Submission to CSDH 2026

Lena MK, January 2026. PDF version with images and references

Title

The shapes of data. Tangles between fixed formats and soft embodiments

Abstract

Data physicalisation “examines how computer-supported, physical representations of data (i.e., physicalizations), can support cognition, communication, learning, problem solving, and decision making.” (Jansen et al. 2015, 8) The translation of data into a tangible output carries many potentialities and challenges, some of which I explore in my research-creation practice. *Soft data celebration* (2025) is a data physicalisation I created from data published by the Montreal Contemporary Art Museum (MAC) about its collection. Plushy pompoms represent artworks with color encoding the origins of the artists.The scale from pastels to bright and scintillating colors provides a soothing environment while accentuating less prevalent occurrences. The pompoms are assembled into garlands representing yearly acquisitions by the museum. In the installation, they dangle from a circular mobile hung atop a fluffy carpet.

For this presentation, I will reflect on the experiences of making, sharing and documenting *Soft data celebration*, a case study in my research on GLAM+ data physicalisation. I begin by recounting the makings of the project. In the open data about the artists in the museum's collection, I aimed to critically engage with the `nationality` property. I decided, then, to loosen the nationalistic constraint to recognise both indigenous and québecois identities. While it is common for many individuals to have multiple origins, their representation is often treated as a visualisation “issue”. The material approach, translating visualisation into physicalisation, creates space to add as many pompoms as necessary to embrace the artists' diversity. This tactile entry point also enabled broader access both to the data and to the MAC collection. Engaging with soft and plushy data allows for new potentialities. In this tangible environment, change is a simple repair made by cutting the thread and tying new knots. Serendipity also enriched the project: the garlands of feather-light pompoms bent the PEX structure of the mobile, forming an unexpectedly “physical data-driven” Bézier curve.

Soft Data Celebration is a case study in my doctoral research at the crossroads of textility and algorithmics. My approach is founded in thinking of craft as technology and of technology as craft in order to highlight the fabrication process of digital work as well as the technicity of hand-crafted artifacts. My practice-based research (*pratique de recherche-création*) emphasizes the steps of sharing and documenting the work. I will therefore present two demos of the project (2025, 2026) as well as the joys and challenges I encountered in creating documentation for this project. Participatory photographic documentation, sensory audiodescription, open-source code, and zine production: these endeavors archive the different narratives and experiences that the installation embraces. They also weave the creation process into the academic research, contributing to the many shapes of this data-driven project.

References

- Jansen, Yvonne, Pierre Dragicevic, Petra Isenberg, et al. 2015. “Opportunities and Challenges for Data Physicalization.” Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, April 18, 3227–36. https://doi.org/10.1145/2702123.2702180.
- Adam Jasper and Nadia Wagner, “Notes on Touch, Sound, Smell, and Flavor,” in Ellen Lupton and Andrea Lipps, *The Senses: Design beyond Vision*, Copper Hewitt and Smithsonian Design Museum , New York, Princeton Architectural Press, 2018, p. 41.
- Open data from the MAC: https://www.donneesquebec.ca/recherche/dataset/macrepertoire

Figure

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