

WORKSHOP 2:

Distributed Collaboration Workflow from Brainstorming to Sketch, 3D CAD and Production

Hosts: Mauricio Novoa from Western Sydney University, Wendy Zhang from University of Canterbury and Jose Manuel Rodriguez from TU Delft

Expected duration: 2 hours

The aim of the workshop

The aim of this workshop is to collaborate, share and discuss new forms of ideation and design based on co-design, flexible and distributed environments. The audience will be invited to participate on brainstorming and ideation for design based on digital sketching. Among those sketches, selected ideas will be taken further into a co-located immersive environment shared among three countries (alphabetically), Australia, Netherlands, and New Zealand. The workshop facilitators and the audience will interact to develop ideas into concept(s) and 3D VR surface design rendering ready for production as a 3D printing prototype.

The significance of the workshop

New workflows for ideation, design and production: The workshop intends to share the user experience about new forms of digital sketching and immersive virtual reality (VR) work to promote the discussion about its benefits and shortcomings, efficiency and effectiveness in today's creative, design and productivity workflows. Visionaries have promised that immersive and virtual environments would become an affordable reality and a tool for design and innovation for the last fifty or more years. After a slow start with the invention of the first virtual reality (VR) headset in the 1950s, technology is now catching up with that aspiration and virtual, augmented, mixed and extended realities seem closer to become a creative and communication tool for designers and people in general. Economic pressures, globalisation and the Covid-19 pandemic have also thrust the interest in this type of technologies further since more work is increasingly done in *working-together-apart* scenarios that are distributed (synchronous and asynchronous). Many design projects also do not sleep as these keep progressing concurrently 24/7 in different coordinated locations towards the production of *design artefacts* (e.g., objects, services, systems).

Workshop programme:

Workshop Introduction

Facilitators, workshop format, brief introduction to the landscape of digital tools available, and promotion of our Sketching and Visualisation SIG at the Design Society.

Warm up, selection of themes offered and ideation through digital sketching

Participants are invited to ideate and sketch in their tablets (alternatively smartphone if size allows it) by using their pre-downloaded raster app (e.g., Photoshop, Procreate) or free Gravity Sketch app (participants with Gravity in a tablet can use their Landing Pad account to deploy the features for end-to-end workflow).

Discussion on ideas generated by the participants

Participants are invited to comment and give feedback on their experience with 3D CAD and also to compare with their traditional – analogue and or digital – 2D tools used in their practice

Demonstration of VR sketching and design tools

Facilitators will present a brief introduction on immersive tools for creativity

Distributed collaboration among facilitators in Australia, Netherlands and New Zealand

Facilitators will select either/and raster and vector samples from Photoshop, Procreate, etc, as reference images or from 3D CAD software as Gravity Sketch app to demonstrate how to get from digital sketch ideas to concept and 3D surface rendering in the VR immersive environment, and to prepare work for 3D printing outcomes. Audience may have the opportunity to participate in the immersive experience if they own a headset or via the workshop video screen.

Wrapping up discussions

Facilitators will be grateful to gather audience views as part of a group discussion (participatory research) on the feasibility of using this type of technologies in their education and professional practice.

Postscript

Facilitators will place either photos and/or videos of the 3D printing piece(s) in the chosen community of practice web-based platform after that process is completed.