



# Making great online visualisations without coding

**Direction Access to and Reuse of Public Information**

Unit EU Open Data and CORDIS

Sector EU Open Data

# ISA2 programme



## What's ISA2?

ISA2 supports the development of **digital solutions** enabling public administrations, businesses and citizens in Europe to benefit from **interoperable cross-border** and **cross-sector public services**.

## How OP is involved in ISA2?

OP is aiming at improving open services in the areas of:

- Data visualisation
- Linked open data
- Persistent identification



# Upcoming training & workshop sessions

Topic	Type of session	Lux.	Bxl.
Going beyond bars and lines	Training	24/09	Oct
Making data viz like a pro - D3.js	Workshop	25/09	-
Applying data visualisation in use cases	workshop	24/10	-

and also [webinars](#)... stay tuned!



# Data visualization events in 2019



## EU DataViz 2019 - Data Visualisation for the Public Sector

- Date: 12 November 2019
- Venue: European Convention Center - Luxembourg
- Website: <https://publications.europa.eu/eudataviz>
- e-mail: [op-eu-dataviz@publications.europa.eu](mailto:op-eu-dataviz@publications.europa.eu)



# Agenda

- 09:00 Introduction
- Online data visualisation
- 10:30 Coffee break
- Static charts: Chartbuilder and FastCharts
- 12:00 - 13:00 Lunch
- Interactive charts: Datawrapper
- 14:30 Coffeebreak
- Interactive charts: Flourish
- 16:30 Q&A



# 1. INTRODUCTION





# Participants

Institution/DG and role?

What data and tools do you work with?

Experience in data visualisation?

Expectations for today?





2.

# ONLINE DATA VISUALISATION







# Online dataviz

## Bitmap vs vector

Bitmaps

.jpg, .png

Photoshop



# Online dataviz

## Bitmap vs vector

Vectors  
.svg  
Illustrator



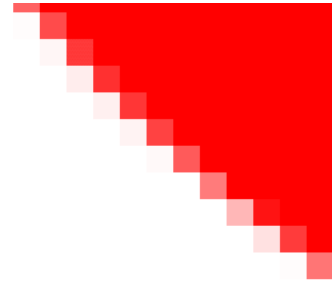
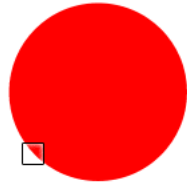
# Online dataviz

## Bitmap vs vector

Bitmaps

Raster of pixels

Each pixel a color



[1,1] => rgb(255, 255, 255)

[1,2] => rgb(236, 89, 83)

[1,3] => rgb(234, 50, 35)

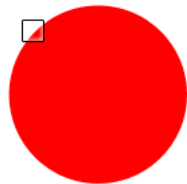
...

Vectors

Coordinates

Specification of shapes

Properties of shapes



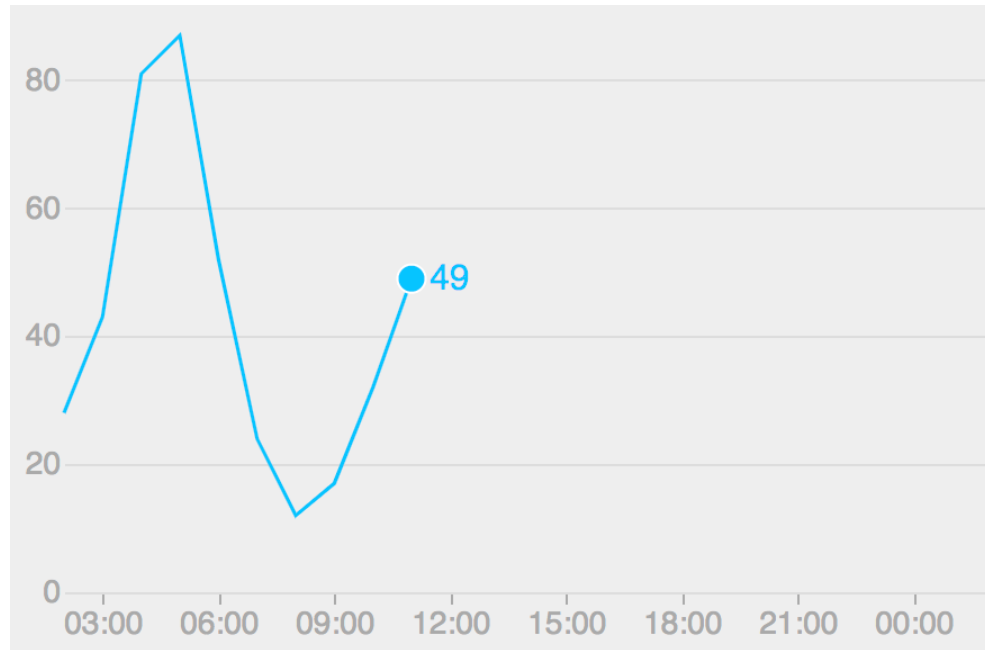
```
<circle cx=30 cy=30 r=20  
fill="red">
```



# Online dataviz

## Responsiveness

Normal



# Online dataviz

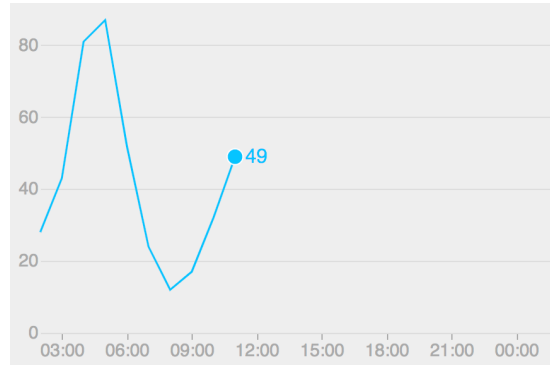
## Responsiveness

Small

Font too small

Overlapping labels and text

Lines too thin



# Online dataviz

## Responsiveness

Small responsive

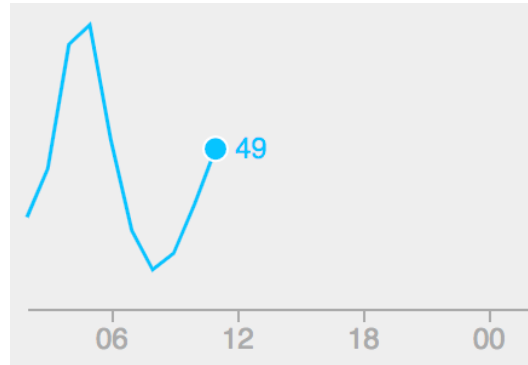
Less ticks

Compacter formatting

Thicker line width

Bigger font

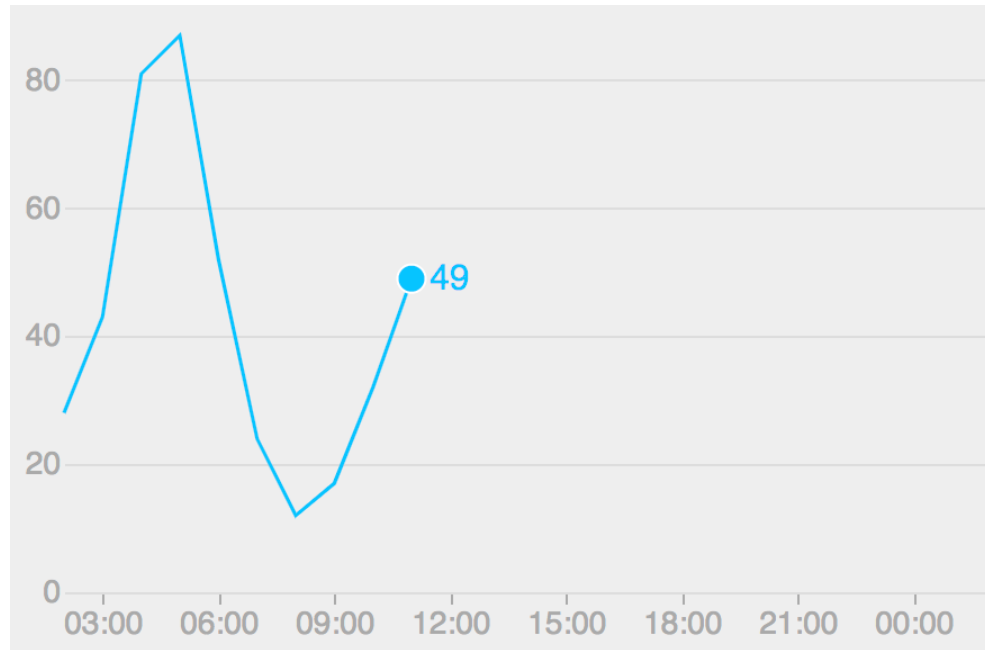
Remove y axis



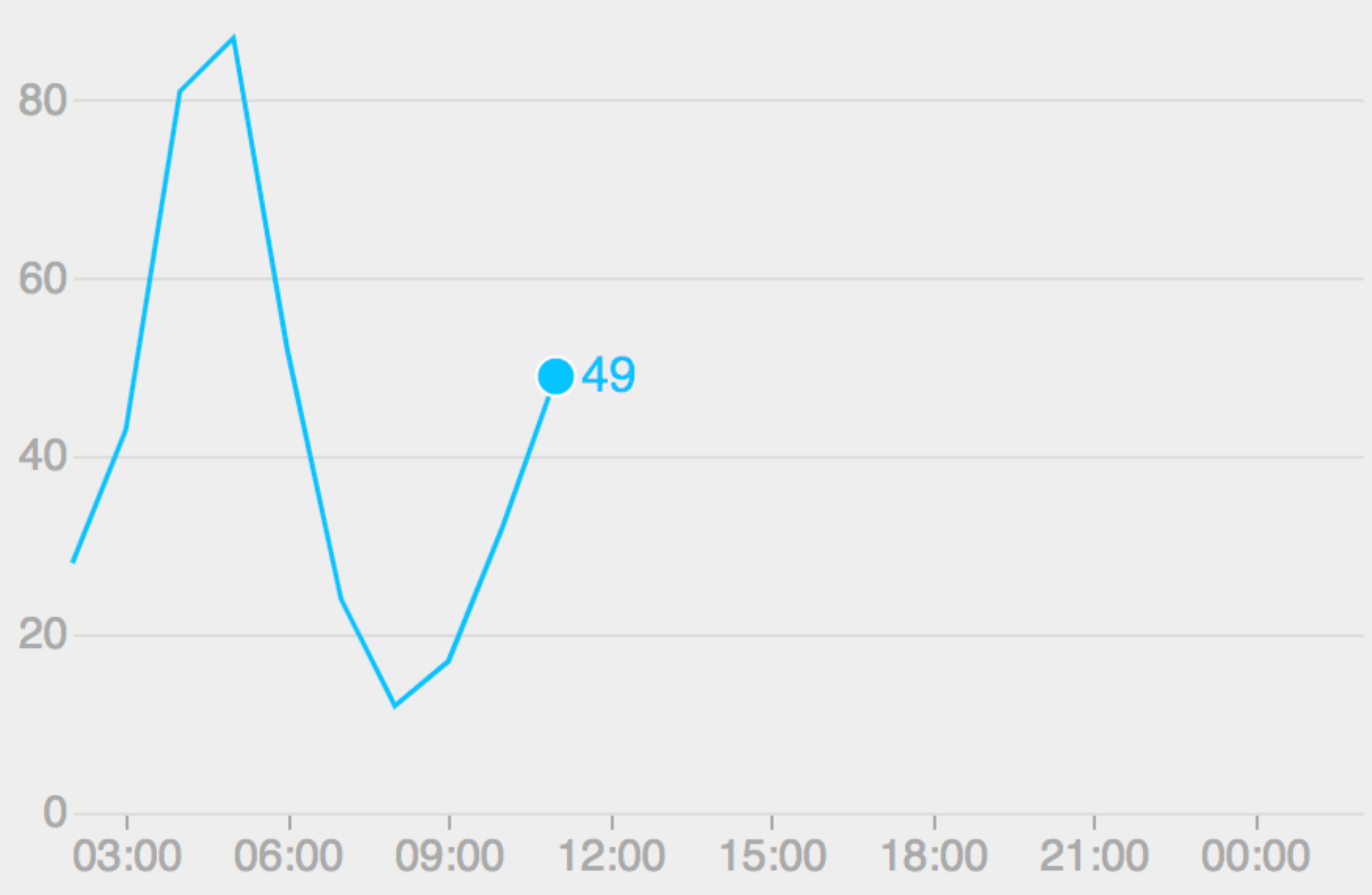
# Online dataviz

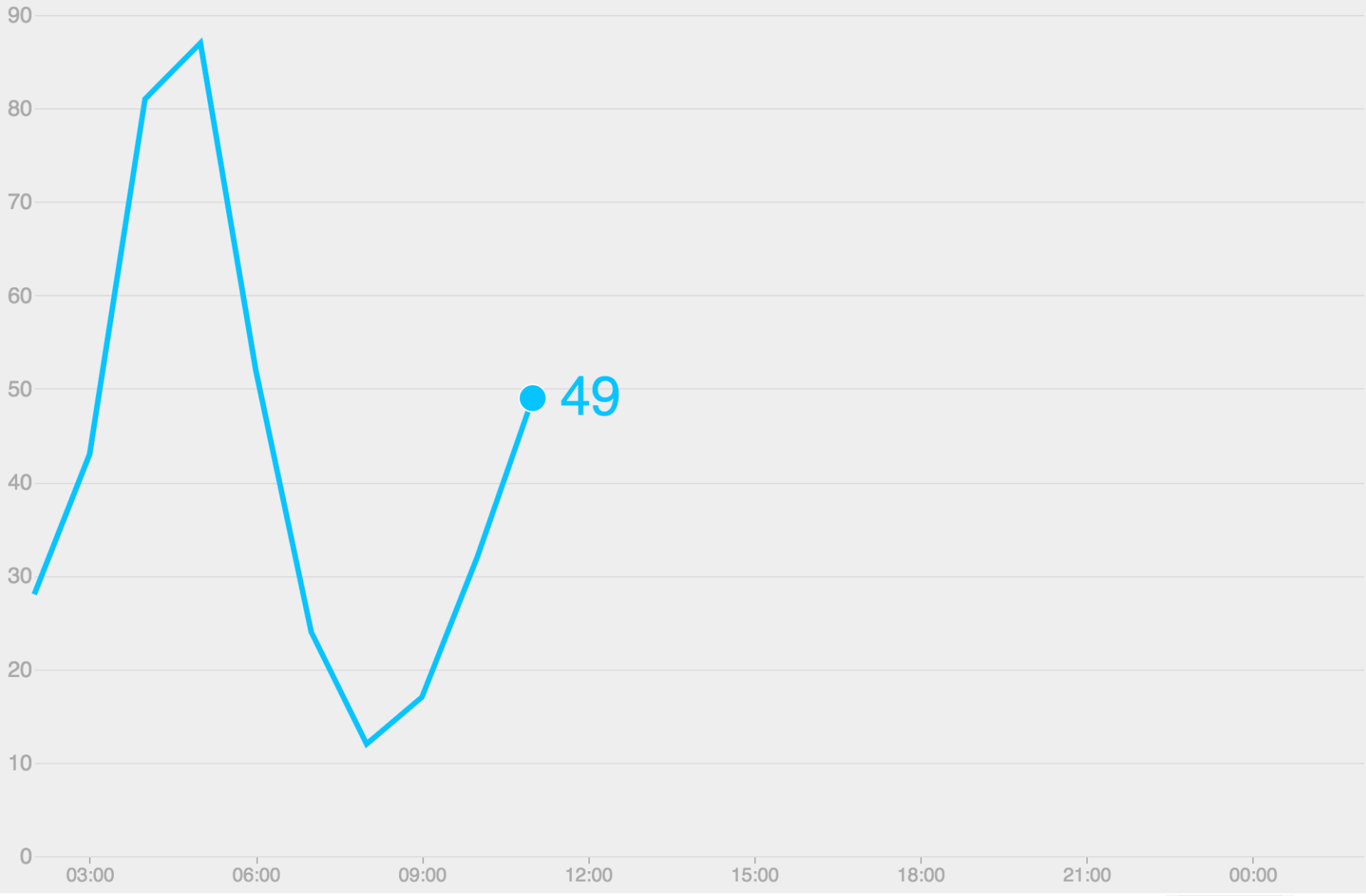
## Responsiveness

Normal



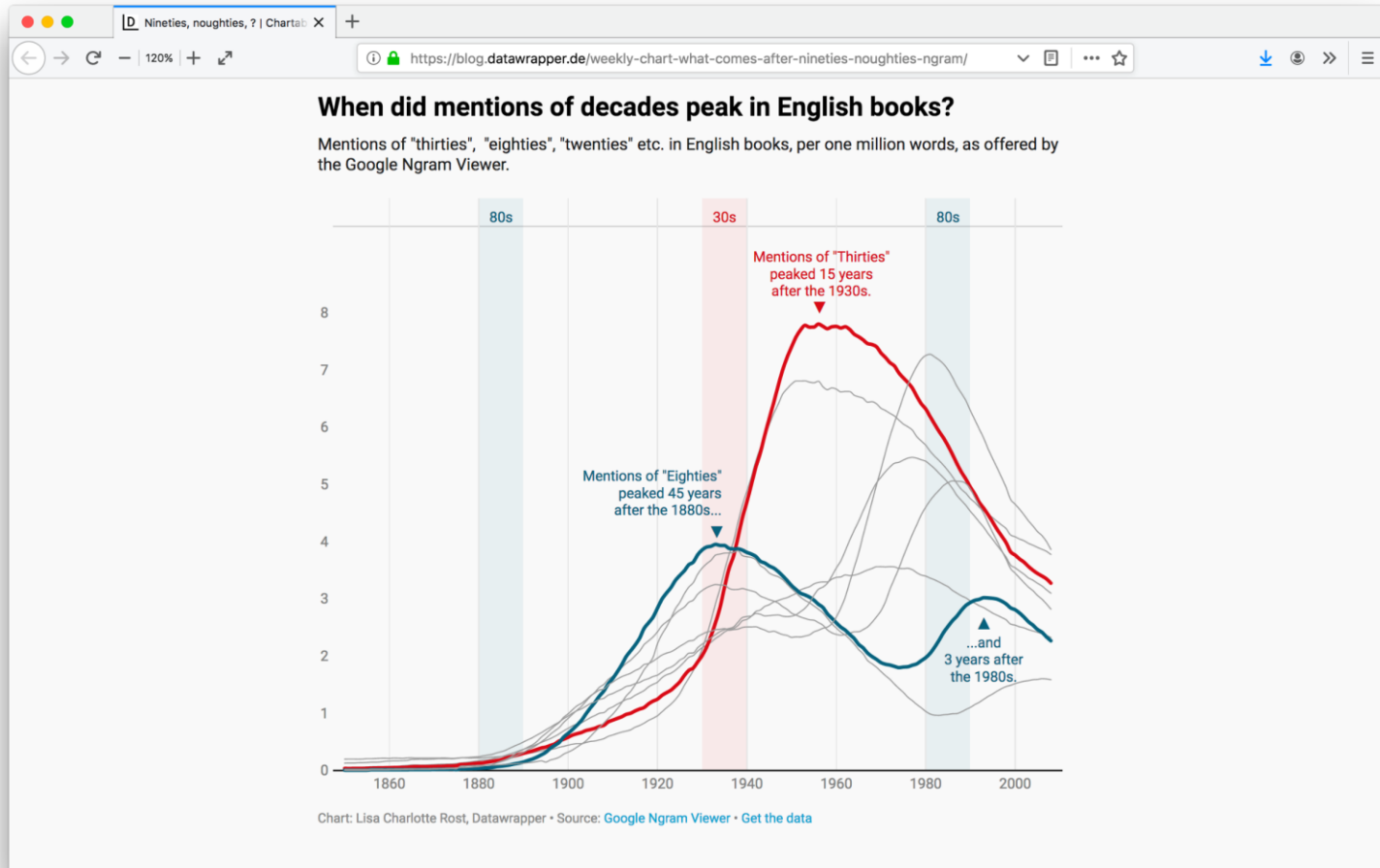






# Online dataviz

## Responsiveness



# Online dataviz Responsiveness

Chart orientation

City by city, measuring the recovery

Italy 2018 elections

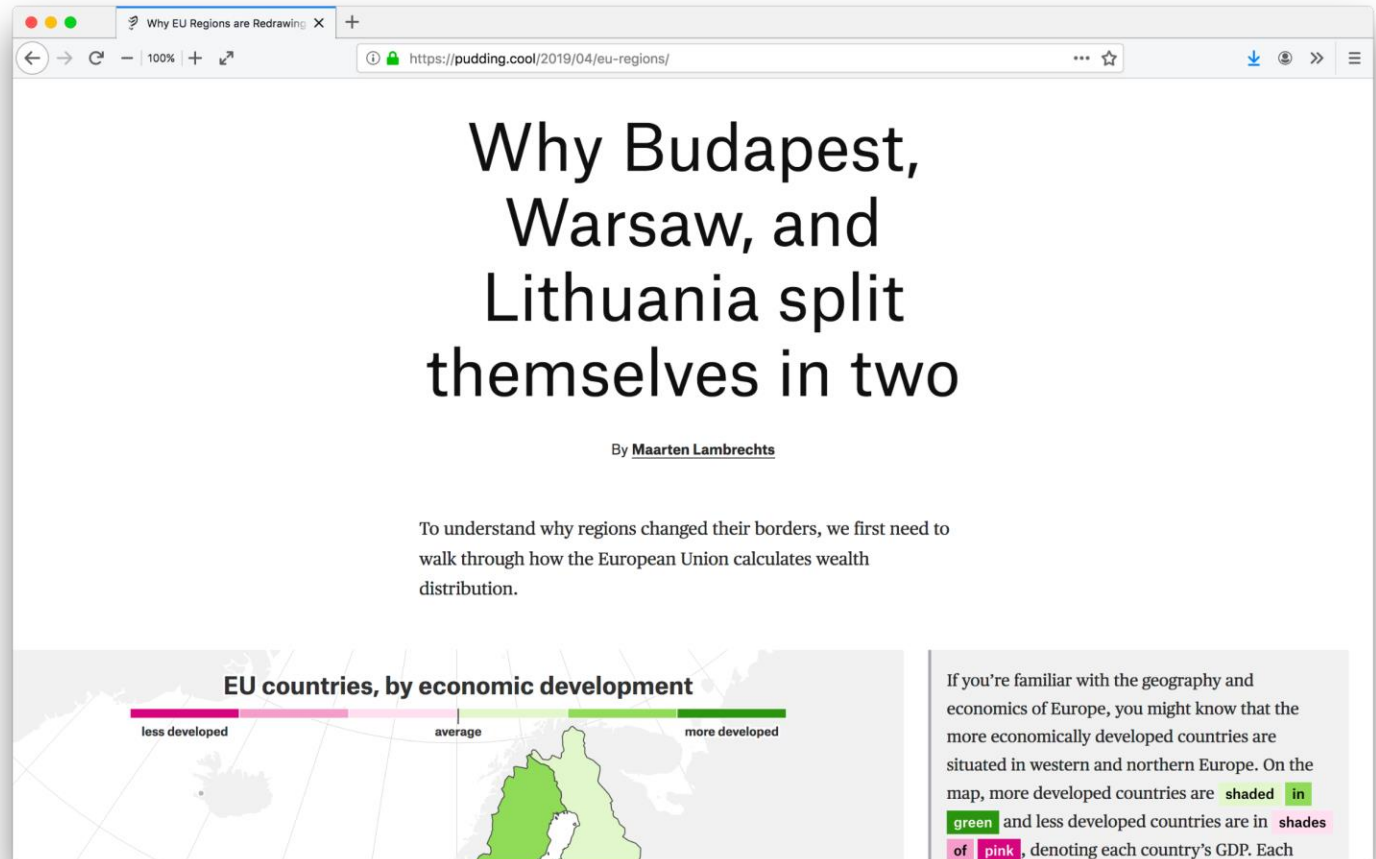


# Online dataviz Interactivity

Tooltips

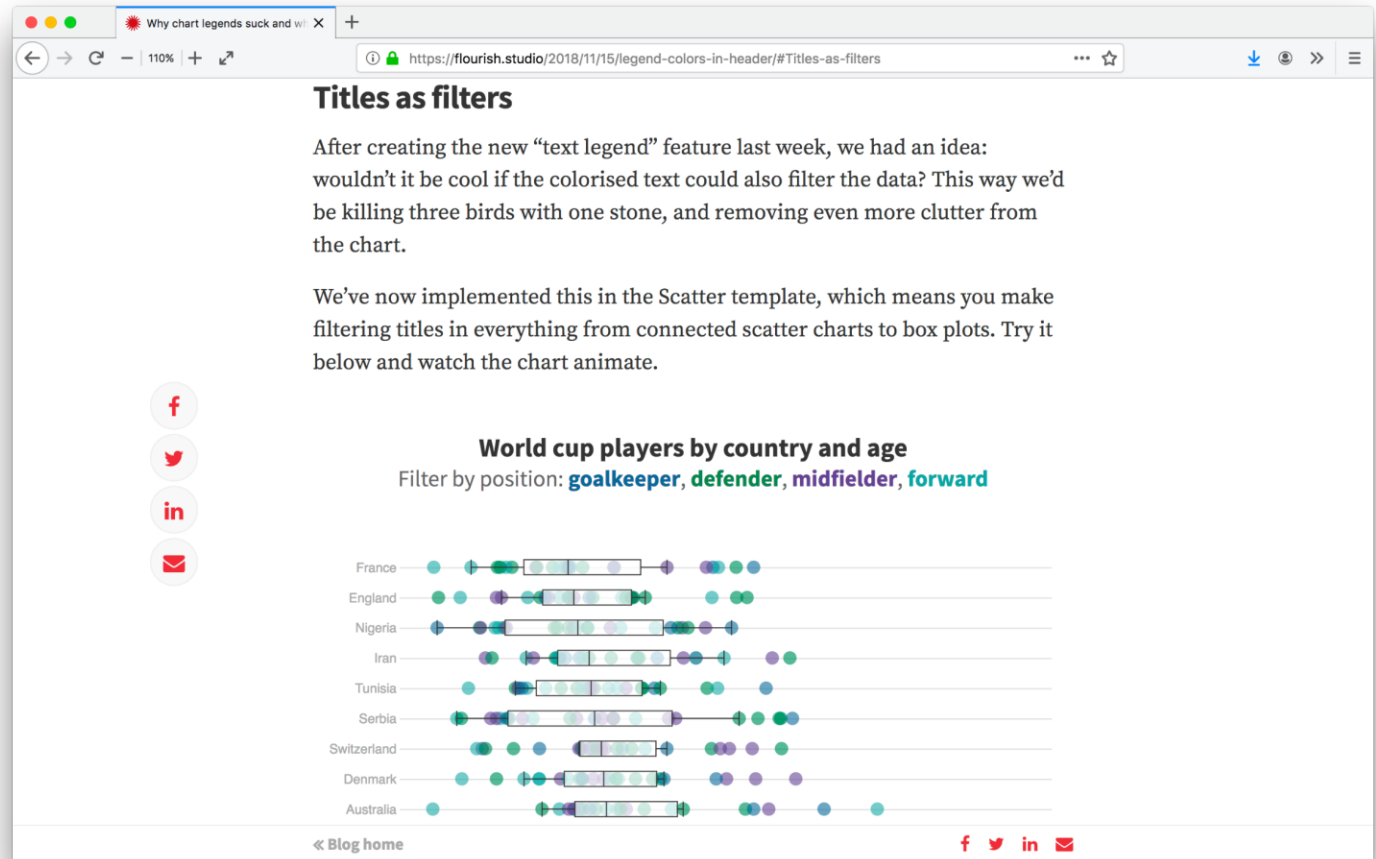
Highlighting

Animation



# Online dataviz Interactivity

## Filtering





3.

# STATIC CHARTS: CHARTBUILDER AND FASTCHARTS



# Static charts Quartz Chartbuilder

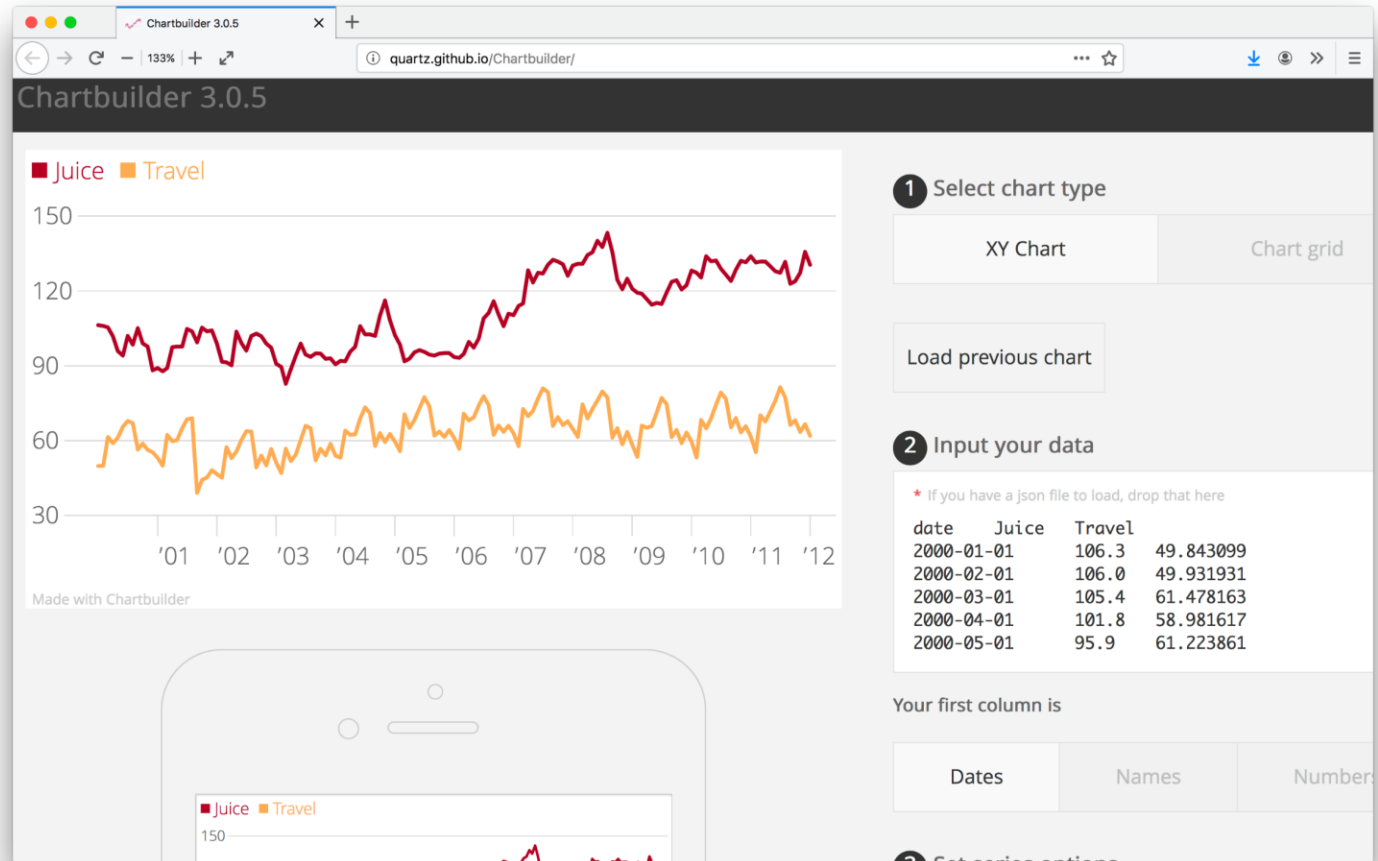
## Features

Basic charts

Consistent styling

Static output

Open source





## Exercise data

Global temperature

<https://tinyurl.com/yxsvc89h>

[Source](https://tinyurl.com/yxsvc89h)

Nobels vs Chocolate

<https://tinyurl.com/yxvgudlq>

EU CO2 emissions

<https://tinyurl.com/yy5qad7b>

[Source](https://tinyurl.com/yy5qad7b)

# Quartz Chartbuilder

[quartz.github.io/Chartbuilder](https://quartz.github.io/Chartbuilder)

## Exercises

Make a line chart with the global temperature data

Make a scatterplot with the Nobels vs chocolate data

Make a (horizontal) bar chart ranking of EU CO2 emissions

Remake the Chart of the moment from qz.com

# Basic tools Financial Times FastCharts

Features

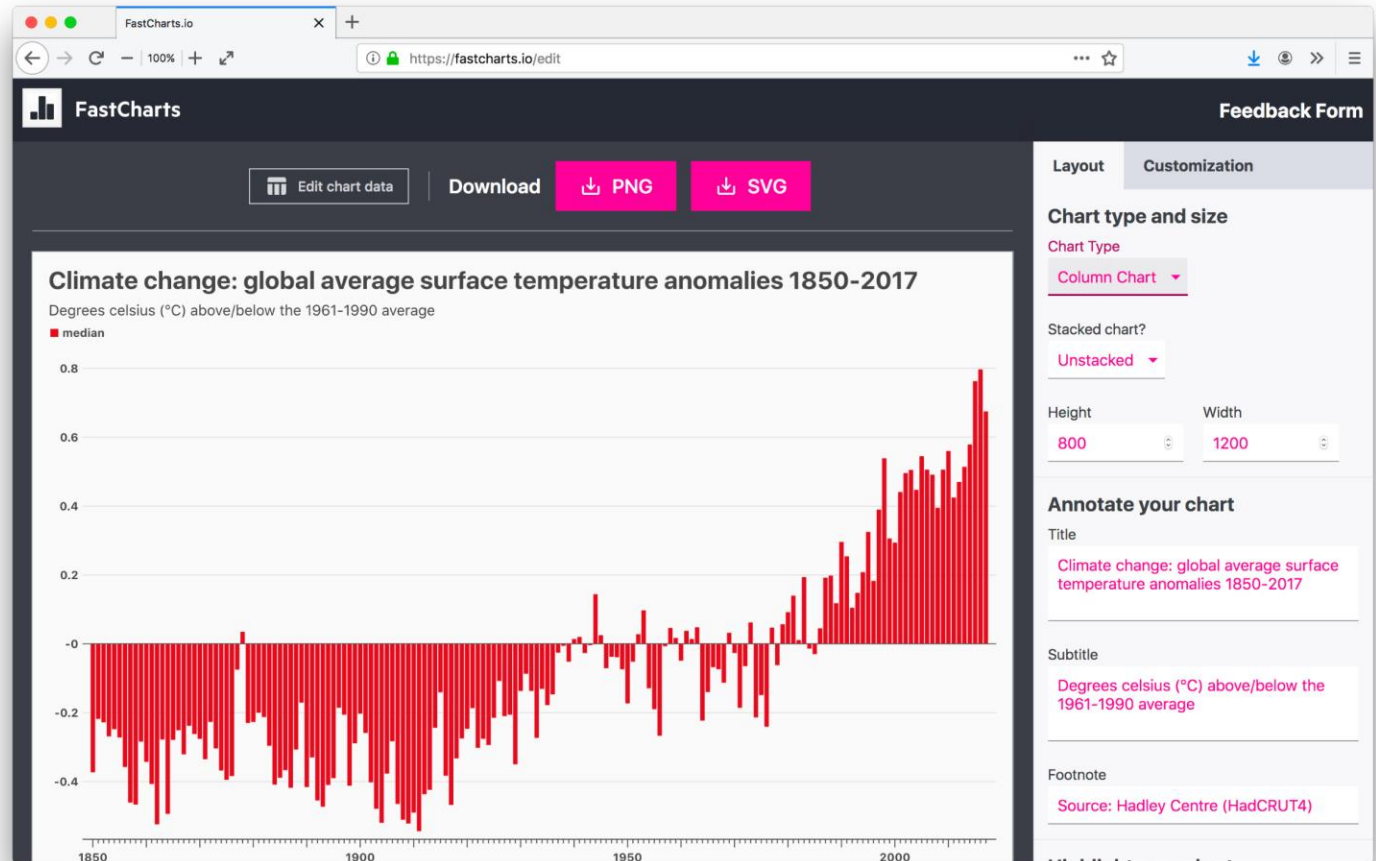
Basic chart types

Flexible styling

Flexible width and height

Highlighting

Annotations



FT FastCharts

fastcharts.io

## Exercise

Make a line chart with the global temperature data

Make a ~~scatterplot~~ bar chart with the Nobels vs chocolate data

Make a (horizontal) bar chart ranking of EU CO2 emissions

+ add annotations

+ try different chart dimensions

+ try other chart types, with the built in data sets



4.

# **INTERACTIVE CHARTS: DATAWRAPPER AND FLOURISH**



# Interactive charts

## Datawrapper

### Features

More chart types

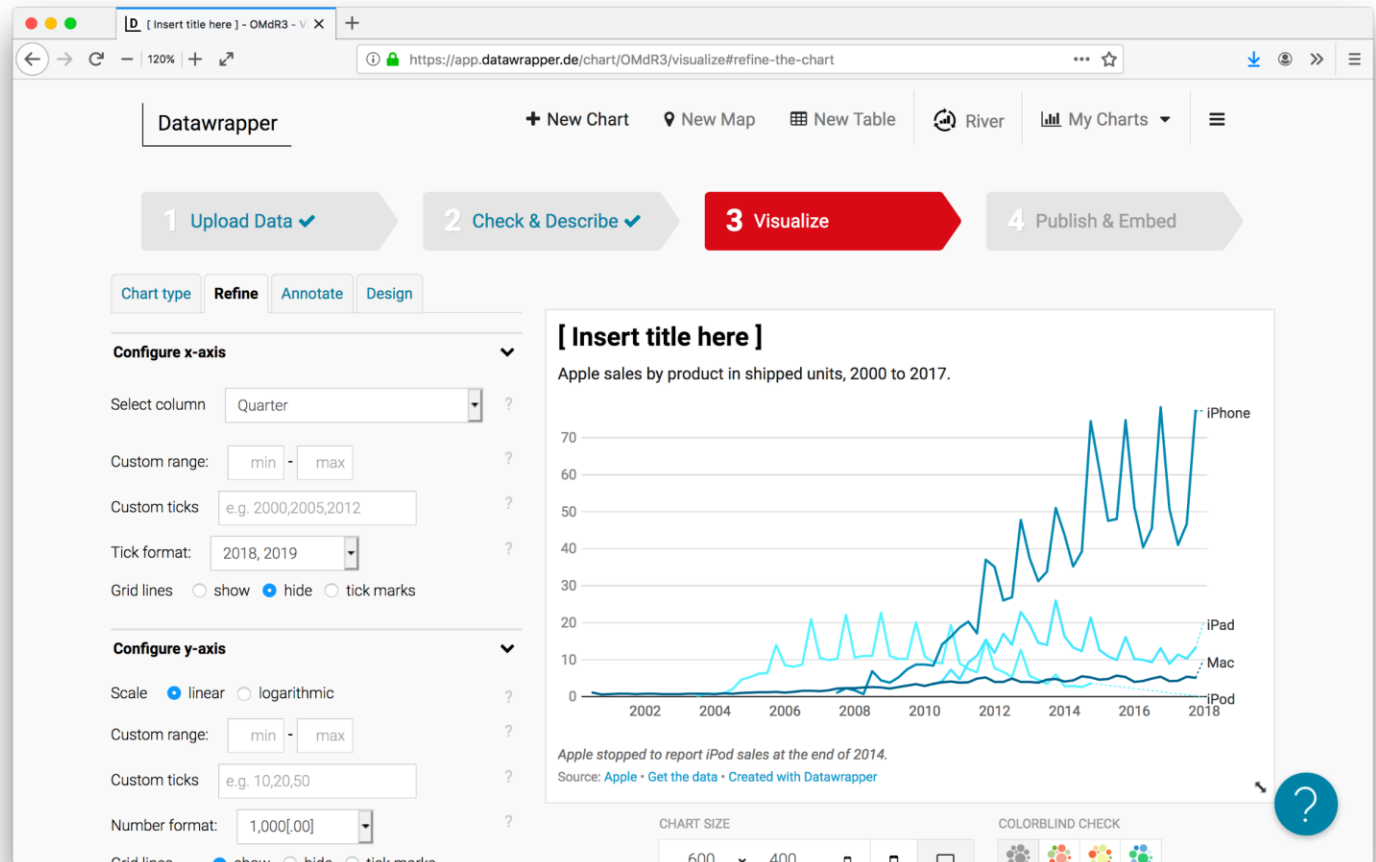
Maps

Tables

Basic interactivity

Highlighting

Annotations



Datawrapper  
datawrapper.de

## Exercise

Make the same charts as before, but also:

- + make a bar chart table with the EU CO2 emission data
- + add data with copy/paste, but also directly from Google Sheets
- + configure the data (add units, ...)
- + add annotations
- + try different chart dimensions
- + check for color blindness
- + try other chart types, with the built in data sets
- + publish a chart and visit the url

# Interactive charts

## Datawrapper maps

### Features

Choropleth maps

Symbol maps

Locator maps

Create a map | Datawrapper

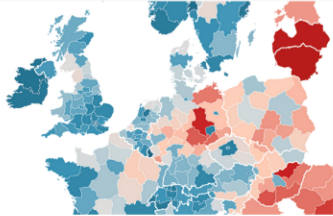
https://app.datawrapper.de/create/map

Datawrapper

+ New Chart New Map New Table River My Charts

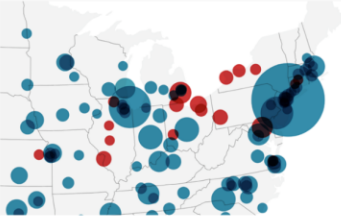
### Hi! What type of map do you want to create?

Choose the map type that will show your data best:




#### Choropleth map

Color regions to show data like unemployment rates or election results on a map. Upload your own map or use any of our more than 1000 maps. The resulting map is responsive & interactive.



#### Symbol map

Create symbols sized and colored according to your data. Works great for specific locations (like cities). Upload your own map or use any of our more than 1000 maps. The resulting map is responsive & interactive.



#### Locator map

Add makers to a map to show where something is located or happened, e.g. events within a city. Perfect for showing readers the places you mention in an article. The resulting map is responsive and static.

?





## Exercise map data

EU CO2 emissions

<https://tinyurl.com/yy5qad7b>

[Source](#)

Power plants in Europe

<https://tinyurl.com/yyf4jv7c>

[Source](#)

## Datawrapper maps

### Exercise

Make a choropleth of EU CO2 emissions

Make a symbol map of all power plants in 1 European country

Make a locator map of where we are

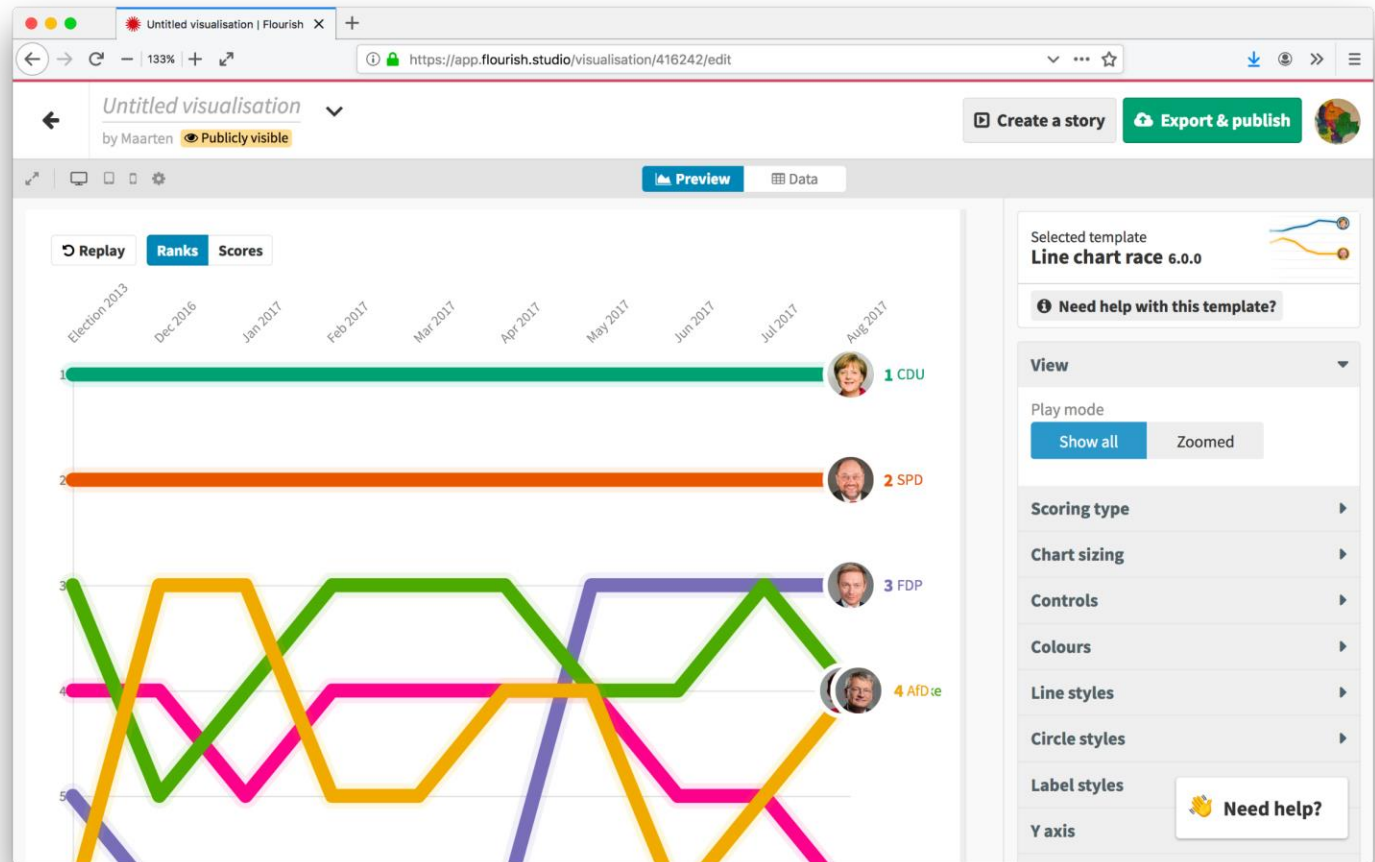
# Interactive charts Flourish

## Features

Many templates

Stories

Talkies



## Flourish exercise data

NUTS 1 gdp and life expectancy 2000-2017

<https://tinyurl.com/yxl76y7f>

[Source 1](#), [Source 2](#)

Flourish  
flourish.studio

## Exercise

Make a Hans Rosling chart of regional GDP vs life expectancy

Make a bar chart race of regional GDP or life expectancy

Make a symbol map with ALL European power plants

Make a Flourish story

5.

# AI2HTML



# Responsive charts

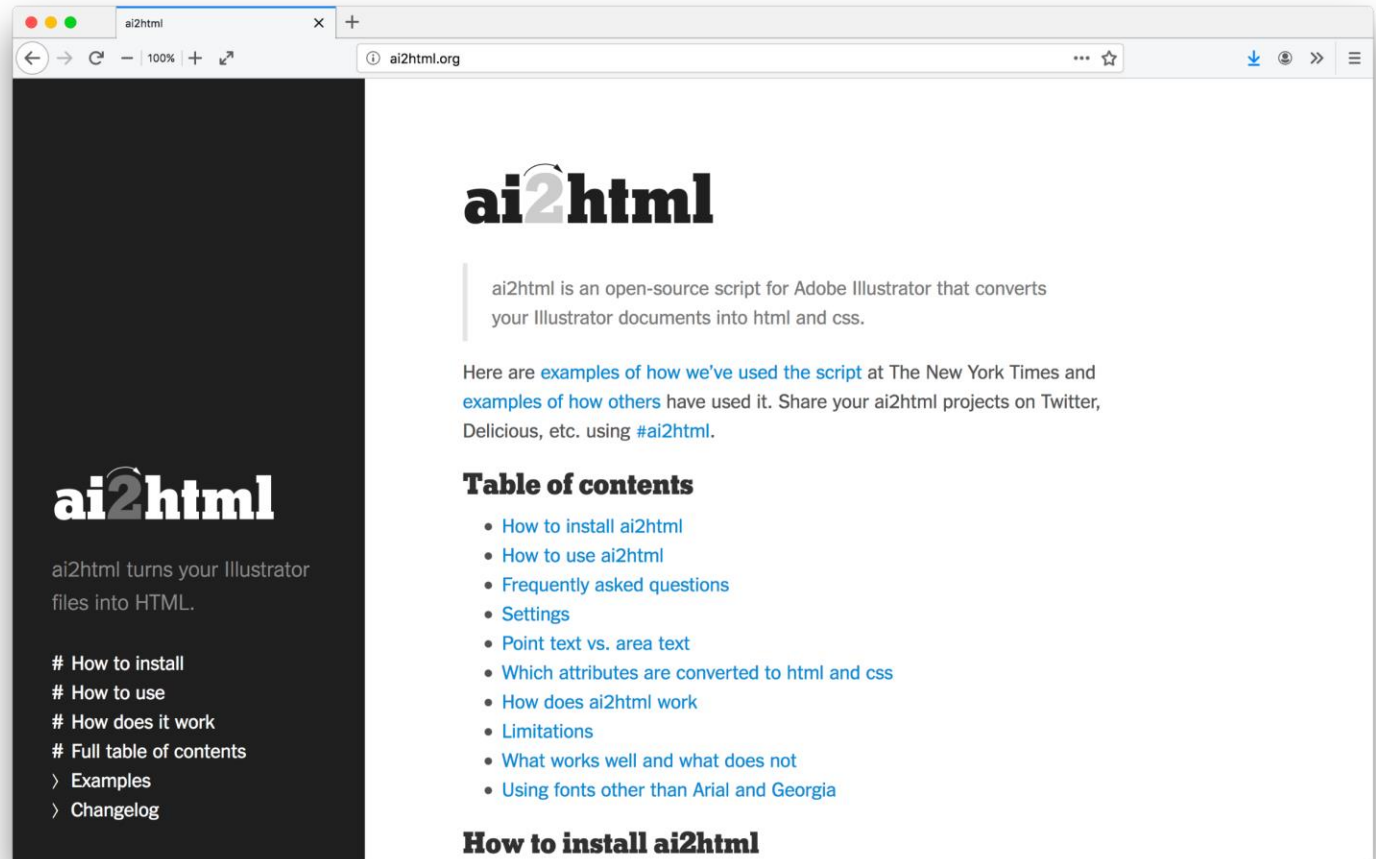
## AI2html

### Features

Responsive graphics  
in Adobe Illustrator

Bitmap images with  
overlaid html-text

Open source



The screenshot shows a web browser window displaying the ai2html website. The browser's address bar shows "ai2html.org". The website has a dark sidebar on the left with the ai2html logo and a list of navigation links: "# How to install", "# How to use", "# How does it work", "# Full table of contents", "> Examples", and "> Changelog". The main content area is white and features the ai2html logo at the top, followed by a description: "ai2html is an open-source script for Adobe Illustrator that converts your Illustrator documents into html and css." Below this is a paragraph mentioning examples of use at The New York Times and other sites, and a "Table of contents" section with a list of links: "How to install ai2html", "How to use ai2html", "Frequently asked questions", "Settings", "Point text vs. area text", "Which attributes are converted to html and css", "How does ai2html work", "Limitations", "What works well and what does not", and "Using fonts other than Arial and Georgia". At the bottom of the main content area is the heading "How to install ai2html".



# AI2html

## Demo



Q&A



# Resources

