Atomized (curatorial) Functioning

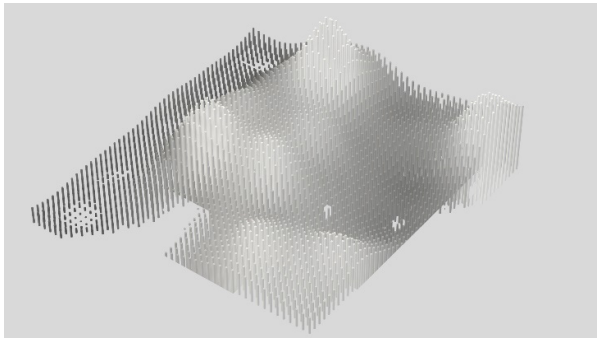
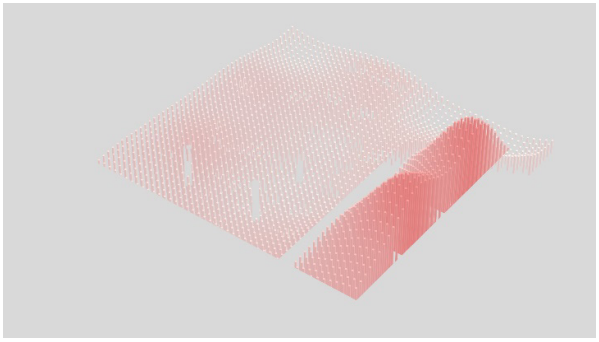
2019

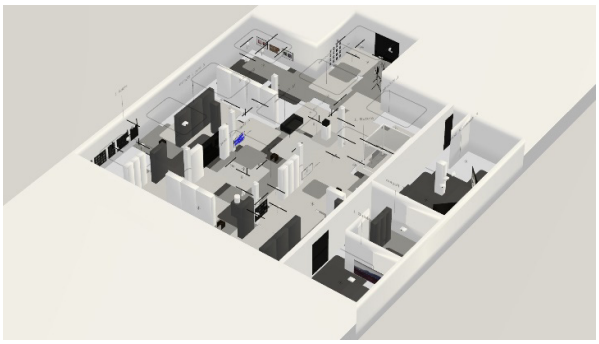
Architectural software, scenography & project by fabric | ch

Internal research. Developed, used, customized, and presented through exhibitions:
Environmental Devices at Kunsthalle Éphémère (Renens, 2018),
Entangled Realities at Haus der elektronischen Künste (Basel, 2019), TASIES 2019 at National Museum of China (Beijing, 2019)

Location: Basel (CH)

- Use: automated scenography and curating
- AI layer for automated spatial and functional exploration, in addition to base algorithmic software piece
- Live outputs in the form of 3d configurations on displays of various sizes and natures (documentary screens, projections, immersive AR/VR, etc.)
- Alternative outputs in the form of dynamic instructions (allow to use non-visual/tangible displays or to control other systems)
- Customizable saves and playbacks for further uses

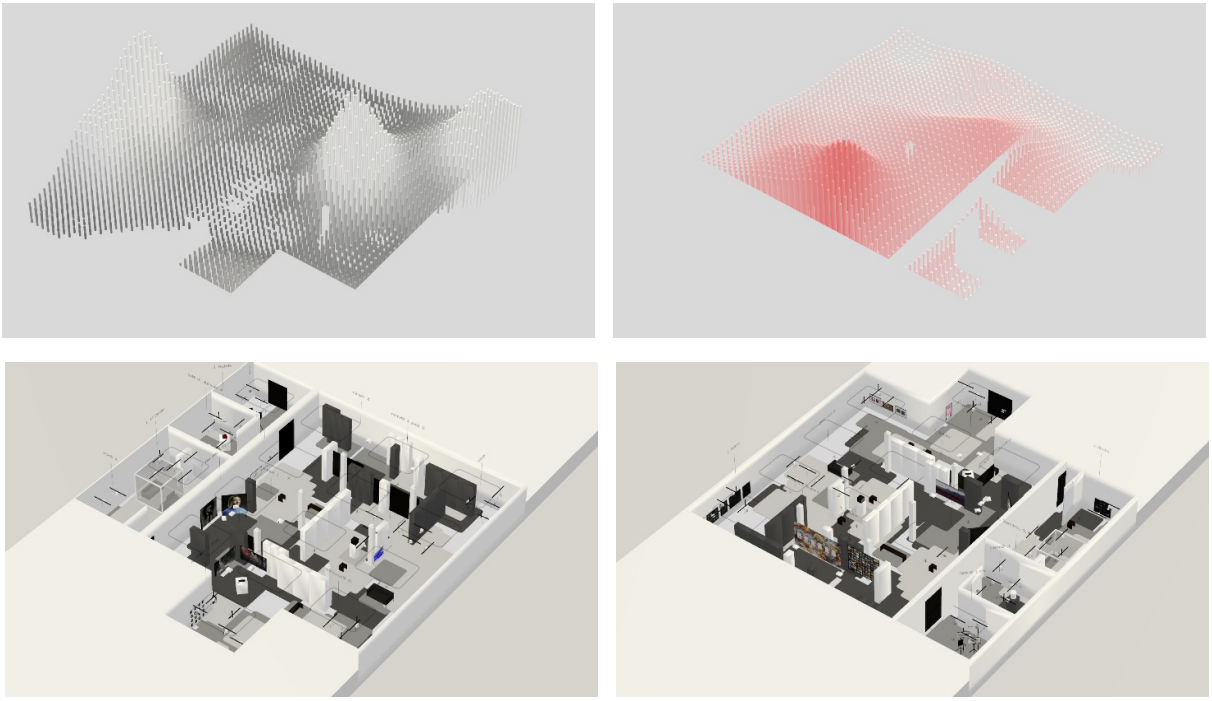





[Img. 1 – 4]

[Img. 5]

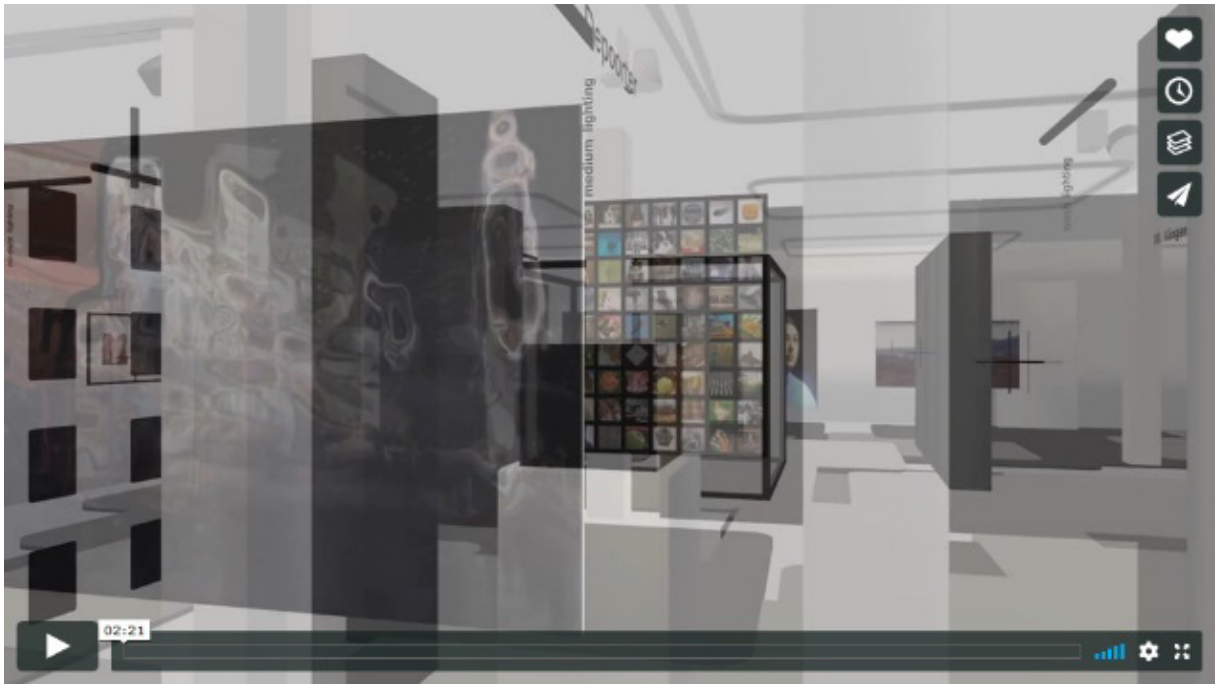
[Img. 6]



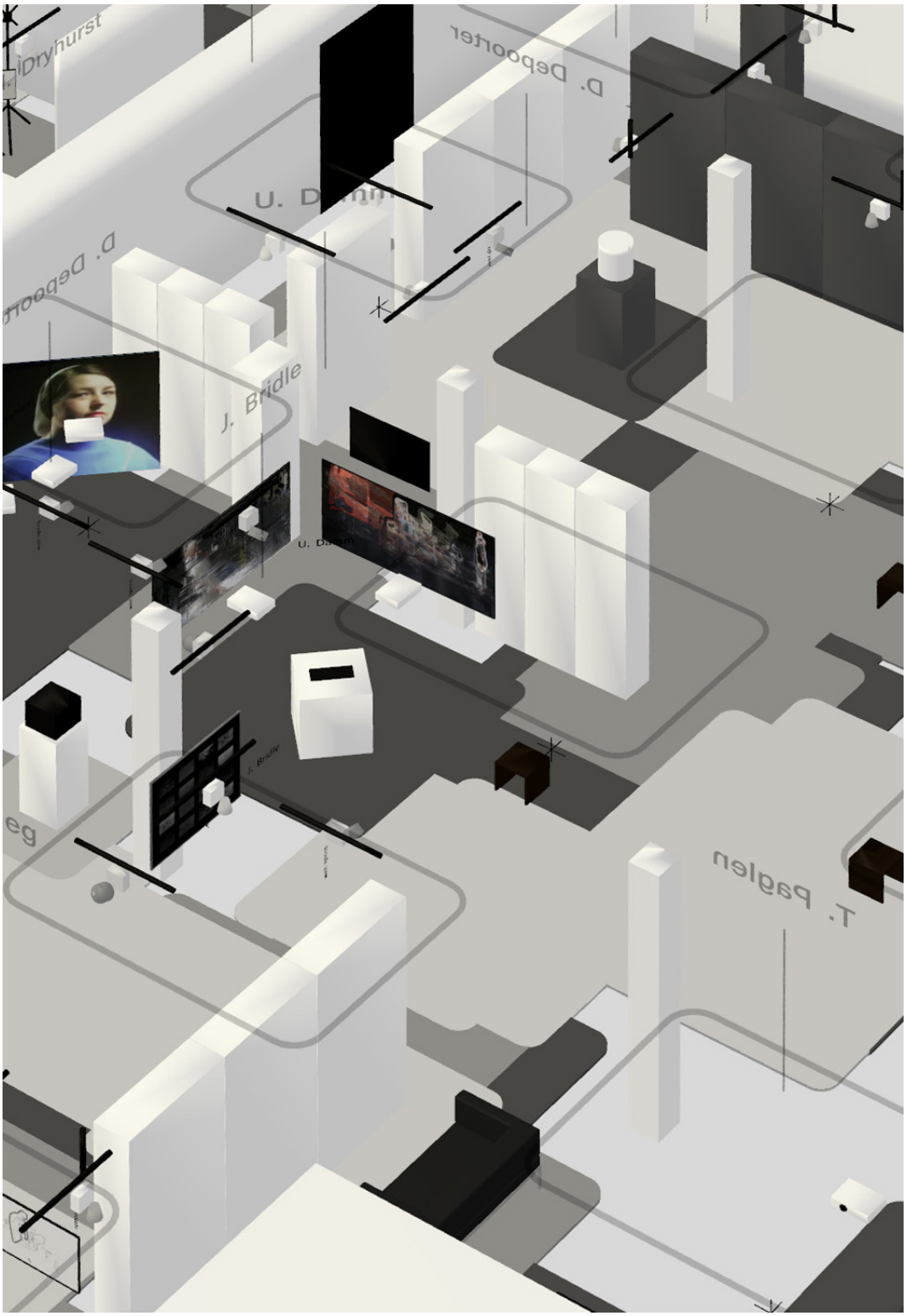
[Img. 7 – 10]

[Img. 11]

[Img. 12]



[Img. 13] https://vimeo.com/336824155



[Img. 14]

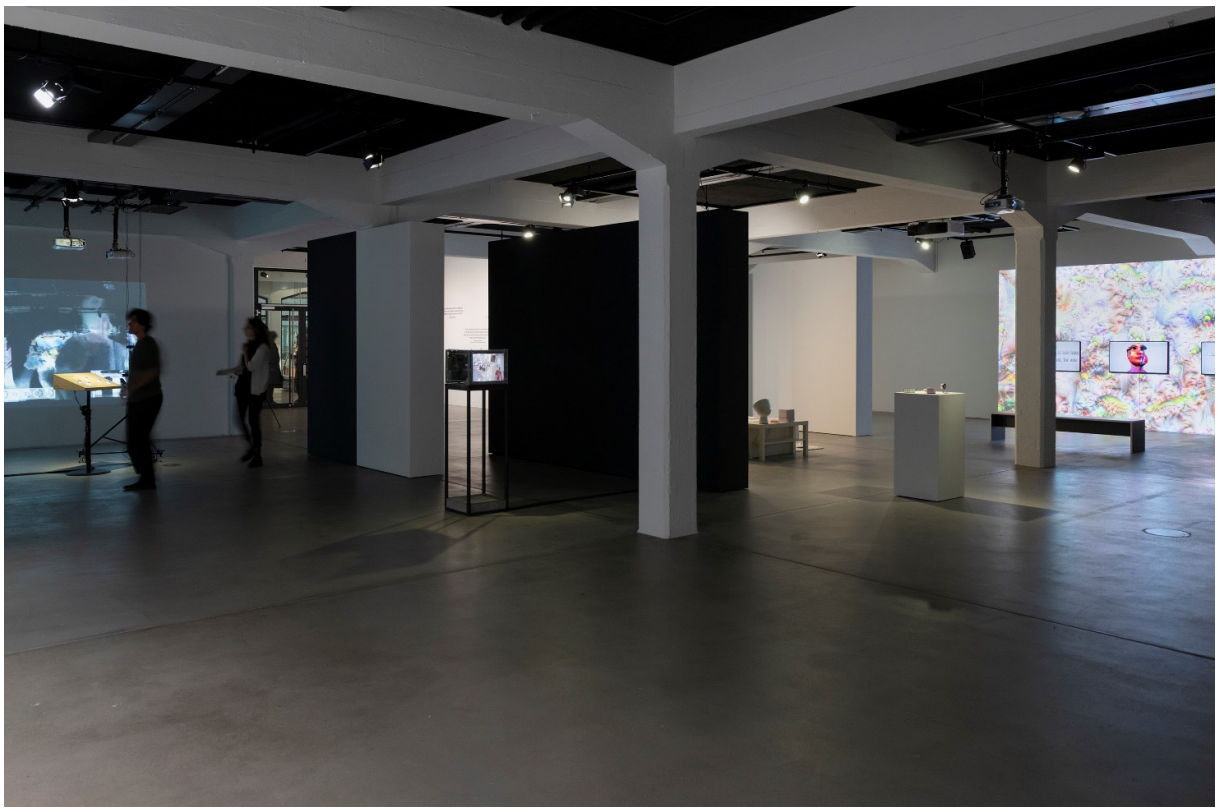

U. Damm
D. Depoorter
medium lighting


medium lighting
narrow lighting
M. Klingemann
L. McCarthy
U. Damm
J. Sutela
narrow lighting

[Img. 15, 16, 17]

[Img. 18]

[Img. 19]



[Img. 20]

[Img. 21]

[Img. 22]

[Img. 23]

Image captions:

[Img. 1–4] Atomized (curatorial) Functioning seeks to autonomously curate artworks and mostly define their scenographic/spatial setup in a dedicated space (Haus der Elektronischen Künste museum, in this case). To achieve this task, the conceptual and algorithmic A.I. software considers "values" that are attached to each artwork. They are in this case objective (e.g., the needs in lighting and space, light emission, sound configuration requirements or constraints, distance of view, needs in black or white walls, distance to entrance or to other works, etc.) but do not deliberately deal with any type of meta-discourse about the artworks themselves. Results can be considered as instructions.

[Img. 5–6] The same view at different times during construction. The colors of the floor (white/light grey/dark grey) may indicate a hue for the floor. They first give indications on the lighting needs for the specific area related to a work. The same can be said of the walls.
[Img. 5] is a video showing the process of construction: https://vimeo.com/336824155

[Img. 7–10] Images 7-10 show a new construction. Once the system cannot place new elements, it saves the final configuration (it is considered a "training set"), deletes the environment and restarts. Gradually, A(c)F builds a large memory from the training sets and learns from them. It gradually converges towards a complete configuration that can only be achieved through the process of learning.

[Img. 11–12] Two successive views at the same location during a new training set. The 3D visualization layer of A(c)F is built with the popular Unity software. This allows versatile display options for the system, such as large immersive projections, screens, VR headsets, AR, etc. This opens many possibilities and types of projects, including automated digital museums.

[Img. 13] Full training sessions, starting empty and ending almost full can be seen on fabric | ch's Vimeo. At start, A(c)F considers the museum space as an empty volume, completely dark and silent. Only the artworks and associated information will change the initial configuration of the space and influence each other.
However, some existing parts of the exhibition space are better suited to specific types of artworks. The AI "knows" these parts.

[Img. 14] Axonometric detail. It becomes clear that the space built by AcF is fragmented and keeps a certain level of atomization. The system does not produce monolithic "design gestures" and therefore creates unexpected reconfigurations. This is what the entire Atomized (*) Functioning project is looking for.

[Img. 15–17] Different views and configurations, with different works of art and a set of black and white elements (spatial "atoms" for the museum, modular pieces). Works by Dries Depoorter, Mario Klingemann, Ursula Damm, Holly Herndon & Mat Dryhurst in these views.

[Img. 18] Atomized (curatorial) Functioning - by fabric | ch, during exhibition Entangled Realities. Living with Artificial Intelligence at Haus der Elektronischen Künste, in Basel (09.05-11.08.2019). The artwork continues to produce new exhibitions, during the exhibition... It saves and prints them on the roll printer. About 300 new exhibition configurations have been created during the three-month opening period.

[Img. 19] The work of Mario Klingenmann, Uncanny Mirror, at the entrance of the museum, and James Bridle in the background. The "atomized" configuration of the black and white walls proposed by A(c)F can be seen as a materialized scenographic proposal in this image.

[Img. 20] Another view in the exhibition space, with the works of Ursula Damm, Dries Depoorter and Zach Blas & Jemima Wyman's works in the background.

[Img. 21] Holly Herndon & Mat Dryhurst's sound piece: Deep Belief.

[Img. 22] Sebastian Schmiegler's piece: Decisive Mirror.

[Img. 23] A view in the fractioned space with Lauren McCarthy's installation: LAUREN.

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Atomized (curatorial) Functioning

Atomized (curatorial) Functioning is part of an ongoing series of works: Atomized (*) Functioning, shortened A(*)F. It is the third variation in this series. It has been exhibited, and used twice to date, in different configurations and contexts.

A(*)F is an architectural project based on automated algorithmic principles, to which a machine learning layer can be added as required. It is a software piece that endlessly creates and saves new spatial configurations for a given situation, converges towards a "solution", in real-time 3d and according to dynamic data and constraints.

A(*)F is based on conceptual rules related to the general work and research program of fabric | ch. It is therefore not the "AI" that is important in this work, but rather the automated process of design based on rules defined by the author and the questions it raises.

Based on this program, these rules constantly seek new functional associations related to the physical-digital / human-nonhuman state of our contemporary environment ("post-digital", "post-anthropocenic" or "-capitalocenic" it has been theorized). To do this, they use "atoms" (or 3d exhibition elements in a predefined and atomized granularity) that have been made available to the algorithms to carry out their combinatory constructions. The system digs and searches for unexpected and sustainable reconfigurations ("creolizations") of these elements: automated creolized architectures.

The work in progress performed by the AI is continuously displayed on screens of different sizes and quantities, accordingly. The displays can therefore be immersive, analytical, or illustrative as required, they could even be robotic and controlled to some extent.

As mentioned, the automated work performed by the AI is not important in and of itself. The stakes and questions consist in A(*)F's ability to produce endless spatial proposals and configurations for a certain type of existing conditions - whether dynamic in the form of sensor data and/or static in the form of constraints - and to store them for further analysis by people or algorithms, if desired.

A(*)F has been exhibited at the House der Elektronischen Künste museum (Basel, CH), in 2019 as a standalone piece during 3 months (exhibition Entangled Realities, 09.05-11.08.2019), and in a configuration that has been used prior to the show to help carry out the curatorial and scenographic work: Atomized (curatorial) Functioning.

The piece continued to produce new exhibition configurations during the exhibition.

fabric | ch, September 2019

Contact

fabric | ch (97-26)

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