Report of the Activity

Design Innovation through Computational Thinking

Date: 15.11.2022 - 17.11.2022

Venue: Karnavati University Campus

Time: - 9am to 5pm

Number of Participants: - 46

Unitedworld Institute of Design at Karnavati University along with IIC, KIIF and SSIP organized a workshop titled "Design Innovation through Computational Thinking"

Facilitator:

HENRY SKUPNIEWICZ ;

Henry is an architect and designer, who studied from Massachusetts Institute of Technology. He focuses on computational design, strategic goa,ls and program development. He worked with Neri Oxman's group at the MIT Media Lab, Godrej & Boyce, CEPT University, and various organizations on areas of design and making and how they interact with strategic goals and program development.

Co-facilitator:

1. Kaustav Kalyan Deb Burman (Assistant Professor, UID, ID)
2. Paras Parmar (H.O.D, UID, Workshop)

The design innovation workshop aims to build student exposure to computational design concepts via hands-on making rather than through typical computer-mediated means. Students will explore the formation of and "playing" with rules, 'Shape Grammars' toward designed aims.

It aims to emphasize the importance of using process, making, and production as a way to connect the conceptual part of the design to their prototype. It will

leave a deeper appreciation and understanding of production methods, as well as generate finer objects which are not prototypes, but final objects of design. By going deep into simple but core processes, they will achieve a deeper appreciation and understanding of production methods, as well as generate finer objects which are not prototypes, but final objects of design.

Day 01(9 am to 5 pm): 15.11.22: At UID Felder Lab, to build student exposure to computational design concepts via hands-on making rather than through typical computer-mediated means. Henry introduced the students through this presentation to the idea of 'Shape Grammar' and further they started exploring the concept of 'rules' in computation design through hands-on prototyping, with the aim to emphasize the importance of using process, making, and production as a way to connect the conceptual part of the design to the final model.

Day 02 (9 am to 5 pm): 16.11.22: Students working on the process of ideating sculptural forms through defined rules and computational thinking. The process is designed to leave a deeper understanding and appreciation of production process and the importance of precision and work management. It is a process or way to think about design critically by all types of designers about what they are doing

Day 03 (9 am to 5 pm): 17.11.22: Students worked on the final sculptural pieces that got built over by strategic application of 'rules', a start to computational thinking without use of a computer. While it was focused on computation design, the workshop's integral ideology was to develop the culture of hands-on making, attention to detail and being conscious of the making process. The workshop was concluded by dialogue and discussions on computational design in practice.

The idea of the workshop was to build student exposure to computational and parametric design concepts via hands-on making aiming for design innovation. The Highest standards of professional and high-performance machines were used at UID's in-house Felder Lab, where wood and brass were the primary material palate. While Students were exposed to the global standards of working, the focus was on following uncompromised precision, process, and strategic production methods.

The workshop was based on the idea of 'Shape Grammar', a concept developed by George Stiny and James Gips as a way to connect the advances in formal language theory and procedural modelling. It is a tool to both generate and evaluate design through the use of rules based on spatial relations. It is the formal underpinning of many computational design methods and has also been used to analyze design, for example, Palladian Villas (and then to create "new" Palladian Villas).

Henry Skupniewicz thanked wholeheartedly the initiative and support of UID in facilitating the global standard design innovation workshop for the students of Masters in Interior and Experience Design, Semester 01. He also focused that its crucial to lay importance on hands-on making, accuracy, and precision in the design process of learning and it was the best launching point for a further hands-on exercise in the production of fully-realized pieces of design

Photos of the event and all Collaterals

Henry offers a presentation talk by introducing students to build exposure to computational and parametric design concepts as a launching point to a further hands-on exercise.