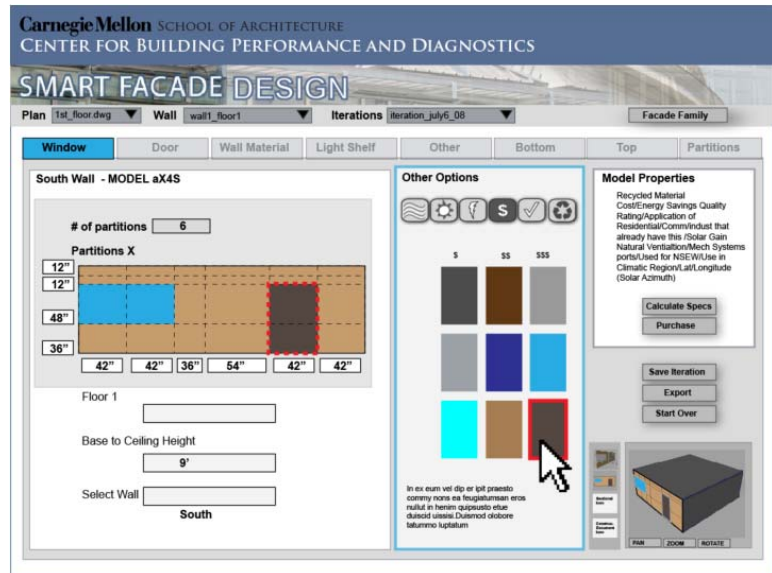


Smart Façade: High-Performance and Sustainable Enclosure Web Portal

Impact: With the prominence of the green building sector, the design community is challenged to conceive building designs that meet stringent energy and green building requirements. A severe lack of information on products' sustainability adds to the complexity of building design. When available, the information is non-standardized and often times incomprehensible.

Though high performance building enclosures can significantly reduce energy consumption and provide more comfortable living and work environments, the current selection, detailing, and specification of façade components is cumbersome and time consuming.



Project Overview: CMU's Center for Building Performance and Diagnostics Smart Façade Web Portal project will develop a web portal resource for architects and engineers that will feature sustainability and performance measures for façade building materials and assemblies that optimize natural resource flows including solar energy production, natural ventilation and daylighting, and life cycle impacts. This information will lead to improved building performance and occupant comfort. A key element of the research and development will be to allow for the identification of a system that will have greatest utility for the commercial building market and in fact be trade-friendly to enable its rapid acceptance.

The Center for Building Performance and Diagnostics is currently working with Alcoa in identifying high performance façade products/technologies and case studies with innovative façade assemblies. The goal of the project is to identify key façade components that improve building performance and occupant comfort. This façade roadmap is crucial to understanding the current state-of-the-art façade technologies that play an important role in sustainable building design.

GBA Product Innovation Grant Amount: \$20,000

Leadership Team: The project team is led by Carnegie Mellon University Senior Research Architect Azizan Aziz. The CMU Center for Building Performance and Diagnostics is also partnering with Alcoa on this project.

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