Special Issue

Computer Aided Architectural Design

Message from the Guest Editor

This Special Issue will focus on computer-aided architectural design (CAAD), which can be seen as the driving force connecting architecture, technology, and design, supporting designers in solving their problems using computer-based methods. This Issue will highlight the importance of the conceptual phase in CAAD systems, which involves the manipulation of visual representations with some kind of graphical user interface. The impact of visual thinking and reasoning on CAAD is a constant inspiration in the search for new methods of representing domain knowledge that is useful in improving the quality of both the visualization of the design process and architectural objects, but also in facilitating interactive user control during the design process. Procedural generation is a commonly used technique in CAAD, which gives the designer a platform for experimentation and artistic freedom as well as style modeling and function specification. The goal of this Special Issue is to introduce readers to the current design research in CAAD.

Guest Editor

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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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