research questions
 - Data integration and access
 - Usability studies
 - Impact of technology on society
- Develop and deploy prototypes

Current Partners

- James Beach, University of Kansas
- Aimee Stewart, University of Kansas
- Tso-Chung Sung NMMST
- Jason Haga, AIST
- Jason Leigh, Univ. of Hawaii
- Vivian Kung Haga, Consultant
- Fang-Pang Lin, NCHC
- Shinji Shimojo, Osaka University

Developing Areas of Collaboration

- Meet with museum to learn organization's mission and goals, existing technologies, new technologies desired, etc.
- Create digital strategy
 - Align technologies with organization, collection, education, and audience goals
- Integrate databases (collection, membership, contact management)
- Create interactives to engage visitors
 - Web and mobile presence
 - Touch interfaces
 - Immersive experiences (virtual/augmented/mixed reality)
- IoT presence and deployment
 - Visitor and administration benefits
- Assist in entering technology projects for awards/visibility

Acknowledgements

UC San Diego

