



Data Storytelling Studio

data sculptures

CMS.631/831

Rahul Bhargava



Agenda

- [15] Data sculpture activity
- [20] Inspirations
- [10] Readings
- [20] Physical viz review activity
- [5] Tools and techniques
- [15] Datasets and team-forming

Data Sculptures

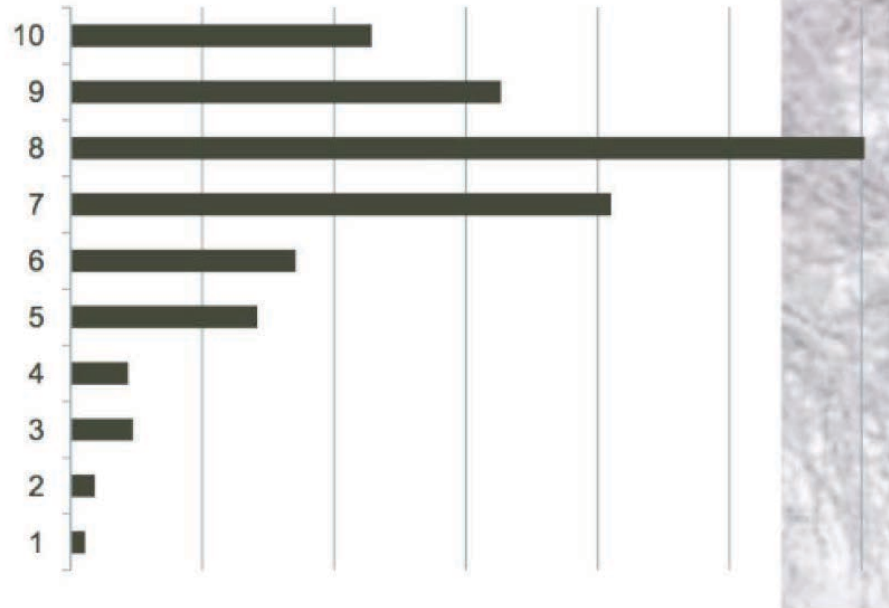
Represent the data with **physical** variables

Physicalizations? physical data? data sculptures? Dataphys? Data experiences?

make a Data Sculpture

VISUAL//

The following is a plot of responses to the question, "how happy are you right now," showing how responses were distributed



*Overall,
would you
say that
Somerville
is moving
in the right
direction or
the wrong
direction?*

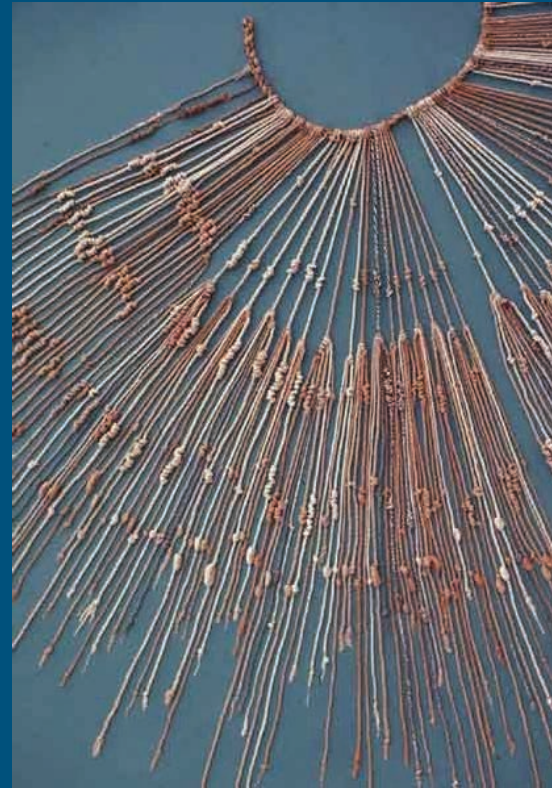
Extracted from the Somerville Wellbeing Report (bit.ly/happy-villens)

An Old Idea

"Quipus were complex assemblies of knotted ropes that were used in South America as a data storage device and played an important role in the Inca administration. Only a handful of specialists could use and decipher them. Their meaning mostly remains a mystery but it seems that color, relative position of knots, knot types and rope length were used to encode categorical and quantitative variables."

<http://dataphys.org/list/peruvian-quipus/>

Courtesy of Data Physicalization Wiki. License CC BY NC SA.



Inca Quipus

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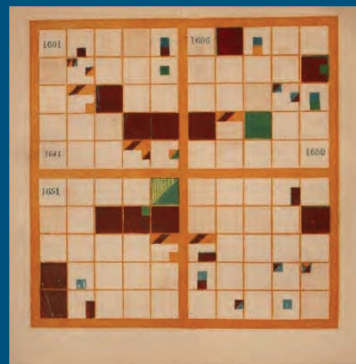
Inspirational "Flat" Objects



Rahul Bhargava, 2014



Air Transformed, [Stephanie Posavec](#) & [Miriam Quick](#), 2015



Elizabeth Peabody, 1856



Black Cloud, WWF & Ogilvy, 2007



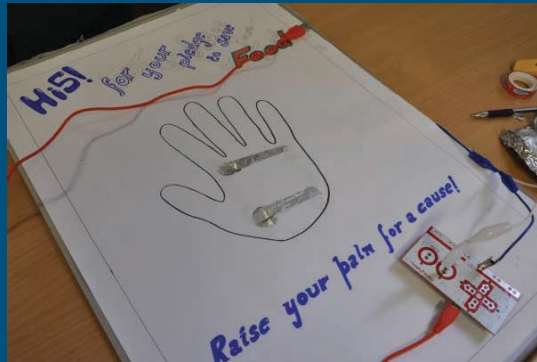
[Crossing Urban Boundaries](#) Urbano Project

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Inspirational Interactive Objects



Drip By Tweet, Domestic Data Streamers, 2014



iBins Team, India, 2015

Physical Mappings

Yvonne Jansen, Kasper Hornbæk. [A Psychophysical Investigation of Size as a Physical Variable](#). IEEE Transactions on Visualization and Computer Graphics, Institute of Electrical and Electronics Engineers, 2016, 22 (1), pp.479 - 488.

Physical Viz Review Activity

to understand the design space

- form a team of 3
 - scan dataphys.org/list and pick a post-2000 project
 - prepare a 2-minute overview telling us:
 - what data are they showing?
 - what is the mapping from data to physical artifact?
 - Why does the physicality of it matter?
 - Do you like it or not?
-
- you have 10 mins

Tools

- cardboard
- string
- glue
- etc.
- laser cutter
- 3d printer
- Arduino
- Makey-Makey

contact me early if you want help!

Data Sets

pick one, or use your own

Hubway Rides

NYC Trees

CO₂ emissions

[Air Quality in Beijing](#) from US State
Dept

[Global Temp Rise](#) from IPCC-
approved models

...or something else

Team Forming

find new people to work with

What do you know?

What do you want to make?

What dataset are you interested in?

MIT OpenCourseWare
<https://ocw.mit.edu/>

CMS.631 Data Storytelling Studio: Climate Change
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