Living Data Map of climate change in EUROPE 2071-2020.
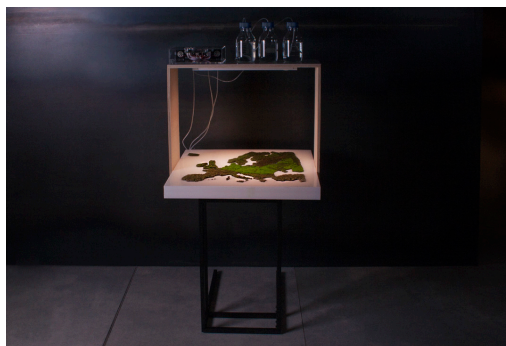
What was the challenge?

Usually, data visualization reduces natural phenomena to basic geometric shapes. Due to this extreme simplification, a general audience may perceive expert-oriented data visualization as 'boring' or 'lifeless'.

Taking up of experimental visualization of data was based on the idea that figures describing a phenomenon can hide not only a phenomenon's features relevant to
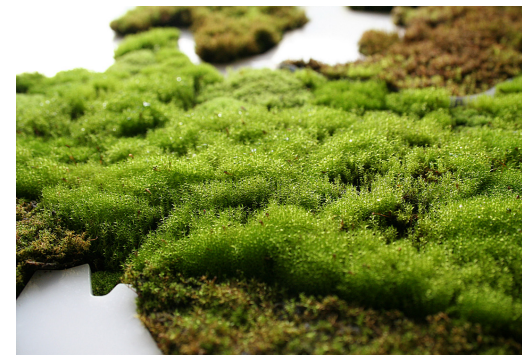
scientists or experts, but also eventful narratives, fascinating stories which are also interesting to the mass audience.

What was the solution?

The BIOPRINTER project was based on the idea that figures describing a natural phenomenon can hide not only the phenomenon's features relevant to experts, but also eventful narratives and fascinating stories that are interesting to a mass audience. The data chosen for the project describe a climate change scenario, specifically reflecting the future change in precipitation from 2071-2100 in the European continent and Lithuania.
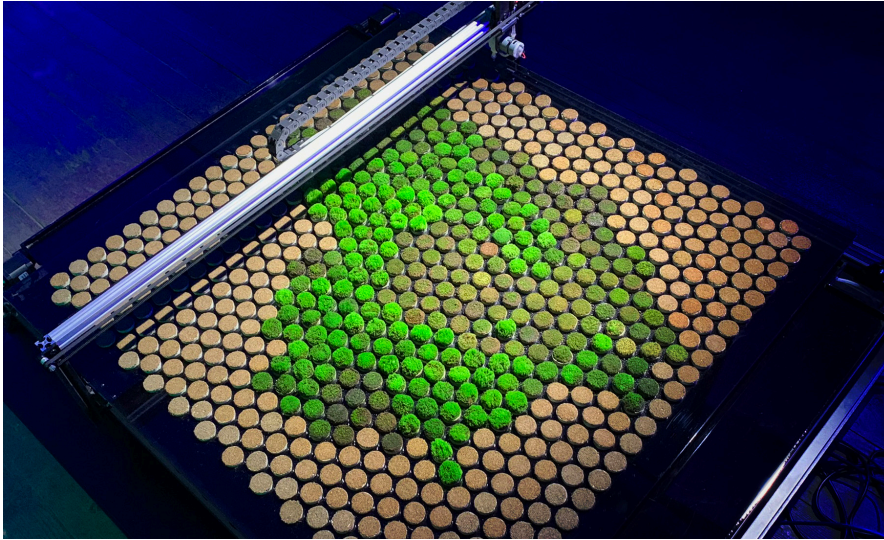
To implement the project, an artificial ecosystem was created, using fire moss (Latin: Ceratodon purpureus) as a means of data expression. Moss was grown by controlling the amount of water and light, which correlated with data values. A local ecosystem caused the formation of a multi-colored surface map with different textures, where areas of moss of different appearances represented the values of rain data - droughts, floods, or usual climates.
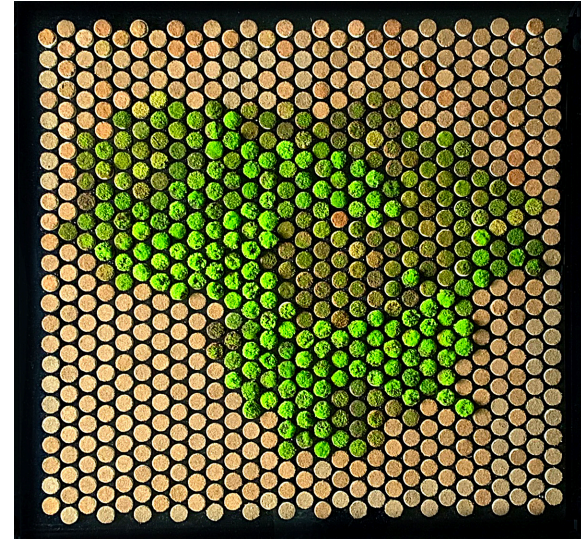
Contact:
name: Sigitas Gužauskas
company/organisation: VDA
technical team: URGENT TOOLS
e-mail: sigitas@idente.lt

Local ecosystem of BIOPRINTER V1.

Fragments of Data Map.

BIOPRINTER V2.

Living data pixels visualises climate change map in Lithuania.

Research behind Design

The project was developed in the context of the artistic research project "Explanatory Strategies in Information Design" (project supervisors prof. Aušra Lisauskienė and dr. Gintaute Žemaitytė) conducted at Vilnius Academy of Arts, Lithuania.

This artistic research project aimed to expand the potential of perception of data or information through experimentation with different methods of expression. According to the research findings, incorporating an "experiential" layer onto "dry" data is an effective method for creating an informative experience that captures the interest of a broad audience and allows for a diverse range of interpretations.

What was the effect?

The BIOPRINTER project can be understood as a communication channel creating conditions for a dialogue between the "far-away," incomprehensible expert field and the mass audience. The project attempts to extend the facts provided by abstract data by adding a story that originates from them. This visual story returns the "lost" features of reality to phenomena that have been reduced to numerical values.

This is an attempt to realize the scenario of the environmental condition found in the data set. Rendering of data is realized as the creation of informational experience, i.e., formation of multi-layered grasp when rational perception is coordinated with sensory experiences, aesthetic and emotional experiences, or playful situations.
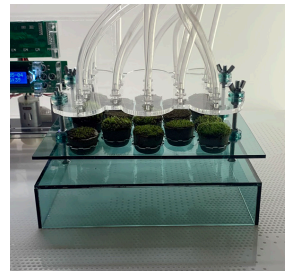
Exploration of visual properties of fire moss.

Biopixels made from spores of alive fire moss.
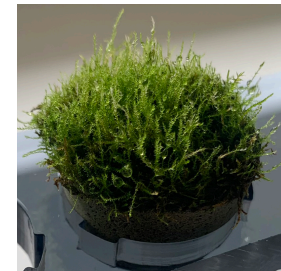
Activated data pixel.

About the author

Sigitas Gužauskas is a practicing visual communication designer, lecturer at the Vilnius Academy of Arts and a design researcher based in Lithuania. In his practical work, he specializes in information design, exhibition design, creating information expierence objects for educational exhibitions, and commercial organizations.

His research and practical field covers informational graphics and he is interested in images or objects that perform explanatory functions.