Mass customization of 3d wall design in online environment

Bojan Tepavčević¹
¹University of Novi Sad
¹tepavcevicb@uns.ac.rs

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OBJECTIVES, SCOPE AND CONTRIBUTION TO THE CONFERENCE
Mass Customization is the new design paradigm that replaces mass production, allowing customers to participate in the design process. Such design paradigm is especially important in the age of parametric architecture, with the increased need for design collaboration and knowledge sharing. Recent advances in cloud technologies allow the parametric design configuration to be implemented via the web environment without additional software installation. It can be done via various Grasshopper plug-in platforms such as Human UI, Speckle.xyz, or ShapeDiver.

The aim of this workshop is to provide basic knowledge regarding web-based parametric platforms and to introduce a workflow for creating a 3d wall design that can be exported for manufacturing production (3d printing or CNC manufacturing). Participants will be trained to design and optimize Grasshopper models of a 3d parametric wall for cloud applications via the ShapeDiver platform. Participants will learn how to create their own web-based 3d wall configurator with the ability to export 3d files and embed a model directly onto a blog or a website.

EXPECTED OUTCOMES AND SKILLS ACQUIRED BY PARTICIPANTS

SCHEDULE

PREREQUISITE SKILLS OF PARTICIPANTS
Participants are required to bring their laptops with installed 64bit Windows, Rhino5, Grasshopper3D, Weaverbird, LunchBox, and ShapeDiver.

MAXIMUM NUMBER OF PARTICIPANTS
15

BIOGRAPHIES
Bojan Tepavčević is a professor at the Department of Architecture and Urban Planning, Faculty of Technical Sciences, University of Novi Sad, where he teaches...
courses in computational design and architectural representation. He is also co-founder of Digital Design Center and the head of the master’s program “Digital Techniques, Design and Production in Architecture and Urbanism at the University of Novi Sad.

He was awarded the International Trimo Research Award in Ljubljana in 2011, for his PhD dissertation about the influence of geometric representation of space on contemporary architecture. He is a co-author of the book “Architectural Scale Models in the Digital Age: Design and Manufacturing” (Springer Vienna 2013), as well as the author of many research papers in the field of contemporary architectural theory of design, computational design and advanced modelling strategies in architecture.

EXPERIENCES ON CONFERENCE / WORKSHOP ORGANIZATION
Conference Chair at the 4th eCAADe International Regional Symposium 2016, Novi Sad, Serbia (1). Workshop tutor at the 4th eCAADe International Regional Symposium 2016 Workshop topic: Design based on structural performance optimization (2).

REFERENCES