After the Solar Decathlon: Creating A New Design-Build Program

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Abstract

The School of Architecture’s intent was to use the Solar Decathlon as a catalyst for creating a new Design Build program. The project allowed the School to leverage support into acquiring tools & equipment essential to creating the house, and for upgrading the school’s shop facilities. The projects completed immediately following the Solar Decathlon utilized both digital fabrication and prefabrication. This is significant because the School intends to leverage both of these competencies, developed during the Solar Decathlon, in order to further the School’s craft-based pedagogy.

Due to the Design-Build Studio’s development of the Solar Decathlon house, there has been significant interest from multiple parties to leverage this offsite-construction experience to create projects that would benefit from these lessons. Despite the team’s tremendous success, finishing in second overall, and as the only U.S. team to finish in the top three, translating this interest into viable projects has taken significantly more time and effort than expected. The Design Build Studio’s faculty coordinator vetted interested parties, as well as actively searching for projects that fit the program’s mission.

The School of Architecture serves the functions normally associated with land grant universities. It is the sole architectural program in the state, and its mission is to work for the benefit of the state’s residents. The Design Build Studio’s mission includes assisting residents in connecting to the natural resources, wildlife, and ecosystems. In January 2015, the Design Build Studio began work on a project for the State Parks Division, a ticket booth for the Lake Tahoe Shakespeare Festival. The Festival is an annual event at Sand Harbor State Park, the busiest location in the state park system. The project, while small, is in a highly public environment, and serves as an opportunity to showcase the Studio’s capability to work in diverse environmental conditions.

Representatives of the State Parks Division have expressed an interest in developing a long-term relationship, with the Design-Build Studio developing projects across the state. Future projects are anticipated to include guest cabins, ramadas, viewing platforms, and other projects that enrich visitor experiences at the parks. This relationship is an ideal partnership, leveraging the Design-Build Studio’s prefabrication skills and social/environmental focus while meeting the Parks Division’s needs. If the first project is successful, this partnership will be the catalyst that creates a sustainable future for the Design Build Studio.
**Introduction**

The School of Architecture's intent was to use the Solar Decathlon as a catalyst for creating a new Design-Build program. The project created a "room" that breaks up the extension of the corridor, allowing visitors to perceive the corridor more as a north and south review space, with the project mediating between these two spaces. It was designed and constructed in two months, with numerous refinements during the iterative design/construction process. As an example of how a particular aspect was that the students got to build a room and extend it to a fully functional space with all the necessary components.

Students were explicitly challenged to utilize both digital and conventional labor processes in the creation of their project. Students were asked to use the available materials, and the project was designed to be an experiment in the integration of these materials. The use of design thinking and the development of a working prototype was the focus of the project. The processes necessary for bending following the heating process, which utilized both digital and conventional construction processes, were critical to the success of the project.

**After the Solar Decathlon**

The School of Architecture serves the functions normally associated with land grant universities. It is the sole school of architecture in the state, and its mission is to work for the benefit of the state’s residents. The Design Build Studio’s mission is to create projects that will benefit from these lessons. The school’s design-build program is an offshoot of the Solar Decathlon program, which allowed the students to work in a highly public environment, and serves as an opportunity to showcase the Studio’s capability to work in diverse environments.

**A Sustainable Future**

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