

CAPAL 2025 Closing Keynote

The fabric of librarianship, literally: collaborative storytelling through craft and data

Alexandra Wong



Quick show of hands

Please raise that hand if you consider data...

Right Hand

More scary
Usually boring
Mostly reductive

or
or
or

Left Hand

More fun
Usually interesting
Mostly creative

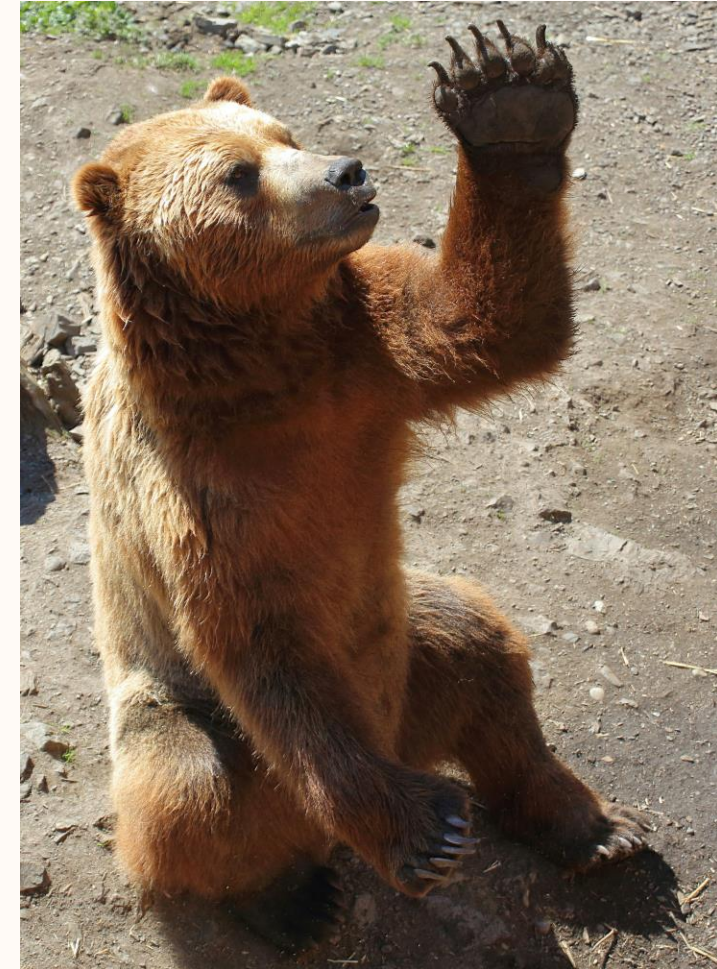


Photo by [Simon Hurry](#) on [Unsplash](#)

Introduction

Hello!

I'm Alex!



Identity

- Data visualization and analytics librarian
- Master of information
- Data analyst
- Undergraduate in math and business

Stories

Craft

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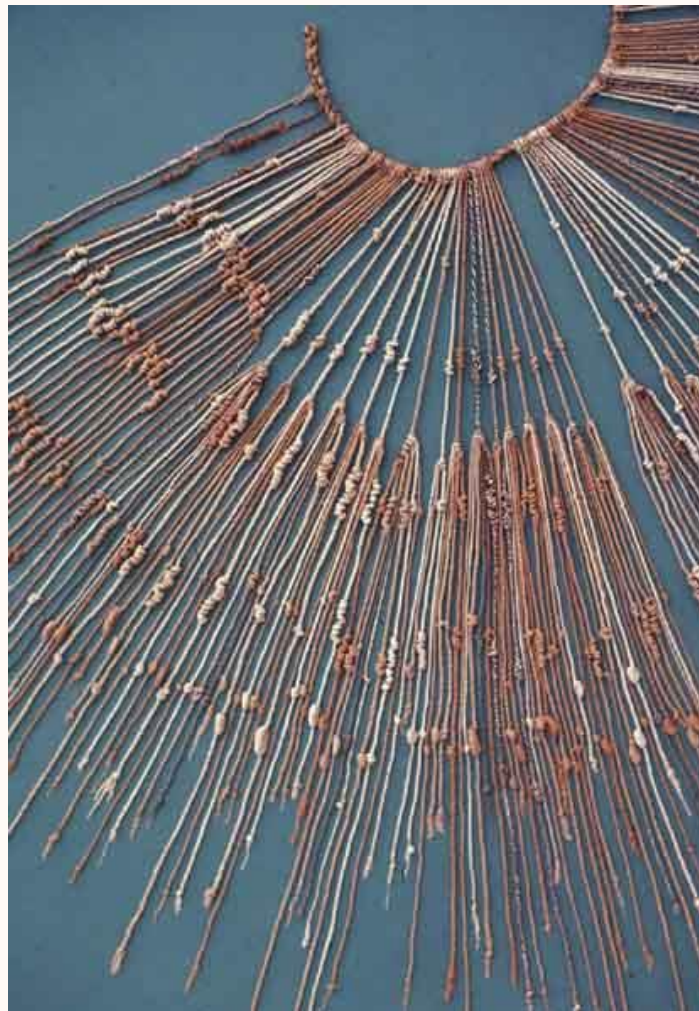
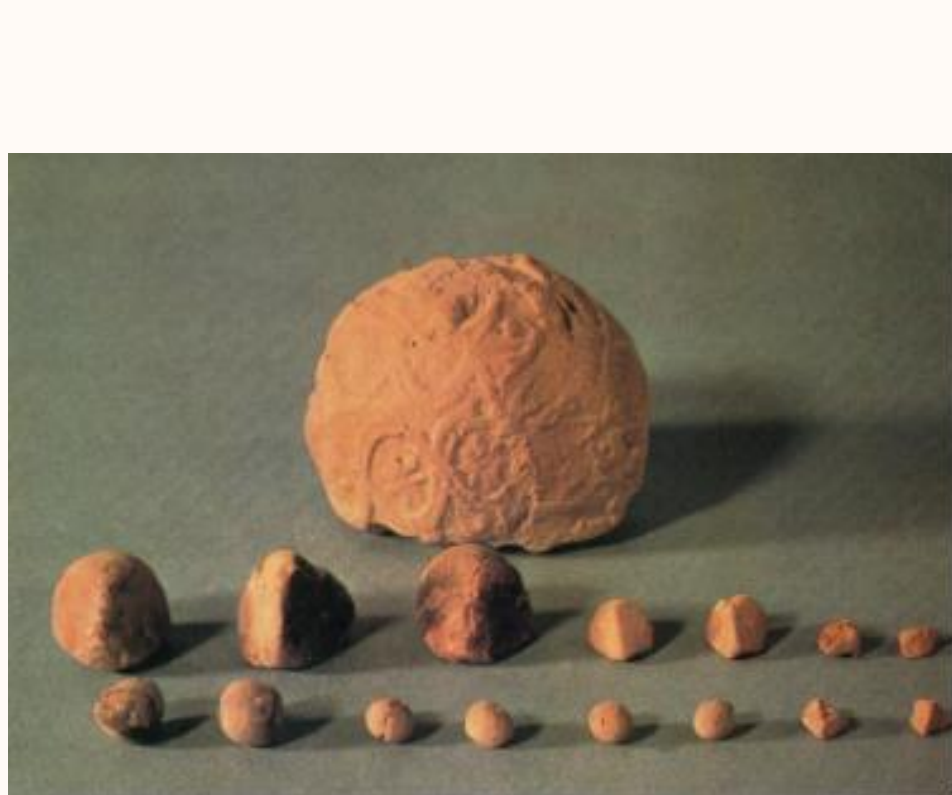
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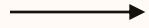
01

Introduction to data visualization & data physicalization

Data are not just numbers in Excel...
Data long predate the digital



Source: <https://dataphys.org/list/>



“A data physicalization (or simply physicalization) is a physical artifact whose geometry or material properties encode data.”

—Jansen et.al, 2015

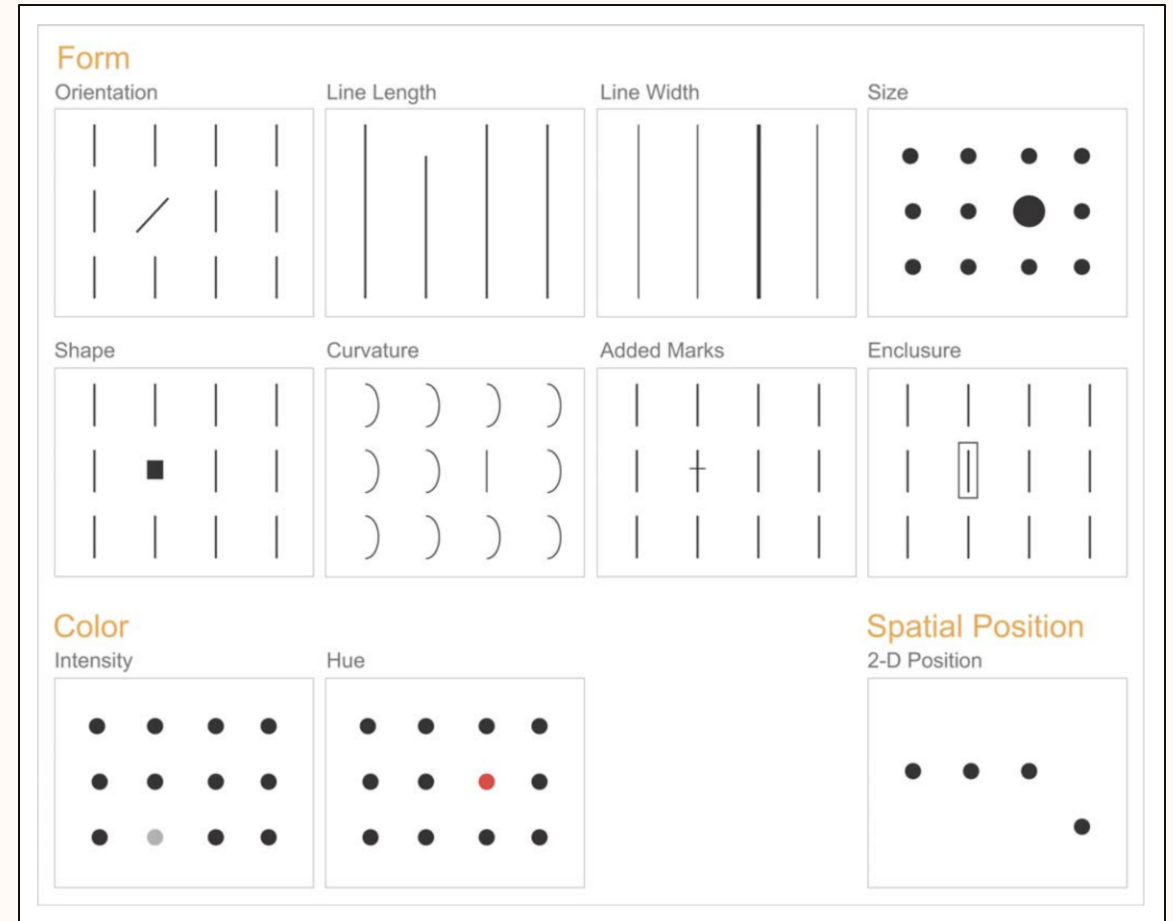
Encoding data

9873497902756479028947286240
8032080290073025012702370083
2478026027037937757097073779
9279797097230972309795927509

Attentive processing

98734979027**5**6479028947286240
803208029007302**5**012702370083
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927979709723097230979**5**927**5**09

Preattentive processing

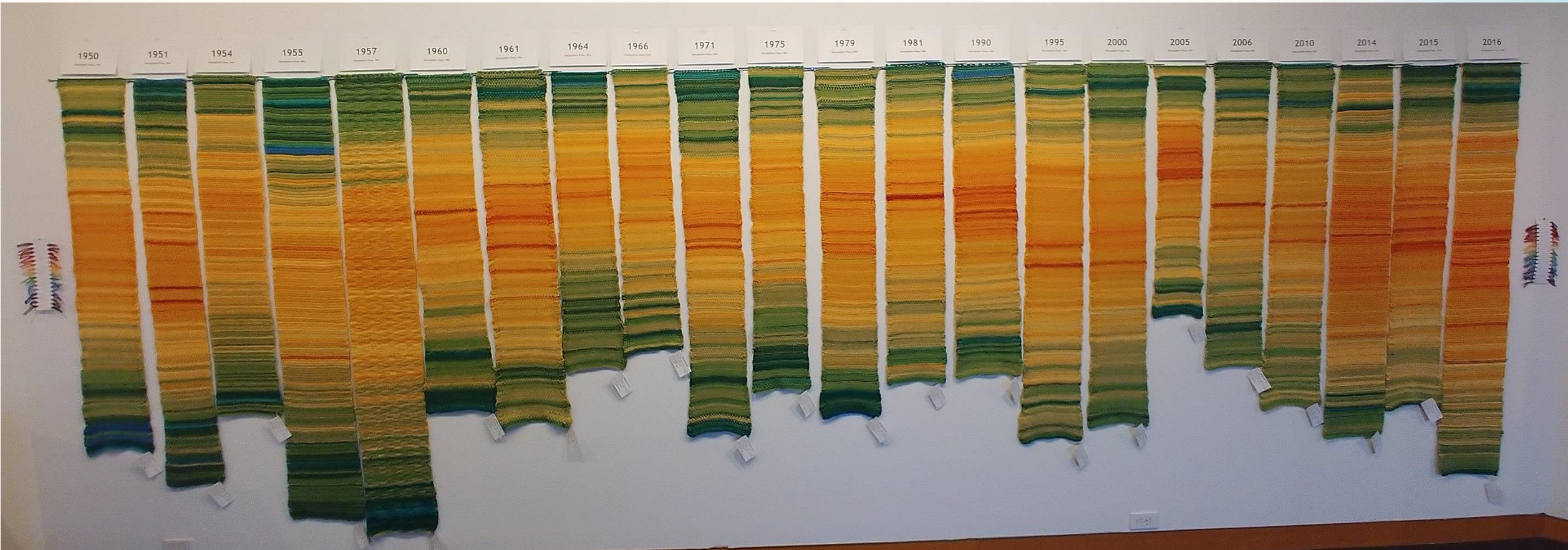


Encoding data with colour: The Tempestry Project

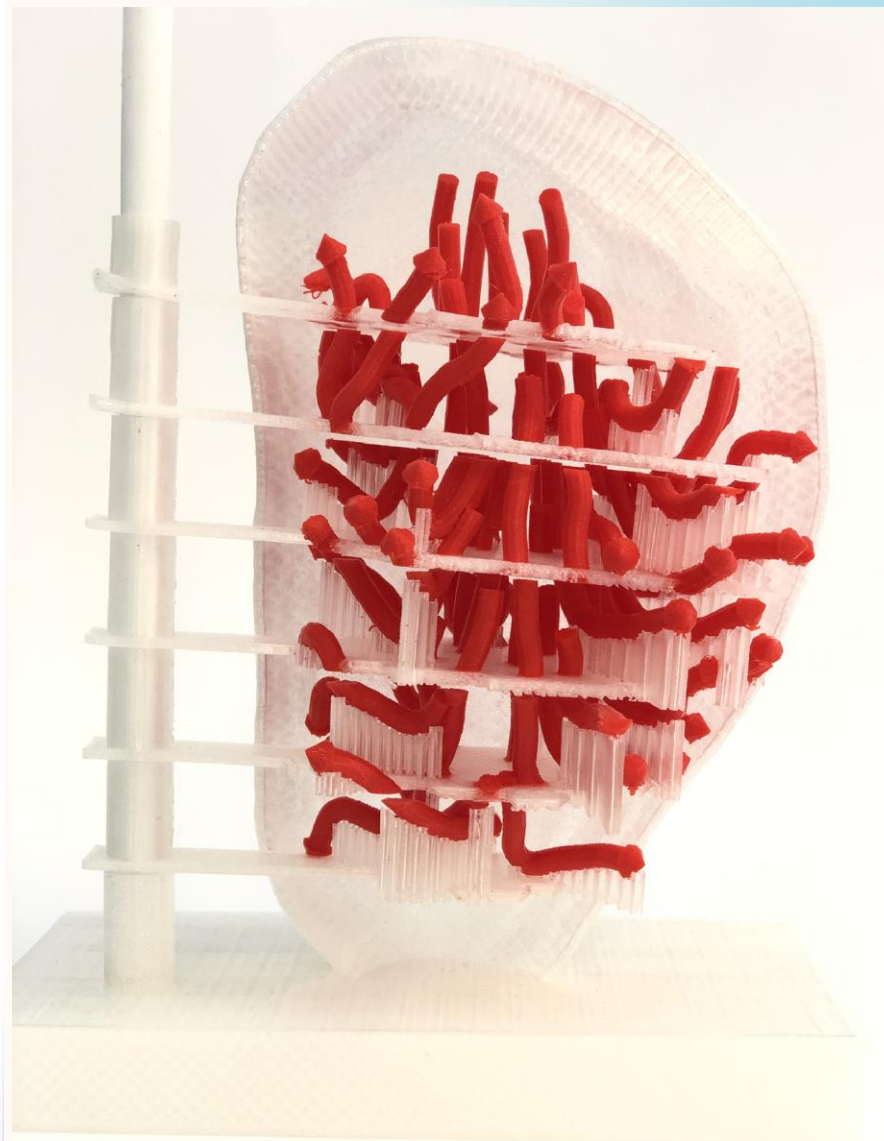
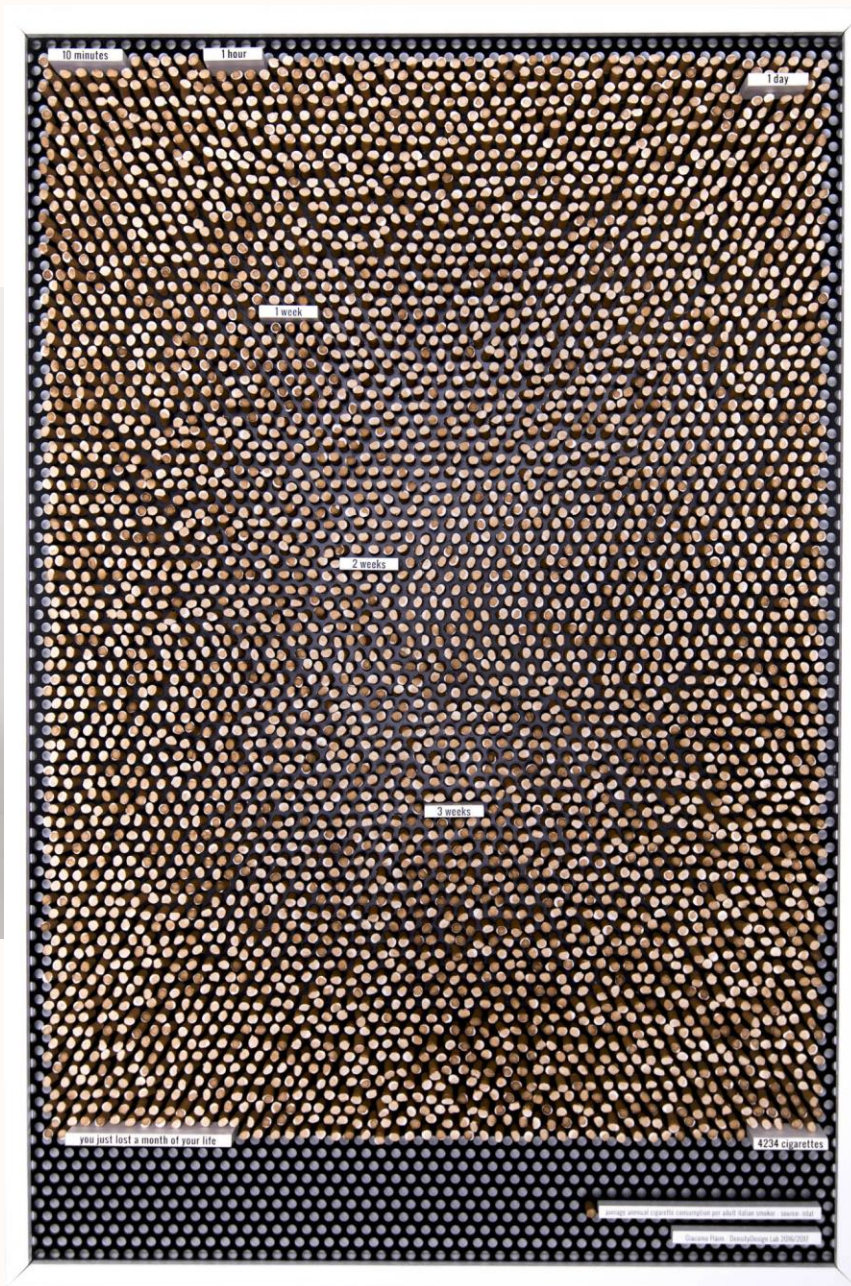


Source: https://en.wikipedia.org/wiki/The_Tempestry_Project

Encoding data with colour: The Tempestry Project

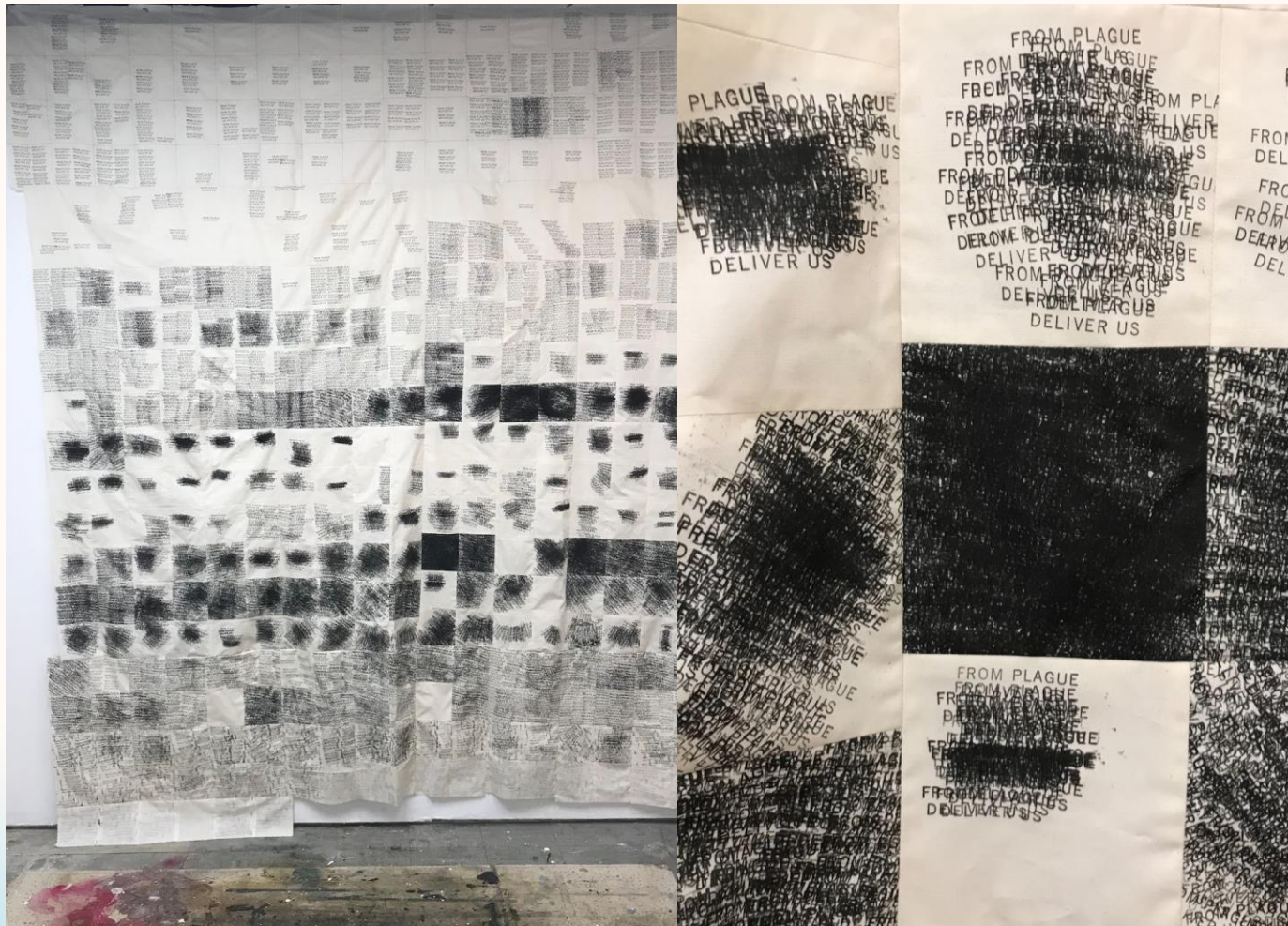


Source: https://en.wikipedia.org/wiki/The_Tempestry_Project



Source: <https://dataphys.org/list/>

For the creator, a data physicalization engages the act of critical making, inviting slowness, intentionality, and reflection on data, ethics, and power



What happens when we can both see and touch data? I worked on DEMAND/PRAYER for about 20 hours a week over 18 weeks. I anticipated the project would be a sad one; I didn't expect it to make me shake with anger while I sewed. **It's one thing to model cases digitally, and another to perform a small physical act of labor that acknowledges each person in a dataset.** My anger was fueled by numbers from a relatively small area, compared to the pandemic's global reach. I wondered if (and how) public policy outcomes might change if legislators, and the public, had a more embodied relationship to case data. As the writer Jenn Shapland claims, "I feel that there is a price we pay for disembodiment." What might happen if those shaping public policy could touch and see the lives being impacted by this pandemic?

Source: India Johnson, <https://nightingaledvs.com/the-soul-of-data-data-physicalizations-on-fabric/>

Data visceralization



<https://vimeo.com/133815147>

“... there is something to be learned from the opportunities opened up by **visceralizing data**. Deliberately embracing emotions like wonder, confusion, humor, and solidarity enables a valuable form of data maximalism, one that **allows for multisensory entry points**, greater accessibility, and a range of learning types”

-Catherine D'Ignazio and Lauren F. Klein, Data Feminism



“**Dense and unconventional** data visualizations promote slowness — a particularly poignant goal to set in our era of ever- shortening attention spans. If we can create visuals that encourage **careful reading and personal engagement**, people will find more and more **real value** in data and in what it represents.”

- Georgia Lupi, on data humanism

Connects with information

Physicalized data disseminates
with greater interaction with the
context and findings

Enhances experience

Materiality changes practice of
interacting with data

Participating with a
data physicalization

Experience

As an interactive activity to
support reflection and interaction
with data (not polished “truths”)

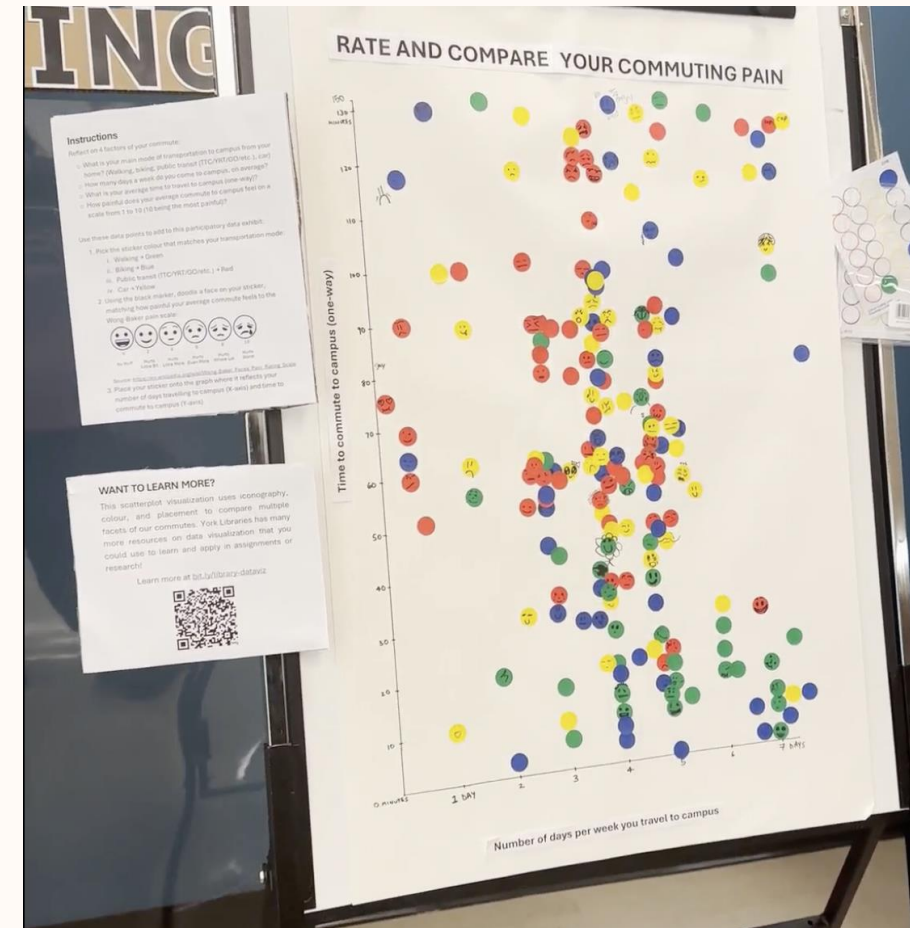
Captures experience

Gives real form to gathered data

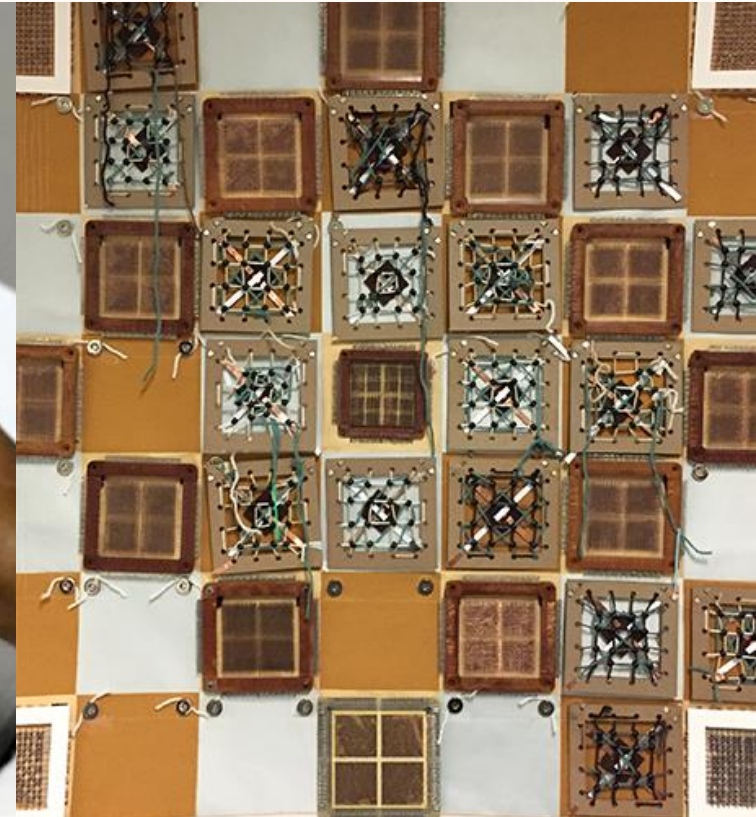
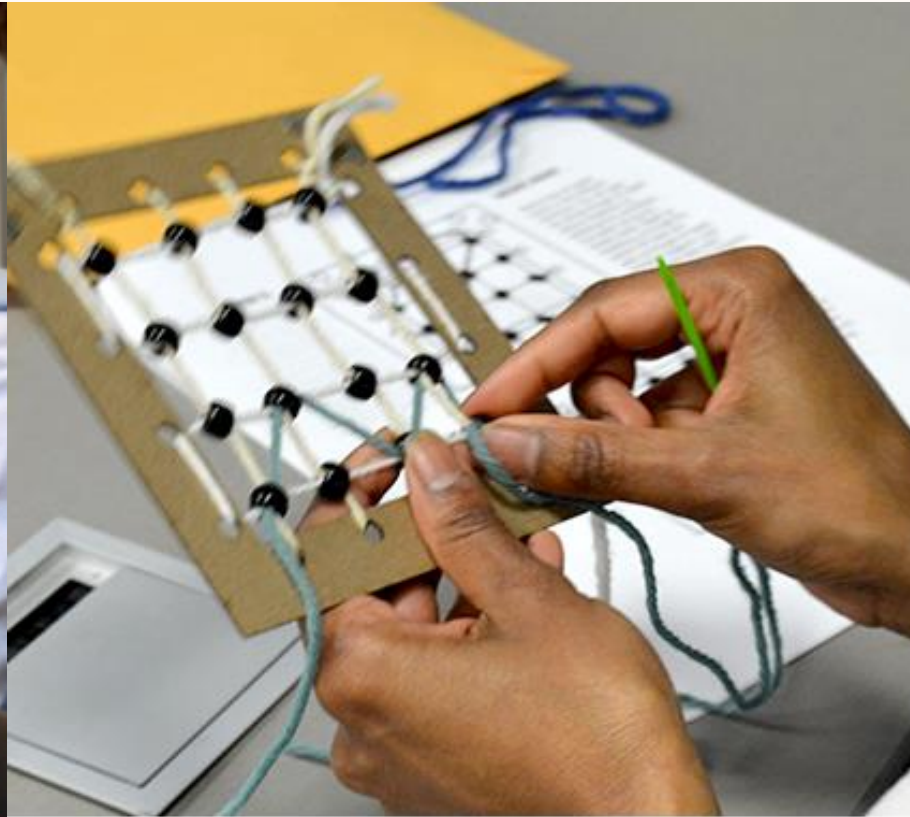
Data physicalization in collection displays



Source: York University Libraries



Data physicalization workshops



Sources:

<https://faculty.washington.edu/dkrosner/corememory/>

<https://dl.acm.org/doi/pdf/10.1145/3173574.3174105>



02

Activity introduction

Activity introduction



Inspired by the Quilting Bee

Quilting bees were not only sites of community – but also activism

Literally let's patch together our experiences – something to summarize the two days of our conference experience with!

Source:

<https://digital.library.unt.edu/ark:/67531/metadc286415/m1/1/>

Activity introduction

A collaborative quilt top using **cyanotype**



Source: https://en.wikipedia.org/wiki/Cyanotype#/media/File:Anna_Atkins_algae_cyanotype.jpg



<https://www.youtube.com/shorts/KOKIK2Pi3Rg>

Activity introduction

Using provided materials, we'll be physically representing various data points (both qualitative and quantitative) of our experiences on fabric:

1. Left border: Bar length to represent how many years of academic librarianship experience
2. Right border: Bar length to represent how many years of work experience outside of academic librarianship
3. Top border: circular tacks to represent how many new people and new ideas you actively engaged with throughout the conference
4. Centre: Representation of your identities and lived experiences – it can be as abstract or realistic, simple or busy as you wish

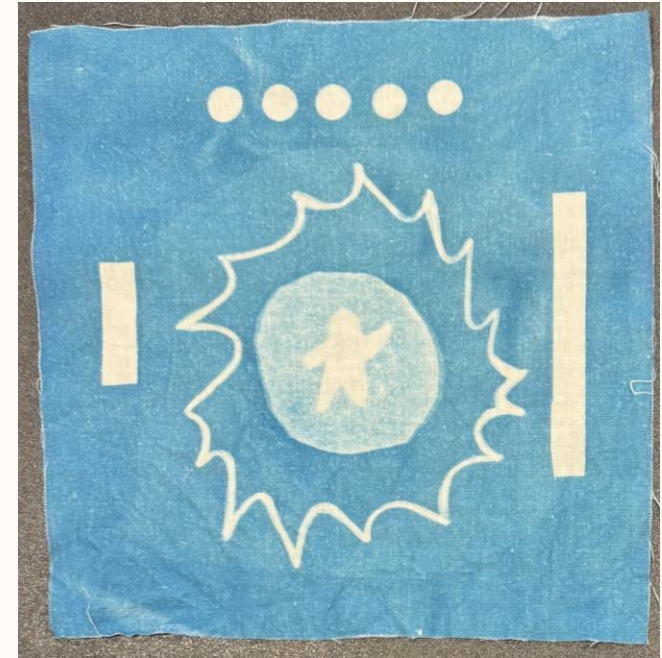
Activity introduction

You will be provided with:

- A 7" x 7" square piece of cyanotype fabric
- Scissors, glue sticks, and tape to share
- Loose paper to cut
- Plastic sheets to draw on with markers
- Pre-cut silhouettes and shapes you may choose to use
- Circle tacks and gridded strips of paper

Please note:

- The activity is meant to give shared experience of creation and reflection – it is meant to be lighthearted and you need not feel pressure to be an “artist”
- Cyanotype works by everything exposed to UV rays becomes blue and everything not exposed because it is covered by paper, object, or marker will be white at the end





03

Why data contextualization matters



“The purpose of decoration varies – to make the graphic appear more scientific and precise, to enliven the display, to give the designer an opportunity to exercise artistic skills. Regardless of its cause, it is all non-data-ink or redundant data-ink, and it is often **chartjunk**. Graphic decoration ... comes cheaper than hard work required to produce intriguing numbers and secure evidence.”

- Edward Tufte, The Visual Display of Quantitative Information

Why data contextualization matters

Important, related research under a wide variety of names

- Situated knowledge – Donna Haraway
- Data as capta – Johanna Drucker
- Localized data – Yanni Alexander Loukissas
- Data feminism – Catherine D'Ignazio and Lauren Klein
- ... and many, many more

Why data contextualization matters

FABRICATED

LAYERED

INTERWOVEN

Why data contextualization matters

Fabricated

All facets of working with data (collection, processing, analysis, visualization) invite human biases

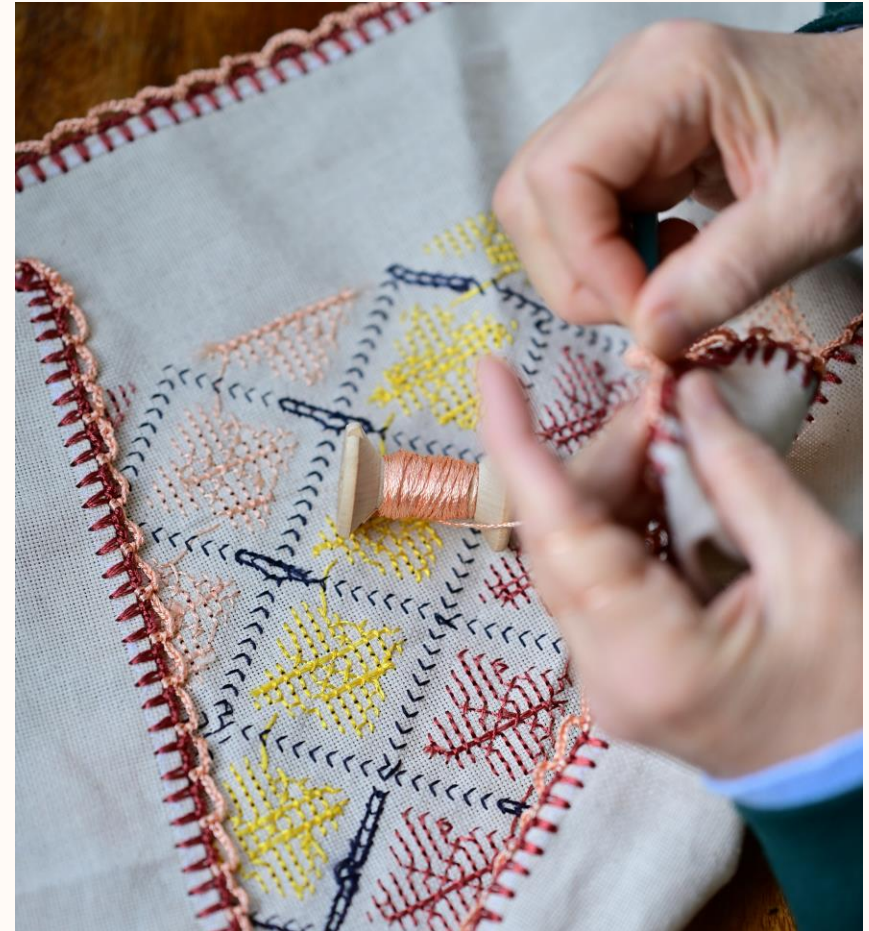


Photo by [Bozhin Karaivanov](#) on [Unsplash](#)

Why data contextualization matters

Layered

Data is layered:
with historical data,
as steps in the
process, and within
our systems



Photo by [Adrien Olichon](#) on [Unsplash](#)

Why data contextualization matters

Interwoven

People, systems
and power
structures are
inherently
interwoven with
both creation and
interactions



Photo by [Jean Vella](#) on [Unsplash](#)



04

Activity time

Activity instructions

Use the various provided materials to create your own cyanotype physicalization! These are the materials at your disposal:

- A 7" x 7" square piece of cyanotype fabric
- Scissors, glue sticks, and tape to share
- Loose paper to cut
- Pre-cut silhouettes and shapes you may choose to use
- Circle tacks and pre-cut strips of paper

Lay out your physicalization in the following way:

1. **Top border:** Circular tacks to represent how many new people and new ideas you actively engaged with throughout the conference
2. **Left border:** Bar length to represent how many years of experience you have in academic librarianship
3. **Right border:** Bar length to represent how many years of experience you have in other professional or career-driven fields
4. **Centre:** Representation of your identities and lived experiences – it can be as abstract, realistic, or busy as you wish

Once satisfied, bring your physicalization to the lights and we will expose your cyanotype print!

Activity instructions

Left border:

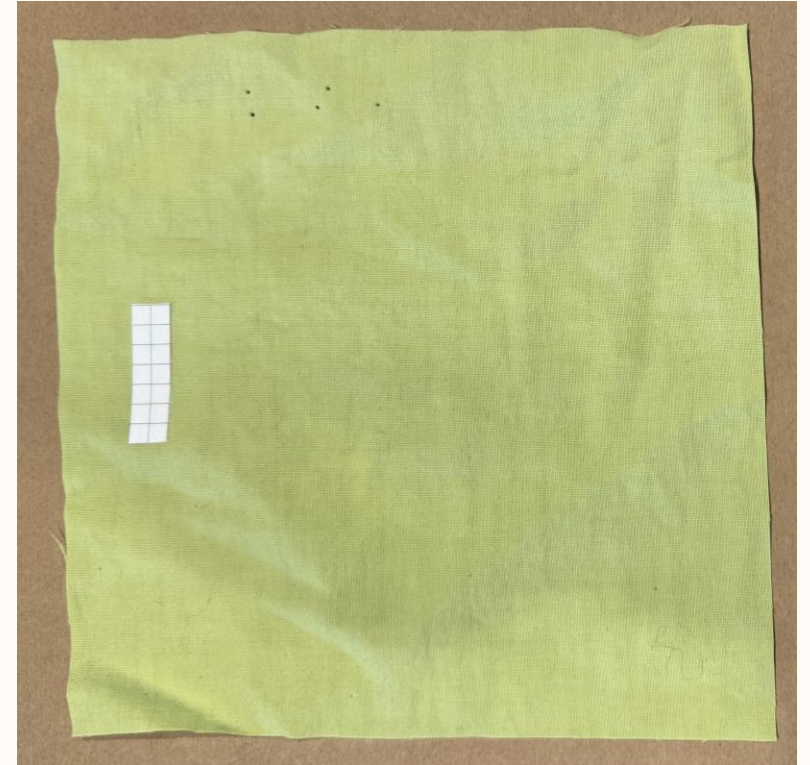
Bar length to represent how many years of experience you have in academic librarianship

Cut the provided piece of gridded paper to the proper length! We want the width to be 1cm (2 squares) and the length to represent your years of experience:

0.5 cm = 0.5 years of experience

1 cm = 1 year of experience

Place your bar approximately 2 cm from the left edge of your fabric, using the glue sticks or tape to adhere it.



Activity instructions

Right border:

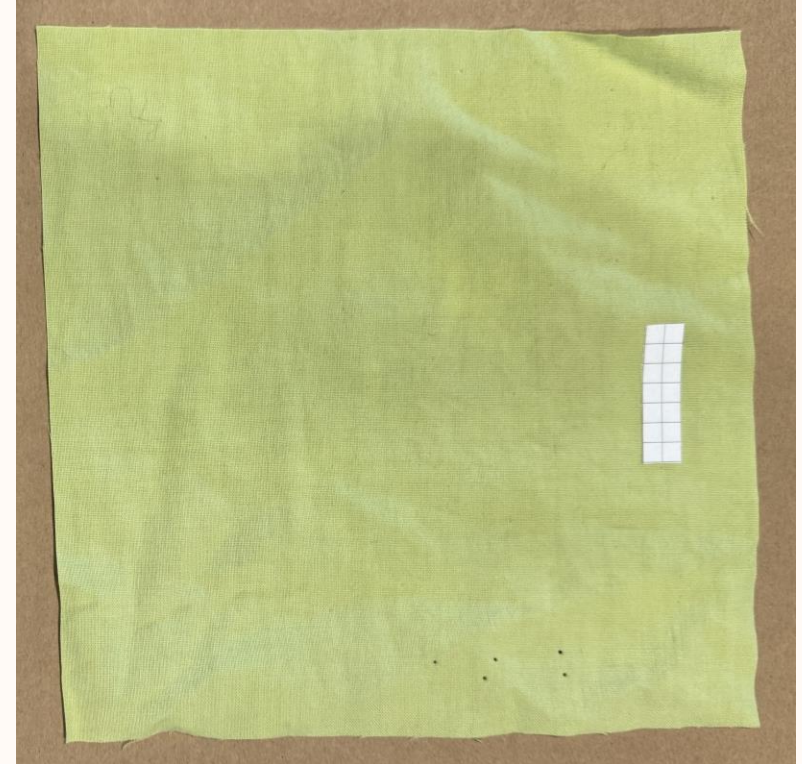
Bar length to represent how many years of work experience you have *outside* of academic librarianship

Cut the provided piece of gridded paper to the proper length. We want the width to be 1cm (2 squares) and the length to represent your years of experience:

0.5 cm = 0.5 years of experience

1 cm = 1 year of experience

Place your bar approximately 2 cm from the left edge of your fabric, using the glue sticks or tape to adhere it.



Activity instructions

Top border:

Circle tacks to represent how many new people and new ideas you actively engaged with throughout the conference

Count (or roughly count) how many new people and new ideas you actively engaged with throughout the two days of conference

1 person = 1 circle

We'll take turns using the circle tacks closer to exposure time, placing the tacks side by side and approximately 2 cm from the top edge.

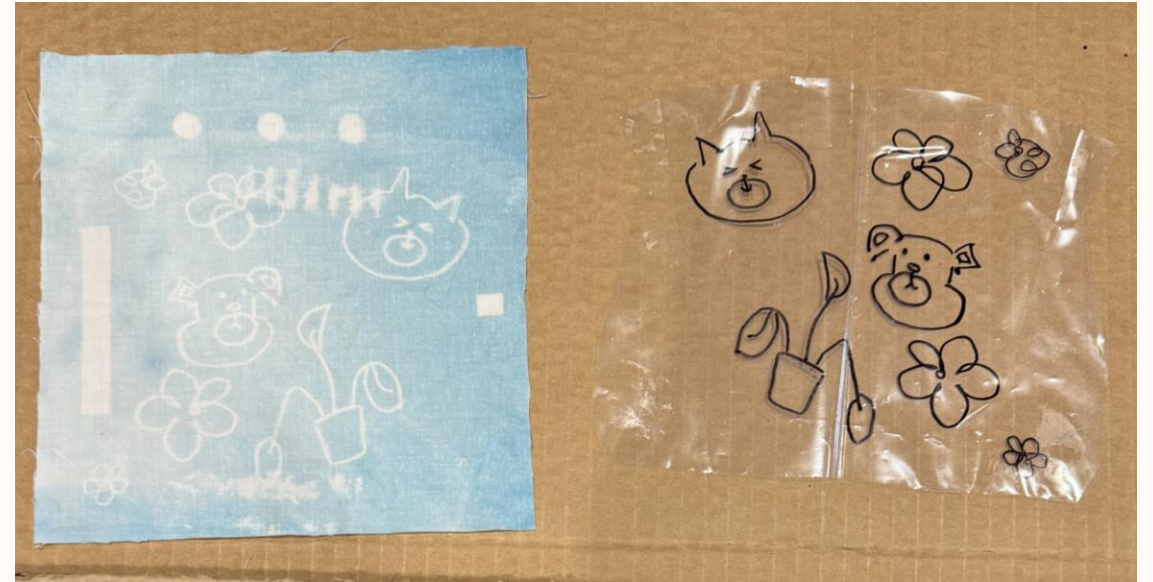


Activity instructions

Centre: Representation of your identities and lived experiences – it can be as abstract, realistic, or busy as you wish

Use the various provided materials to create your own designs!

- Scissors, glue sticks, and tape to share
- Loose paper to cut
- Pre-cut silhouettes and shapes you may choose to use
- Circle tacks and pre-cut strips of paper

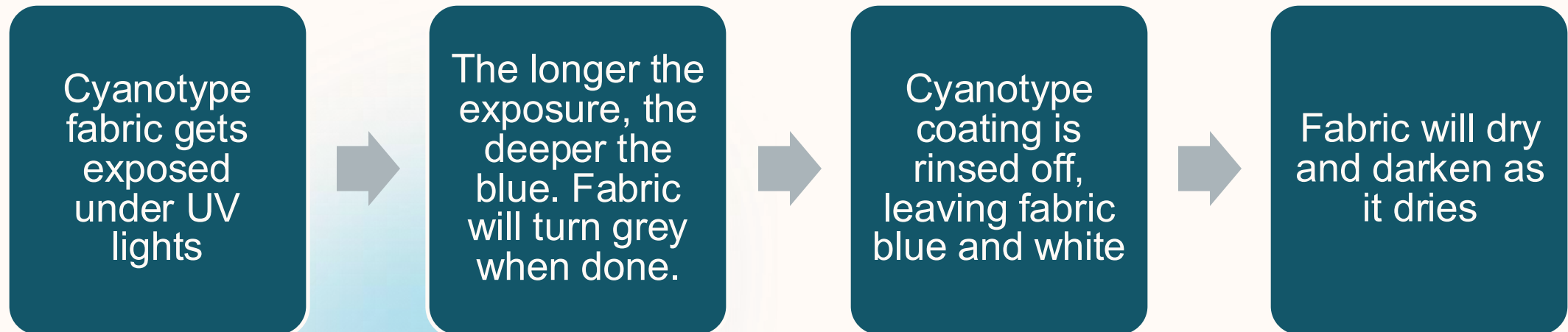


Artist: Jiaqi Lana Yuan

Activity instructions

When you are done with your physicalization, please bring it to be exposed under our UV lights!

The process after:

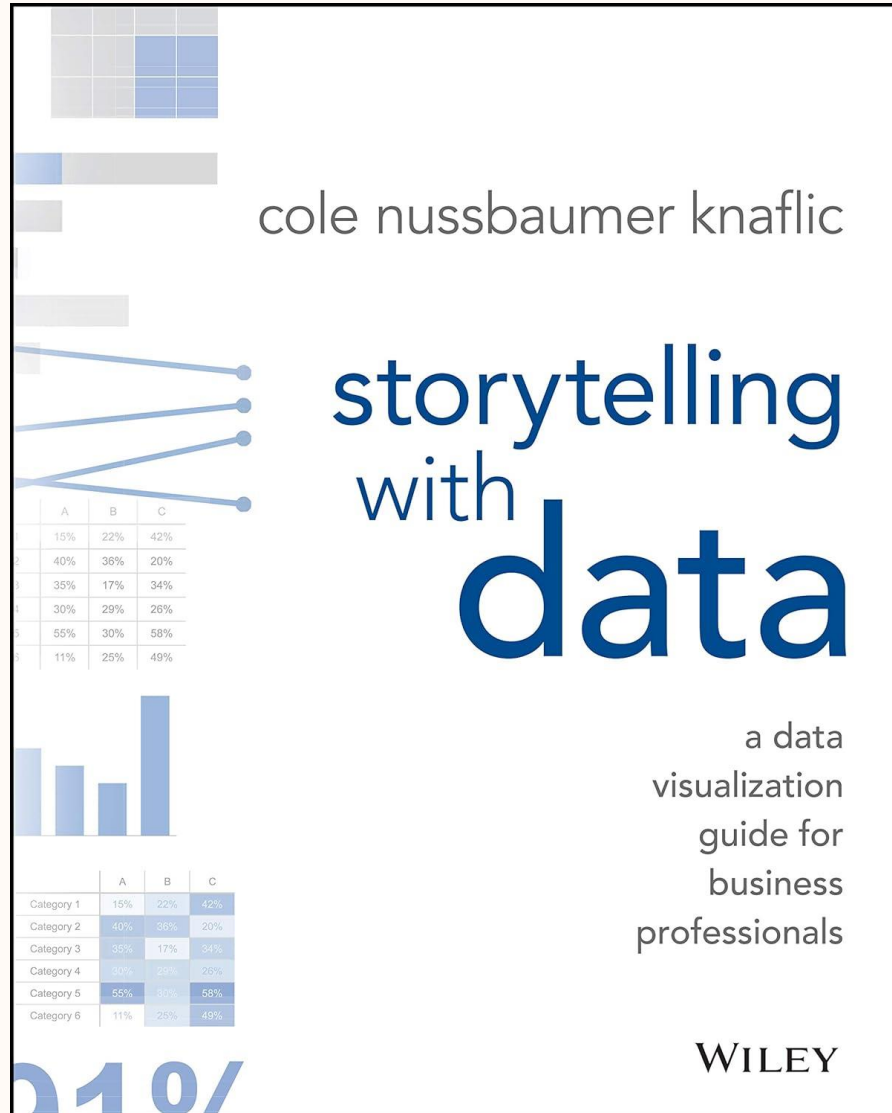




05

Data storytelling through craft

“Traditional” data storytelling



To be competitive, we recommend introducing our product *below the \$223 average price point in the \$150–\$200 range*

Retail price over time

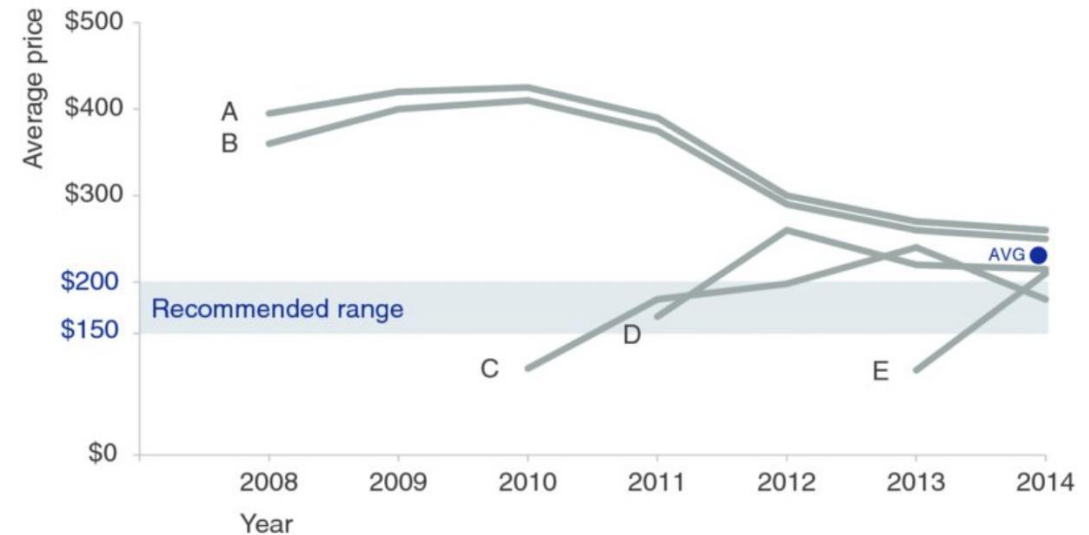
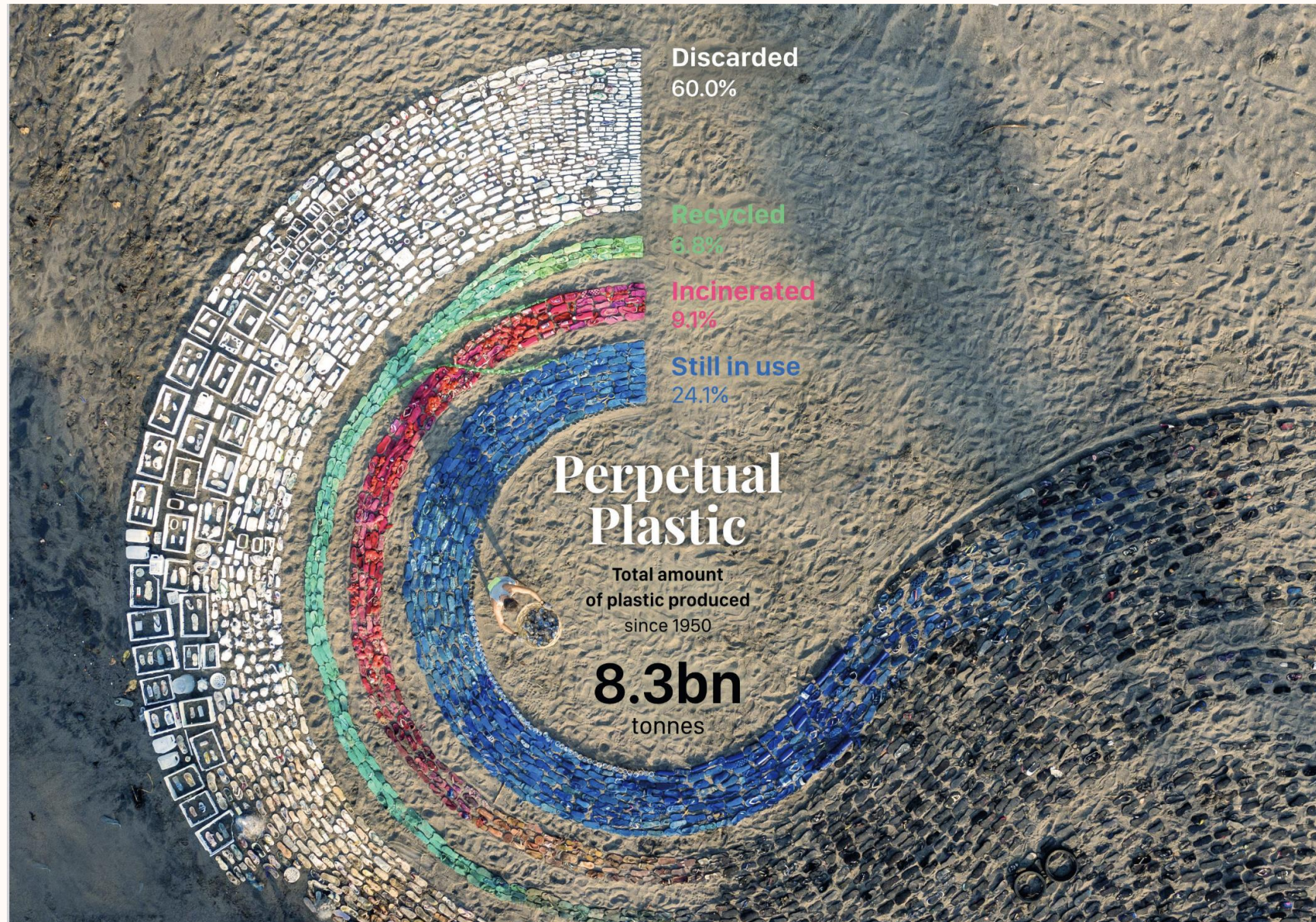


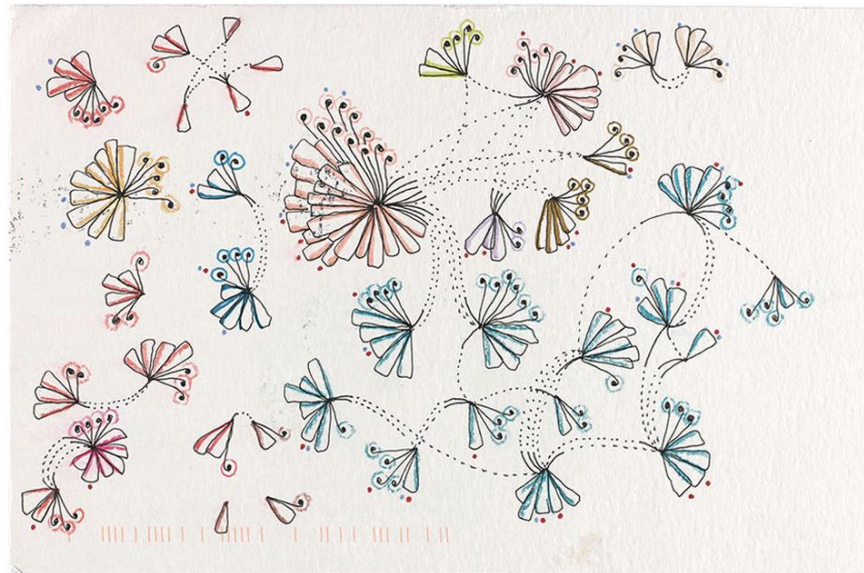
Figure 8.19

Let's consider this progression. We started off by telling our audience the structure we would follow. I can imagine the voiceover in the live presentation could further set the plot before moving to the next slide: “As you all know, there are five products that will be our key competition in the marketplace,” then building the chronological price path that those products followed. We can introduce tension in the competitive landscape when Products C, D, and E significantly undercut existing price points at their respective launches. We can then restore a sense of balance as the prices converge. We end with a clear call to action: the recommendation for pricing our product.

By drawing our audience's attention to the specific part of the story we want to focus on—either by only showing the relevant points or by pushing other things to the background and emphasizing only the relevant pieces and pairing this with a thoughtful narrative—we've led our audience through the story.



Source: Liina Klauss, Moritz Stefaner, Skye Morét, <https://perpetual-plastic.net/>



66 Dear Data
WEEK 42: Laughters!

HOW TO READ IT:

This week I was in Italy, I tracked all of the laughs I had and I provoked and noticed also the "big" ones I heard from others.

Each element is a PERSON:

- Boyfriend
- Mum
- Dad
- grandma
- in-laws
- grandma friends
- friends in my home town
- ex boyfriend
- toddler
- others (other people / not friends)

Accurat, guys.
you! (via txt)
friends in NY via txt

laughters provoked by someone else
laughters I provoked in him/her

= laughters he/she provoked on me (the biggest = the biggest laughters)

red dot = collective laughters
blue dot = it was a manifest

NEW YORK NY
30 JUN 2015 PM
FROM: GEORGIA LUPI
BROOKLYN - NY - USA
SEND TO: STEFANIE POSAVEC
LONDON
UK
ENGLAND

When data-gathering gets in the way: Georgia laughs and then has to report it. So, is she fully enjoying her cheerful moments as they pop up?



DEAR DATA - WEEK 42

A WEEK OF LAUGHTER
ABOUT THE DATA: I TRIED TO CAPTURE MY LAUGHS WHICH WAS REALLY HARD + GOT IN THE WAY OF ENJOYING LIFE, HENCE THE DATA VOIDS

HOW TO READ IT:

IN CHRONO ORDER
START

MARKERS INDICATE END OF ONE DAY + BEGINNING OF OTHER. IF MARKER IS IN 'PEN', IT MEANS I HAD A DATA VOID DUE TO THE FOLLOWING: DRINKING W FRIENDS, MY BDAY!! MY 8-DAY DINNER

SIZE OF LAUGH:
LARGE + REGULAR HEARTFELT
A DOT MEANS YOU KNOW
LAUGHING THEM AT PEOPLE (GENERALLY IN FUN)

WHAT I WAS LAUGHING ABOUT
EACH REPRESENTS A LAUGH OR MOMENT OF LAUGHTER
ALL LAUGHS ARE DRAWN IN CHRONOLOGICAL ORDER FROM L-R AS IF YOU'D READ A BOOK

I WAS LAUGHING ABOUT:
MYSELF
MY HUSBAND
FRIEND
STUDIO PARTIES
GROUP OF FRIENDS
CONTACT - YOU!

FROM: S POSAVEC

FOR A CARD ABOUT LAUGHTER I AM SAD ABOUT HOW THIS CARD TURNED OUT
London tips at UK dogawareness

Mail Centre
03-07-2015
14014000

TO: GEORGIA LUPI
BROOKLYN, NY
USA

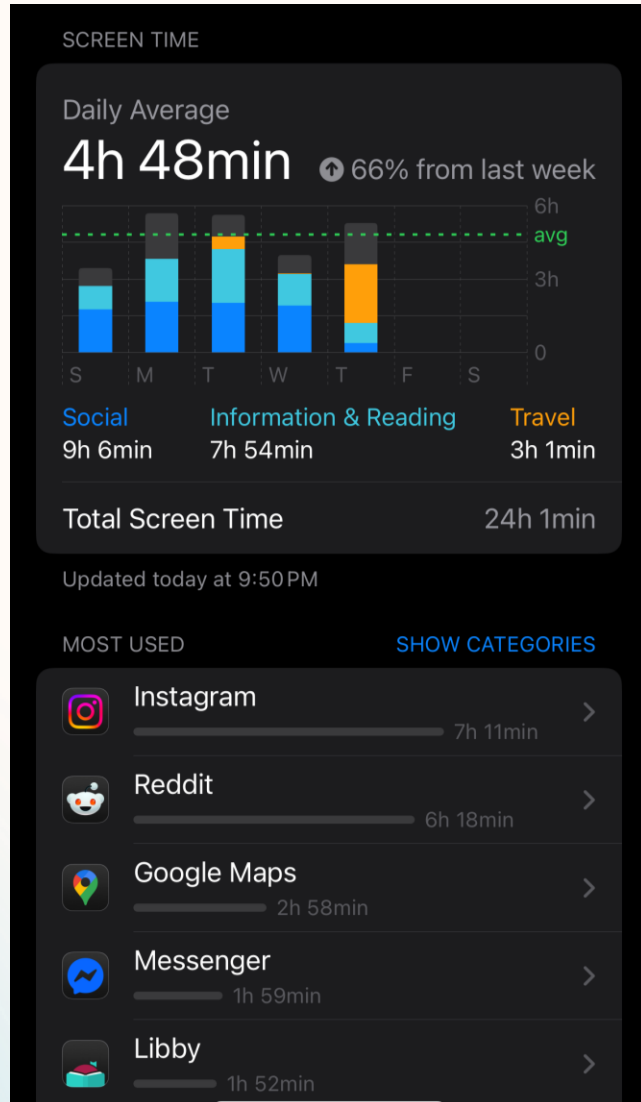
AIRMAIL!

Stefanie was banned by her husband from gathering data at her birthday dinner in a posh restaurant (for obvious reasons). Hence the "data void".

“We prefer to approach data in a **slower, more analogue way**. We’ve always conceived Dear Data as a “**personal documentary**” rather than a **quantified-self project** which is a subtle – but important – distinction. Instead of using data just to become more efficient, we argue we can use **data to become more humane and to connect** with ourselves and others at a deeper level.”

– Georgia Lupi and Stephanie Posavec on Dear Data
<https://www.dear-data.com/theproject>

The quantified self



Is Data The New Oil?

By [Perry Rotella](#), Contributor. ⓘ

Apr 02, 2012, 11:09am EDT

[Share](#) [Save](#)

This article is more than 10 years old.

Recently, on a CNBC Squawk Box segment, “[The Pulse of Silicon Valley](#),” posed the question, “What is the next really big thing?” to [Ann Winblad](#), investor and senior partner at Hummer-Winblad. Her response: “Data

Winblad talked about predictive analytics as the new hot spot for venture capitalists. She discussed the growth of companies that can derive value from the huge amounts of data stored.

This was not the first time we heard the phrase “data is the new oil,” and it may not be the last. For example, marketing commentator [Michael Palmer](#) blogged ([ana.blogs.com/maestros/2006/11/data_is_the_new.html](#)) back in 2006 that data is as crude. It’s valuable, but if unrefined it cannot really be used. It has to be refined, like plastic, chemicals, etc., to create a valuable entity that drives profitable growth. Data can be broken down, analyzed for it to have value.”

Indeed, data is the next big thing. And it’s not because, according to [IBM](#), the amount of data stored will grow to eight zettabytes by 2015. The real impetus is the potential insights we can derive from this new, vast, and growing natural resource. If data is the next big thing, then companies need to think about a new business model that exploits this valuable resource.

DOW JONES

FACTIVA

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THIS EXACT PHRASE: data is the new oil

DATE: All Dates

SOURCE: All Publications

MORE

Modify Search

Dow Jones (91)

All

Publications (3,583)

Web News (0)

Blogs (0)

Pictures (0)

Sort by: Oldest first

Duplicates: Identical

RTF

Display Options

Date

Export

750

500

250

0

01-Jan-2009

31-Dec-2025

Distribution: Yearly

Companies

Export

Meta Platforms Inc.

117

Reliance Industries Ltd

90

Reliance Jio Infocomm Li...

72

Alphabet Inc.

58

Google LLC

56

Amazon.com, Inc.

47

National Association of So...

33

Microsoft Corporation

25

Reliance Communications...

24

Headlines 1 - 100 of 3,584

Next 100

Total duplicates: 25

43.

Amplidata's AS36 breaks industry records on storage density, power efficiency and cost-effectiveness; New AmpliStor hardware featuring re...

M2 Presswire, 30 October 2012, 917 words, (English)

"Data is the new oil, but CIOs don't have a bottomless pile of cash to throw at storage. They need their storage to be more efficient, and our solutions do exactly that," said Mike Wall, CEO of Amplidata. "Amplidata's AS36 solution is inexpensive, it lets CIOs...

44.

Aeroplan owner plans to tap China's loyalty market; Montreal-based Aeroplan owner has been investing heavily around the world

The Globe and Mail (Breaking News), 7 November 2012, 652 words, (English)

"It may be an overused expression, but data is the new oil," Mr. Adams said. "As the Chinese market develops, the data accumulation and analytical insights that you glean from that can be universal."

45.

'Treat innovators like rock stars'; Giving top thinkers the respect and resources they deserve will help technology make needed advances...

Postmedia Breaking News, 8 November 2012, 580 words, (English)

"Data is the new oil," he said. "It has no value in its raw form, but if it's refined and processed it will run the world."

2 duplicate article(s) identified

46.

Internet Moguls & TrustYou join hands

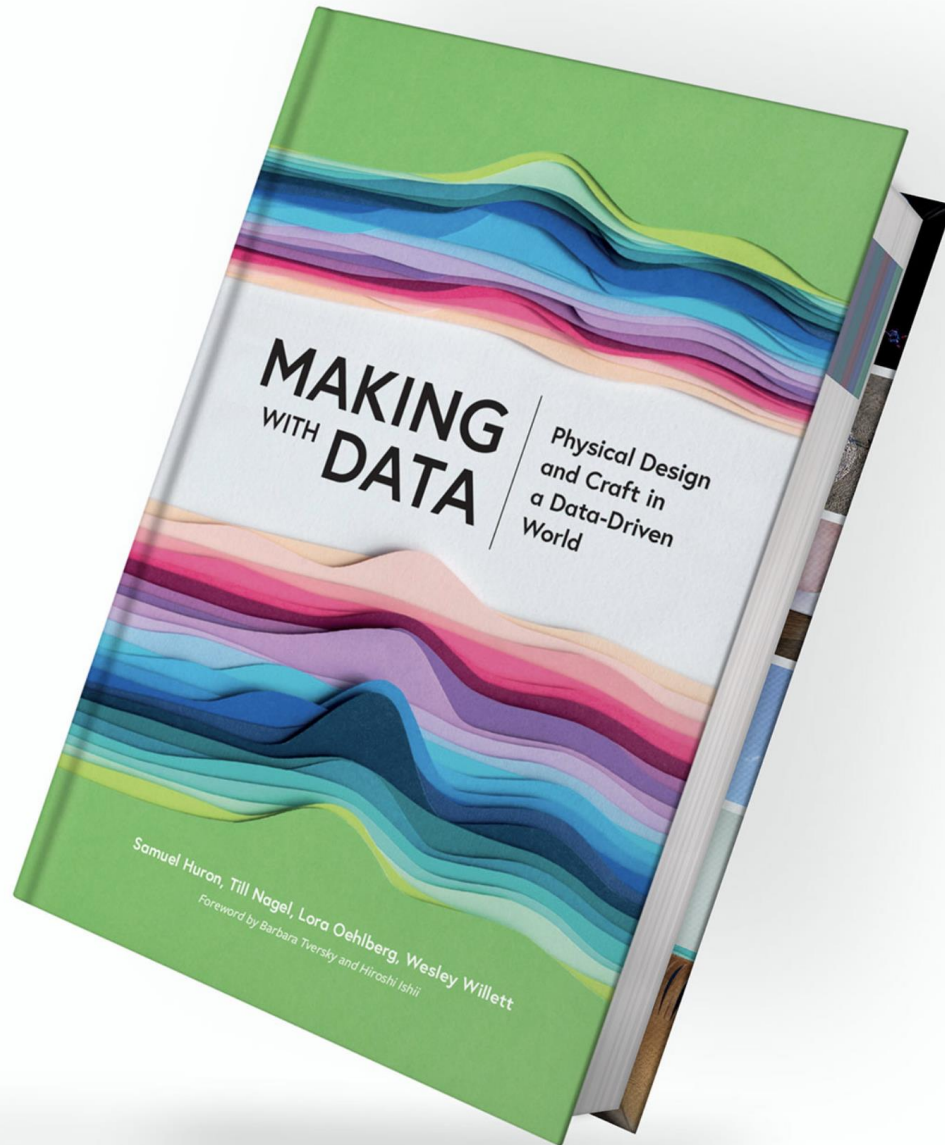
Travel Talk - India, 1 December 2012, 328 words, (English)

We are happy to work with such a detailed analysis tool, like they say 'Data is the new oil'. This tool will help us increase revenues for many of our clients across the world," said Avijit Arya, Chief Mogul (CEO), Internet Moguls.

Source: Factiva

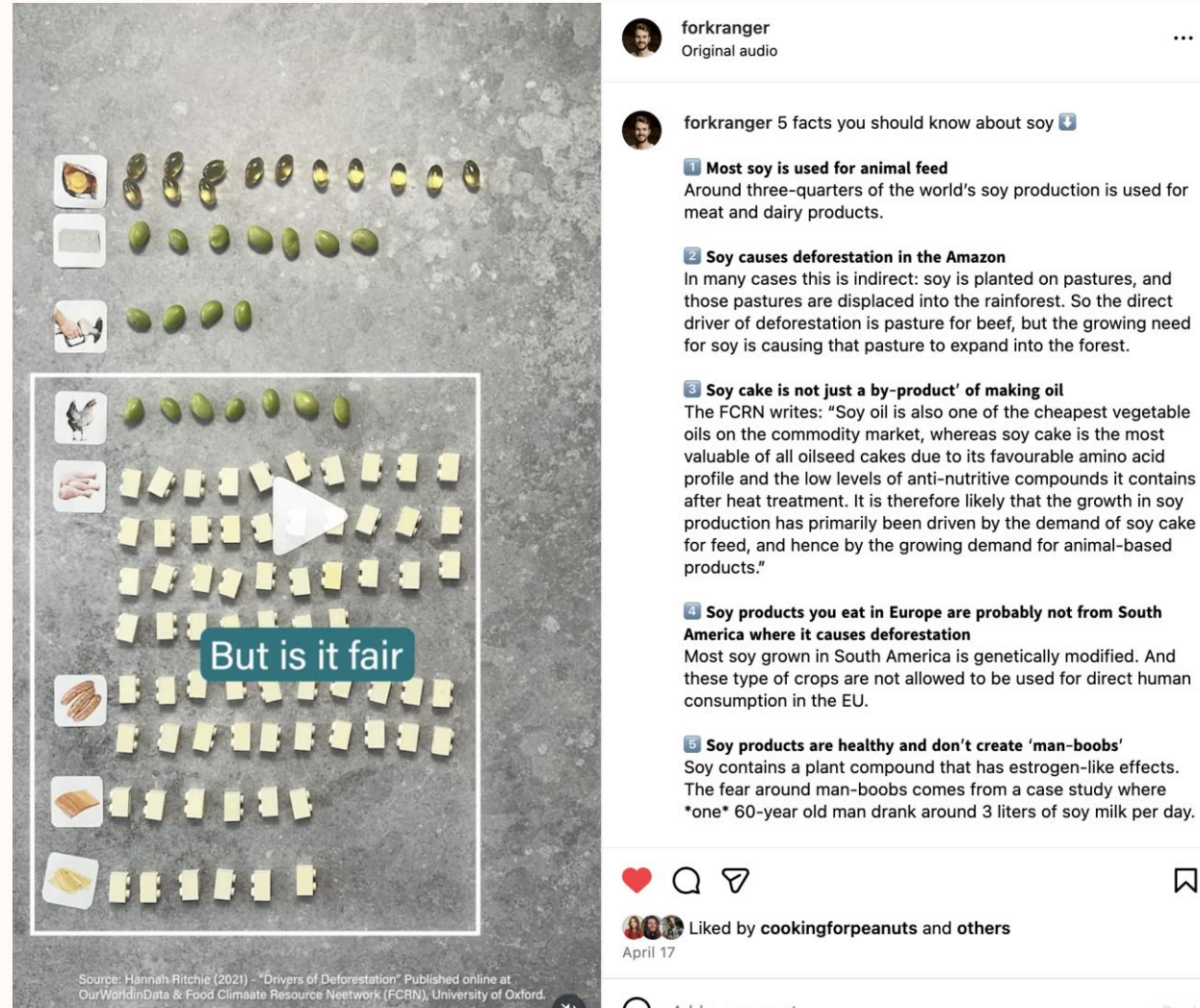
“Critical fabulations are ways of storytelling that rework how things that we design come into being and what they do in the world ... Derived from the practice of **telling fables** or stories, the term fabulation orients design toward narrative potentials. ... By making stories and catalyzing new embodied ways of knowing, fabulations draw attention to the **contested nature of knowledge productions while caring for their repercussions...**”

– Daniela K Rosner, Critical Fabulations, p. 17



Making with Data is a physical data-driven papercraft sculpture that serves as the cover of our upcoming book, “**Making with Data: Physical Design and Craft in a Data Driven World.**” The paper waves of the piece reflect the undulating word counts of each of the book’s 24 chapters. Each of these chapters tells the story behind the creation of a physical object, space, or experience that represents data – with the artists and designers who crafted the piece explaining the unique and creative process through which they gave that data physical form. Our *Making with Data* sculpture captures the lengths of each chapter’s Motivation, Practices & Processes, Materials & Tools, and Reflection subsections and reveals them via a physical ridgeline plot. To create the piece, the book’s editors (Samuel Huron, Till Nagel, Lora Oehlberg, and Wesley Willett) compiled the data and created vector graphics files for each paper layer. We then commissioned a paper artist, Betty Soliman, to select paper colors, cut each layer, and assemble them together. Graphic designer Elodie Maigné then composited photographs of the piece to create the final cover. The resulting visualization embodies the vision of the book – representing its contents as an evocative data object and bringing the idea of *making with data* full circle.

Data storytelling with video



forkranger
Original audio

forkranger 5 facts you should know about soy

- 1 Most soy is used for animal feed**
Around three-quarters of the world's soy production is used for meat and dairy products.
- 2 Soy causes deforestation in the Amazon**
In many cases this is indirect: soy is planted on pastures, and those pastures are displaced into the rainforest. So the direct driver of deforestation is pasture for beef, but the growing need for soy is causing that pasture to expand into the forest.
- 3 Soy cake is not just a by-product of making oil**
The FCRN writes: "Soy oil is also one of the cheapest vegetable oils on the commodity market, whereas soy cake is the most valuable of all oilseed cakes due to its favourable amino acid profile and the low levels of anti-nutritive compounds it contains after heat treatment. It is therefore likely that the growth in soy production has primarily been driven by the demand of soy cake for feed, and hence by the growing demand for animal-based products."
- 4 Soy products you eat in Europe are probably not from South America where it causes deforestation**
Most soy grown in South America is genetically modified. And these type of crops are not allowed to be used for direct human consumption in the EU.
- 5 Soy products are healthy and don't create 'man-boobs'**
Soy contains a plant compound that has estrogen-like effects. The fear around man-boobs comes from a case study where *one* 60-year old man drank around 3 liters of soy milk per day.

Source: Hannah Ritchie (2021) - "Drivers of Deforestation" Published online at OurWorldinData & Food Climate Resource Network (FCRN), University of Oxford.

Source: Forkranger, <https://www.instagram.com/reel/DljOJMrqWgq/>

A shorts data story



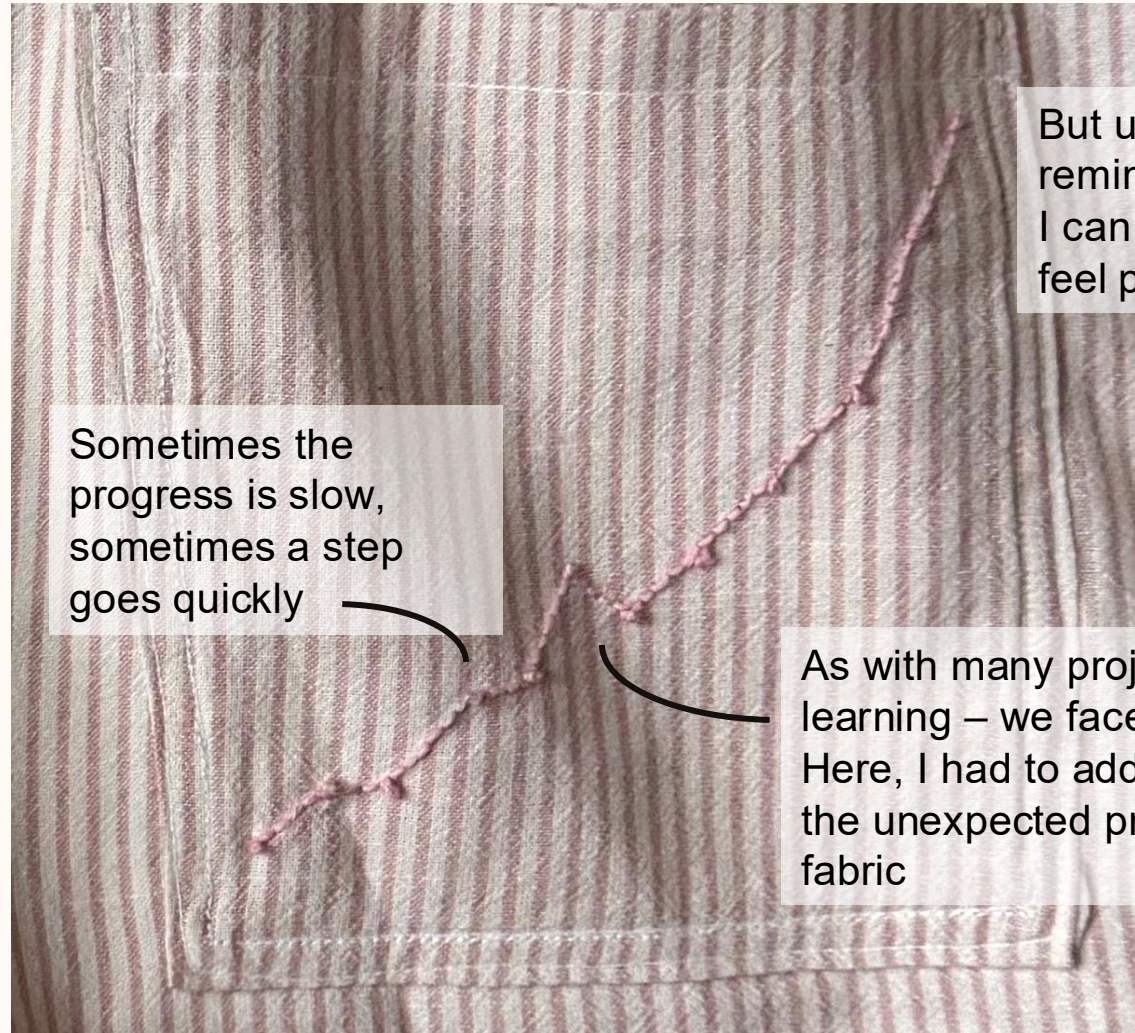
Step	Time (minutes)
Cut & tape pattern	120
Cut pieces	30
Cut pockets	10
Sew sides	60
Unpick pockets	15
Sew pockets and pieces together	70
Realize it's see through and look up how to line	20
Iron and cut lining	50
Sew lining	50
Finish insides	80
Sew waistband	120
Hem length	90
Total	715

A shorts data story

In total, these shorts took me almost **12 hours** to make.

I rarely keep track of how long it takes to make something – but this time, I thought I would challenge myself to do so.

It revealed a story as I went on, and I was grateful to reflect and document it:





06

Activity reflection

Activity reflection

- Have you created a data physicalization before? How would you describe the experience of creating this physicalization?
- What did you like or dislike about the process?
- The creation of this collaborative data physicalization is an example of the visualization type of small multiples. What stands out to you in the process of creation and viewing the small multiples together?

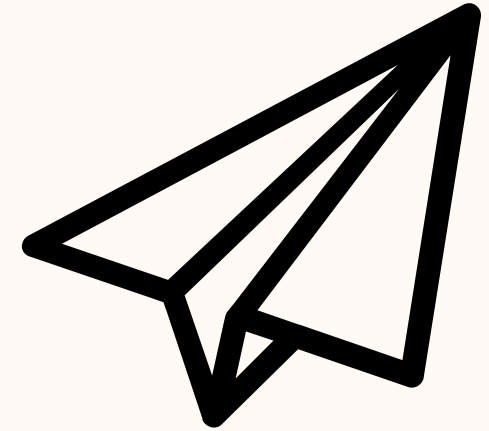


07

Conclusion

Conclusion

- Data physicalization is a method to engage with data in a more critical, meaningful way – both for creators and for participants
- Data physicalization can build in play and collaboration, resulting in story creation, either organically or planned (or both)
- Please consider today as a launchpad





Portions of this slide deck are adapted from a presentation at IDEAL 2024, co-presented by myself and Priscilla Carmini

Thanks!

CREDITS: This presentation template was created by **Slidesgo**, and includes icons by **Flaticon** and infographics & images by **Freepik**

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Questions?