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A Chapter of the American
Institute of Architects

AIA Detroit Christopher Kelley Leadership Development Program 2017-2018 Cohort

Session 8: The Future of the Practice

Date: May 04, 2018

Venue: TechTown Detroit

Scholars: Stacey Brown & Kevin Parker

The focus of session #8 was focused on the future of the practice and how it is driven by sustainability and emerging technologies. The session was held at TechTown Detroit.

Presentation #1: The Future of Sustainability

The first presentation was focused on the way that sustainability will drive the future of the practice. Where is the future going? Sustainability is the future. Through preserving resources, we can advance environmental, financial and social responsibility.

The presentation was led by 5 panelists each with a different background in sustainable design and sustainable practices. The panelists included:

- Noah Link of Food Field
- Ernest Zachary and Diane Van Buren of Zachery and Associates
- Travis Sage of Stantec Architecture
- Nicole Berg from the UofM Office of Campus Sustainability

Each panelists spent a few minutes describing their background and how sustainability drives their work and their lives.





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Noah led the discussion by describing how low tech and low energy sustainable urban farming can be sustained by the community. His passion is in Herbiculture and bringing the natural systems back to the urban environment. His urban farm, Food Field, is a LLC that sells food within the city and to surrounding areas including local restaurants. He started a CSA with other farms to help with marketing and sales. His farm is also off the grid utilizing solar power and minimizing waste.

Ernest and Diane followed by sharing a story of how one of their first projects brought them to the belief that sustainable design is more than a good thing to do but a moral obligation that is necessary on any project. Their development practice utilizes sustainable practices for both historic renovation projects and new construction. Their practice is focused on doing the right thing first rather than just on making money, however they have found that long term cost savings validate the sustainable design.

Travis was the third panelist who shared his story of developing a sustainable process through the course of establishing his architectural career. As an architectural designer with a sustainable focus Travis has found that besides looking at sustainable systems, one of the key elements to a sustainable design is to reduce the square footage. Therefore his focus is on the programming phase of design. When architects focus on providing a service rather than a product they can advise their clients to build less: the less square footage built, the less resources used, the less waste.

Last Nicole from the University of Michigan presented how her work on campus focuses on aligning systems with users. All UofM projects over a certain square footage have to meet LEED silver qualifications, however these systems fail if the users aren't taught how to take advantage of these resources. Her role is to make occupants aware of how the building is designed to work so that they can follow through with these initiatives.



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Following the individual presentations Stacey led an interactive session between the panelists asking questions such as “what are your greatest sustainability success stories?” and “what in the future excites you”? One key answer included the fact that the midwest has a while to catch up to the exciting and innovative initiatives of other states such as California with sustainable practices and initiatives. The conversation also focused on a holistic approach to sustainable design that is not focused on chasing points but rather about community and doing the right thing. Focus on how passive systems and innovative technologies can work together to create a more holistic sustainable design. They also challenged the group to look at hidden potential in civil engineering and infrastructure design as an often missed opportunity to create a huge sustainable impact.

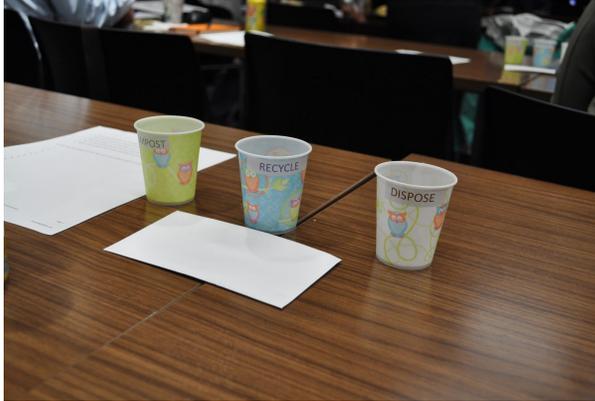
Group Activity: Waste Flow

Kevin led the group to participate in a three part activity about waste flow which included a sorting activity about what food can be composted vs recycled. The activity focused on understanding what technologies can be utilized in your daily life to promote a more sustainable lifestyle.



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Presentations #2- #4: Technologies Presentations

The next three presentations focused on how technologies can help streamline design. With fast track project schedules, new technologies promote efficiencies.

Presentation #2: 3D Digital Modeling and Printing with Ryan Alm of Albert Kahn Associates

Presentation #3: 3D Digital Scanning with Chad Struder of NOAR Technologies

Presentation #4: 3D Digital Visualization with Nicolas Caterllier of Atelier 21



Ryan began the second part of the session by presenting 3D printing technologies. Ryan explained the different types of plastic and metal printers, metal being a more expensive type of printer typically used for manufacturing. There are different types of plastics that range in cost and strength. PLA plastics are easier to print but have lower strength characteristics. ABS is a stronger plastic but is more difficult to print. The 3D printed model is created from a “water tight” or solid STL model that is sliced to create the print. Numerous 3D programs such as sketchup, Rhino, etc can be used to create this model.

The second presentation was by Chad Studer about laser scanning. New advances in scanning equipment are making these scanners much more affordable and easier to use. Point clouds connect a 3D scan to create a useable deliverable. A point cloud is faster, more comprehensive and more precise



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than traditional methods of measuring with a measuring tape, etc. The other benefit to a point cloud is that the model is readily available digitally and doesn't require return visits to the job site.



Last Nicolas Caterlier presented his expertise in BIM and digital visualization. Nicolas has a blog called RevitPure.com that is a fast, fun and easy way to learn new Revit tips and tricks. Nicolas began with a background about Virtual Reality technology that went back to 2010 when the first prototype for an Oculus Rift was developed. There are two methods of presenting virtual models. The first is a 360 stereo model which develops a series of 360 panoramas around a space. This method is simpler and more cost effective. The second method is a full Virtual Reality immersive experience which requires the use of a computer. This method is more immersive but requires more complex and expensive equipment including greater graphic card requirements and more expensive head set devices.

Nicolas ended the session with a focus on the future of VR technologies. The future of VR is in standalone headsets that don't need a phone or computer. Apple is currently developing their first VR headset that may be a game changer for the industry. The other future is in augmented reality that will not only help in design but also in understanding existing building infrastructure. A collaborative VR experience where multiple people can be in the same virtual model may also change the architectural and construction practices.

To conclude the panelists demonstrated their different technologies with the group and led small focused discussions about these different technologies. This concluded the session.

