

Sixth research summary

Using building information modeling for green interior simulation and analyses

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Summary:

There is a growing trend of green building design that relies on technologies and computer simulations based on building information modeling (BIM) during the design process. Green building project teams are increasingly adopting BIM due to its capabilities of analyzing and simulating various design scenarios to make informed decisions to achieve green objectives. However, there is currently a gap in the technological approach to achieving green design in interior design. In order for interior designers to make informed decisions for effective green interior designs, interior designers need to understand the critical functions of BIM-based simulations and analyses in achieving green interior environments.

Research problem:

There is a growing trend of the green design movement that relies on technologies and computer science to make better design decisions during the design process. The most popular technology used in the architecture and design industry is building information modeling (BIM). Green building project teams are increasingly adopting BIM to achieve green objectives because of its capabilities of analyzing and simulating design options during the design process.

Research objective:

Green building project teams are increasingly adopting BIM to achieve green objectives because of its capabilities of analyzing and simulating design options during the design process. Optimizing building performance for sustainability practices through BIM-based simulations and analyses is becoming an integral part of the mainstream practice in the architecture and design industry because BIM technology allows the direct input of building geometry to the analysis programs unlike the traditional practice where a separate modeling for building performance is done by other experts. We intend to analyze how BIM can be used for green simulations during the design process. In addition, we will mention the nowadays experiences as well as the challenges and benefits of incorporating green simulations to interior design projects.

Conclusions:

This research indicates that BIM can facilitate the very complex processes of sustainable design and the related activities and analyses, as well as automate a multitude of activities like material takeoffs, while capturing and coordinating information into a single integrated model. Thus greatly saving time and effort associated with such complex design tasks, and more importantly, provide design model data and geometry that is up to date to all project participants.