

Digital Tesselation on Surface Active: Application, Visualization, and Fabrication

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Abstract

Shell structure is a surface active structure that has curved surface, rigid, and thin. The shell form happens due to a combination of curve intersections from horizontal and vertical directions, or a tensile strength's inverse ratio of a tent structure. This type of structure is very flexible, yet its design realization process really depends on the fabricator which is outside the architect's domain. On the other hand, the shell design process is complicated enough since it consists of many stages which require repeating all stages whenever a design correction or adjustment is needed, or in other words, this process is inefficient. This article explains how a computational design method can approach the fabrication process of design process and facilitate the designers to finish back and forth procedure in each stage of the design process. The research method used in this research was experimental method by highlighting the object modelling process with a parametric design approach which is supported by software's simulations.

***Keywords:** computational design, digital fabrication, digital perception, design tools*

INTRODUCTION

Background

The process of designing shell structure usually consists of other processes, such as the process of aesthetic interaction, structure knowledge and mathematics. Intense collaboration is also needed to create a good design, steady in terms of structure and even the ability to realize it, in this case referred to as a fabricator. The author considers a more flexible method to connect these three fields of science is needed. This article discusses about digital approach as chosen by the researcher to assist in the process of making modelling and fabrication.