

This Feels Like a Rating - Ambivalent Optics of Data Sculptures

Marina Lima Medeiros*

VRVis GmbH

Cornelia Travnicek†

VRVis GmbH

Andreas Reichinger‡

VRVis GmbH

Nina Spiegl§

webLyzard technology

Arno Scharl¶

webLyzard technology

Lyndon Nixon||

Modul Technology

Martina R. Fröschl**

University of Applied Arts Vienna

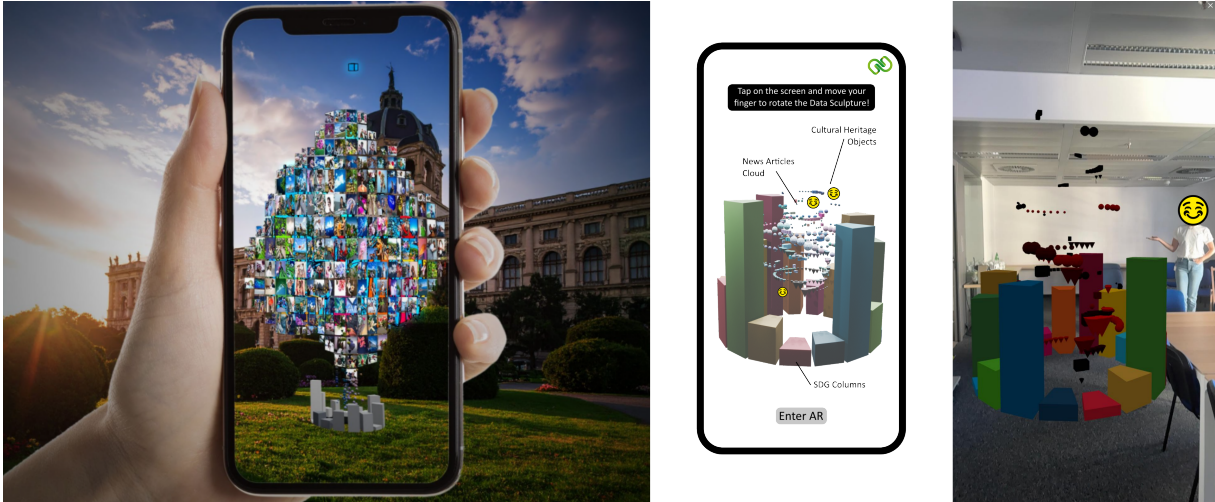


Figure 1: Prototypes of GreenGLAM's data sculptures. In the first image, an artistic sketch considering thumbnails of GLAM's collections. In the second image, a mock-up for the data sculptures in a cellphone web-browser. In the third image, the current status of the data sculptures in augmented reality.

Index Terms: Data art, participatory design, SDG.

1 ABSTRACT

The **GreenGLAM**¹ project explores how cultural institutions—galleries, libraries, archives, and museums (GLAMs)—are connected to conversations around the UN Sustainable Development Goals (SDGs)². Using AI methods, text mining and term disambiguation techniques, the project analyzes metadata from cultural heritage objects (CHOs) alongside public web articles to derive an understanding of how GLAMs and sustainability themes intersect in contemporary discourse. The project proposes two visual outputs: a **dashboard** with analytical 2D charts intended as a decision-making tool for institutions, and **interactive data sculptures** designed as three-dimensional representations of these intersections.

The concept of data sculptures was inspired by data art installations and 3D infographics to work as a visual metaphor of the connections between GLAMs and the SDGs. Using parametric design, we create 3D forms from analytical data extracted from the

dashboard. For our initial design, we created two visual elements: an SDG totem circle, inspired by the UN SDG Colour Wheel, and GLAM thematic elements. The position, scale and colour of these elements are defined by data resulting from the analysis of share of voice, frequency in the search context, sentiment analysis and other elements of public discourse. These data sculptures will be presented to the public in the form of augmented reality installations at cultural institutions. The intention is to inform the general public about the relationship between the content of cultural institutions and sustainability topics and to provide cultural institutions with a tool to evaluate the public's perception of them and the global challenges.

Yet during a recent stakeholder meeting with professionals working in Austrian GLAM institutions, participants interpreted the dashboard and the sculptures not as open-ended narrative artifacts, **but as visualized scoring systems** — a kind of public relations (PR) and cultural performance metric. Concerns were raised that these visualizations might be perceived by funders or the public as benchmarks of institutional engagement with sustainability or the efficiency of the respective PR department, especially given the focus on data sources such as news coverage and social media activity. One participant summarized the unease pointedly: *"This feels like a rating."*

As a suggestion, stakeholders expressed a desire for the sculptures to be as self-explanatory and intuitive as possible—inviting for casual visitors, accessible without specialized knowledge. The stakeholders also stated that the general public does not know the SDGs. Later, contrary to the initial feedback from the stakeholder event, a PR representative from a major museum confirmed their interest in using the data sculptures as a selling point to third party sponsors. This dual demand—for visual clarity and interpretive ambiguity—underscores the complex position of visualization in cul-

*e-mail: medeiros@vrvis.at - corresponding author

†e-mail: travnicek@vrvis.at

‡e-mail: reichinger@vrvis.at

§e-mail: spiegl@weblyzard.com

¶e-mail: scharl@weblyzard.com

||e-mail: lyndon.nixon@gmail.com

**e-mail: martina.froeschl@uni-ak.ac.at

¹<https://greenglam.at/>

²<https://sdgs.un.org/goals>

tural contexts: the connections between GLAMs and SDGs must be visible without becoming evaluative.

That moment from the stakeholder meeting serves as an entry point for critical reflection: we interrogate the **representational ambiguity** of data-driven visual artifacts in institutional contexts, especially when those artifacts draw from semi-public, performance-adjacent data. Is it possible to compare data without rate? How can data sculptures operate within a political economy of visibility, in which attention, relevance, and funding are often closely linked? And to what extent can designers control—or should they attempt to control—the interpretive framing of such work?

We take stakeholder concerns seriously, recognizing them as symptoms of a broader anxiety around the growing pressures on GLAM institutions to quantify their relevance. Instead of being valued for their cultural heritage, these institutions are increasingly expected to justify funding through metrics and sponsorships that can shape their narratives. Our Data Sculptures, while intended as interpretive tools, risk reinforcing this logic by presenting algorithmically processed public discourse in ways that may suggest objectivity or competition.

In response, we would like to discuss design strategies for resisting these optics. These may include accepting ambiguity, providing textual or image layers that decenter numeric scale from the visualization. We want to present our prototypes and consider with the alt.vis community possible visualizations that deliberately complicate the logic of measurability— while remaining sensitive to the practical need for accessibility and communicability within cultural settings. The goal of our provocation is to look for visualization strategies that do not eliminate all possibility of instrumental reading, but to **reclaim interpretive agency** and emphasize the **sculptures as provocations, not evaluations**.

In the alt.vis workshop we would like to discuss the following questions:

1. How do you navigate the fine line between a visualization that informs and one that evaluates?
2. To what extent do you believe designers can (or should) control how audiences interpret data sculptures?
3. How can data sculptures operate within a political economy of visibility, in which attention, relevance, and funding are often closely linked?
4. Since the general public is often unfamiliar with the UN SDGs, how do you balance accessibility with conceptual nuance in the sculptures?
5. Is ambiguity in visualization a form of resistance—or does it risk exclusion by making interpretation harder for non-expert audiences?

ACKNOWLEDGMENTS

GreenGLAM is funded by the Austrian Research Promotion Agency (FFG) as part of the AI for Green program.