Data visualisation for beginners

A workshop at UXLibs VI

Hi, I'm

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Meet the team
(via visualizations)

#1 Mark your hometown on a map

#2 On a line from A-Z, mark the first letter of your forename

#3 Mark yourself inside two axes (“prior knowledge on the topic” and “frequency of vis usage”)

Geo-Scatterplot.
Watch scale! Europe was
flooded with post-its.

#1 Mark your hometown on a map

#2 On a line from A-Z, mark the first letter of your forename

Scatterplots not suited if you work with fixed values (like A-Z), use bar chart instead.

#3 Mark yourself inside two axes (“prior knowledge on the topic” and “frequency of vis usage”)

“Classic” scatterplot to visualise relation between two attributes.

“Datenarten”
(Data Types)

“Datenarten”
(Data Types)

#1 Amounts (e.g. “number of books”)

#2 Proportions (e.g. “70% student users, 30% external users”)

#3 Distributions (e.g. “distribution of users in an age scale”)

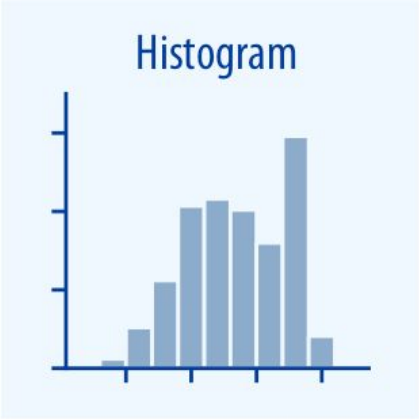
#4 X/Y-Relationships (e.g. #3 in Meet the team)

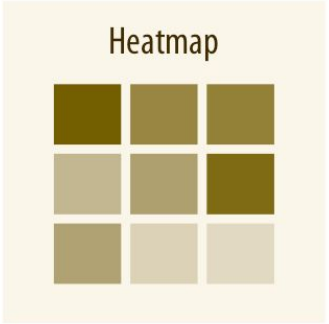
#5 Geodata (e.g. #1 in Meet the team)

Finding the right visualisation type

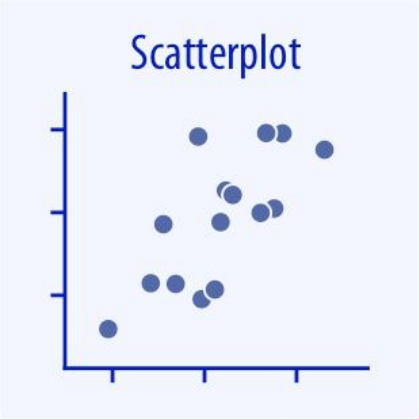

Bars


Pie Chart


Histogram

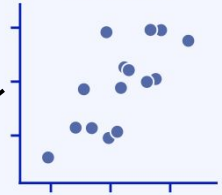

Heatmap


Parallel Sets


Scatterplot

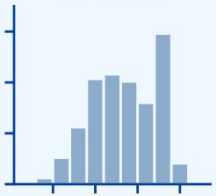

Map

Scatterplot



X/Y-Relationships

Histogram

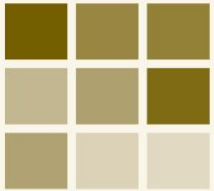


Distributions

Map

Geodata

Heatmap



Amounts

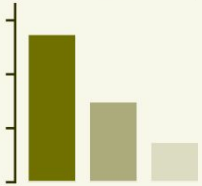
Parallel Sets

Proportions

Pie Chart

Proportions

Bars



Amounts

Proportions

A round of...


tinda

tinda

-tavisualization

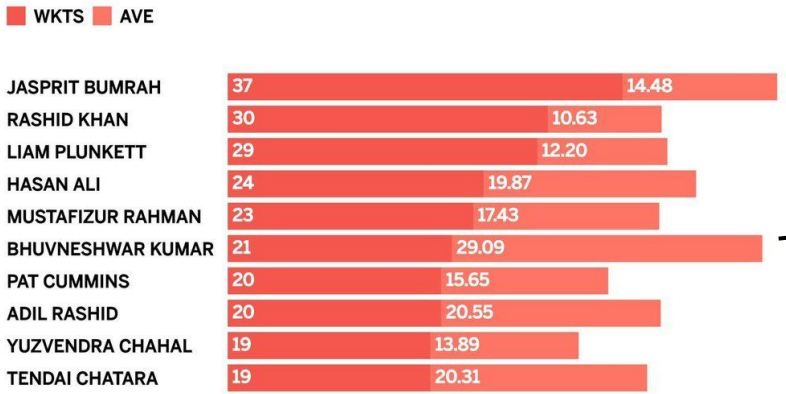
tinda

-tavisualization

German humor as well. Sorry (again).

MOST WICKETS IN DEATH OVERS IN ODIS

SINCE THE START OF JANUARY 2017

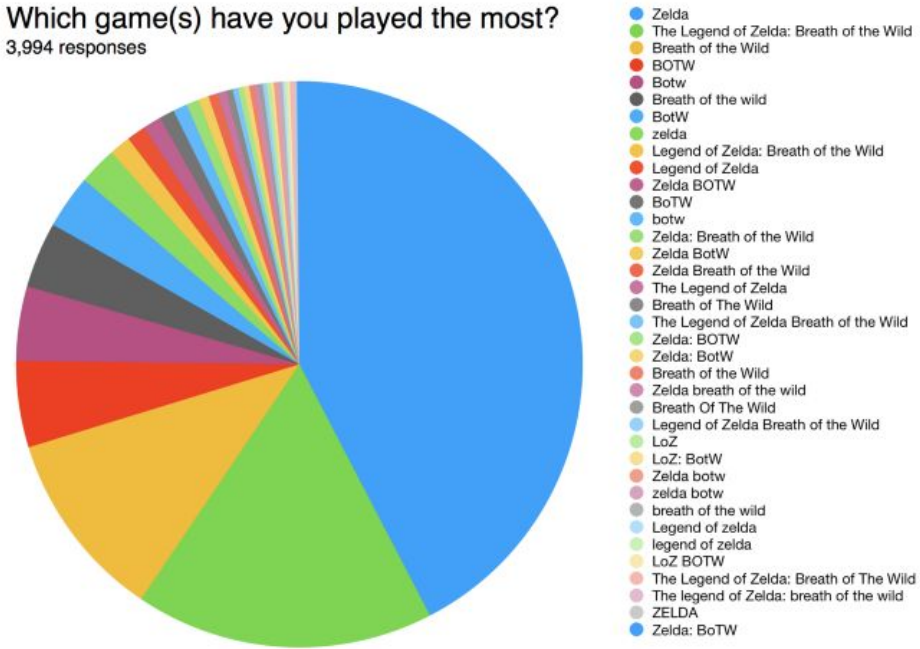


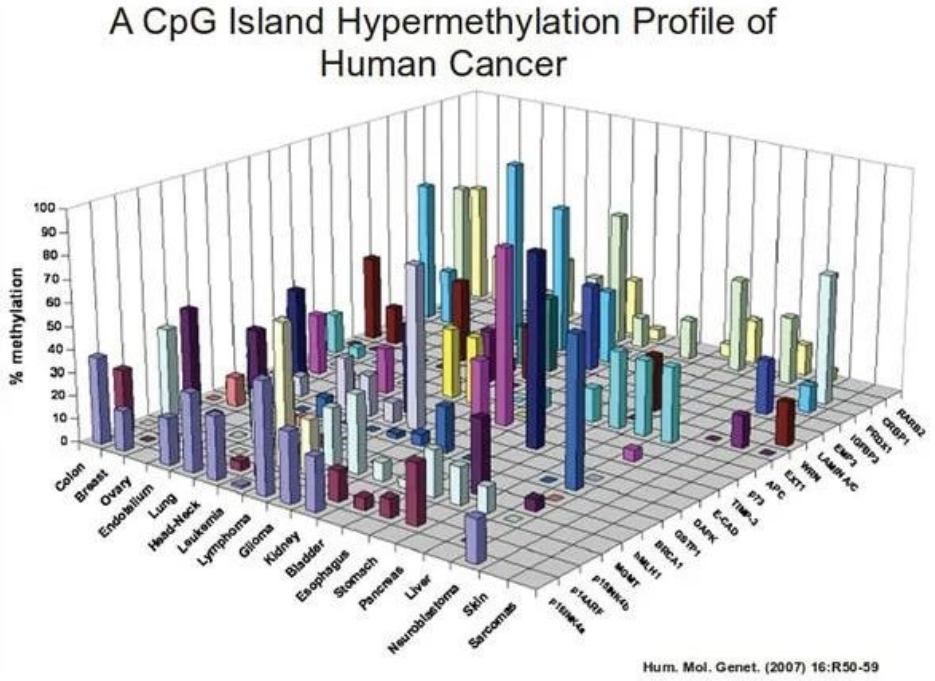
NUMBERS UPDATED TILL MAY 14, 2019

Contrast too low!

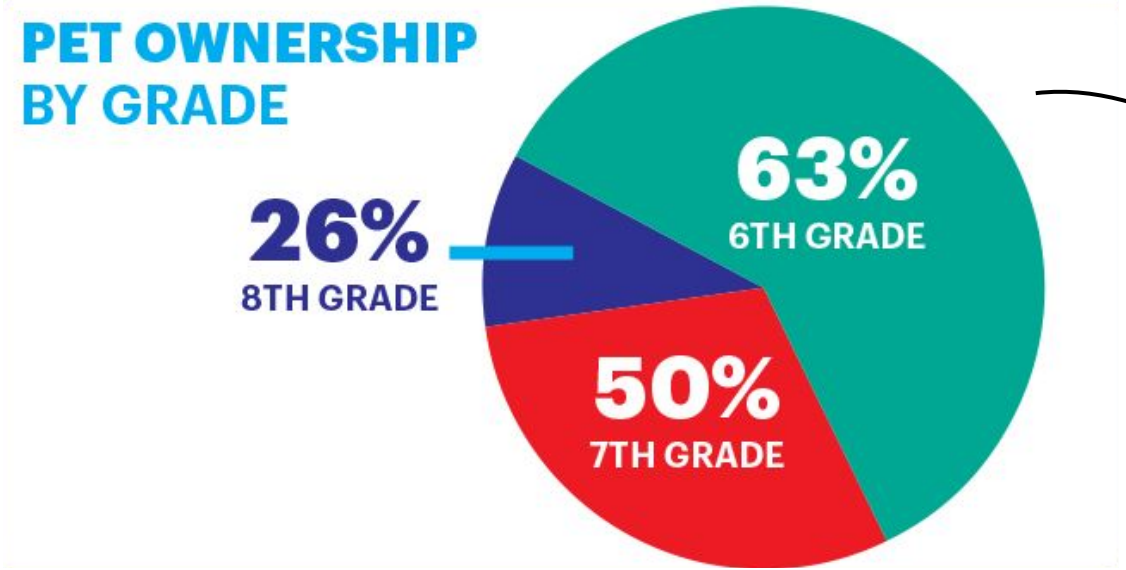
Why uppercase?

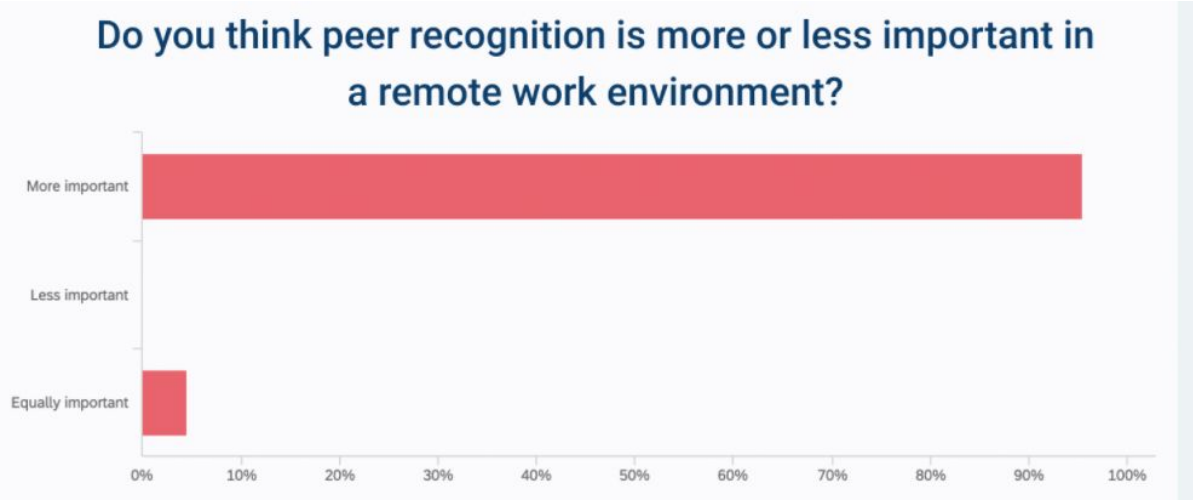
Don't use pie charts with too many slices!



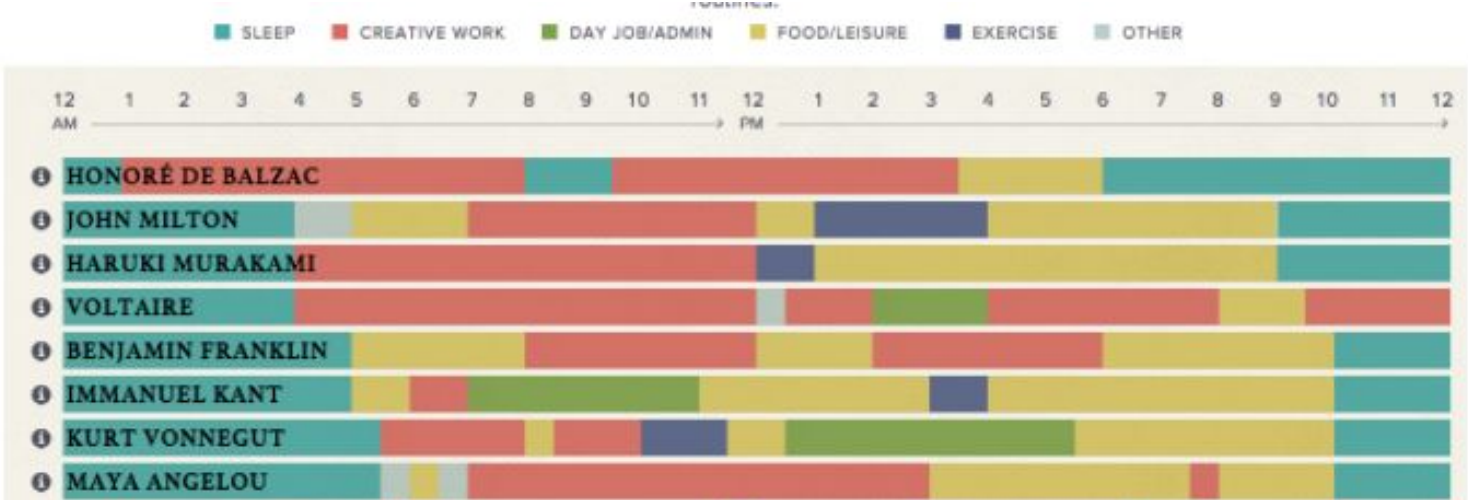


Why? Stop 3D-Visualisations.

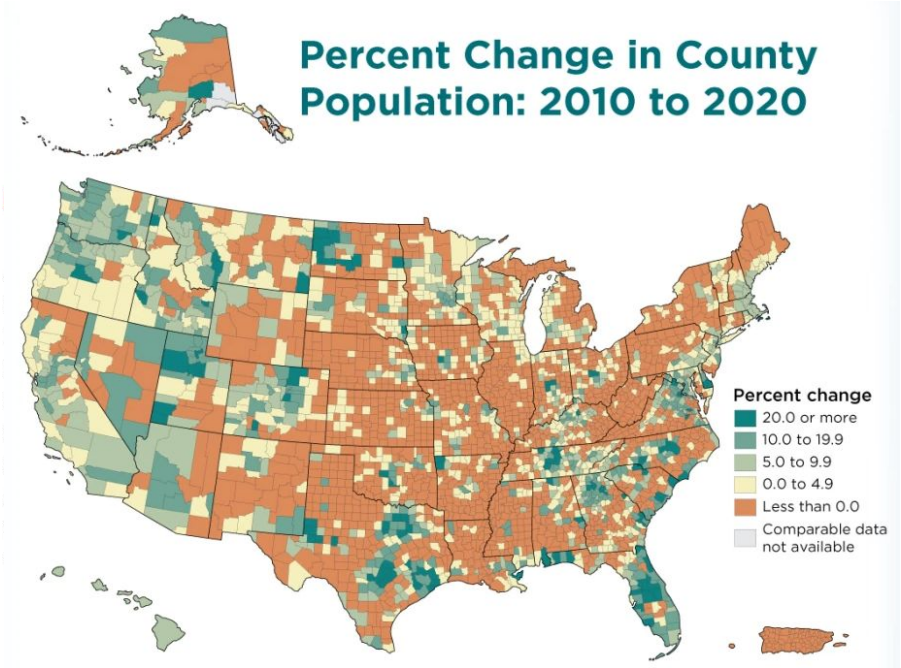

PET OWNERSHIP
BY GRADE
26%
8TH GRADE
63%
6TH GRADE
50%
7TH GRADE
Numbers don't
add up to 100%!



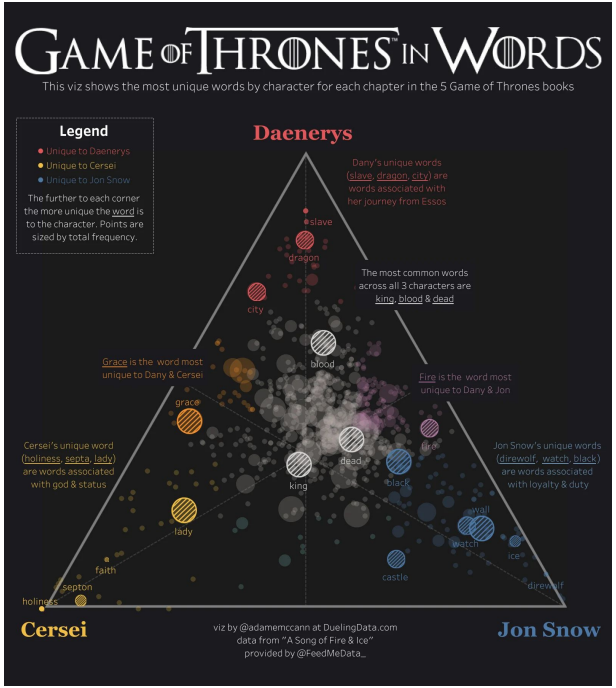
Clarity is good!
Maybe change the order of bars?



Low contrast colours. Too little explanations?



Better colours!



Scatterplot but with more axes and variable size of dots (= bubble chart).

Use colours, fonts, etc. to experiment!

Takeaways

#1 Take a moment to think about data types

#2 Do you want to visualize? If so, what visualization type is suited?

#3 Think about contrast, clarity, etc. (see tinda-tavisualisation examples!)

That’s all, folks!

Colours

Coolors[1] generates beautiful colour palettes and has a feature (the glasses) to "see" different kinds of visual impairments. Colorbrewer[2] has different palettes and an option to only include those that are "colourblind-safe".

Tools

I normally use the programming language Python or JavaScript to visualize, so I have little experience here. However, here are two articles. The first provides a good and short overview[3], the second goes into more depth and even has nice examples[4].

Overview & Decision Helpers

There are several sites to help you choose the right visualisation type. Basically what we did, but with more types and nice charts. Data to Viz[5] is a nice flowchart to help you choose, the DataVizCatalogue[6] provides a good overview and the Directory of Visualizations[7] has elaborate explanations.

[1] https://coolors.co/generate
[2] https://colorbrewer2.org
[3] https://towardsdatascience.com/8-best-data-visualization-tools-that-every-data-scientist-should-know-2287c9c45cc4
[4] https://www.toptal.com/designers/data-visualization/data-visualization-tools
[5] https://www.data-to-viz.com
[6] https://datavizcatalogue.com
[7] https://clauswilke.com/dataviz/directory-of-visualizations.html

Visualisation Sources

https://www.syntaxtechs.com/blog/data-visualization-examples
https://www.easel.ly/blog/17-captivating-data-visualization-examples
https://www.toptal.com/designers/data-visualization/data-visualization-best-practices

WAS IT A MATCH?

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