

Proposing Digital Design Methodology for Furniture Products by Integrating Generative Design Approach to Conventional process

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Abstract

In a conventional furniture design process, the designer develops a number of design alternatives by drawing two dimensional sketches and 3d CAD models to start ideation and exploration. These ways of exploration and conceptualization are sometimes tiring, time taking and complex. Therefore, the designer is able to produce less output with limited results. However, with recent advancements in design simulation, visualization and modelling capabilities, the ways of design exploration and conceptualization have changed. Technological transformations have changed the entire product design and development process in the past years. Today, parametric modeling techniques are changing the role of CAD tools in the furniture design field. In comparison to the conventional CAD tools (direct drafting and modeling techniques) parametric and generative design techniques allow the designer to rapidly and easily generate iterations, providing a flexible way to explore and conceptualize innovative solutions based on specific parameters. Considering the growing transformations this research aims to explore the new language of design - generative design. The study focuses on to integrate generative design and parametric modeling techniques with conventional design process to develop a digital design and development methodology for furniture products.

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