Performance Assessment of Designing in its Environment by Making Use of Point Cloud

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Architectural Engineering + Technology Department (Design Informatics)

Area of Research: Computation & Performance

Research Summary: This research focuses on developing Decision support means and a method for visualizing the performance optimization of an Architectural Object, taking in consideration the Environment by using point clouds. This particularly examines point cloud database as design medium containing a set of rules that occupied by architect and urban designer in the early design phase. By extracting surface of the real environment, this research basically intends to construct dynamic information data to develop input parameter for the proposed model. The final goal is to assist the designer enhancing design performance of the building form by means of generating responsive environment which surrounds the building. Such information entities in the physical reality are widely spreading including intangible cultural data set such as noisy, event, solar intensity, people, the moving object and so forth which actually affect to the performance of building environment. These questions simultaneously addressed in searching the possibility of the other "surface" of point cloud database and its potential as design method in the future architectural construction.

Research Methodology: This research firstly will deal with questioning the existing parameter of the real environment towards getting a profound understanding by means of extracting dynamic information data set in the context of literature study. The constructive input would contribute in developing a set of architectural model simulation system including generating a looping database and validating computational formula in a way to correspond the values of building performance. the possibilities of research output provides analysis model for architect and urban designer to optimize the building design in the real project application.

Key Publications:

Link(s)
www.reading-space.net

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