Advanced visualizations

DATA VISUALIZATION IN TABLEAU



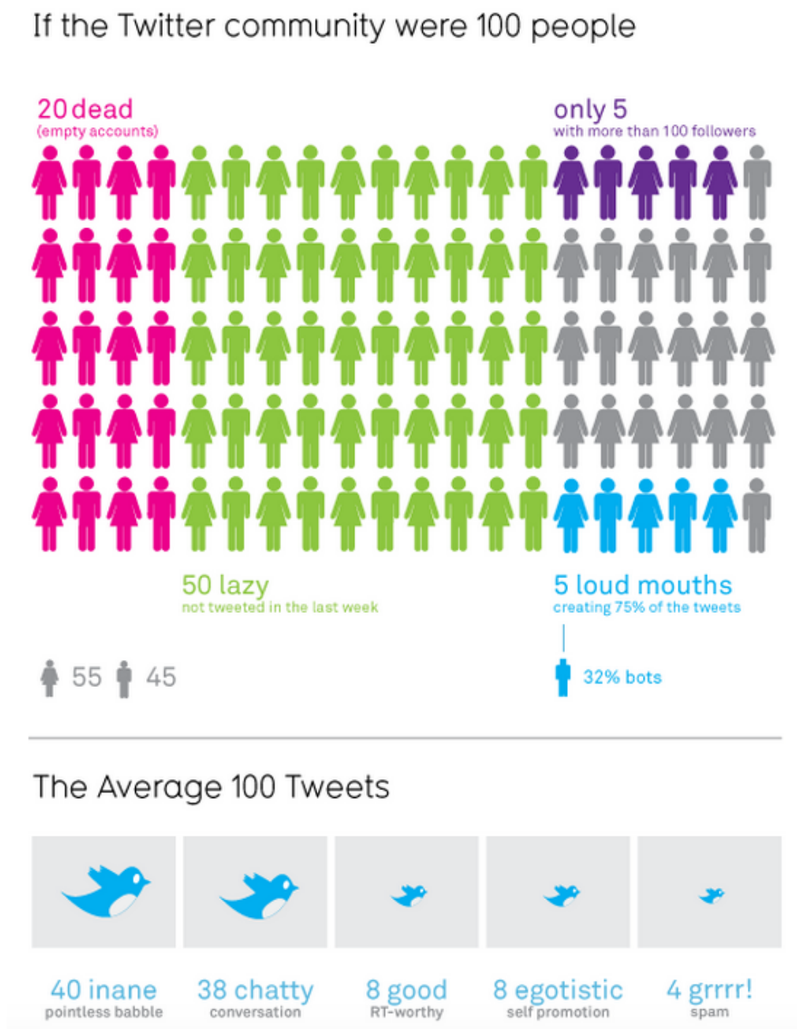
Maarten Van den Broeck
Content Developer, DataCamp

datacamp

The principles of an infographic

Well-designed - colorful - useful

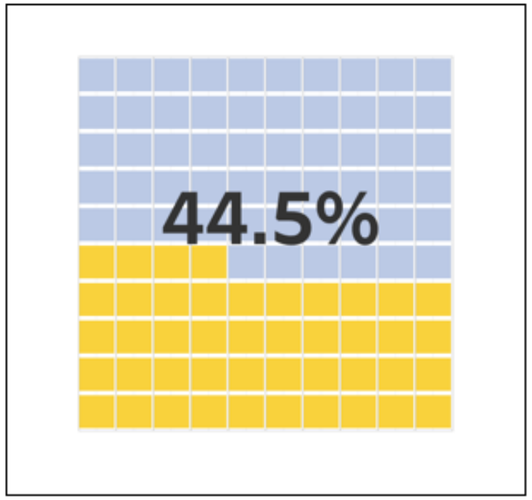
- Easy to follow flow and design
- Minimum text, maximum readability
- Accent on key data points and elements
- Coherent use of color and scales



[1] David McCandless, https://informationisbeautiful.net/2009/if-twitter-was-100-people/

Meet our new charts

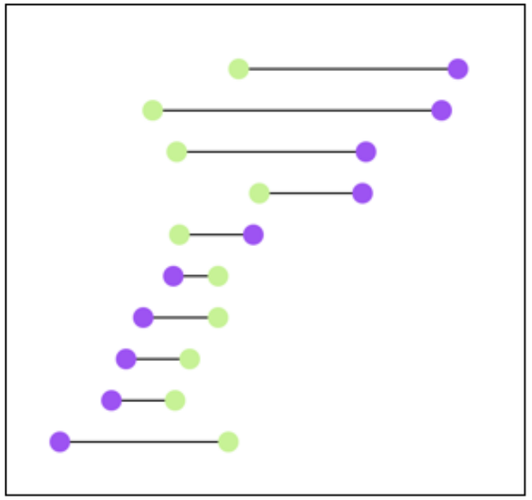
Waffle chart



An alternative for:

- Stacked 100% bar.
- Pie chart.

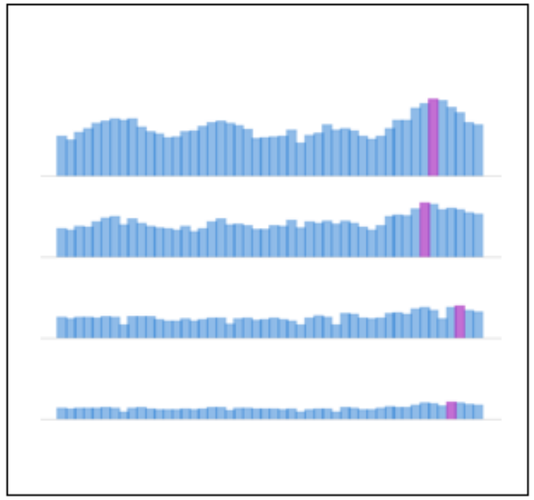
DNA chart



An alternative for:

- Bar charts
- Box plot or histogram.
- Gantt Bar.

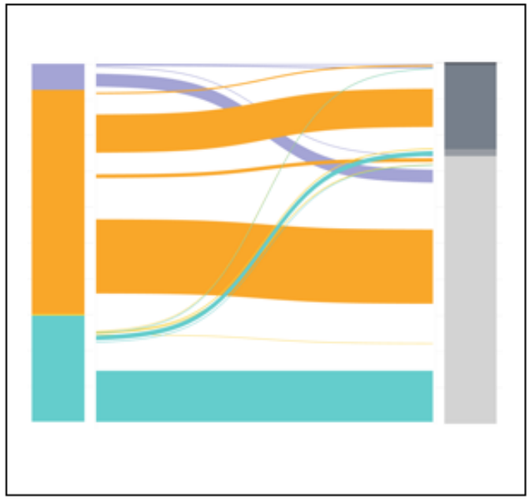
Sparklines



An alternative for:

- Plain tables.
- Large charts.
- Tooltip.

Sankey Diagram

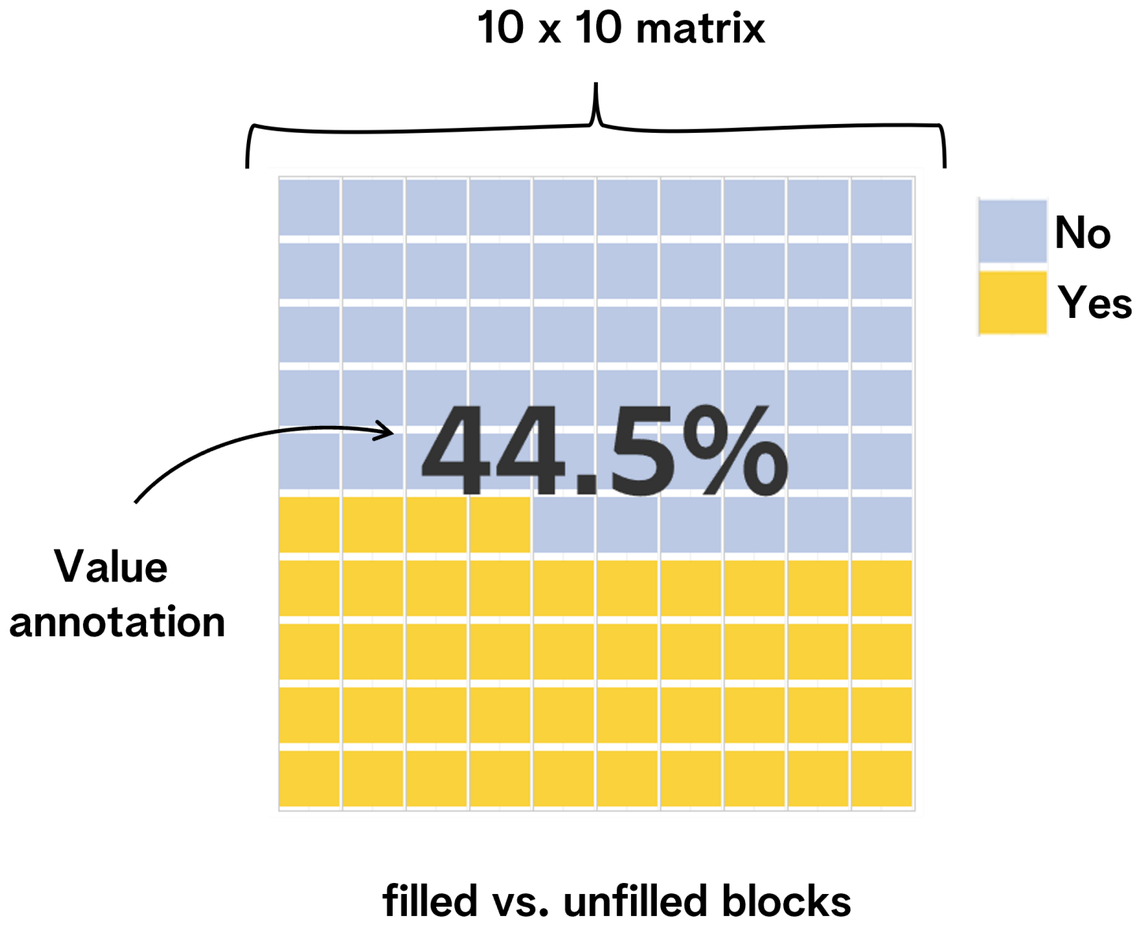


An alternative for:

- Drill-downs.
- Hierarchies.
- Bar chart.
- Coordinate plots.

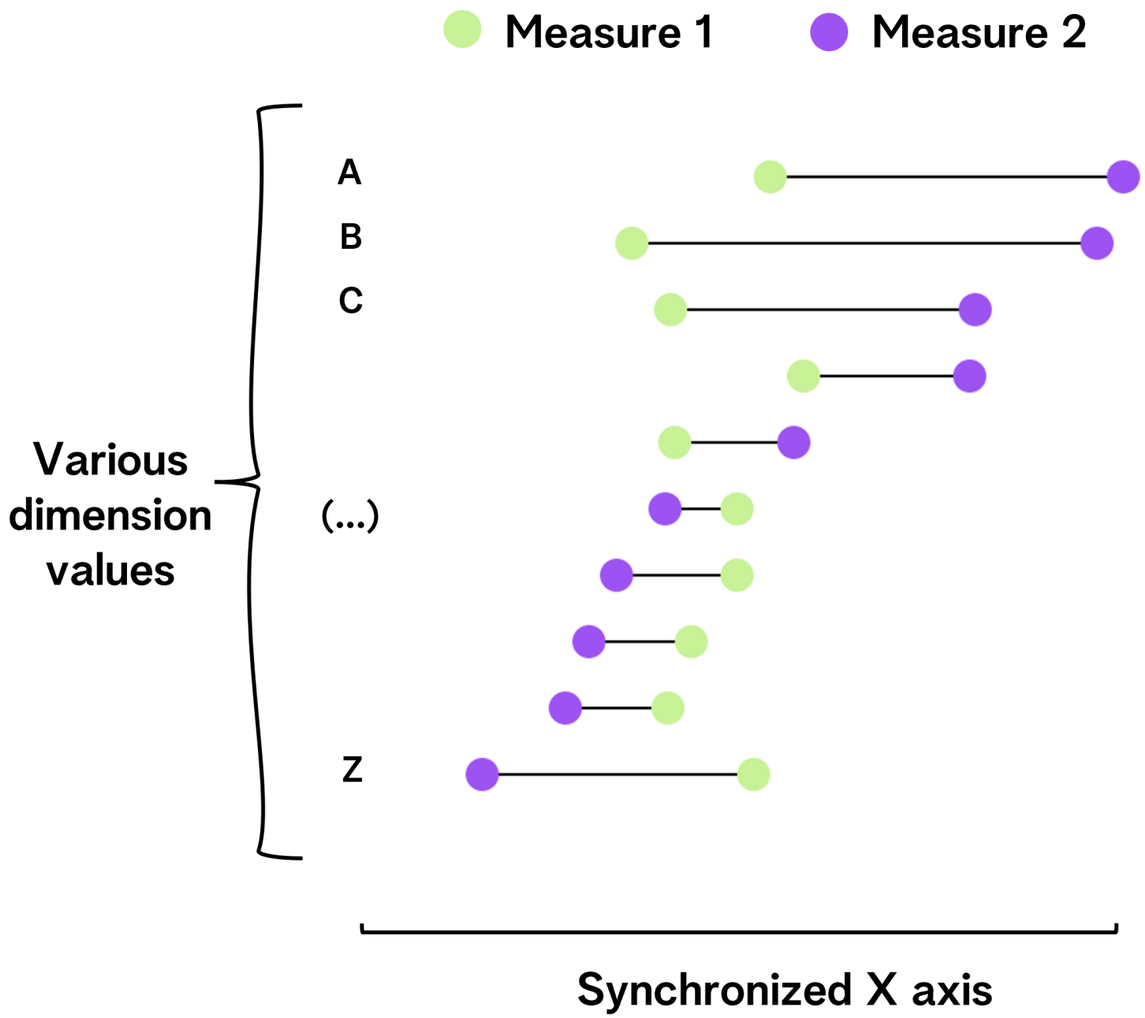
Waffle chart

- N on N matrix (*10 x 10*, *100 x 100*...)
- Visualizing part of the total
- A good alternative for:
  - Stacked bar charts
  - Pie/donut charts
- Can be turned into a pictogram



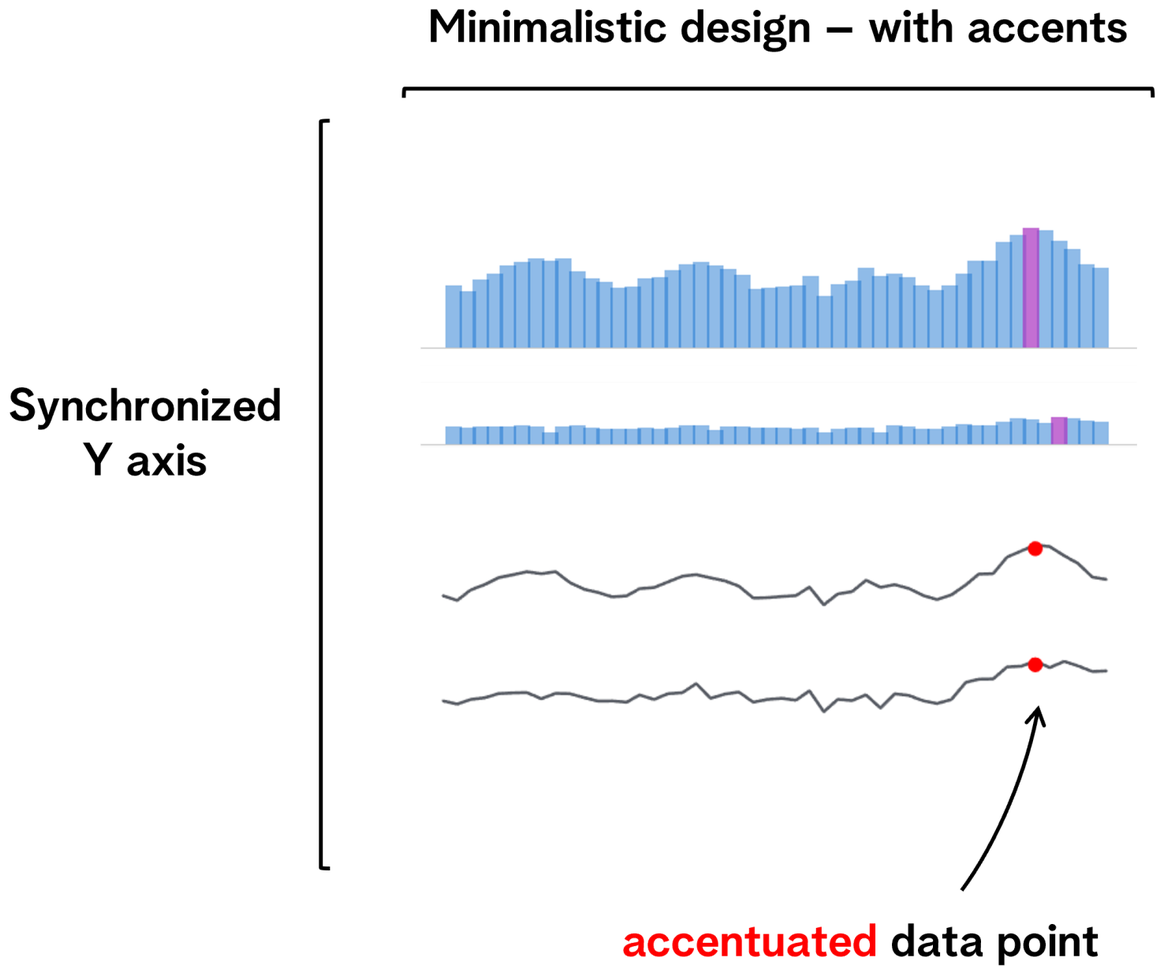
DNA (dumbbell) chart

- Excellent for visualizing ranges and measuring the gap
- Requires:
  - Clear axis or data points labeling
  - X-axis synchronization
- A good alternative for:
  - Comparison charts (e.g. bar charts)
  - Distribution charts (e.g. box plots)



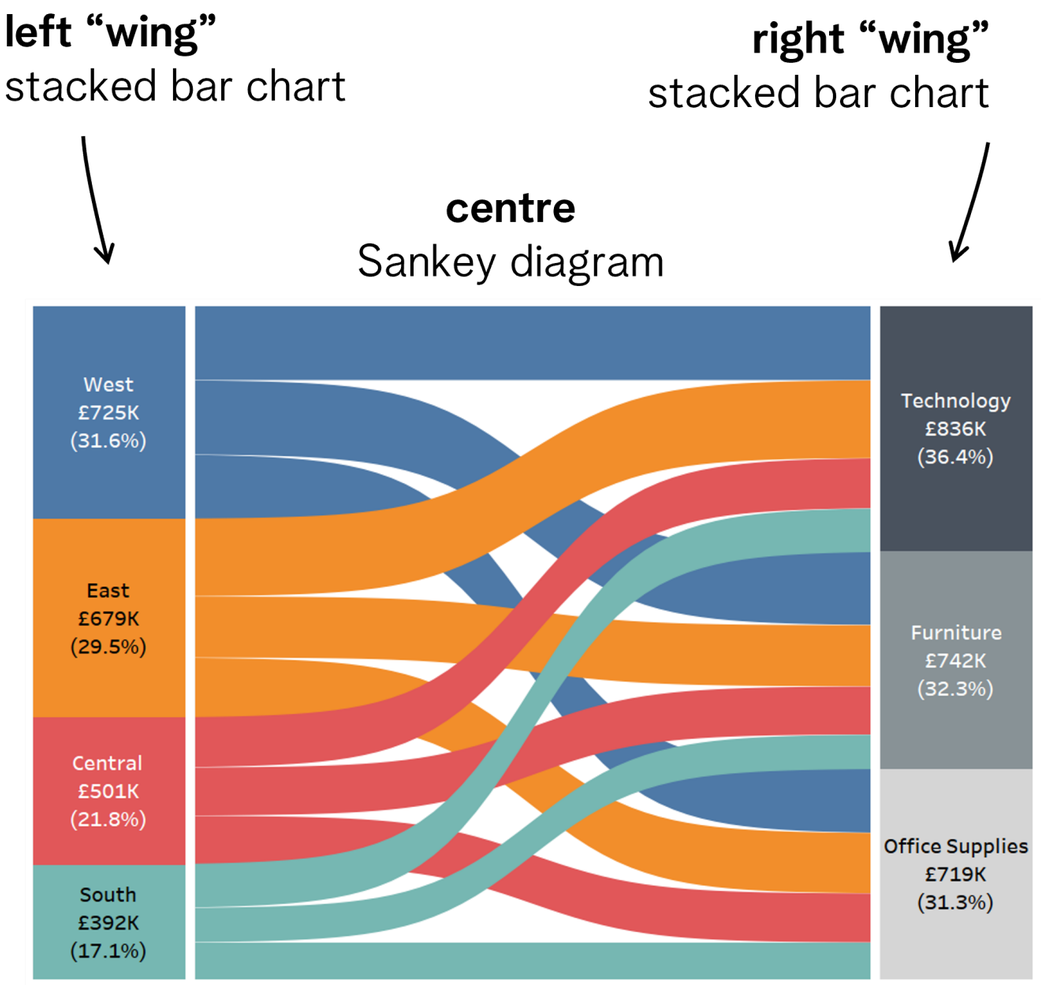
Sparklines

- Tiny, accompanying charts explaining high-level trend
- Typically, line or bar charts with time-series
- Minimalistic design, focus on key data points e.g., minimum or maximum
- Not ideal for precision and exact values
- A good idea for a tooltip chart



Sankey Diagram

- Flow of one set of values to another
- Many-to-many mapping on two (or more) categorical dimensions
- Nodes (in the "wings") and links (center)
- A good alternative for:
  - Bar charts
  - Pie charts
- Draw attention to the largest links
- Complex to build, not suited for precision chart reading



Extra tips and tricks on advanced visualizations

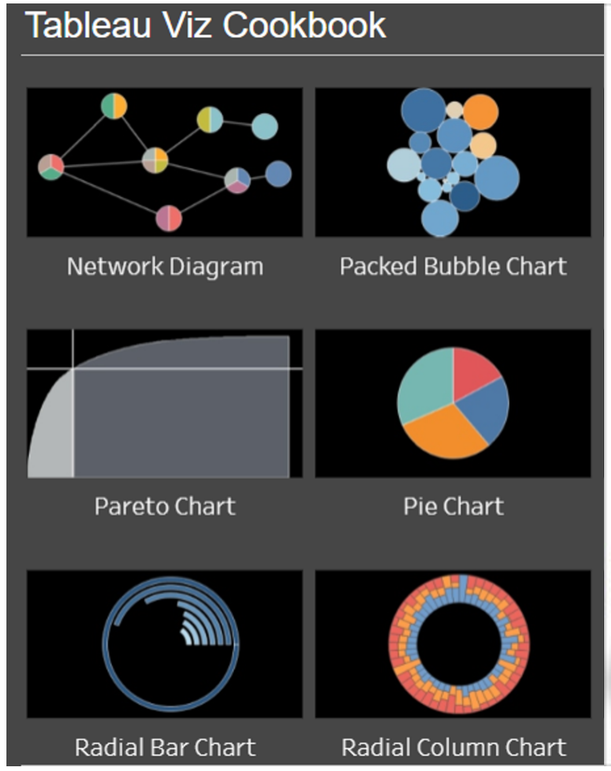
Extensive use of Tableau features:

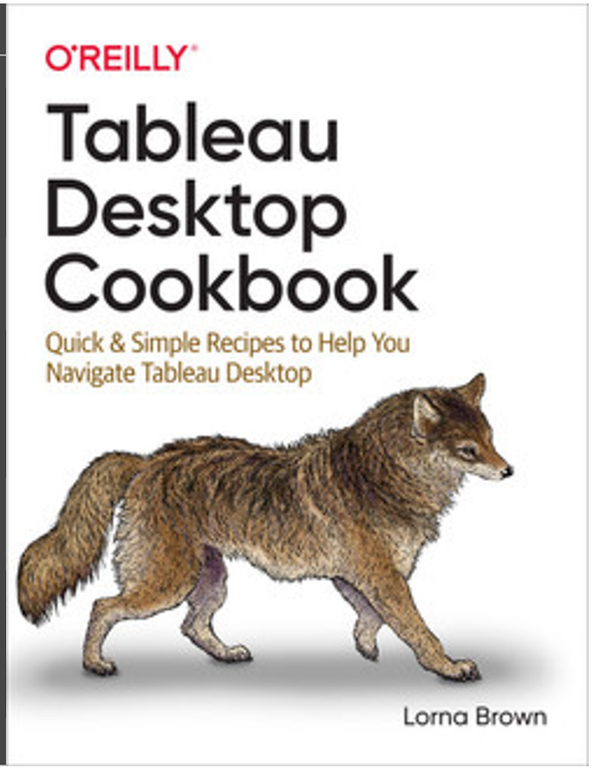
- *Measure Names* and *Measure Values*
- Dual axis
- Marks card and chart types

Combining charts:

- Overlaying of various charts
- Assembling charts into a themed dashboard

Chart "cook-books"





[1] https://public.tableau.com/views/CookBook/VizCookbook

Let's practice!

DATA VISUALIZATION IN TABLEAU

Building impressive charts

DATA VISUALIZATION IN TABLEAU



Full Name
Instructor

datacamp

Let's practice!

DATA VISUALIZATION IN TABLEAU

Bringing it all together

DATA VISUALIZATION IN TABLEAU

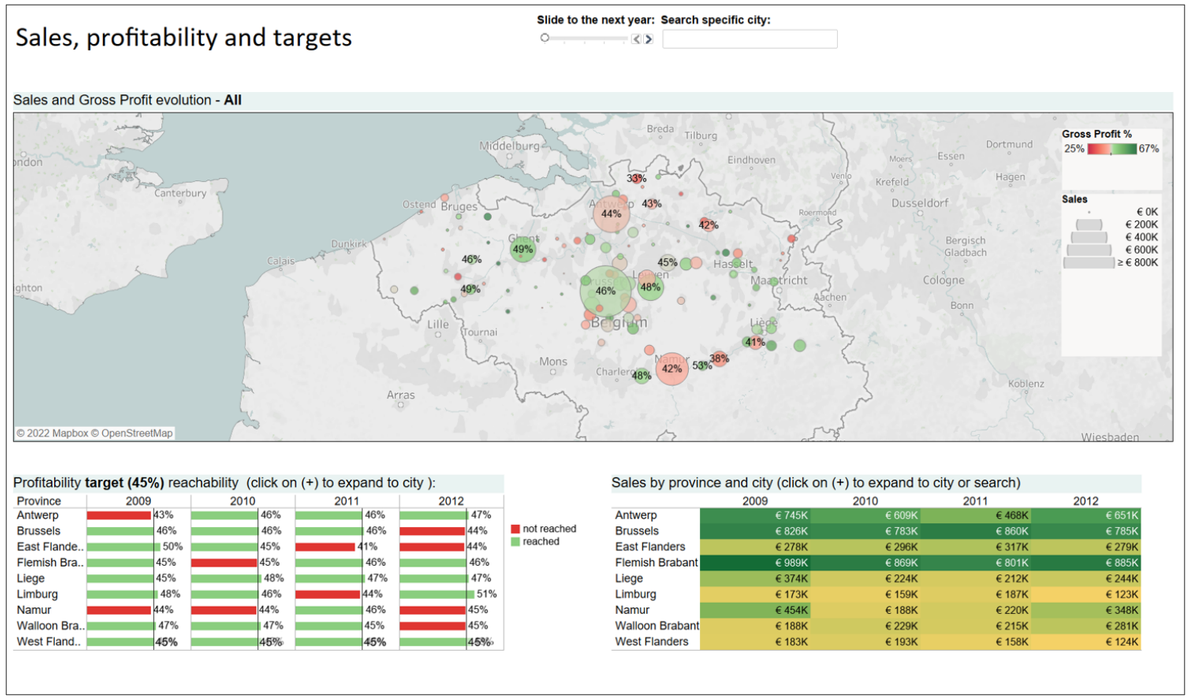


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Dashboarding vs. storytelling

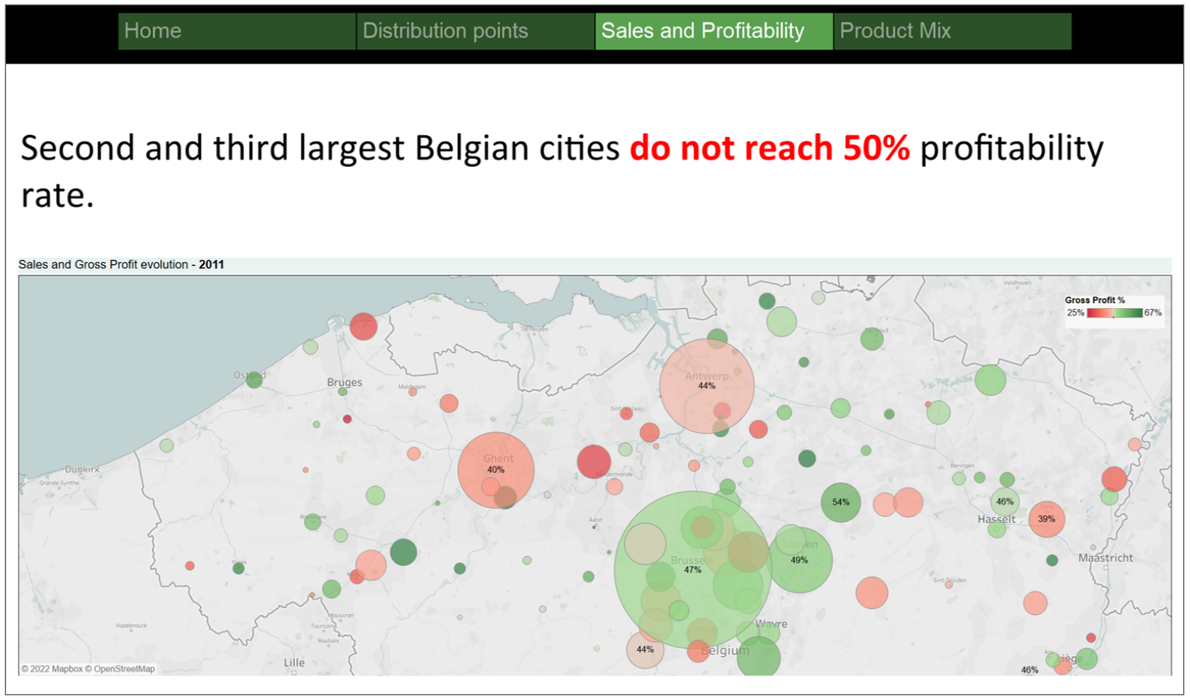
Dashboard:



Province	2009	2010	2011	2012
Antwerp	43%	46%	46%	47%
Brussels	46%	46%	46%	44%
East Flande..	50%	45%	41%	44%
Flemish Bra..	45%	45%	46%	46%
Liege	45%	48%	47%	47%
Limburg	48%	46%	44%	51%
Namur	44%	44%	46%	45%
Walloon Bra..	47%	47%	45%	45%
West Fland..	45%	45%	45%	45%

	2009	2010	2011	2012
Antwerp	€ 745K	€ 609K	€ 468K	€ 651K
Brussels	€ 826K	€ 783K	€ 860K	€ 785K
East Flanders	€ 278K	€ 296K	€ 317K	€ 279K
Flemish Brabant	€ 989K	€ 869K	€ 801K	€ 885K
Liege	€ 374K	€ 224K	€ 212K	€ 244K
Limburg	€ 173K	€ 159K	€ 187K	€ 123K
Namur	€ 454K	€ 188K	€ 220K	€ 348K
Walloon Brabant	€ 188K	€ 229K	€ 215K	€ 281K
West Flanders	€ 183K	€ 193K	€ 158K	€ 124K

Story:

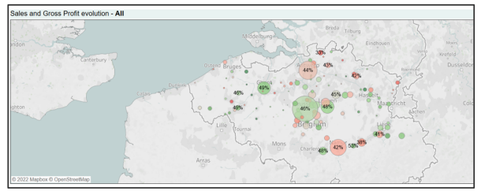


- Self-service analytics, with filters
- Exploratory Data Analysis (a lot of detail)

- Attention on insights, concrete data points
- Slide deck, presentation (high level)

From worksheets...

Worksheets



+

Sales by province and city (click on (+) to expand to city or search)

	2009	2010	2011
Antwerp	€ 745K	€ 609K	€ 468K
Brussels	€ 826K	€ 783K	€ 860K
East Flanders	€ 278K	€ 296K	€ 317K
Flemish Brabant	€ 989K	€ 869K	€ 801K
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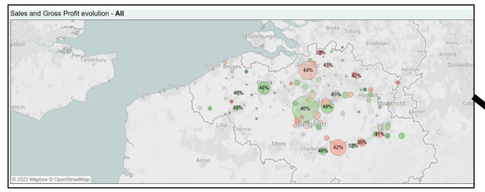
+

Profitability **target (45%)** reachability (click on (+) to expand to c

Province	2009	2010	2011
Antwerp	43%	46%	46%
Brussels	46%	46%	46%
East Flande..	50%	45%	41%
Flemish Bra..	45%	45%	46%
Liege	45%	48%	47%
Limburg	48%	46%	44%
Namur	44%	44%	46%
Walloon Bra..	47%	47%	45%
West Fland..	45%	45%	45%

From worksheets to dashboards...

Worksheets



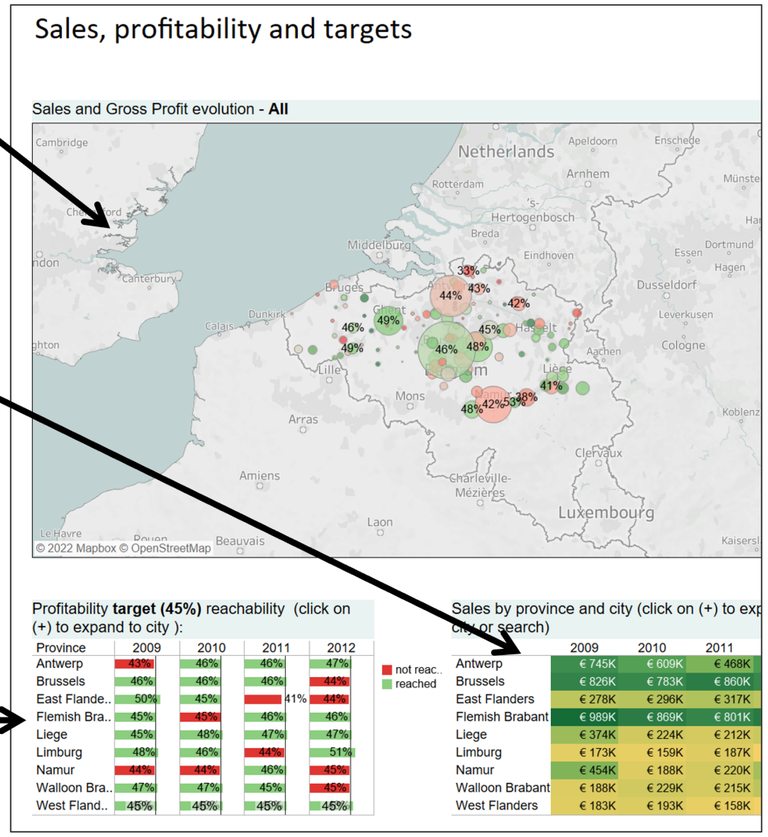
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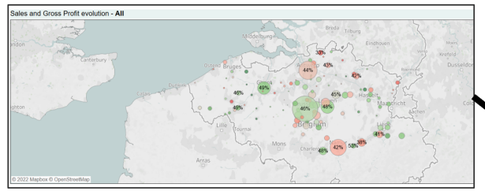
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Dashboard



From worksheets to dashboards and data stories.

Worksheets



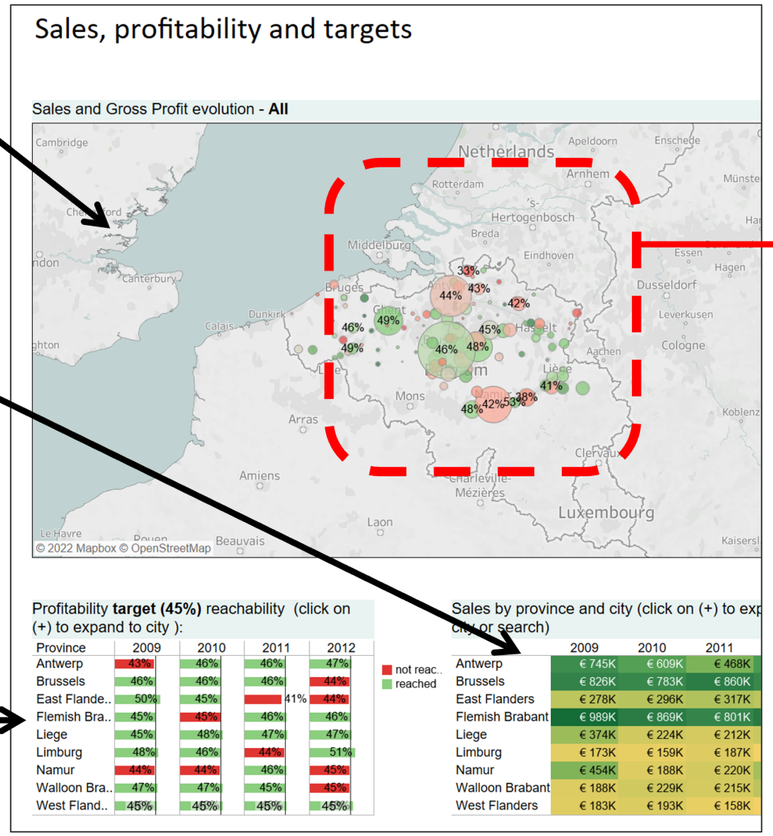
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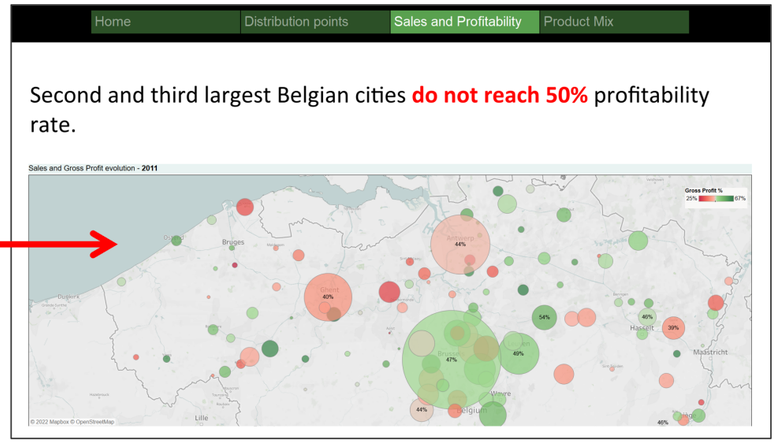
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Dashboard



Story



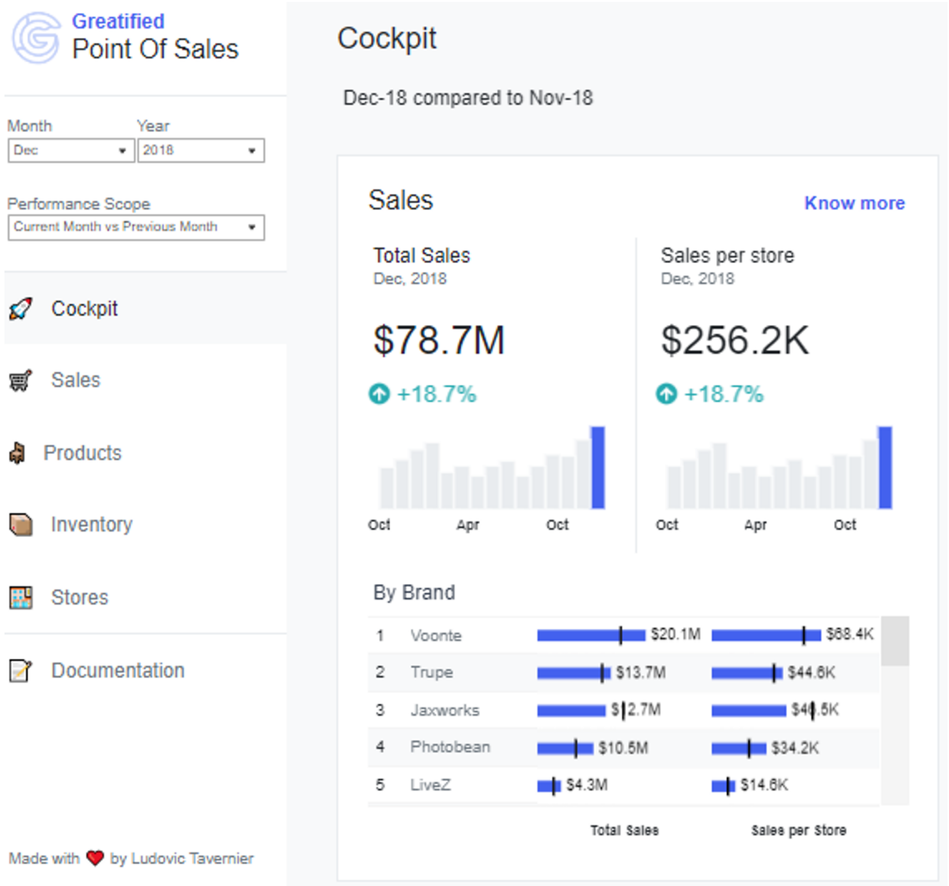
Looks matter - pretty and simple catches the eye!

Appealing design:

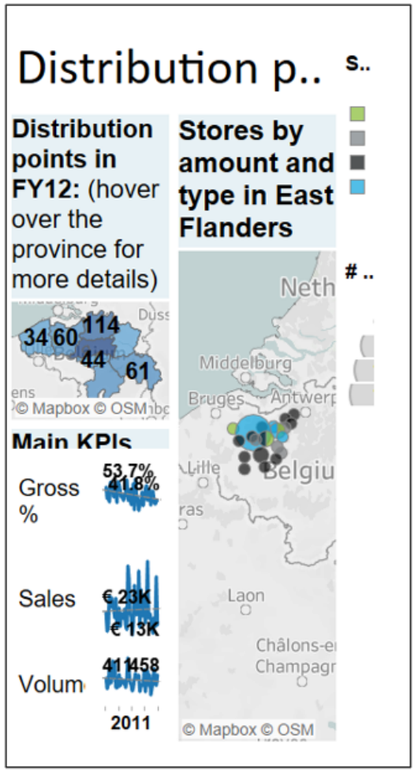
- Branding and styling
- Efficient use of space
- Self-explanatory (labels, titles)

Consider:

- Start small and expand
- Bounce ideas by non-data people
- Test meticulously and document

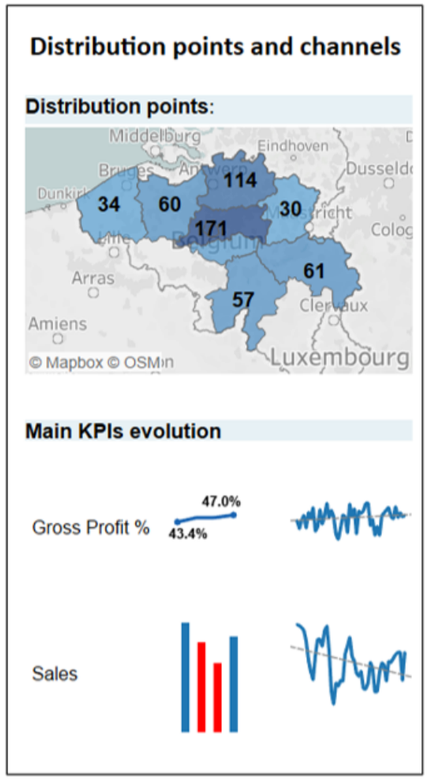


Design for any device





- Dashboard not designed for a mobile device





- Mobile device ready dashboard

Don't lose your audience!

- Work on your dashboard and story performance
- Aim at < 10 seconds of load time
- Identify the "heaviest" visualizations
- Limit the number of data marks
- Consider creating a data extract



[1] https://www.datacamp.com/courses/connecting-data-in-tableau

Let's practice!

DATA VISUALIZATION IN TABLEAU

Storytelling like a pro

DATA VISUALIZATION IN TABLEAU



Agata Bak-Geerinck
Senior Data Analyst, Telenet

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Let's practice!

DATA VISUALIZATION IN TABLEAU

Congratulations!

DATA VISUALIZATION IN TABLEAU



Maarten Van den Broeck
Content Developer, DataCamp

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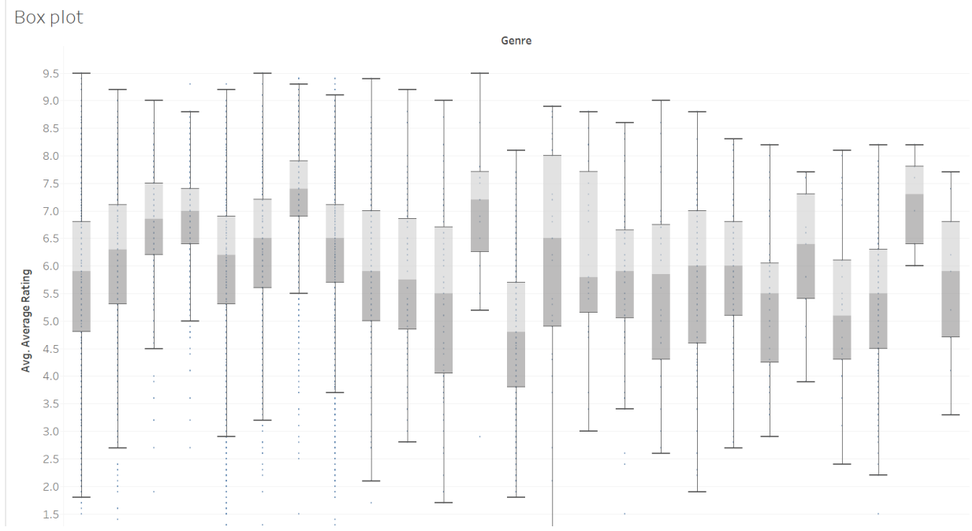
What you've learned

Chapter 1

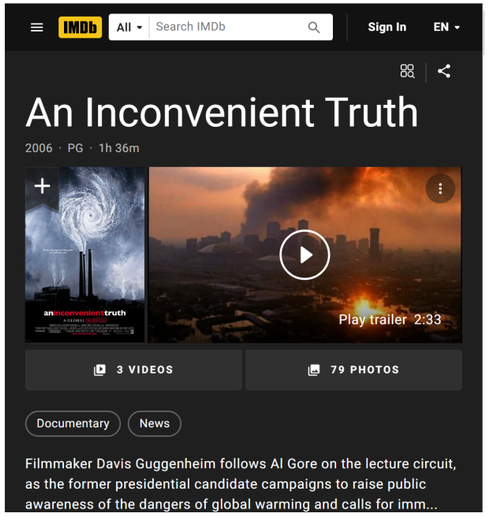
- *Show Me* charts
- Basic and intermediate visualizations
- Scatter plot, waterfall chart, box plots, etc.

Chapter 2

- Best practices in data visualization
- Animating the charts
- Adding interactivity elements



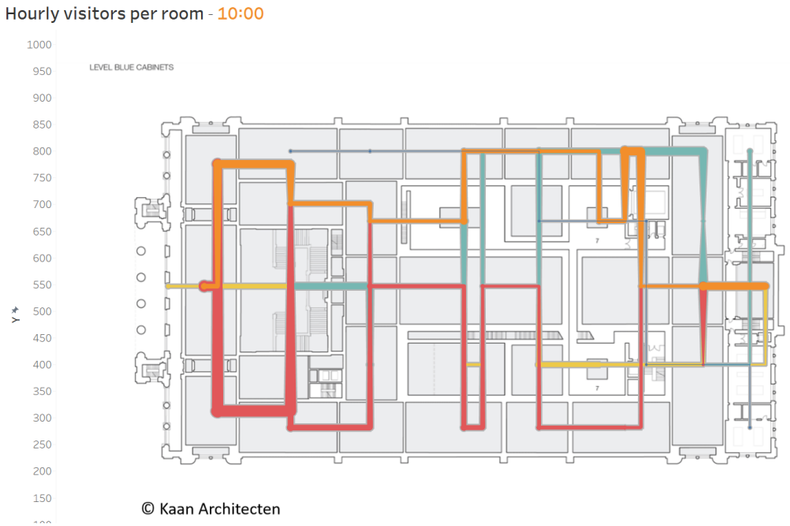




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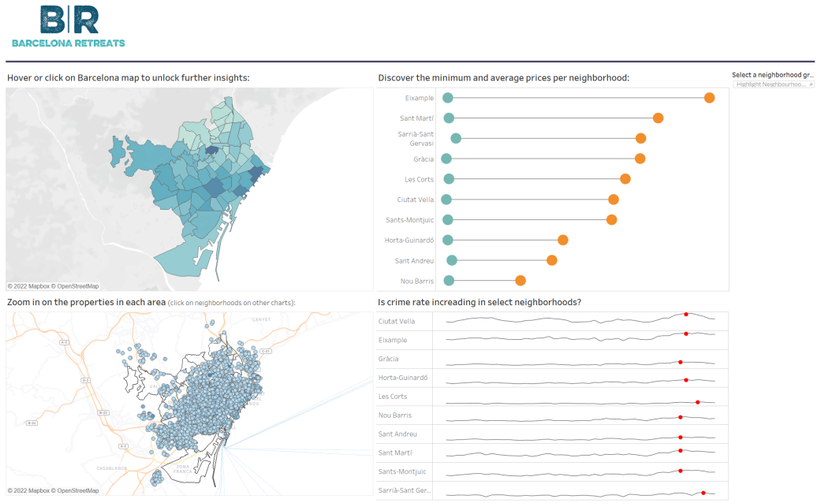
Chapter 3

- Digital cartography in Tableau
- Working with geographical maps
- Custom background mapping



Chapter 4

- Infographic-worthy charts
- Assembling a neat dashboard
- Working with Tableau data stories



Thank you!

DATA VISUALIZATION IN TABLEAU