

# Reparameterizing Tectonics Perception on Planar Material-Design

Stephanus Evert Indrawan<sup>1</sup>, Gervasius Herry Purwoko<sup>2</sup>,  
Tri Noviyanto P. Utomo<sup>3</sup>

Interior Architecture Department, Ciputra University

UC Town-Citraland Surabaya<sup>1,2,3</sup>

Email: sindrawan@ciputra.ac.id<sup>1</sup>; gpurwoko@ciputra.ac.id<sup>2</sup>; tommy@ciputra.ac.id<sup>3</sup>

## Abstract

Indonesia is known as a country rich in types of building materials and technologies inherited from generation to generation. Along with the passage of time appears the computer as a human tools. However during the materials processing this computational approach is still separated. Computers are still used as tools for drawing and not used as design tools in the design thinking process. Computational design has an ability to integrating the design focus from the material side, structure, and formation associated with digital fabrication. This paper focuses to divide concepts of tectonics as general and relate them to the understanding of digital perception. This paper also presents the results of a study that has involved digital perception in the study of planar materials and waffle structure systems from the early stages to the model of construction. Plywood is the only material used, made with milling machines and built by students. This process introduces students to different experience of the design process. Computational design makes possibilities to integrating the design focus from the material side, structure, and formation associated with digital fabrication.

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

## INTRODUCTION

Architects are actively involved to design a better living environment. It still cannot be avoided, modern production demands for effectiveness and efficiency. This situation have divided the architectural process into two major domains: “design” which represents ideas and “constructs” that represent jobs field (Armand, 2014). Architectural process cannot be separated from tectonics skills and perception. Based on Historical references. Tectonics word or *Tekton* originally from Greek word that means carpenter or builder. Tectonics is a concept that defines the relationship between architectural design and its structures and materials. The variety of the tectonics of Nusantara skill are highly influent the history of Indonesian Architecture. The skill of builders that inherited from generations who skillfully carve, sculpts, and build an Architecture. The first