INFORMATION TECHNOLOGY / HYBRID DESIGN TECHNOLOGIES

IDIA LAB

INSTITUTE FOR DIGITAL INTERMEDIA ARTS
BALL STATE UNIVERSITY
virtual reality + hybrid arts + simulation + human computer interface

2013.1 UPDATE

UPCOMING

NATIONAL ENDOWMENT FOR THE HUMANITIES

Presenting HDT / IDIA projects at the National Endowment for the Humanities: Advanced Topics in the Digital Humanities 2013 Summer Institute sponsored by the Center for Digital Initiatives at University of Arkansas. http://bit.ly/URt4p6 and http://bit.ly/REnoSV

STONEHENGE PROTOTYPE SIMULATION

Prototype Stonehenge simulation in Unity 3D – illustrating phases of construction and celestial alignments driven by NASA data. Permission by English Heritage for official laser-scanned 3D model of Stonehenge. Pursuing joint US /UK grant with a British academic partner.

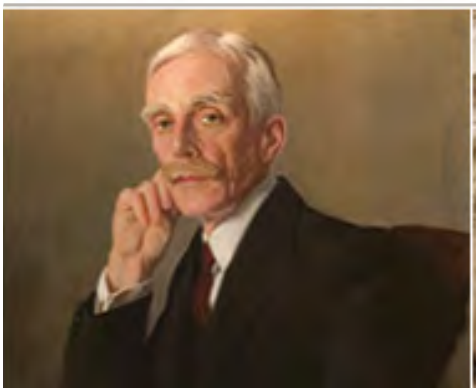
PRESENTING AT iED 2013, BOSTON

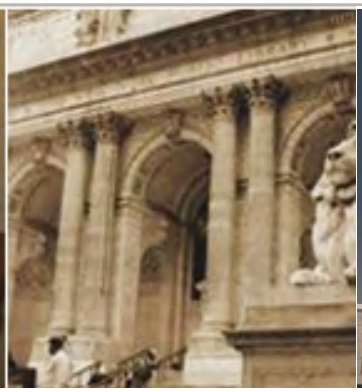
Presenting "Immersive Environments in Digital Humanities Teaching and Learning" at iED 2013: Immersive Education Initiative Conference in Boston, June 3-6. Survey of recent simulation projects by BSU's IDIA Lab in hybrid and virtual learning. http://bit.ly/XVmBjp

NEWS

Hybrid Design Technologies, through the Office of Information Technology is an evolutionary extension of the IDIA Lab's innovation in virtual and hybrid environments. This update includes overviews of our current activity including an invitational exhibition of several artworks at the Beijing Science and Technology Museum; a contract with the Mellon Foundation to develop an open-source virtual world platform for Digital Humanities research; an immersive simulation of the Roman Pantheon in CryEngine / Blue Mars; an interdisciplinary health care simulator for Nursing; and several initiatives in collaboration with Blackboard Learn and CourseSites.

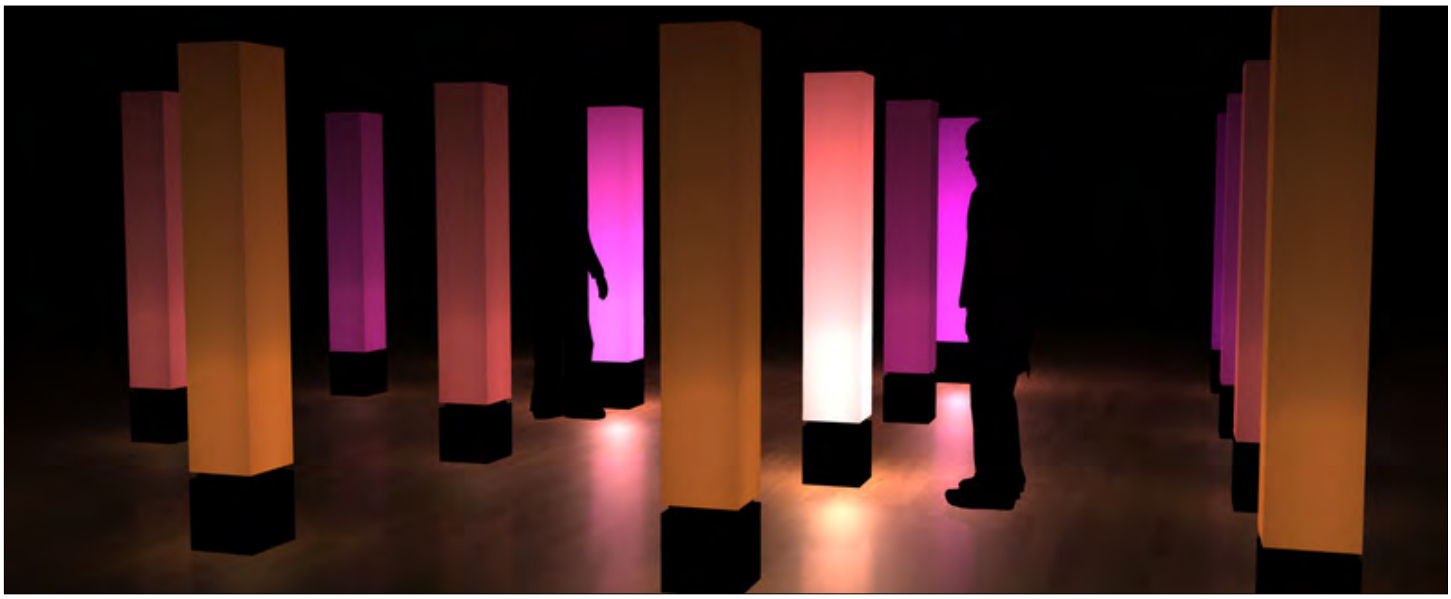
The Andrew W. Mellon Foundation





MELLON FOUNDATION HUMANITIES VIRTUAL WORLD CONSORTIUM

BSU's Hybrid Design Technology and IDIA Lab have been contracted by the Mellon Foundation to design and develop a major open-source virtual world initiative for Digital Humanities and Cultural Heritage projects. The Mellon Humanities Virtual World Consortium - comprised of Kings College, London; UCLA; the University of Virginia and Trinity College, Dublin - turned to the expertise of BSU's HDT to create this two-year innovative virtual simulation platform that leverages new modes of teaching and learning in immersive environments. A larger announcement and press release will be forthcoming.



3RD ART AND SCIENCE INTERNATIONAL EXHIBITION - BEIJING, CHINA

IDIA Lab's artwork was exhibited in November at the 3rd Art and Science International Exhibition and Symposium in Beijing, China. IDIA was invited by the curator to exhibit several of their virtual artworks and a large scale hybrid reality installation, *Displaced Resonance*.
BSU Press release: http://bit.ly/ChinaDisplaced

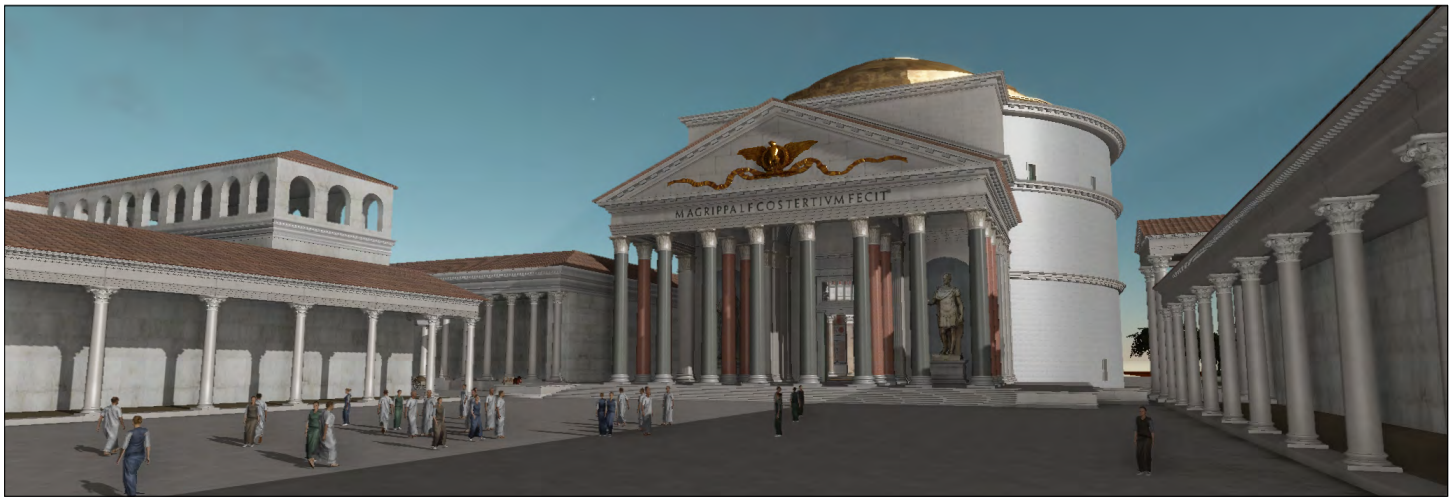
Displaced Resonance v2 is an interactive installation consisting of sixteen reactive forms that are networked in a grid of light and sound. Interaction within the sculptural field is based on a participant's presence and proximity to each sculpture. The *Displaced Resonance* installation is connected to a mirrored instance of the field in a virtual environment – bridging both physical and virtual visitors within a shared hybrid space. Visitors to the virtual space are represented by avatars and through their proximity, effect the light and sound of each sculpture. Each participant is aware of the other in each space - uniting both instances within a singular hybrid environment.

A computer system using a thermal camera tracks the movement of visitors and responds by controlling the distribution of sound and dynamic RGB data to the LED lights within the sculptural forms. The installation utilizes custom live-processing software to transform these sources through the participants' interaction – displacing the interaction from both their physical contexts to the processed framework of virtual resonances. The two environments are linked via a custom server to send and receive active responses from both sides of the installation via messaging, sensors, hardware and scripting.

John Fillwalk with Michael Pounds, David Rodriguez, Neil Zehr, Chris Harrison, Blake Boucher, Matthew Wolak, and Jesse Allison.
Third Art and Science International Exhibition
China Science and Technology Museum in Beijing
http://bit.ly/Cmuseum

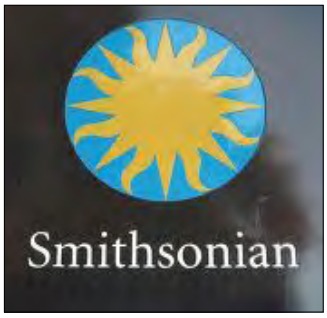
"DESIGNING THE UNBUNDLING OF COURSES"

A joint presentation on March 21st, 2013 to the American Association of Colleges of Nursing by President, Jo Ann Gora; Vice-President of Information Technology, Phil Repp; Linda Sweigart, Nursing and IDIA Lab Director, John Fillwalk. This presentation examined how universities, like Ball State University, use emerging technologies to enrich and expand the utility of course materials at scale by leveraging the inherent production flexibility of digital tools. The advantages of digital technologies when designing virtual participation, collaboration, and interaction were discussed, as well as the pedagogical uses of un-assembling and re-assembling diverse sets of course materials.
http://bit.ly/unbundlingcourses



VIRTUAL ROMAN PANTHEON IN BLUE MARS / CRYENGINE

IDIA Lab is developing a simulation of the Roman Pantheon within the virtual world of Blue Mars. This immersive simulation will allow visitors to visit the Pantheon as interpreted in 320 AD - learning about the history and specific solar alignments of this structure. The Pantheon is the best-preserved example of Roman architecture and has the largest unreinforced concrete dome in the world. Visitors can wear a toga or stola and interact with numerous non-player characters in the busy Roman streets. The dates represented in the solar alignments were identified in consultation with Dr. Robert Hannah of New Zealand, one of the world's foremost scholars on Pantheon solar alignments, and archaeologist Dr. Bernard Frischer, UVA. The project will premiere in May 2013 and will include a new solar simulation software using NASA/JPL data, an interactive heads-up-display and a new Non-Player Character boid-based system developed in partnership between IDIA Lab and Avatar Reality.

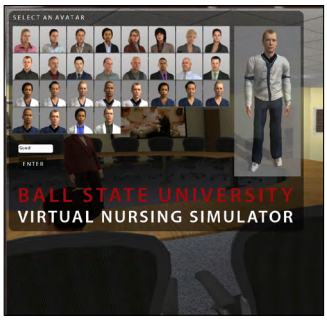


SMITHSONIAN AND NATIONAL PARK SERVICE PRESENTATIONS

Vice-President of Information Technology, Phil Repp and IDIA Lab Director, John Fillwalk traveled to Washington, D.C. to present Ball State initiatives in electronic field trips, virtual worlds and hybrid design projects to several federal agencies. Meetings included a presentation at the Smithsonian Institution Building on the National Mall to representatives from all the Smithsonian Museums and Institutes as well as a separate presentation to the National Park Service. Conversations are ongoing regarding partnership and collaboration opportunities.

VIRTUAL WORLDS AND BLACKBOARD LEARN PROJECT

BSU's IDIA Lab is working on several joint projects with Blackboard Learn – including the integration of an embedded multi-user virtual world directly into a Blackboard Learn course as well as a new update for Blackboard Learn Version 9 of our open source Blackboard Learn Virtual World Building Block project – compatible with both Open Simulator and Second Life. The projects will launch publicly in June 2013. Discussions are also underway with CourseSites by Blackboard. Director John Fillwalk was invited to conduct a webinar as well as a presentation at Blackboard World.



VIRTUAL NURSING SIMULATOR

IDIA Lab has developed a Virtual Simulator for use by the Ball State University School of Nursing. Students interview via role-playing using avatars with predefined health histories. This simulator introduces our new rich-media tools for interdisciplinary immersion - providing a context for student nurses to role-play scenarios alongside doctors, administrators and other professionals. Desktop, web and tablet versions are in development. http://bit.ly/ZXL7M5

VSMM 2012

Presented at the 18th International Conference on Virtual Systems and Multi-Media in Milan, Italy. VSMM is the premier forum for research on 3D acquisition, multimedia visualization, interaction technologies and their applications. Paper publication with Bernard Frischer through IEEE http://bit.ly/bsuvsmm2012.

BLUR CONFERENCE

John Fillwalk keynoted at the Blur Conference on human computer interaction in Denver, CO. The keynote showcased our work in hybrid worlds, simulation and new modes of input for digital interactions. http://idialab.org/idia-lab-presents-at-blur-conference/

ELSEVIER EDITORIAL BOARD

The Editor-in-Chief of Elsevier Publishing invited IDIA Director, John Fillwalk to join the Editorial Board of the *Digital Applications in Archaeology and Cultural Heritage Journal* - an international scholarly archive of interactive 3D models of ancient art, buildings and artifacts.

KHAN ACADEMY

Khan Academy featured HDT / IDIA Lab and Virtual World Heritage Laboratories Digital Hadrian's Villa Project. http://bit.ly/HadrianKhan - a walkthrough with archeologist and HDT research fellow Dr. Bernard Frischer. Hosted by Beth Harris, Dean of Art and History at Khan Academy.

TWEETS

- Virtual presentation of BSU HDT blended learning simulations to Department of Education with Dr. Bernard Frischer, UVA.
- John Fillwalk was presented the "Difference Maker of the Month Award" from the Ball State Credit Union in partnership with WLBC 104.1 FM.
- Broad Art Museum opened to 6000 visitors at MSU. IDIA Lab / HDT commissioned to develop virtual museum environment and artwork (VBAM).
- IDIA Lab has been showcasing recent works at the Muncie Arts Walk First Thursday events.
- Solar alignment simulation of the Mayan site Izapa - birth place of the Mayan Long Count. http://bit.ly/IDIAsolar
- IDIA Lab has developed a mobile application to control the color and intensity of lighting devices directly from an Apple or Android phone or tablet - for use in museums and public artworks.
- HDT / IDIA Lab now beta testers for Unity 3D for Windows RT Surface and Phone
- *Sparks of Genius: Connecting Art& Science* @ BSU Museum of Art. Robert Root-Bernstein http://t.co/HHgXONTZO2

About HDT and IDIA

Hybrid Design Technologies and the Institute for Digital Intermedia Arts engage artists, scholars, designers, educators, scientists, and technicians in the exploration of the intersections between the arts, science and technology. Scholarly, creative and pedagogical projects investigate virtual reality, HCI, visualization and 3D simulation. The labs develop projects in partnership with international client staff and students in this studio initiative investigating the forefront of discourse in emergent media design and learning.

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