## BALL STATE UNIVERSITY: COLLEGE OF ARCHITECTURE AND PLANNING



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Christopher Harrison interacts the Roccabruna model from Hadrian's Villa, an IDIA Lab project for the Virtual World Heritage Laboratory.

### **New Virtual Reality Helmet**

CAP is pleased to announce the arrival of a new technology: the **Virtual Reality Helmet.** Imagine what you could learn by being able to walk into your digital model and interact with your designed spaces. Using digital models and some special software, the VR Helmet allows you and your clients to enter the model and explore it.

The VR Helmet makes this type of exploration possible through the use of special equipment and cameras. The program monitors movements of the user and reads 3D modeling software and creates a dialog between the users actions and various data points in the program. The video feed is then sent to the helmet, allowing the wearer to feel like he or she is directly in the model. Similar technology can also be found in Flight Simulations, Drivers Education, and even Video Games. It is also being used to document landscapes, historic buildings, and even archaeological sites.

Second-year, M.Arch Graduate Student, **Christopher Harrison** is using this technology in his thesis topic. Chris graduated from Ball State in 2010 with a B.Arch degree and has an assistantship through the Institute of Digital Intermedia Arts (IDIA). He is investigating different ways to explore "the next big thing in showing clients the design." This technology is far easier to read than floor plans and technical drawings. For his thesis, Chris is designing a space and loading it across three separate interfaces to see which medium is more effective in demonstrations. For a video demonstration he will be using a green screen and digitally entering the model, similar to special effects seen in the movies. The second interface is a computer game design where the client will be able to control an avatar and interact with the 2D space. The third interface will use the VR Helmet. Chris is documenting the advantages and disadvantages for each medium. He praises the VR Helmet, but admits the Vertigo of flying over his virtual model is still difficult to manage.







Various groups using the Heliodon. Images courtesy of CERES.

#### Helio...What?!

We all know CAP is fortunate enough to have a **heliodon** over in the basement of **CERES**, but how much do you actually know about the facilities? Lets shed some light on the situation... pun intended.

A Heliodon is a device that simulates sunlight and shadow patterns at various times across the surface of the Earth. Scaled physical models can be placed on the Heliodon in order to study light and shadow patterns experienced by full scale buildings. The heliodon can indicate daily light conditions, solar and thermal loads, and the effect building geometry and materials can have on these conditions. CAP is home to a Ring Heliodon and a Platform Heliodon. Both types have very specific uses and data associated with each technology. The staff at CERES can help determine which technology to use and can help collect the necessary data.

Check out the CERES website for hours, rules, and procedures as well as more technical information about light studies and what you need to do one on your own model. <a href="http://cms.bsu.edu/Academics/CentersandInstitutes/CERES/">http://cms.bsu.edu/Academics/CentersandInstitutes/CERES/</a> Heliodon/StaticHeliodon.aspx







## Muncie Children's Museum's Tot Spot grand opening:

**Pamela Harwood** created and led design-build studios in order to redesign the **Tot Spot**, a play area inside of the Muncie Children's Museum. The project began in 2009 with Professor Harwood leading two students in redeveloping an existing 1000 square foot space inside the museum. This play area would promote imagination, learning, and development of skills. Students in the subsequent studios created small and large scale mock-ups that were presented to Museum personnel and tested by children. Once the design was approved, the studios created and installed the final versions. The area was broken up into several activity zones, each using different skills and themes.

"The Giving Tree" helps develop climbing and motor skills. "The Crawl-Through Caterpillar" hosts block play while creatively hiding storage areas, seating, and crawling/exploration space "The Tugboat" promotes creative art by giving children blackboards and interactive surfaces with which to explore. "Hot Air Balloon" is host to the reading area. The

"Dramatic Play Tower" becomes a castle tower that serves as an area for role-playing and dress up activities. Finally, "Funcie Farms" offers a child an area to learn about seasonal crops and plants in Muncie.

Pam Harwood says: "For me as an educator, this has been a wonderful, collaborative, immersive learning activity, but I must acknowledge that the most rewarding aspect of this experience has been seeing students *giving back to the community* in a service-learning studio – to experience the children and their caregivers, grandparents, and parents enjoy the activity areas, settings, and components of the Tot Spot that we have collectively designed and built. This truly is immeasurable!!" The Tot Spot opened November 11, 2011. (Photographs courtesy of Pam Harwood)

See the complete project and process at: <a href="http://www.munciemuseum.com/gallery/">http://www.munciemuseum.com/gallery/</a> and <a href="http://www.munciemuseum.com/gallery/">http://www.munciemuseum.co





#### **CAP Faculty Member Designs for Baghdad Learning Center**

Cynthia Brubaker, an instructor in the Masters in Historic Preservation program, is helping establish and design the English Language Institute (ELI) in Baghdad. The design team, consisting of Iraqi engineers and Brubaker, is redeveloping a former U.S. military facility in order to establish an the English institute. This school is intended to prepare Iraqi scholarship recipients who will be traveling to the United States. The students will study a variety of subjects and return to Iraq to help rebuild the country. The 18-month grant project is expected to increase the number of Iraqi students in the United States by 300 percent.

Ball State University received a \$1 million grant from the U.S. State Department for the development of this project. The ELI will be in a military complex on the grounds of the Prime Minister's residence, adjacent to a former Saddam Hussein villa that currently houses the scholarship program for Iraqi students. The design will rehabilitate the complex into 3 classroom buildings, an administrative building, a multipurpose building, and a café.

Professor Brubaker travelled to Iraq in September of 2011 to evaluate the site. From there, she coordinated with Mary Theresa Seig, Director of the Intensive English Institute here at Ball State University, and Iraqi engineers to design a program that would best use the spaces available. She translated Seig's desired programmatic needs for the engineers and worked with them to create a design that will incorporate contemporary best practices into the mid-century modern Baghdad buildings and systems.









Articles written by Brad Beaubien

## Working on an Indianapolis Project? CAP:IC can help.

Are you working on a studio, thesis, or creative project in Indianapolis? Or are you looking for a site for your project? The College's Indianapolis Center can help. From connecting you to ongoing initiatives and partnerships to providing high resolution aerial photography and geographic information system data CAP:IC is available to help. The Center is also available for use as a remote camp while working in Indy, and Center staff also routinely serve as advisors and jurists. Also when your project is complete, it can be added to the College's online portfolio of Indy-based work, <a href="www.nd20.org">www.nd20.org</a>, allowing you to share your work with the community and get your name out there! For any help and more information, contact CAP:IC Director Brad Beaubien at 317-822-6170 or <a href="mailto:brad@bsu.edu">brad@bsu.edu</a>.

#### **Emerson Heights Design Charrette**

In September the CAP Indianapolis Center facilitated a three day design charrette in the **Emerson Heights** neighborhood on the city's near Eastside. Two dozens students from every CAP program participated, led by faculty **Simon Bussiere** (landscape architecture), **Lohren Deeg** (urban planning), and **Bruce Race** (urban design). The neighborhood views itself at a crossroads, concerned by decay creeping in but inspired by revitalization in the adjacent Irvington neighborhood. The charrette challenged the neighborhood to look beyond the basics of housing preservation and code enforcement and approach building a complete neighborhood that competes for the middle-class families that have gradually been moving away. This includes preservation of the housing stock but also creation of a commercial heart, connections to nearby parks and greenways, embracing sustainable development, and an authentic identity.

#### **IndyReZone**

It's hard to believe that an AIA/CAP:IC design charrette for a neighborhood containing the greatest concentration of brownfields in Indianapolis was the impetus for a county-wide zoning code update, but that's exactly what has happened! After the **King Park** and **Martindale Brightwoood** neighborhoods were named one of five national pilots for the federal **Partnership for Sustainable Communities** following the **Sustainable Design Assessment Team** (SDAT) charrette of 2008, the City of Indianapolis was awarded a grant to update its outdated zoning code. The two-step process will explore district-based codes in three pilot neighborhoods as well as county-wide reform, with the goal of moving more towards a code that embraces more form-based and sustainable elements while allowing for more mixed use, transit-oriented, and pedestrian-friendly development (all of which is mostly illegal today). CAP:IC Director **Brad Beaubien** is serving on the core internal team managing the process. It will not be an easy endeavor but has the potential to transform the city more than anything since the city embraced regional government through UniGov in the late 1960s.





#### **CAP Holiday Dinner:**

Every semester, the College of Architecture and Planning treats the entire CAP community to a Holiday Dinner. Not only is this a way to say "Job Well Done!" to all the students, but it is a special event where the entire CAP community can come together. It takes a lot of volunteers to make this event happen, so we would like to thank everyone who helped make December's CAP Holiday dinner a success! Various student organizations helped set up, serve, and tear down. Thank you to representatives from: **ASHP, ASLA, AIAS, NOMAS, and SPA**. Several staff members also worked hard to help plan for the event including: **Melanie Smith, Judy Wand, Nina Davis, Tammy McCord, Chris Helms, Bart Amburn, Julie Kratzner, and Marilyn Davis.** Also, a very big "Thank You" goes out to all of CAP students, staff, and departments for working hard all year round to make CAP a great place to learn.



## **More CAP Updates on Website:**

Have you checked out the CAP website? Not only can you find answers to questions about your curriculum, you can receive up to date information about Assistantships, Scholarships, as well as see newsletters and departmental information. Visit <a href="https://www.bsu.edu/cap">www.bsu.edu/cap</a> and click on the Current Faculty and Students icons and see the CAP Calendar for more updates! Don't forget: Wednesday, April 4th is CAP's Faculty and Student Symposium. Updates can be found at <a href="http://cms.bsu.edu/Academics/CollegesandDepartments/CAP/NewsEvents/Symposia.aspx">http://cms.bsu.edu/Academics/CollegesandDepartments/CAP/NewsEvents/Symposia.aspx</a>. Also, join the CAP community on Facebook and Twitter for instant updates and reminders throughout the semester. And finally, CAP hopes everyone has a safe and happy Spring Break.



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