

THE USE OF FINITE ELEMENT ANALYSIS APPLICATIONS IN ARCHITECTURAL EDUCATION

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ABSTRACT

Architectural design is a complex process and architects are continuously required to draw and analyze resources from various disciplines in their design decision making processes. Architects commonly refer to “rules of thumb”, originating from previous design experiences to deal with design issues involving engineering analysis, since the formulation and analysis of the engineering problem is usually quite rigorous. The problem with this approach is that these rules of thumb may not be appropriate to the design problem at hand. Recent advancements in computer aided design, finite element analysis software and building information modeling paved the way for “integrated design”, where architects and engineers work simultaneously throughout the design process. This paper reports two case studies which use finite element analysis software (ANSYS) to enhance the architectural design process. This paper also investigates the ways this approach can be applied more extensively in architectural design education.

Key Words: Architectural Education, Finite Element Analysis Software, Integrated Design.