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Showcasing New Library Spaces

Mischo, William

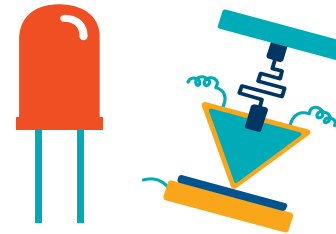
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Showcasing New Library Spaces II: The IDEA Lab at the Grainger Engineering Library Information Center

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University of Illinois at Urbana-Champaign Library

Designing Libraries for the 21st Century, 5th
September 19, 2016

UNIVERSITY LIBRARY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Vision

- Starts with campus focus on Design Learning and Collaborative Learning
- Innovation & entrepreneurship (Illinois innovations: web browser, PayPal, YouTube)
- Role of residential education – vis-à-vis MOOCS
- Support for digital scholarship = scholarly communications & knowledge creation
- Evolving role of Library & STEM-based digital scholarship

Design Learning

- Design Learning and Design Thinking

Chronicle of Higher Education 3/26/2015

Is 'Design Thinking the New Liberal Arts?



At Stanford's d.school, physical activities generate unexpected insights.

By **Peter N. Miller**

Campus Initiatives

- \$50 million Design Center to open in 2018



IDEA Lab focus

- Serve as node in the network of Design Learning facilities with Design Center as central hub
- Expansion of existing library services in design learning support
- Explore a less extensive remodeling and retrofit approach
- Integration of informatics and information retrieval with innovation and entrepreneurship

Planning and Implementation

- Driving interest by Dean of COE, University Library Dean
- Planning Committee: examining the role of the academic library and STEM libraries
- Visits to exemplar institutions
- Planning committee comprised of faculty in CS, ECE, Mechanical Engineering, Library, and COE administration
- Facilities and services focus

Grainger Engineering Library Information Center

- Opened 1994, 5 floors, 90K NASF
- College of Engineering at Illinois: 7.7K undergrads, 3.1K graduate students, 380 faculty
- 2016: remodeled 9,000 sq. ft. of space to create the Grainger Engineering Library IDEA (Innovation, Discovery, DDesign, and DAta) Laboratory.



**GRAINGER
ENGINEERING
LIBRARY** **IDEA LAB**

Innovation, Discovery, DDesign & DAta Laboratory

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IDEA Lab

- Working with early adaptor faculty/student groups on collaboration, innovation, entrepreneurship
- Demonstration and prototype site for exploring design learning, informatics, visualization, and data analytics
- Emphasis on visualization activities in the IDEA Lab
- Exploring role of node in design learning network

Collaboration with Innovation and Design Groups

- IDEA Lab staff are initially working with three College of Engineering groups:



SENIOR DESIGN program

top companies • real-world problems • outstanding faculty • brilliant students

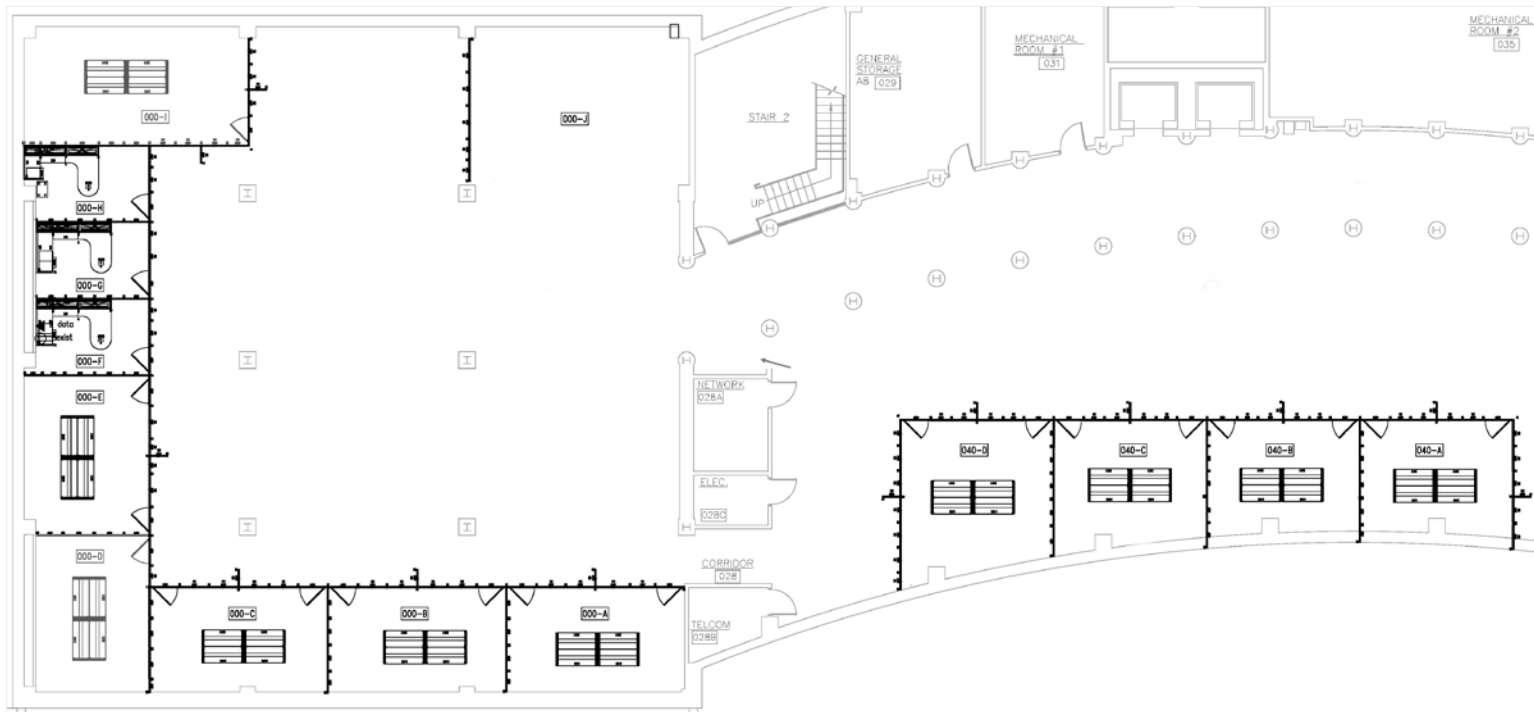


Department of Mechanical Science and Engineering



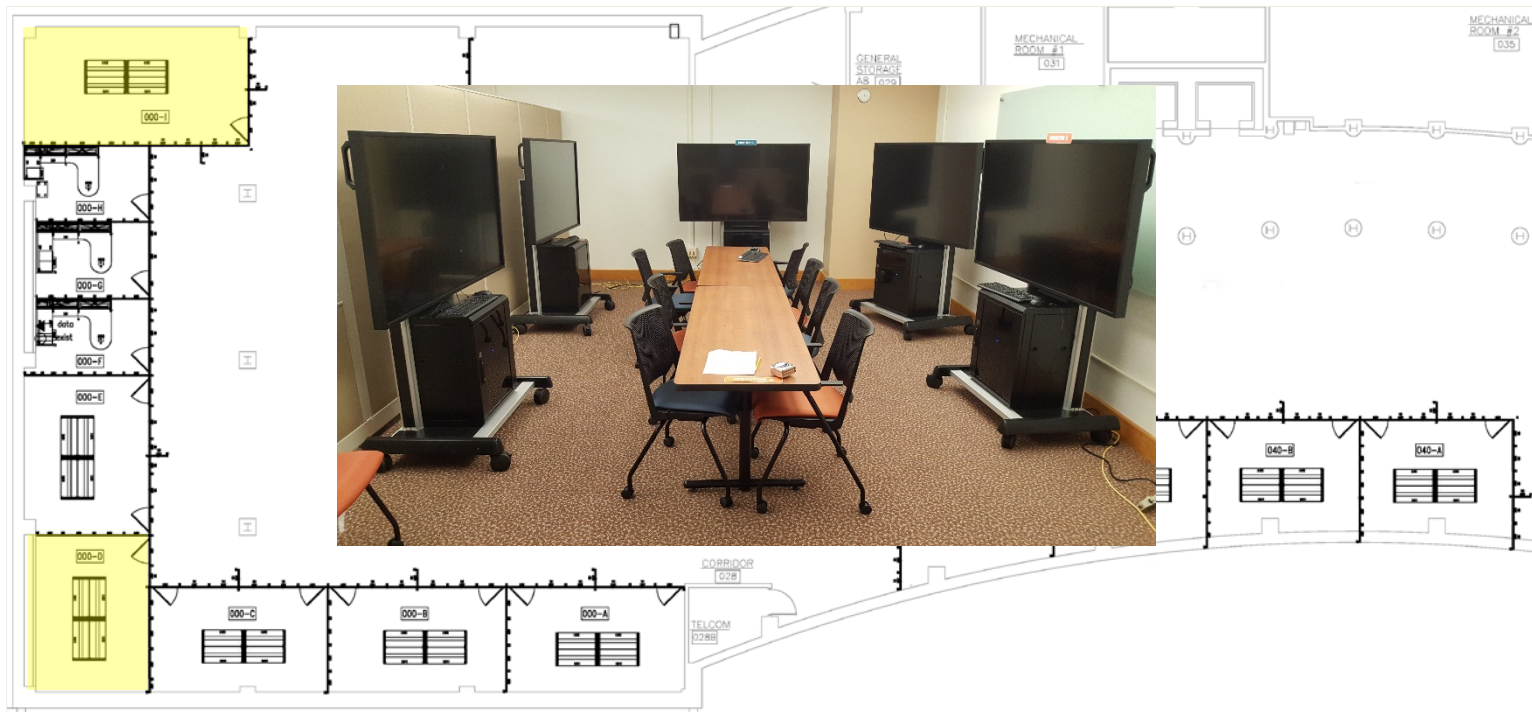
Space

- The primary space is approximately 9,000 square feet in the Grainger Engineering Library Lower Level. Includes Innovator Design rooms, Informatics Labs, a Visualization Wall, two Presentation areas, collaboration tables, and 3D printing. Additional space is in the LL East (IVenture Accelerator room) and 1st Floor.



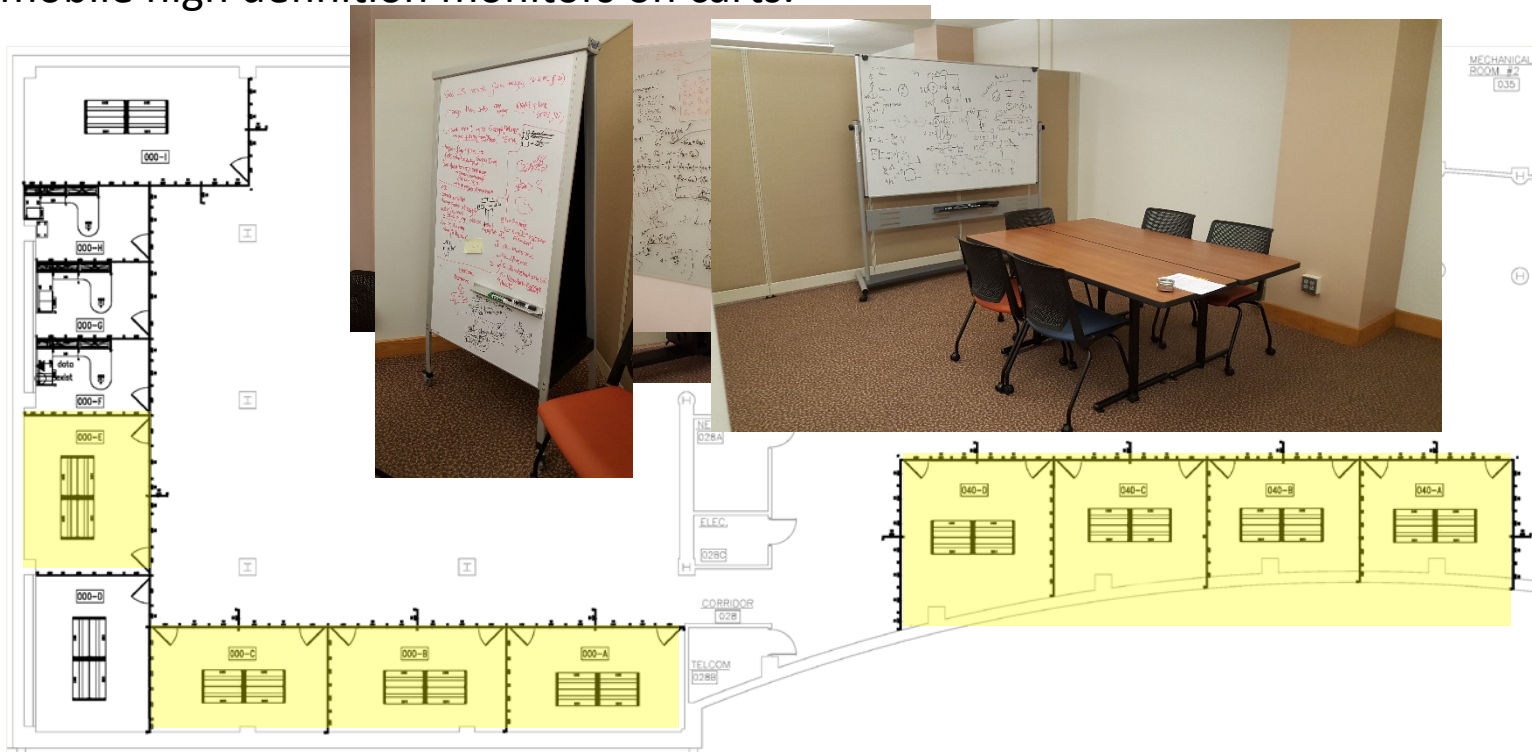
Equipment

- Two Informatics Laboratories with a total of 10 mobile touchscreen screen monitors (5 x 57" & 5 x 64") with attached workstations for work on information discovery and database technologies (such as the distributed Bento system).



Equipment

- Eight Innovator Design work rooms constructed with removable panel wall system and equipped with: glass writing surfaces, mobile whiteboards, and two 57" mobile high definition monitors on carts.

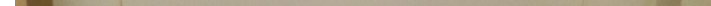


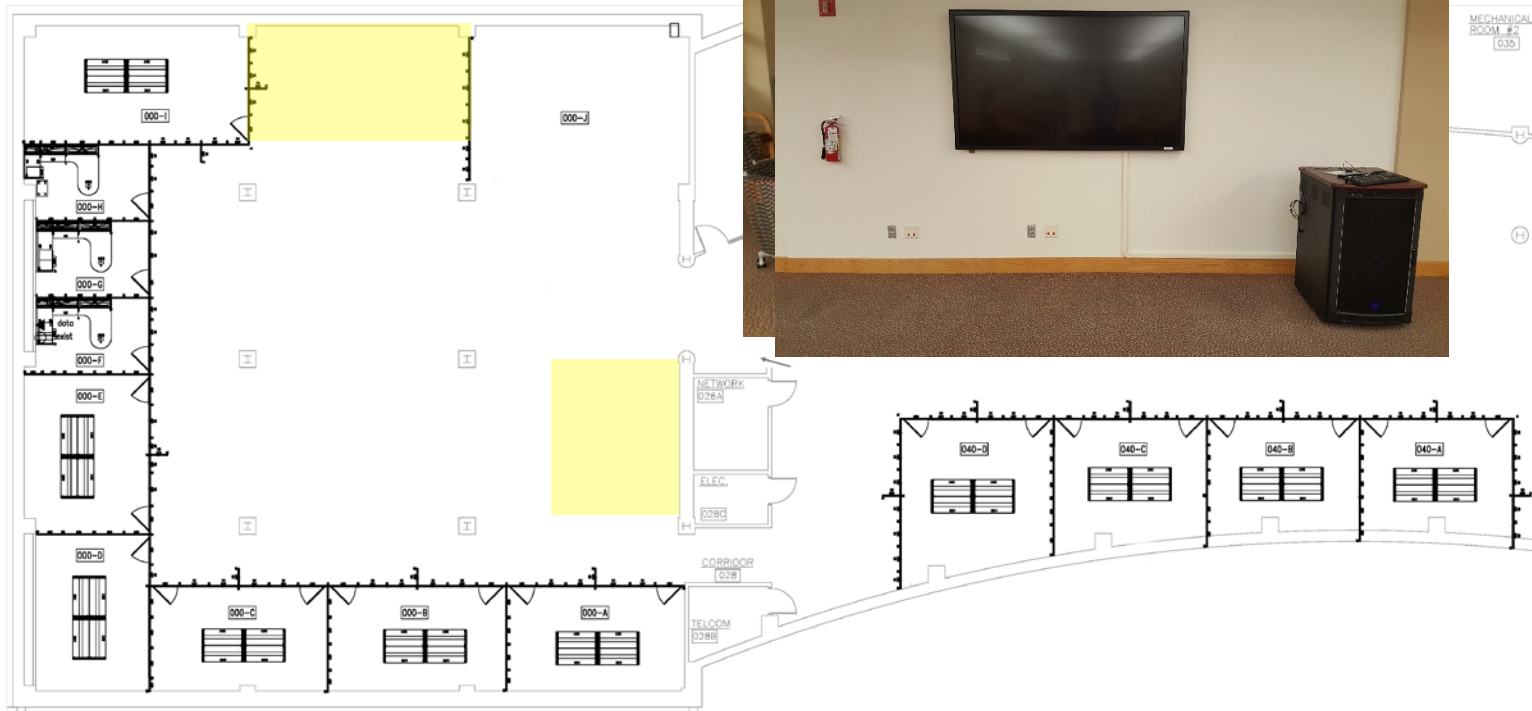
Equipment

- Eight 4' x 6 collaboration tables with attached 42" monitors, where up to 6 users can use Extron switch cables (4 HDMI; 2 VGA) for group project work.



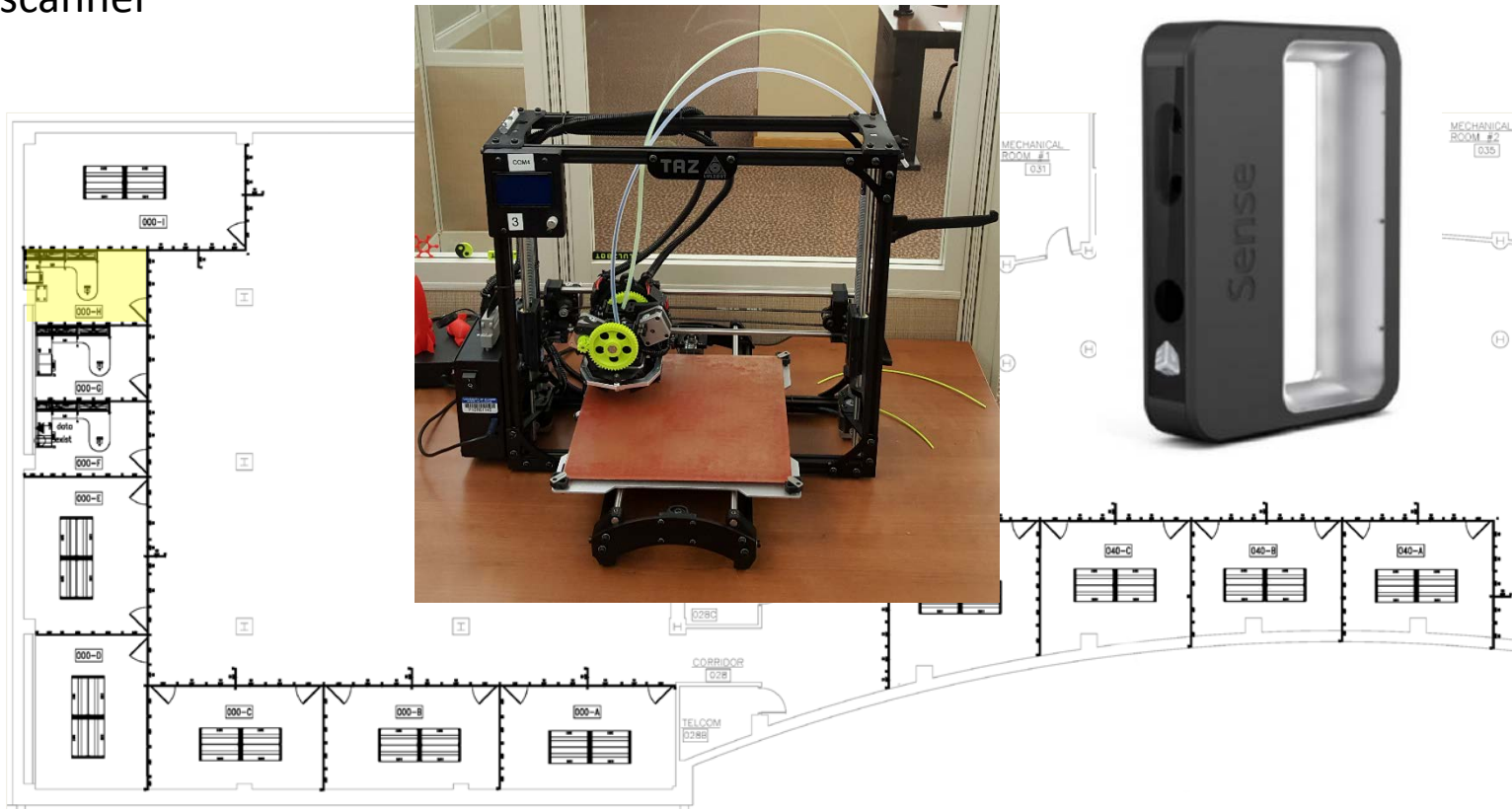
Equipment

- Two presentation spaces, north area with dual 84" monitors for student/faculty presentations; east area includes a single 84" touchscreen monitor for enhanced interactive presentations.
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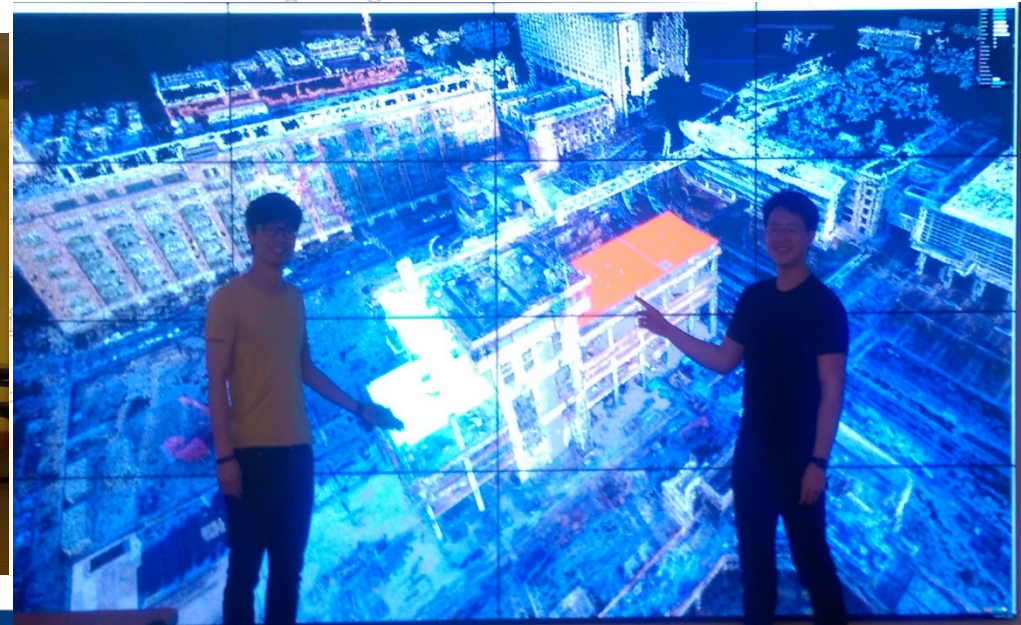
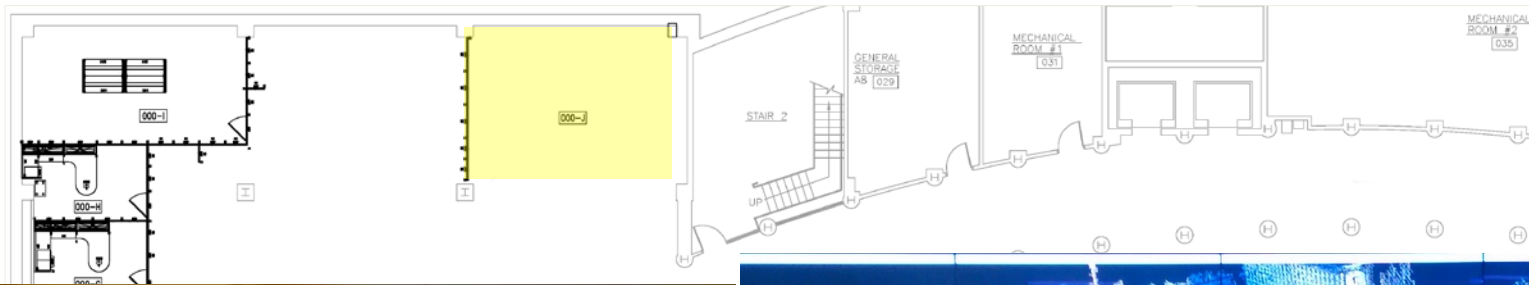
Equipment

- Three LulzBot TAZ 5 3D printers equipped with dual extruders and a Sense 3D scanner



Equipment

- A high resolution Visualization Wall that is 13.5 feet by 7.5 feet comprised of 16 46" monitors, with a total of 7,680 by 4,320 pixel resolution. Powered by a high-end Windows 10 workstation with NVIDIA Quadro 6000 video card.



Cost and Funding

- Funded by the Library, Grainger Engineering Library endowment funds, and the College of Engineering
- Total budget: \$700K
- Costs include Facility and Services wiring, lighting, and network costs
- Furniture costs (includes whiteboards)
- IT costs: Informatics labs (monitors, workstations), collaboration tables monitors on carts
- 84" presentation monitors wall-mounted with workstations
- Visualization wall 13.5' by 7.5', 33 million pixels

Next steps...

- Provide Virtual Reality and Augmented Reality environment
 - HTC VIVE
 - Oculus hardware/software
 - Microsoft HoloLens
- Repurpose 4th floor east as COE computer lab
 - 55 total machines
 - Virtual Reality Hardware
- IDEA Lab additions
 - 2nd Visualization Wall
 - Video Conferencing Room



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Grainger Engineering Library Information Center:
<http://search.grainger.illinois.edu/top/>