KRISTOF GAVRIELIDES

SPATIAL CODE LAB

The **Spatial Code Lab (SCL)** is dedicated to research and development in the fields of architecture, computer science, media arts and design. It consists in one part of a dedicated VR/AR design environment which allows for collaborative design development in 3D VR space and secondly of a small robotic fabrication unit which allows for the materialization of the digital design approaches into a variety of materials through the use of custom made end-effectors for additive and subtractive fabrication processes.

Spatial Code

Spatial Code is a definition that has been proposed by the author to describe the matter of research. Spatial Code is hereby a system of rules being developed, that allow for the translation between virtual and physical conditions and vice-versa. It therefor allows for the description and creation of digital-physical hybrid materials, objects and spaces.

Open Laboratory

The minimized and mobile setup allows for a flexible, fast and straight forward approach to the thematics of Virtual Reality, Collaborative Design, Spatial Coding, Robotic Fabrication, Digital Materials and Computational Design. The laboratory is conceived as an open lab, that can be easily experienced by the visitor in „exhibition mode" as well as being used professionally by experts. The SCL opens up the disciplinary and technological boundaries of computer science, media art, design, architecture and robotic fabrication to a wider audience and instantly creates a place of production, experimentation and exchange. It therefore helps to translate the inherent questions of todays technological design approaches into cultural terms for a broader audience.

Digital – Physical Design Feedback Cycle

Through the simultaneous development of physical and digital design strategies with the interaction and participation of a broader public and computational design methods the lab allows for a more comprehensive design feedback cycle. This cycle consists of two interconnected areas, computer simulation in an sensoric VR environment and materialization and fabrication in a robotic environment, to allow for the research and development of what is called spatial code.

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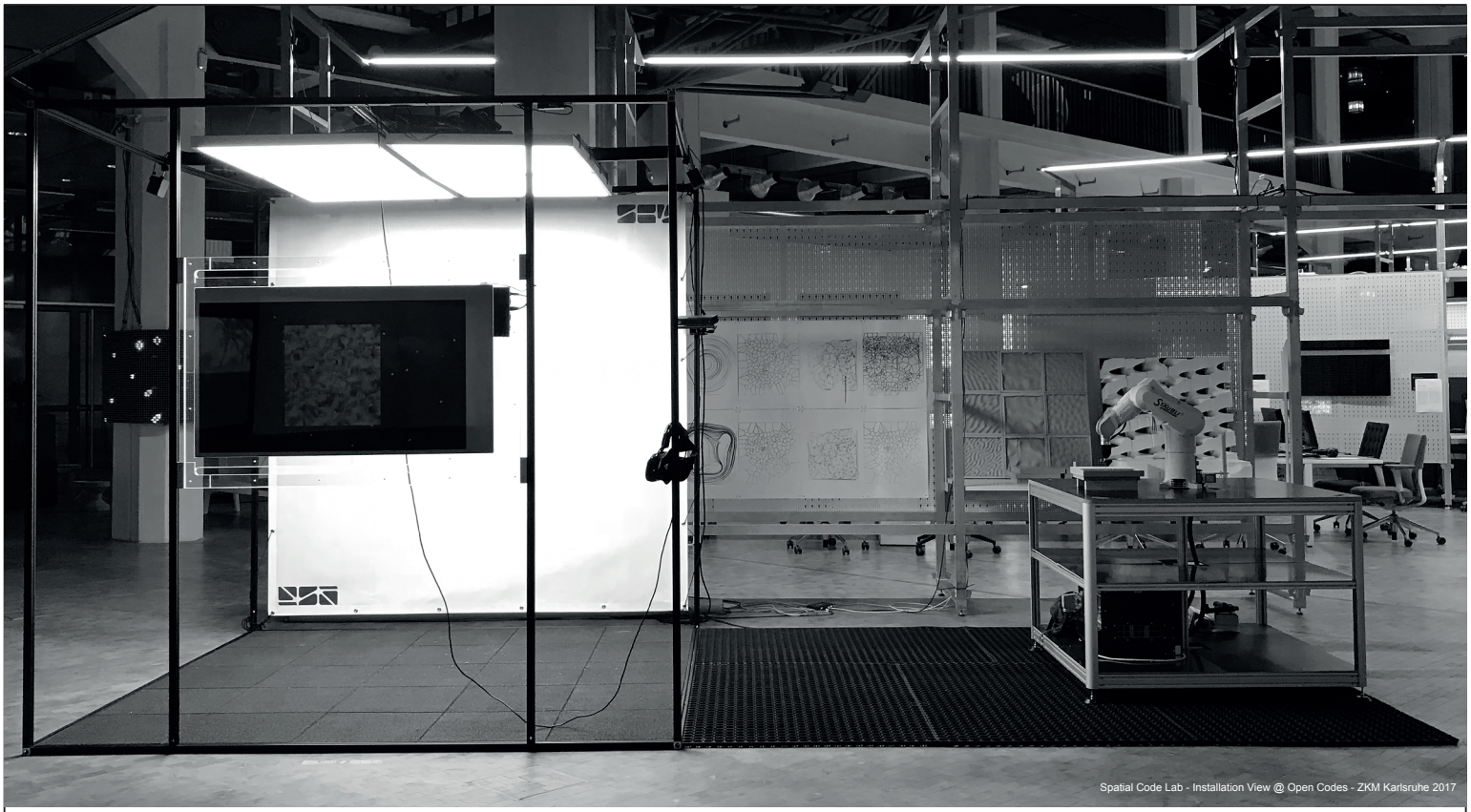
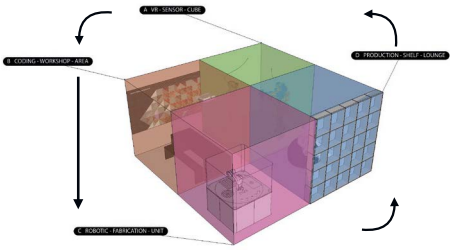
CA2RE
Conference for Artistic and Architectural (Doctoral) Research

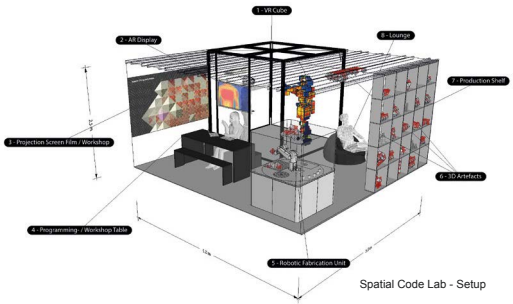
Name Kristof Gavrielides
Institution State Academy of Art and Design, Stuttgart

Title Spatial Code Lab

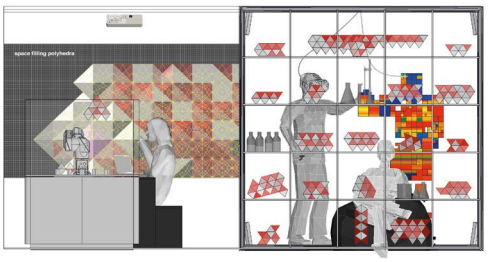

Spatial Code Lab - Installation View @ Open Codes - ZKM Karlsruhe 2017

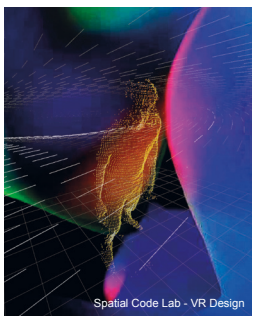


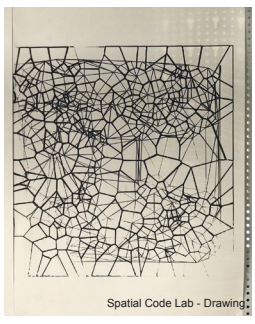
Spatial Code Lab - Design Feedback Cycle



Spatial Code Lab - Setup


Spatial Code Lab

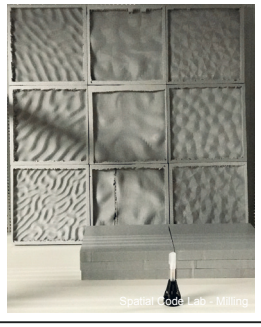

Spatial Code Lab - VR Design

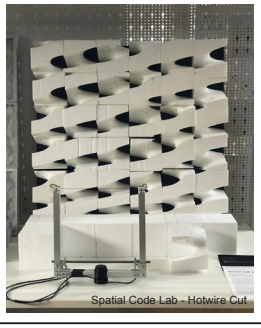

Spatial Code Lab - Drawing

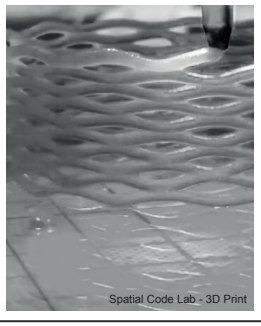

Spatial Code Lab - Drawing Process


Spatial Code Lab - 3D Print


Spatial Code Lab - Robotic Fabrication


Spatial Code Lab - Milling


Spatial Code Lab - Hotwire Cut


Spatial Code Lab - 3D Print

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