COVID-19 ONLINE VISUALIZATION COLLECTION (COVIC)

VISION, CURRENT STATE, BENEFITS, RESEARCH QUESTIONS

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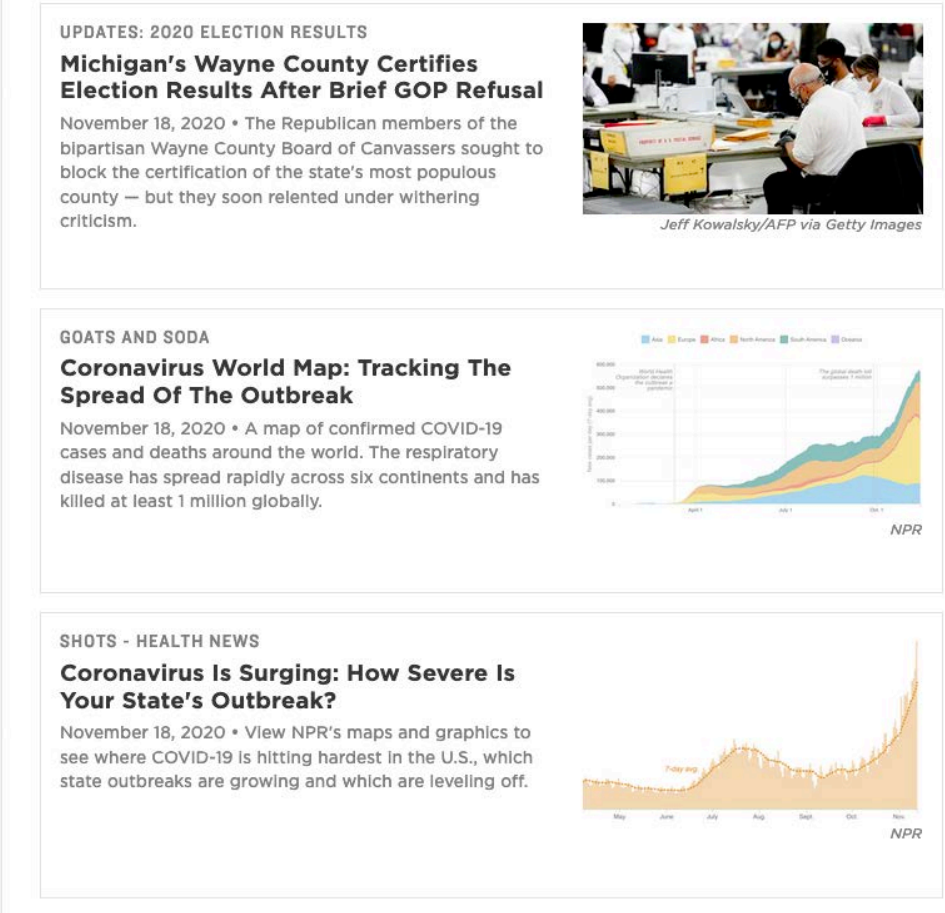
What Is the COVID-19 Online Visualization Collection (COVIC)

- Since early 2020, data visualization practitioners have created an astonishing number of "representations", all pointing at the same phenomenon: the COVID-19 pandemic and its effects throughout the world.

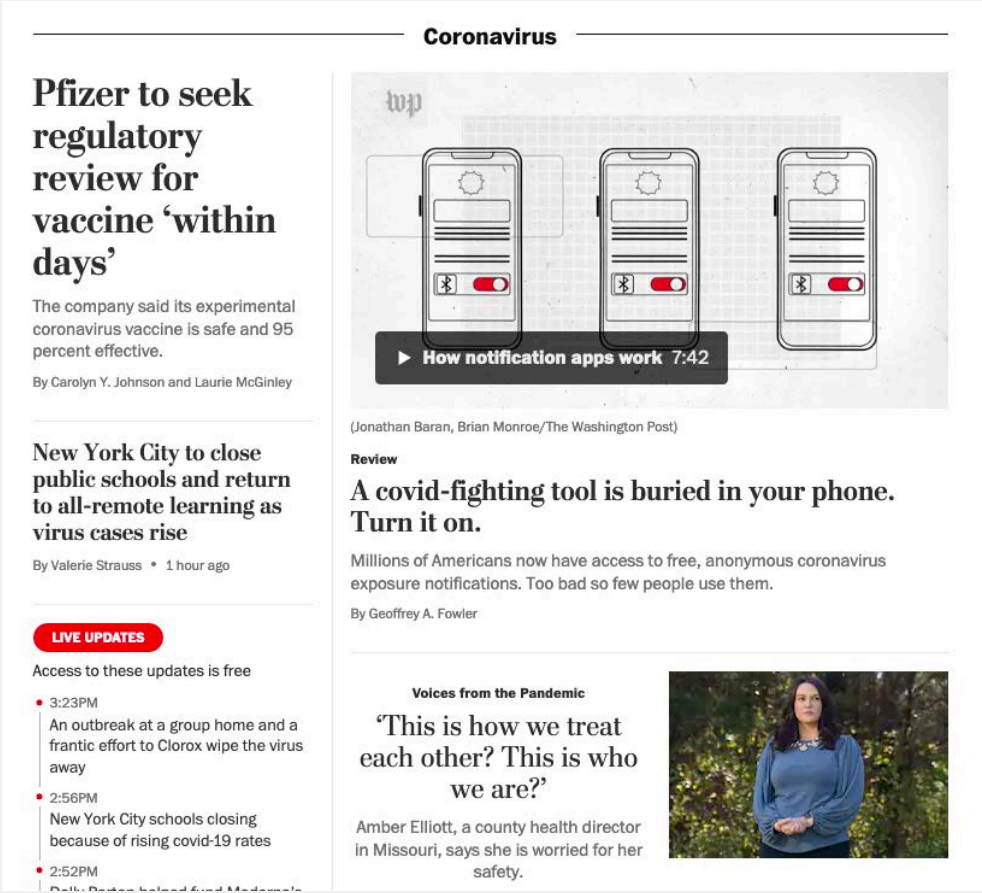
- A significant part of what appears online every day includes visualizations — images used to "explain" some aspect of the situation.



What Is the COVID-19 Online Visualization Collection (COVIC)

- COVIC is an opportunistic collection of visualizations related to the COVID-19 pandemic.

- COVIC collects and classifies these representations, to make the collection available for future research.



Coronavirus

Pfizer to seek regulatory review for vaccine 'within days'

The company said its experimental coronavirus vaccine is safe and 95 percent effective.

By Carolyn Y. Johnson and Laurie McGinley

New York City to close public schools and return to all-remote learning as virus cases rise

By Valerie Strauss • 1 hour ago

LIVE UPDATES

Access to these updates is free

- 3:23PM
  An outbreak at a group home and a frantic effort to Clorox wipe the virus away
- 2:56PM
  New York City schools closing because of rising covid-19 rates
- 2:52PM

(Jonathan Baran, Brian Monroe/The Washington Post)

Review

A covid-fighting tool is buried in your phone. Turn it on.

Millions of Americans now have access to free, anonymous coronavirus exposure notifications. Too bad so few people use them.

By Geoffrey A. Fowler

Voices from the Pandemic

'This is how we treat each other? This is who we are?'

Amber Elliott, a county health director in Missouri, says she is worried for her safety.

Vision of COVIC

We want COVIC to be

- a collection that defines and illustrates the range of visualization possibilities
- A collection that includes visualizations of both qualitative and quantitative information
- a problem space –
  how can visualization practice be used to address this problem?
- and a solution space –
  what techniques are being used at different times, in different languages, in different contexts?

We want COVIC to provide

- a snapshot of information design practice
- a portrait of this moment of inflection accelerating the transition from print to online

We want COVIC to preserve

- a broad multi-lingual, multi-cultural view of a global event
- A persistent record of ephemeral online visualization artifacts

COVIC Current State

- **Collecting Examples:**
  We've collected and catalogued over 2,000 articles containing visualizations related to the COVID-19 pandemic, published online between December 2019 to the present (January 2021).

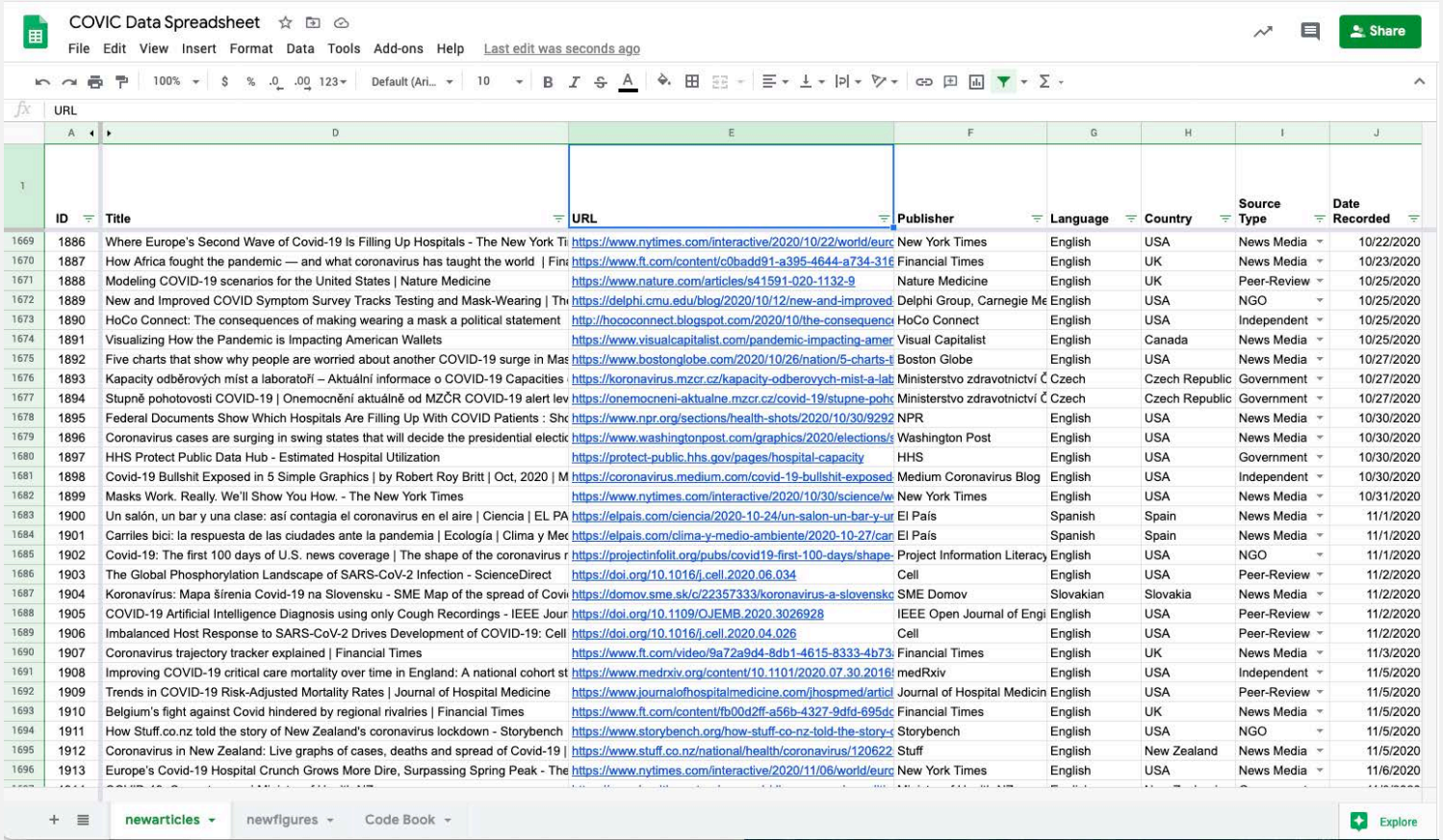
- **Indexing Examples:**
  We have recorded metadata and a page image for each example.

- **Indexing Visualizations:**
  We are separately capturing and recording metadata for each visualization contained in each example.

- **Prototyping a research environment:**
  We have developed a minimum viable product (MVP) to browse, filter and search these images.

COVIC Metadata

- The complete COVIC collection of metadata is recorded in Google Sheets



	ID	Title	URL	Publisher	Language	Country	Source Type	Date Recorded
1669	1886	Where Europe's Second Wave of Covid-19 Is Filling Up Hospitals - The New York Ti	https://www.nytimes.com/interactive/2020/10/22/world/eurc	New York Times	English	USA	News Media	10/22/2020
1670	1887	How Africa fought the pandemic — and what coronavirus has taught the world | Fina	https://www.ft.com/content/c0badd91-a395-4644-a734-316	Financial Times	English	UK	News Media	10/23/2020
1671	1888	Modeling COVID-19 scenarios for the United States | Nature Medicine	https://www.nature.com/articles/s41591-020-1132-9	Nature Medicine	English	UK	Peer-Review	10/25/2020
1672	1889	New and Improved COVID Symptom Survey Tracks Testing and Mask-Wearing | The	https://delphi.cmu.edu/blog/2020/10/12/new-and-improved	Delphi Group, Carnegie Me	English	USA	NGO	10/25/2020
1673	1890	HoCo Connect: The consequences of making wearing a mask a political statement	http://hococonnect.blogspot.com/2020/10/the-consequenc	HoCo Connect	English	USA	Independent	10/25/2020
1674	1891	Visualizing How the Pandemic is Impacting American Wallets	https://www.visualcapitalist.com/pandemic-impacting-amer	Visual Capitalist	English	Canada	News Media	10/25/2020
1675	1892	Five charts that show why people are worried about another COVID-19 surge in Mas	https://www.bostonglobe.com/2020/10/26/nation/5-charts-t	Boston Globe	English	USA	News Media	10/27/2020
1676	1893	Kapacity odběrových míst a laboratoří – Aktuální informace o COVID-19 Capacities	https://koronavirus.mzcr.cz/kapacity-odberovych-mist-a-lab	Ministerstvo zdravotnictví Č	Czech	Czech Republic	Government	10/27/2020
1677	1894	Stupně pohotovosti COVID-19 | Onemocnění aktuálně od MZČR COVID-19 alert lev	https://onemocneni-aktualne.mzcr.cz/covid-19/stupne-poho	Ministerstvo zdravotnictví Č	Czech	Czech Republic	Government	10/27/2020
1678	1895	Federal Documents Show Which Hospitals Are Filling Up With COVID Patients : Sho	https://www.npr.org/sections/health-shots/2020/10/30/9292	NPR	English	USA	News Media	10/30/2020
1679	1896	Coronavirus cases are surging in swing states that will decide the presidential electic	https://www.washingtonpost.com/graphics/2020/elections/s	Washington Post	English	USA	News Media	10/30/2020
1680	1897	HHS Protect Public Data Hub - Estimated Hospital Utilization	https://protect-public.hhs.gov/pages/hospital-capacity	HHS	English	USA	Government	10/30/2020
1681	1898	Covid-19 Bullshit Exposed in 5 Simple Graphics | by Robert Roy Britt | Oct, 2020 | M	https://coronavirus.medium.com/covid-19-bullshit-exposed	Medium Coronavirus Blog	English	USA	Independent	10/30/2020
1682	1899	Masks Work. Really. We'll Show You How. - The New York Times	https://www.nytimes.com/interactive/2020/10/30/science/w	New York Times	English	USA	News Media	10/31/2020
1683	1900	Un salón, un bar y una clase: así contagia el coronavirus en el aire | Ciencia | EL PA	https://elpais.com/ciencia/2020-10-24/un-salon-un-bar-y-ur	El País	Spanish	Spain	News Media	11/1/2020
1684	1901	Carriles bici: la respuesta de las ciudades ante la pandemia | Ecología | Clima y Mec	https://elpais.com/clima-y-medio-ambiente/2020-10-27/car	El País	Spanish	Spain	News Media	11/1/2020
1685	1902	Covid-19: The first 100 days of U.S. news coverage | The shape of the coronavirus r	https://projectinfolit.org/pubs/covid19-first-100-days/shape-	Project Information Literacy	English	USA	NGO	11/1/2020
1686	1903	The Global Phosphorylation Landscape of SARS-CoV-2 Infection - ScienceDirect	https://doi.org/10.1016/j.cell.2020.06.034	Cell	English	USA	Peer-Review	11/2/2020
1687	1904	Koronavírus: Mapa šírenia Covid-19 na Slovensku - SME Map of the spread of Covi	https://domov.sme.sk/c/22357333/koronavirus-a-slovenske	SME Domov	Slovakian	Slovakia	News Media	11/2/2020
1688	1905	COVID-19 Artificial Intelligence Diagnosis using only Cough Recordings - IEEE Jour	https://doi.org/10.1109/OJEMB.2020.3026928	IEEE Open Journal of Engi	English	USA	Peer-Review	11/2/2020
1689	1906	Imbalanced Host Response to SARS-CoV-2 Drives Development of COVID-19: Cell	https://doi.org/10.1016/j.cell.2020.04.026	Cell	English	USA	Peer-Review	11/2/2020
1690	1907	Coronavirus trajectory tracker explained | Financial Times	https://www.ft.com/video/9a72a9d4-8db1-4615-8333-4b73	Financial Times	English	UK	News Media	11/3/2020
1691	1908	Improving COVID-19 critical care mortality over time in England: A national cohort st	https://www.medrxiv.org/content/10.1101/2020.07.30.2016	medRxiv	English	USA	Independent	11/5/2020
1692	1909	Trends in COVID-19 Risk-Adjusted Mortality Rates | Journal of Hospital Medicine	https://www.journalofhospitalmedicine.com/jhospmed/articl	Journal of Hospital Medicin	English	USA	Peer-Review	11/5/2020
1693	1910	Belgium's fight against Covid hindered by regional rivalries | Financial Times	https://www.ft.com/content/fb00d2ff-a56b-4327-9dfd-695dc	Financial Times	English	UK	News Media	11/5/2020
1694	1911	How Stuff.co.nz told the story of New Zealand's coronavirus lockdown - Storybench	https://www.storybench.org/how-stuff-co-nz-told-the-story-c	Storybench	English	USA	NGO	11/5/2020
1695	1912	Coronavirus in New Zealand: Live graphs of cases, deaths and spread of Covid-19 |	https://www.stuff.co.nz/national/health/coronavirus/120622	Stuff	English	New Zealand	News Media	11/5/2020
1696	1913	Europe's Covid-19 Hospital Crunch Grows More Dire, Surpassing Spring Peak - The	https://www.nytimes.com/interactive/2020/11/06/world/eurc	New York Times	English	USA	News Media	11/6/2020

Article Metadata

COVIC Metadata

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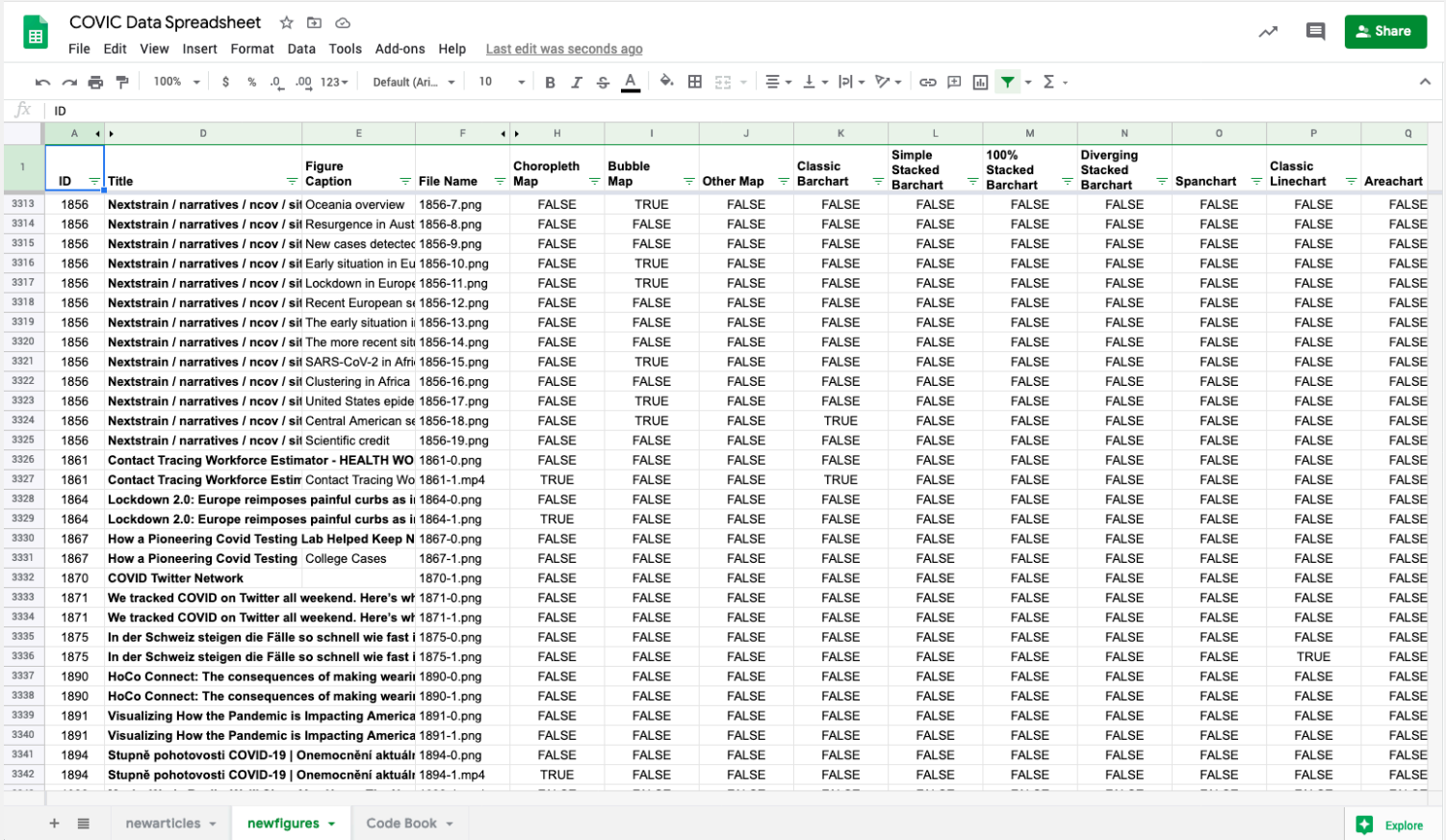
COVIC Data Spreadsheet

File Edit View Insert Format Data Tools Add-ons Help Last edit was seconds ago

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ID

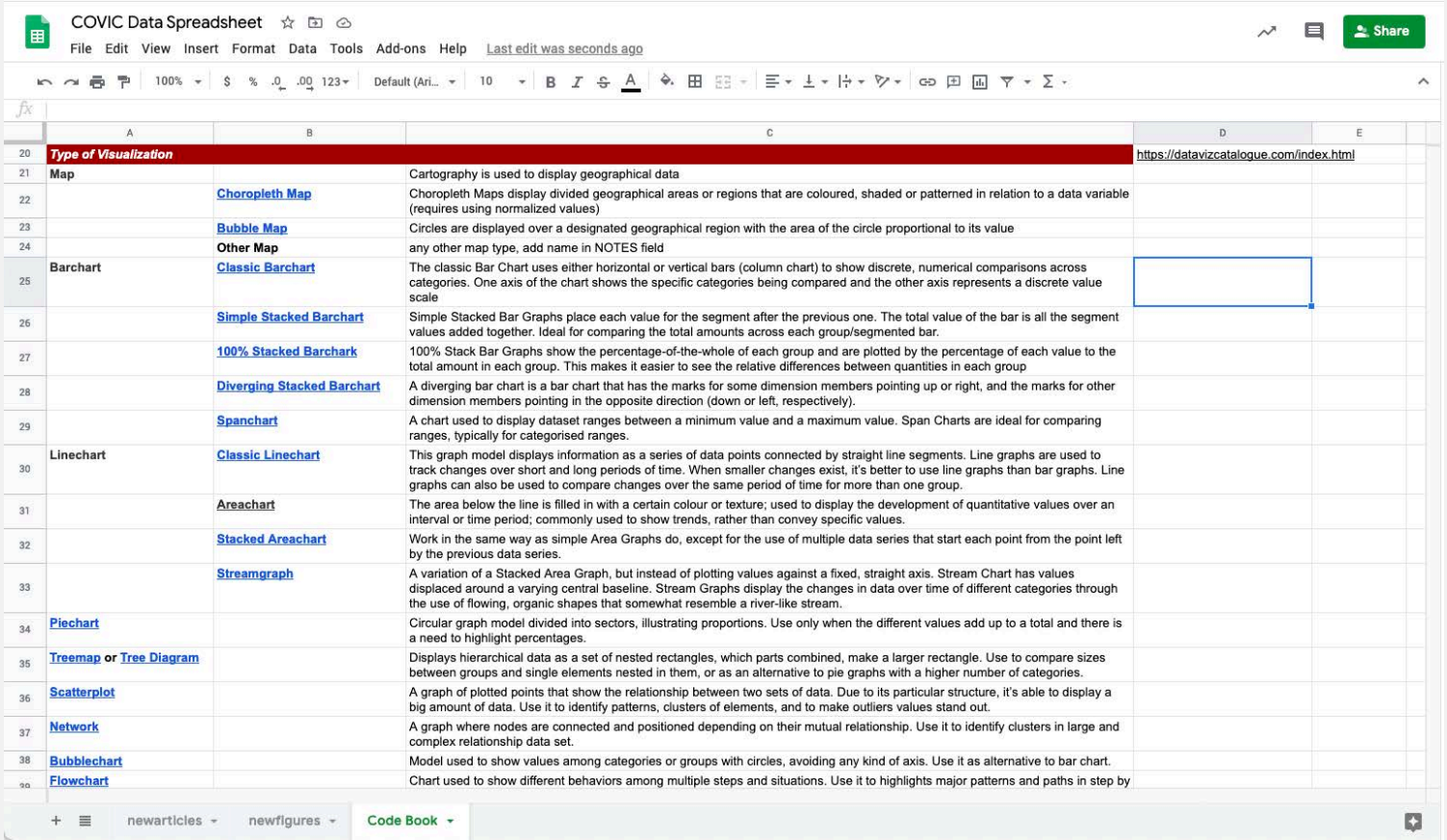
	ID	Title	Figure Caption	File Name	Choropleth Map	Bubble Map	Other Map	Classic Barchart	Simple Stacked Barchart	100% Stacked Barchart	Diverging Stacked Barchart	Spanchart	Classic Linechart	Areachart
3313	1856	Nextstrain / narratives / ncov / sit	Oceania overview	1856-7.png	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3314	1856	Nextstrain / narratives / ncov / sit	Resurgence in Aust	1856-8.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3315	1856	Nextstrain / narratives / ncov / sit	New cases detectec	1856-9.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3316	1856	Nextstrain / narratives / ncov / sit	Early situation in Eu	1856-10.png	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3317	1856	Nextstrain / narratives / ncov / sit	Lockdown in Europe	1856-11.png	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3318	1856	Nextstrain / narratives / ncov / sit	Recent European s	1856-12.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3319	1856	Nextstrain / narratives / ncov / sit	The early situation i	1856-13.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3320	1856	Nextstrain / narratives / ncov / sit	The more recent sitı	1856-14.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3321	1856	Nextstrain / narratives / ncov / sit	SARS-CoV-2 in Afri	1856-15.png	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3322	1856	Nextstrain / narratives / ncov / sit	Clustering in Africa	1856-16.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3323	1856	Nextstrain / narratives / ncov / sit	United States epide	1856-17.png	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3324	1856	Nextstrain / narratives / ncov / sit	Central American se	1856-18.png	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3325	1856	Nextstrain / narratives / ncov / sit	Scientific credit	1856-19.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3326	1861	Contact Tracing Workforce Estimator - HEALTH WO		1861-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3327	1861	Contact Tracing Workforce Estir	Contact Tracing Wo	1861-1.mp4	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3328	1864	Lockdown 2.0: Europe reimposes painful curbs as i		1864-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3329	1864	Lockdown 2.0: Europe reimposes painful curbs as i		1864-1.png	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3330	1867	How a Pioneering Covid Testing Lab Helped Keep N		1867-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3331	1867	How a Pioneering Covid Testing	College Cases	1867-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3332	1870	COVID Twitter Network		1870-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3333	1871	We tracked COVID on Twitter all weekend. Here's wh		1871-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3334	1871	We tracked COVID on Twitter all weekend. Here's wh		1871-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3335	1875	In der Schweiz steigen die Fälle so schnell wie fast i		1875-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3336	1875	In der Schweiz steigen die Fälle so schnell wie fast i		1875-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
3337	1890	HoCo Connect: The consequences of making wearii		1890-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3338	1890	HoCo Connect: The consequences of making wearii		1890-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3339	1891	Visualizing How the Pandemic is Impacting America		1891-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3340	1891	Visualizing How the Pandemic is Impacting America		1891-1.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3341	1894	Stupně pohotovosti COVID-19 | Onemocnění aktuálı		1894-0.png	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3342	1894	Stupně pohotovosti COVID-19 | Onemocnění aktuálı		1894-1.mp4	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

newarticles newfigures Code Book Explore

Figure Metadata

COVIC Metadata

- The complete COVIC collection of metadata is recorded in Google Sheets



	A	B	C	D	E
20	**Type of Visualization**			https://datavizcatalogue.com/index.html	
21	**Map**		Cartography is used to display geographical data		
22		Choropleth Map	Choropleth Maps display divided geographical areas or regions that are coloured, shaded or patterned in relation to a data variable (requires using normalized values)		
23		Bubble Map	Circles are displayed over a designated geographical region with the area of the circle proportional to its value		
24		**Other Map**	any other map type, add name in NOTES field		
25	**Barchart**	Classic Barchart	The classic Bar Chart uses either horizontal or vertical bars (column chart) to show discrete, numerical comparisons across categories. One axis of the chart shows the specific categories being compared and the other axis represents a discrete value scale		
26		Simple Stacked Barchart	Simple Stacked Bar Graphs place each value for the segment after the previous one. The total value of the bar is all the segment values added together. Ideal for comparing the total amounts across each group/segmented bar.		
27		100% Stacked Barchark	100% Stack Bar Graphs show the percentage-of-the-whole of each group and are plotted by the percentage of each value to the total amount in each group. This makes it easier to see the relative differences between quantities in each group		
28		Diverging Stacked Barchart	A diverging bar chart is a bar chart that has the marks for some dimension members pointing up or right, and the marks for other dimension members pointing in the opposite direction (down or left, respectively).		
29		Spanchart	A chart used to display dataset ranges between a minimum value and a maximum value. Span Charts are ideal for comparing ranges, typically for categorised ranges.		
30	**Linechart**	Classic Linechart	This graph model displays information as a series of data points connected by straight line segments. Line graphs are used to track changes over short and long periods of time. When smaller changes exist, it's better to use line graphs than bar graphs. Line graphs can also be used to compare changes over the same period of time for more than one group.		
31		Areachart	The area below the line is filled in with a certain colour or texture; used to display the development of quantitative values over an interval or time period; commonly used to show trends, rather than convey specific values.		
32		Stacked Areachart	Work in the same way as simple Area Graphs do, except for the use of multiple data series that start each point from the point left by the previous data series.		
33		Streamgraph	A variation of a Stacked Area Graph, but instead of plotting values against a fixed, straight axis. Stream Chart has values displaced around a varying central baseline. Stream Graphs display the changes in data over time of different categories through the use of flowing, organic shapes that somewhat resemble a river-like stream.		
34	Piechart		Circular graph model divided into sectors, illustrating proportions. Use only when the different values add up to a total and there is a need to highlight percentages.		
35	Treemap or Tree Diagram		Displays hierarchical data as a set of nested rectangles, which parts combined, make a larger rectangle. Use to compare sizes between groups and single elements nested in them, or as an alternative to pie graphs with a higher number of categories.		
36	Scatterplot		A graph of plotted points that show the relationship between two sets of data. Due to its particular structure, it's able to display a big amount of data. Use it to identify patterns, clusters of elements, and to make outliers values stand out.		
37	Network		A graph where nodes are connected and positioned depending on their mutual relationship. Use it to identify clusters in large and complex relationship data set.		
38	Bubblechart		Model used to show values among categories or groups with circles, avoiding any kind of axis. Use it as alternative to bar chart.		
39	Flowchart		Chart used to show different behaviors among multiple steps and situations. Use it to highlights major patterns and paths in step by		

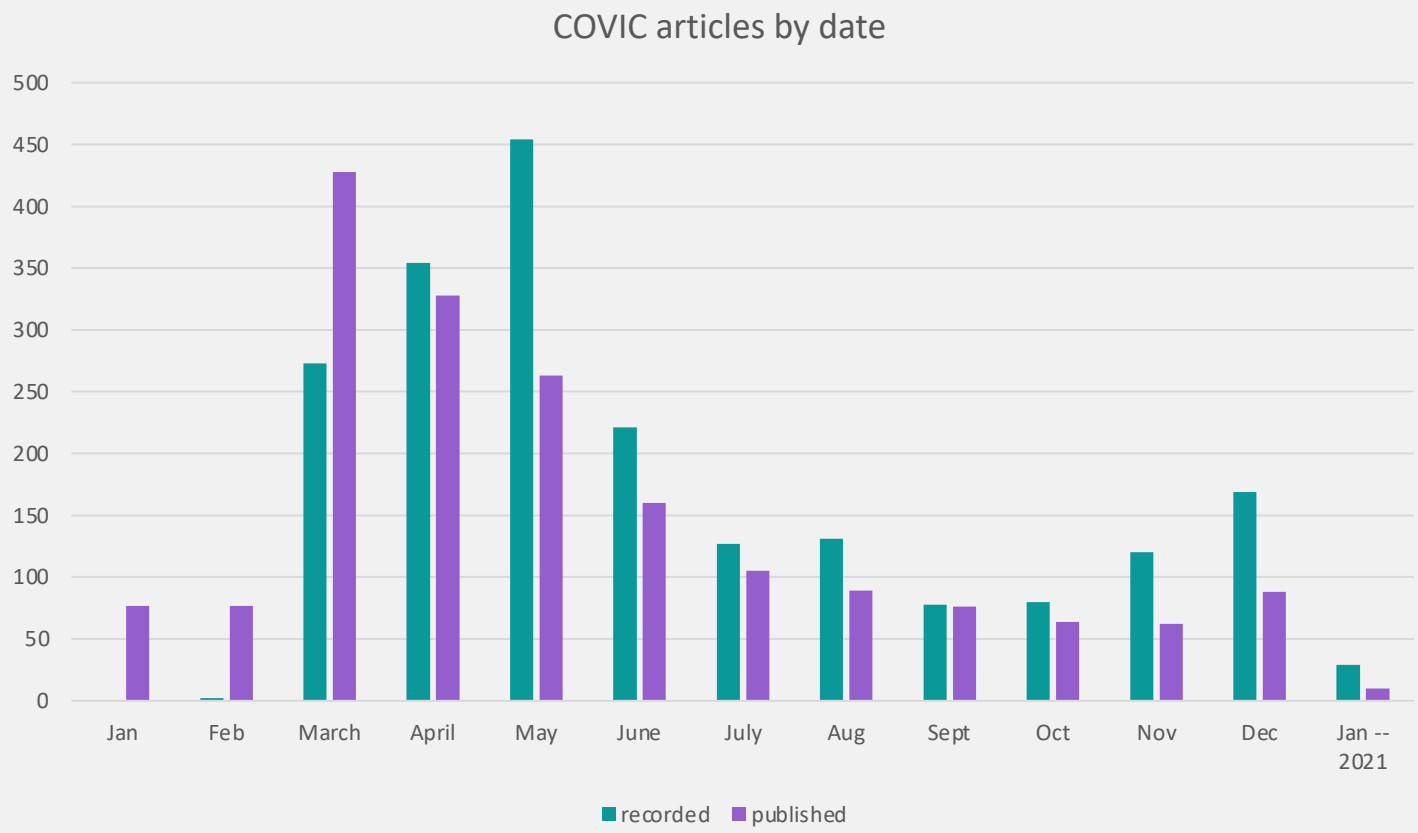
Code Book of Metadata definitions

Preliminary Numbers: January 12, 2021 | Figures

- About 52% of all Page Images and individual figures are recorded
- About 4,400 Figures are recorded and entered in the spreadsheet
- Of the recorded Figures, more than 3,800 have been classified
- The average number of Figures per Article is 4.1
- The estimated number of page images and figures yet to be recorded is about 5,000

Total in COVIC		%
Articles TOTAL	2,054	
Articles missing intended message	191	9%
Articles with images recorded	1,073	
Articles without images recorded	981	48%
Page Images + Figures	5,274	
Page Images TOTAL	876	
Figures TOTAL	4,398	
Figures without metadata	646	15%
Average Figures per article	4.1	
Projected images to be recorded	5,002	

Preliminary Numbers: January 12, 2021 | Articles by date **recorded** / **published**



Preliminary Numbers: January 12, 2021 | Pages/Source Type

- About half of all the items are from **News Media**.
- **Non-Governmental Organizations (NGO)** includes universities and foundations
- **Independent Media** includes self-publishing, Medium publications, and pre-prints of journal articles
- **Peer-Review Publications** are scientific journals
- **Government** includes any government institution
- **Commercial** includes company blogs and website publications
- **Social Media Posts** include Twitter, Instagram, and Facebook

Source Type	Total	% of Total
News Media	1,094	53%
NGO	237	12%
Independent Media	209	10%
Peer-reviewed Publication	164	8%
Government	153	7%
Commercial	125	6%
Social Media Posts	71	3%
TOTAL ARTICLES	2,054	

Most Common News Media Publications

- The New York Times, NPR and the Washington Post have published an extraordinary number of visualizations, many of which have been featured on their front/home page

- John Burn-Murdoch and others from the Financial Times have developed innovative techniques to present medical and non-medical data

- The financial and business media (The Economist, Wall Street Journal, Bloomberg, Reuters)

News Media	# of articles
New York Times	189
Financial Times	113
The Economist	60
NPR	52
Wall Street Journal	48
Tages-Anzeiger	47
Washington Post	43
Bloomberg	38
Visual Capitalist	37
Reuters	33
Boston Globe	23
BBC	20

Preliminary Numbers: January 12, 2021 | Language and Country

- We have examples from 50 countries
- 81% of the items are in **English.**
- 70% are from **USA** and **UK**.

Country	#
USA	1,103
UK	371
Switzerland	73
China	63
France	59
Canada	46
Germany	38

Country	#
Italy	37
India	26
Japan	22
Spain	18
Singapore	17
Turkey	13
Brazil	12
Poland	9
South Africa	9
Sweden	8
New Zealand	8

Preliminary Numbers : January 12, 2021 | Pages/Visual Techniques

- Include **Data Update** that refreshes on a regular basis (hourly, daily, weekly)
- Include **Video** at the article level
- Use the **Dashboard** format structured as a fixed-size tiled layout with no scrolling
- Use **Scrollytelling** (parallax scrolling) to control the movement and animation of separate elements in the foreground and background of the page

Source Type	Total	% of Total
Data Update	462	23%
Video	161	8%
Dashboard	151	7%
Scrollytelling	80	4%

Preliminary Numbers : January 12, 2021 | Pages/Intended Message

Intended Messages	Total		
Communicate Current Medical State	1,045	**Magnitude & Spread**	811
		Supplies	234
Communicate Current Non-Medical State	733	**Social**	376
		Economic	310
		Environmental	47
Communicate Transmission and Infection	302		
Communicate Biomedical Research	193		
Flatten the Curve	130		
Data Viz advice, critique, and resources	123		
Future Model	121		
Historical	65		

Preliminary Numbers : January 12, 2021 | Figures/Data Visualization Type

- There are more **Line charts** than **Bar charts**
- There are more **Other Charts** than **Maps**.
- There are more **Maps** than **Illustrations**.

LINE/AREA CHARTS	1,655	38%
BAR CHARTS	1,283	29%
ALL OTHER CHARTS	825	19%
MAPS	723	16%
ILLUSTRATION	497	11%

Data Visualization Type	#
Choropleth Map	400
Bubble Map	162
Other Map	161
Classic Bar chart	845
Simple Stacked Bar chart	163
100% Stacked Bar chart	92
Diverging Stacked Bar chart	87
Span chart	96
Classic Line chart	1,276
Area chart	250
Stacked Area chart	97
Stream graph	32
Pie chart	53
Treemap	55
Scatterplot	158
Network	52
Bubble chart	67
Flowchart	48
Heatmap	101
Radar	4
Scientific illustration	294
Instructional graphic	203
Other Chart	287

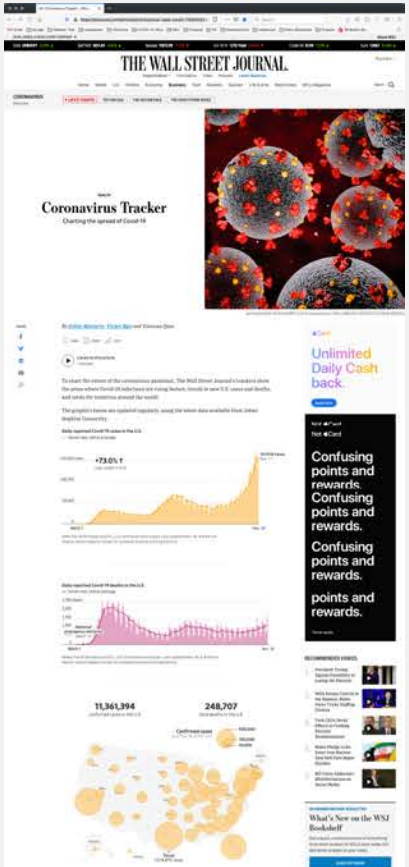
Preliminary Numbers : January 12, 2021 | Figures/Interaction Techniques

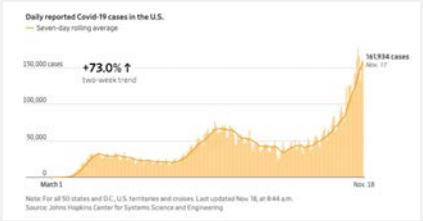
- **Mouseover** is commonly used to display additional information on maps, line, bar and pie charts
- Many visualizations present the same information for many countries, states or provinces as **Small Multiples** to aid comparison
- **Filtering** results is used to focus displays of long lists

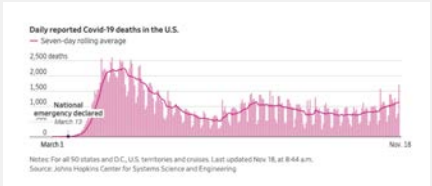
Technique	Total	% of Total
Mouseover	794	18%
Small Multiples	637	14%
Filtering	357	8%
Navigating (zooming/ panning /lens)	157	4%
Time-series animation	97	2%
Transition animation	92	2%
Brushing and linking	88	2%
Educational animation	63	1%

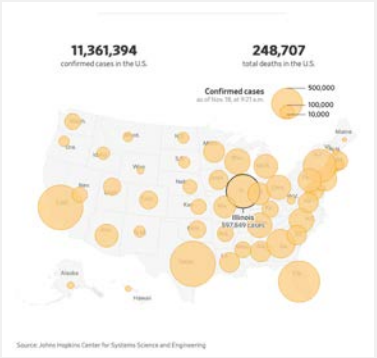
Page Images and Figures

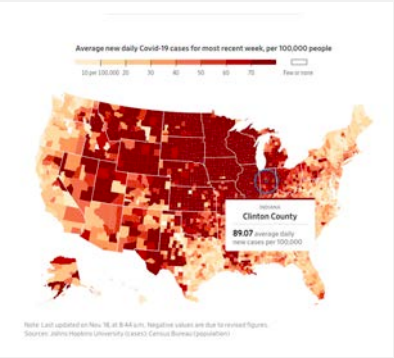
- We store page images and figures in PNG, JPG and GIF formats

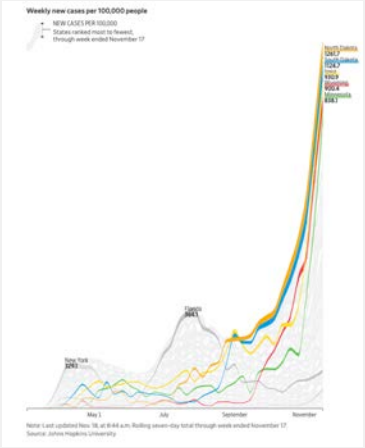


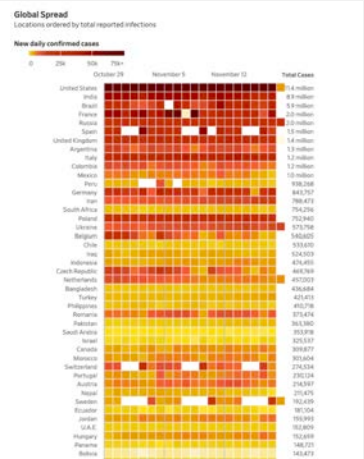










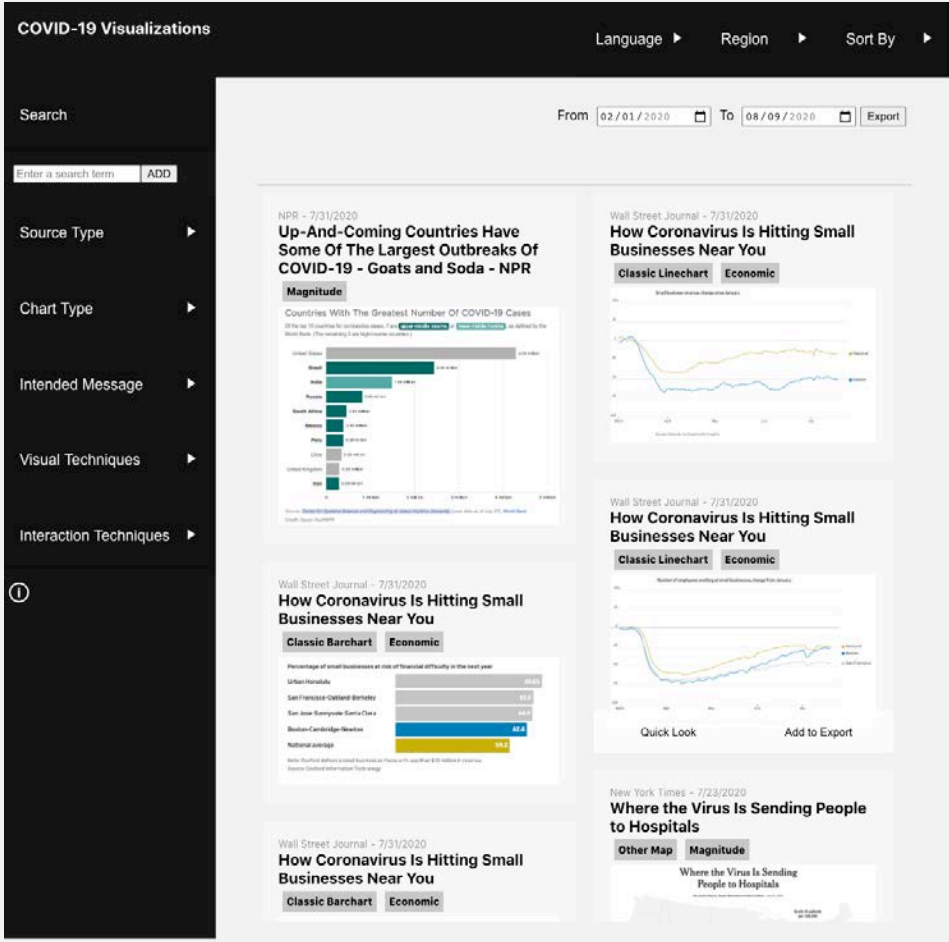


Page Images and Figures

- We store animations for parallax scrolling, time series and other highly interactive visualizations in MP4 format

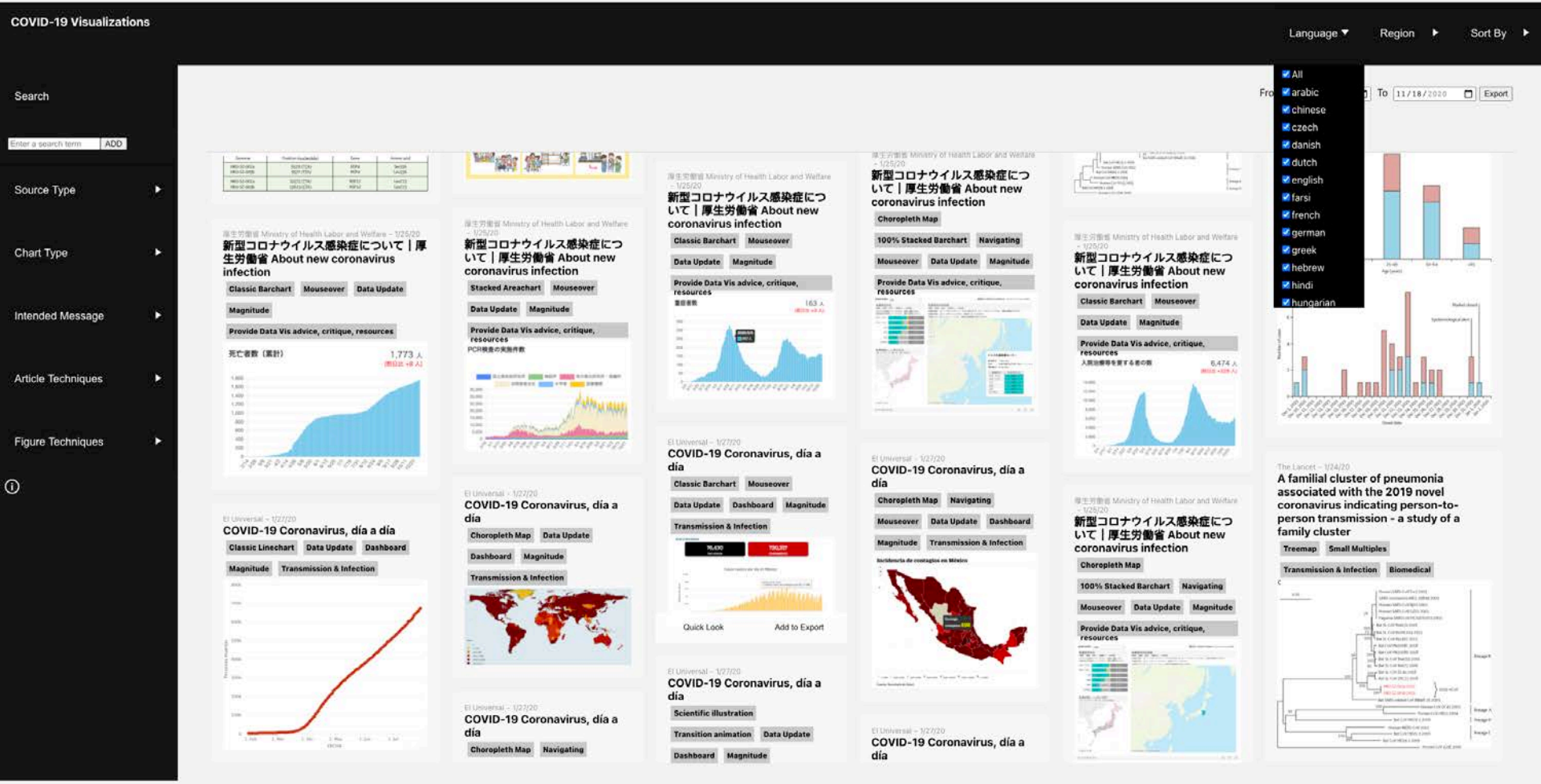
COVIC MVP Prototype

- The COVIC MVP prototype is an application created with the Heroku app framework
- The app supports browsing, filtering and searching these images
- Images are loaded into the prototype as the metadata is completed



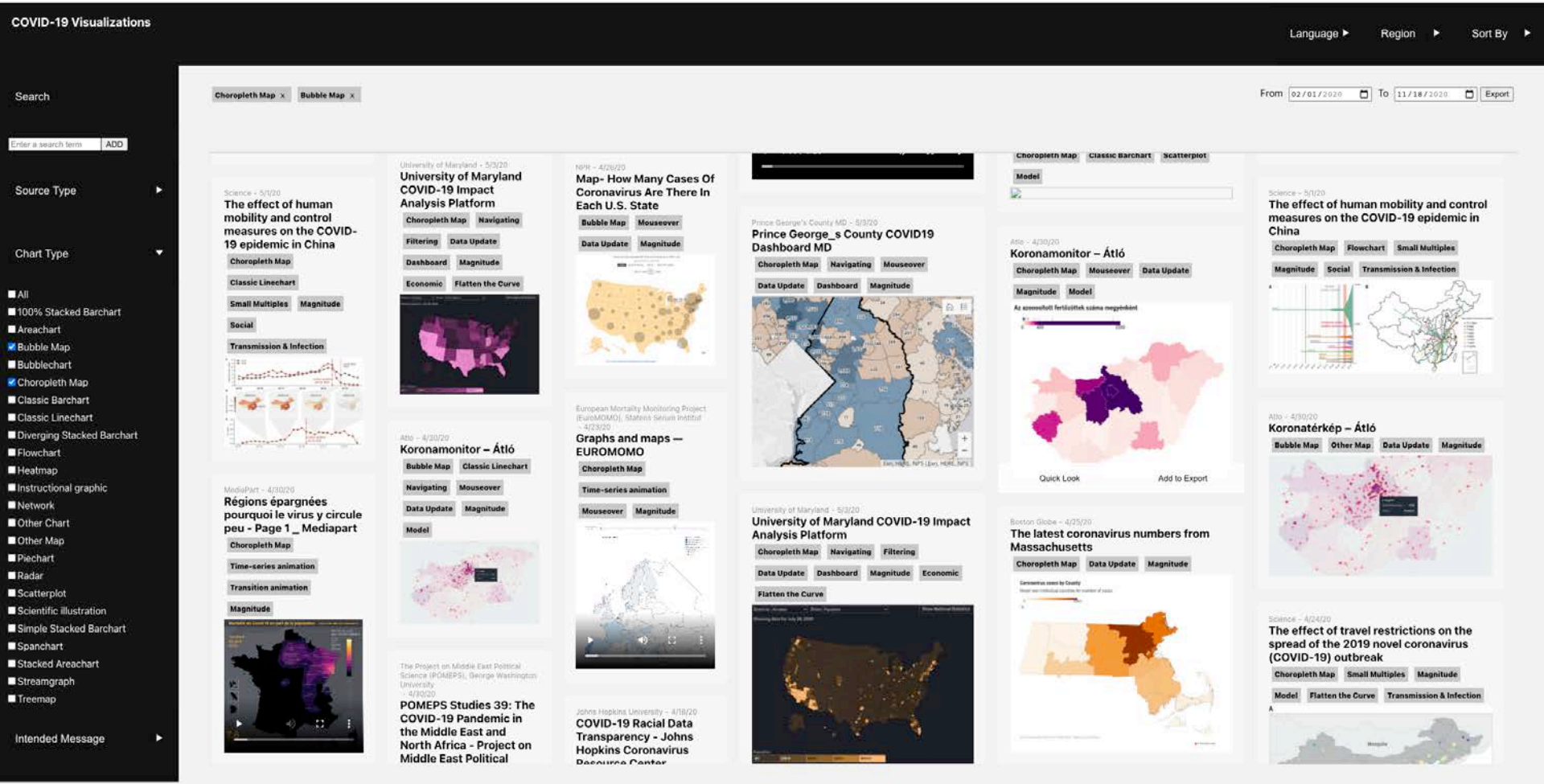
MVP Prototype

Displaying all languages



MVP Prototype

Filtering by Chart Types



Benefits of COVIC

COVIC offers many benefits to the research community at large. We can view it as:

- A boundary object that joins visual design, journalism, public health, and public policy
- An unprecedented design research tool for students and faculty studying and practicing information design
- An illustration of how visualization topic and technique changes over time
- A proof of concept for how to create a research archive during an historic event
- A valuable data resource for Northeastern graduate students to support thesis development

COVIC Research Questions

Visualization

- How do the visualizations about the same subject/event/story differ from one designer and publication to another? How do those differences reflect editorial style and communication goals?
- What types of visualization are used most frequent over the course of the pandemic? Does the most popular type change over time?
- What is the relationship between the type of data being represented, the choice of visualization technique, and the graphicacy of the intended audience?
- Where and why do new types of graphics emerge during the pandemic?

Science, News Media and Government

- How does data flow from research studies to journal articles to stories in leading news outlets to social media posts? How do the visualizations 'evolve' from one context to another?
- How do the visualizations differ in the print and online presentations of the same stories from the same publisher?
- What are the comparative strengths and weaknesses of presenting visualizations as static graphics, video animation and scrollytelling animation?

COVIC Research Questions

Comparative Analysis

- What are the strengths and weaknesses of the public health 'dashboards' that emerged during the pandemic?
- Do Governmental, NGO and Independent dashboards differ in design and content from News Media dashboards?
- How do color, size, position and level of interactivity influence the visual messaging?
- How do readers respond to the controls for interactive visualizations?
- What is the origin and history of the "flatten-the-curve" graphic? How did this chart with 3 lines influence the shut down the world economy?
- What are the predominant forms, tropes, and patterns of interactive visualizations that developed during the pandemic?
- What can we identify as best practices?
- Is there a style or styles we can associate with COVID-19 visualizations? How do these styles differ from visualizations of other topics or events?
- Does the COVIC collection demonstrate differences that could be attributed to national, regional or cultural styles?

COVIC Research Questions

- Do the subjects visualized differ by geographic area or political point of view?

- What did the movement and growth of visualizations related to COVID-19 on the front page of the NYTimes tell readers about the severity of the developing pandemic, during a period when the US President and other political leaders were in denial about the same subject?

What are the best methods for preserving and sharing 'interactive' visualizations? How can interactive visualizations be classified and analyzed? What can be learned by comparing different methods?

What are the challenges of creating an electronic archive of online visualizations, on the fly, during a global event?

Paul Kahn & Hugh Dubberly,
Information Design & Visualization Lecturers
Information Design Practitioners

COVIC Research Questions

- What is the most popular visualization type and why is this type used more than others?
- Is there any relationship between a specific graph type and the click-rate?
- Does the intended audience care about the accuracy of the data represented on COVID-19 graphs?
- Why do many designers prefer to use types of visualization (ex: choropleth maps, pie charts) that may convey misunderstanding of the data?

Yuke Li,
Information Design & Visualization MFA student

- How to evaluate the usability/readability of diagram and graphs?
- What's the best form to present certain information?
- How to adjust the visualization to make them adapt to different groups of users?
- How to use interaction/animation to show the data clearly and avoid increasing the users' cognitive burden?

How can user research and testing be applied to make visualizations clearer and more concise to the user?

Zixuan Yang,
Experience Design MFA student

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