

IDIA LAB

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

2015.2 UPDATE

UPCOMING

MELLON FOUNDATION VIRTUAL WORLD

BSU IDIA Lab developing Open Source Unity 3D based virtual world MMO platform for Mellon Foundation Virtual World Humanities Consortium. BSU collaborating with Kings College, Trinity College, University of Virginia, Indiana University, and UCLA.

VIRTUAL PATIENT SIMULATOR

IDIA Lab has designed a simulator where health care professionals and students can interview a virtual patient via artificial intelligence. Patient data can be dynamically added and assessed by the facilitator. This technology can be customized for any discipline.

NUTRITION AND DIETETICS SIMULATION

The Academy of Nutrition and Dietetics has contracted with IDIA Lab to develop a virtual scenario-based training simulator. The simulation will provide instruction to a national audience of students via playable characters engaged in interactive dialogue and assessment.

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 newsletter includes updates on current IDIA Lab projects including the launch of our Virtual Companion iOS augmented reality app; the development of the Virtual Buffalo Bill Wild West Show for the Cody Center of the West Museum in Cody, WY; a collaborative community celebration of the Muncie Sesquicentennial using digital media; our Wonders of Oz app on Google Play and Apple Store and an Android game for at-risk international youth.



Screenshot from the Virtual Buffalo Bill's Wild West. IDIA Lab, Ball State University. 2015



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BUFFALO BILL'S WILD WEST GETS A VIRTUAL MAKEOVER

Cowboys and Indians captivated the country when Buffalo Bill's Wild West rolled through America in the late 1800s and early 1900s. More than a century later, Ball State digital artists have re-created the legendary showman's outdoor exhibition. Working with staff from the Buffalo Bill Center of the West, artists and designers from Ball State's Institute for Digital Intermedia Arts (IDIA) have crafted a computer-generated world that authentically simulates the Wild West show dramatizing frontier life. "The visual look and feel of the project is something we're really proud of," said John Fillwalk, IDIA director and senior director of the university's Hybrid Design Technologies initiative.

Fillwalk collaborated on the project with Jeremy Johnston, curator of the center's Buffalo Bill Museum, and Ball State historians James Connolly and Douglas Seefeldt. As a senior digital editor of the Papers of William F. Cody, Seefeldt has worked closely with Johnston on several projects the National Endowment for the Humanities recently recognized as among the most significant it funded. "When Doug introduced me to John, I was excited because all we had to visually represent the Wild West show at the Buffalo Bill Museum was this small architectural diorama," said Johnston, who is also managing editor of the Papers of William F. Cody. "It gave our visitors an aerial overview of the show but lacked action. "What the IDIA captured for us is the look and feel of the experience, right down to the sound effects of horses and the stage coach running through the arena."

Buffalo Bill's Muncie visit

The Virtual Buffalo Bill project offered a crossover research opportunity for Connolly, director of Ball State's Center for Middletown Studies. The center is developing Virtual Middletown, a 3-D visualization of industrializing early 20th-century Muncie, and the Buffalo Bill simulation offered an opportunity to produce a module as part of that endeavor. Connolly and Seefeldt provided Fillwalk with photographs and newspaper accounts of Buffalo Bill's 1899 stop in Muncie. "He personified the Wild West for audiences in these small towns," Connolly said. Connolly's and Seefeldt's research, along with assets provided by the Buffalo Bill Center, allowed Fillwalk and his artists to create beautifully rendered graphics based on data and research, hallmarks that have distinguished IDIA's work in emergent media design.

"The attack on the Deadwood Stage Coach is simulated down to representing John Y. Nelson, one of America's original Mountain Men driving the coach," Fillwalk explained. "And Cody himself—along with his wardrobe—was painstakingly researched and re-created. His appearance was based on specific clothing of Cody's in the museum collection that we were allowed to photograph." Seefeldt said Fillwalk's re-creations uniquely capture William F. "Buffalo Bill" Cody. "His show had it all—buffalo, the Pony Express, Annie Oakley, re-enactments of iconic events in the history of the West. He was one of the most famous people in the country, a celebrity of that era, and it's a thrill to see the way John has brought him back to life."

Ball State-Center of the West partnership (continues)

Located in Cody, Wyoming, the Buffalo Bill Center of the West includes the Buffalo Bill, Draper Natural History, Whitney Western Art, Plains Indian and Cody Firearms museums, along with the McCracken Research Library. The IDIA Lab's next project for the center will be a series of augmented reality apps featuring objects in each museum's collection. By holding electronic devices over images like a grizzly bear or gun, users can learn more about them as 3-D models of the subjects pop up on screen. "By using their phones or tablets, visitors can see museum exhibits come to life," Fillwalk said. "All of our work is meant to give visitors a greater appreciation for these assets with the aid of our digital interpretations."

Johnston said what he likes best about Fillwalk's approach is the way "he puts technology in the users' hands."

"I've seen so many younger people walking through our museums with their heads down, glued to their iPhones and iPads. With John's help, I'm excited that we're taking something they're so familiar with and using it in a way to get them to engage with our exhibits here."

Funding for the Virtual Buffalo Bill project was provided by a grant from the Buffalo Bill Center for the West, which was matched by internal grant funding from Ball State.

By Gail Werner, Media Strategist

<http://cms.bsu.edu/news/articles/2015/10/ball-state-gives-buffalo-bills-wild-west-a-virtual-makeover>

<http://idialab.org/buffalo-bills-wild-west-gets-a-virtual-makeover/>



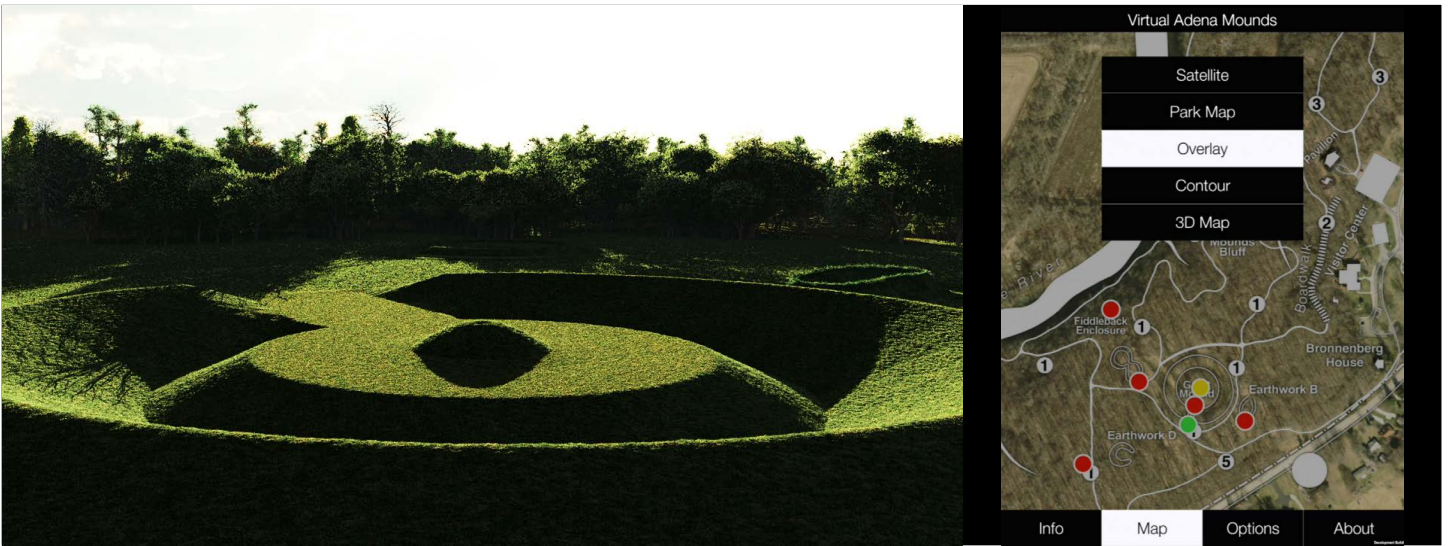
Muncie Sesquicentennial. IDIA Lab, Ball State University. 2015. Paws, LLC. Parks and Recreation, NBC.

HISTORY OF MUNCIE GETS GARFIELD TREATMENT FOR SESQUICENTENNIAL

MUNCIE, Ind. — Ball State University's IDIA Lab in partnership with Paws, Inc. has created a special digital art event in honor of Muncie's sesquicentennial celebration. The multimedia event took place during Muncie's ArtsWalk at 8 p.m., Oct. 1st at the corner of East Charles and South Walnut streets in downtown Muncie. Jim Davis' Garfield virtually hosted the event, which featured historical imagery and clips of Muncie mentions in pop culture. "We wanted to create something fun and tongue-in-cheek, but also positive and optimistic about the city's future," said John Fillwalk, director of IDIA and senior director of the university's Hybrid Design Technologies initiative.

"We were able to get a sneak peek at the community collaboration piece and I think ArtsWalk guests are in for a real treat," said Cherly Crowder, events coordinator for DWNTWN, the city's downtown development campaign. "John and his team are so creative, and their ability to take an idea from conception to completion has been awesome." Other community partner for the digital art event include the Delaware County History Society, Muncie Arts and Culture Council, Center for Middletown Studies and Ball State University Libraries. After the ArtsWalk premiere, Fillwalk said the piece will be made available to the public. "We consider it a work of community art. The more people who can view it and promote it for us, the better."

<https://youtu.be/MCzjBdhh-tw>



LAUNCH OF VIRTUAL COMPANION iOS APP BY IDIA LAB

Mounds State Park. IDIA Lab, Ball State University. 2015

Visitors to the 1 p.m. program joined park naturalist Kelley Morgan to learn about modern technologies that help archaeologists and historians bring the past to life. During the second half, director John Fillwalk and animator Neil Zehr of the Institute for Digital Intermedia Arts Laboratory at Ball State University demonstrated how they use archaeological data to interpret the past to the public.

BSU's IDIA Lab is premiering Virtual Companion – their custom augmented reality app employing LocusEngine, a geolocate process developed by IDIA Lab. Visitors to the park use the app to aid in learning and discovery while exploring the park's Adena-Hopewell mounds. Using GPS data, the user's position is geolocated in reference to the historical sites, allowing the app to display relevant content as a dynamic guide. This approach can be applied in cultural heritage, archeology, the sciences and the arts.

Interactive features, as well as the user's current location in the park, are marked on a series of map options designed to provide multiple layers of locative information throughout the park. A GPS-driven trail map is available, allowing the user to track their movement through the trails and important features. When an interactive feature is selected on the map, an augmented reality view using gyroscope and compass data is loaded, portraying native people's and habitats from the Adena-Hopewell era. Archaeologists have proposed that the enclosures were used to track celestial alignments. Using solar data from NASA's JPL Horizons database, the movements of the sun on the equinoxes and solstices during the Adena-Hopewell era can be viewed and tracked to search for important alignments. Download the app here: http://bit.ly/VC_Mounds



WONDERS OF OZ: iOS AND ANDROID APP

Wonders of Oz. IDIA Lab, Ball State University. 2015

Wonders of Oz is an augmented reality application that provides users an enhanced 3D experience with the film, The Wizard of Oz. This demo app can be triggered during film (or anywhere, anytime) to deliver animated content and sound to augment the screening and share events with a live audience. Flying monkeys, the witch on her burning broom, lollipops, the hot air balloon, Dorothy's falling house, cows, chickens, rowboats, bicycles, rainbows and the wizard all appear with the press of a button! The original version contained more 3D content and was designed to work on a timer so the audience could share in the digital performers appearing on cue! This app can be adapted for any event, live theater, film concerts, art and cultural heritage events, etc. Google Play: <http://bit.ly/1RRbNds> iOS: <http://apple.co/1SmwI7Z>



CULTURAL HERITAGE AND NEW TECHNOLOGIES 2015: VIENNA, AUSTRIA

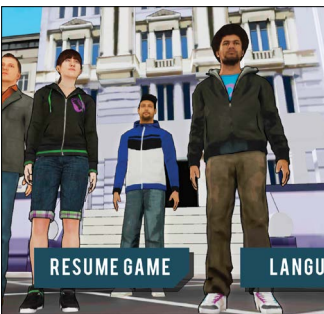
IDIA presented a paper at CHNT 2015 Conference in Vienna, Austria November 2-4, Combining Stellarium with a Terrestrial Model of an Ancient Space: Solar Alignments of the Monte Citorio Obelisk and Ara Pacis by Bernard FRISCHER and John FILLWALK, USA. Also presented for their CHNT Video Award was IDIA Lab's Simulation and Visualization in Cultural Heritage showcasing recent virtual heritage projects produced by our Lab.

Video: <https://youtu.be/ycVcAxAZB8g>



MUNCIE MUSIC FEST

For its ninth year, some of the best homegrown local and regional talent came together for one epic day of live music called Muncie MusicFest. BSU IDIA Lab sponsored and organized one of the stages. On Saturday, October 10th from 5pm to 10pm, the festival packed all three floors of the beautiful Cornerstone Center for the Arts with six all-ages stages and over 30 bands. The best part? All of the concerts at all participating locations were absolutely FREE to attend, presented as a gift to the community.



HERO'S HORIZON GAME

BSU's IDIA Lab developed a mobile game on the Android platform for deployment to over 10,000 international students: teaching life-skills to at-risk youth. The project was designed for Creative Associates International, an international NGO providing social services, educational systems, while transitioning communities from conflict to peace. HERO'S HORIZONS is free to play - the graphic novel serious game and subsequent e-modules are available in both Spanish and English. Download the game here: <http://bit.ly/1QktiVN>

TWEETS

- IDIA Lab celestial research cited in the Cambridge Archaeological Journal, Cosmivision in New World Ritual Landscapes, an Introduction by Anne Dowd
- IDIA Lab is developing a new playable Virtual Violin 2.0 - a human computer interface instrument - 3D printed with custom electronics and software!
- IDIA Lab has been creating spherical full dome masters for planetarium experiences. First projects are based our History Channel work with Stonehenge and Roman Solar Alignments - more to come!
- IDIA is pleased to announce REDgrid – a 3D virtual campus to support the educational mission of faculty, staff and students. Ball State community members can use it for free as a virtual gathering space including classroom instruction, small group meetings, presentations, panel discussions, or performances.
- The lab is developing an interactive simulation for Team-STEPPS®, an Federal evidence-based teamwork system aimed at optimizing patient care by improving communication and teamwork skills among health care professionals <http://1.usa.gov/1MEhVFD>

About HDT and IDIA

Hybrid Design Technologies and the Institute for Digital Intermedia Arts at Ball State University engage designers and scholars in exploring the intersections between the arts, science and technology. This interdisciplinary new media initiative investigates virtual reality, human computer interaction, visualization and 3D simulation. The labs develop projects in partnership with our international clients – connecting students to high-profile immersive investigations at the forefront of emergent media design and learning.

