Interactions

All types of visualizations may include interactions: false

Every user will know how to interact with your charts: false

Adding interaction has only good effects on visualizations: false

Which interaction would you offer to your audience if you know that they may have illumination problems in their screens? Change style

Which options can we give users to personalize the charts? Project, order, change style, change position

Relate every type of chart with its type of interaction

Treemap → Drill-down
Sankey diagram → Change position
Map → Zoom

I have to display a map of Europe with many details of economy per country, but I want to give a general view first with a choropleth.

Which kind of zoom should I use?
Semantic zoom

Select two interaction techniques related to what to show
Layers
Filter

When the data space is very big and nevertheless we want to show it… what interactions can we provide? Zoom, Pan

When detailed information appears on hovering on a chart element, what interaction have we triggered? Details on demand

Types of data and charts

Categorical data may have order
True

In continuous data 0 is always absolute
False

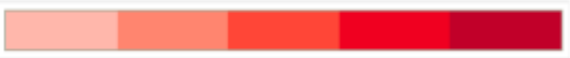
Only discrete values may have divergent order
False

Nominal data has no order
True

In Ratio data the distance between any two consecutive values is coherent
True

Pair accordingly
Days of the week → Ordinal
Righter scale for earthquakes → Interval
Number of siblings → Discrete
Size → Ratio
Country names → Nominal

Describe and put a data example for the following scale



Describe and put a data example for the following scale

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Which type of data is represented by…
Heat map → 2 or more numerical variables (1 variable can be categorical). With or without order.,
Scatter plot → 1 numerical variable + 1 numerical (or categorical) variable, with or without order
Line chart → 2 numerical variables, with order
Tree map → 2 or more categorical variables, with hierarchy.

Tell one type of chart to represent Deviation…
Stacked divergent bars

Tell one type of chart to represent Ranking…
Lollipop chart

Tell one type of chart to represent Evolution over time…
Line chart

Tell one type of chart to represent Part of a whole…
Doughnut chart

Tell one type of chart to represent Flow…
Sankey diagram

Slide Designing

What is the difference between informative and persuasive presentations?
Informative presentations show the facts but do not suggest a solution

What content shall I include on the slide?
Few words and images, highlighting the important content

When the message follows a storytelling pattern... in which part shall the presenter put more stress? Climax

If the presentation includes a call to action... where shall I include it? Ending

Pair the colors with their subtle meaning
Blue → Integrity
Orange → Innovation
Purple →Luxury
Grey → Authority
Red → Energy
White → Hope
Black → Power
Yellow → Intellect
Green → Life

What are the important elements in the layout
Coherent design
Visual hierarchy
Layout correspond to intention

How will you include good images?
Cropped to focus
Get them from good image sources
Not distorted
Framed composition or 1 image
High resolution

How many different typography families will you include in a presentation?
2

Select a voice tool you can play with on a presentation delivery? Intonation

Once you have finished preparing your presentation... what is the next step
Simplify it
Rehearse

Accessibility

All users will look at our visualization with our default configuration
Fals

Pair user profiles with assistive technology
Motor impairments → Virtual keyboards
Elderly → Font size increase
Low vision → Magnifier
Blind person → Screen reader
Dyslexia → Reading aid

Accessibility visualization is …
(nowadays) a special feature of very specific libraries
getting better in many libraries
(nowadays) difficult to reach with many libraries

A strong motivation for doing accessible visualizations is…
Legal enforcement

Making visualizations accessible benefits…
Elderly people
Everyone
People with learning disorders
People with disabilities

What can you use as an accessible alternative to a chart?
A table with the corresponding numeric values
A textual explanation of trends and main points

Pair profiles with recommendations
Blind → Keyboard navigation
Elderly → Simpler charts
Cognitive → Clear title
Low vision → Contrasted colors
Motor → Big clicking areas

Will you be able to construct a 100% accessible chart?
I can create a very accessible chart, but I will not fulfill all needs 100% of all users

Which are the seven principles of chartability?
Perceivable, Operable, Understandable, Robust, Compromising, Assistive, Flexible

Which profile target Alcaraz's heuristics? Low vision

Perception

Do we have more cones (light) or rods (hue)?
Rods

Choose the color with a greater visible spectrum
Green
Yellow

What is the more common color blindness?
Red-Green Blindness

What is the more accurately perceived color dimension?
Luminosity

Preattentive properties are not affected by distractors
True

Preattentive properties are perceived in less than 200 milliseconds
True

Pair the meaning with the correct encoding
Vertical position, higher → bigger
Vertical position, lower → smaller
Hue saturation, low saturation → smaller
Hue saturation, saturated → bigger
Light, darker → bigger
Light, lighter → smaller

Pair each preattentive property with its type
Hue → Color
Blur → Form
Size → Form
2-D Position → Position
Intensity → Color
Shape → Form
Length → Form
Motion → Motion
Spatial Grouping → Position

Choose the properties that help to represent visual salients
Distinct from the norm
Enclosure
Added mark

Audience and Dashboard

What is a scenario?
An imagined situation where our users will interact with our visualization to solve a need

In Western cultures, which is the most important place on the screen
Top Left

What is a person?
A representation of our audience to facilitate empathy

Develop KPI (singular)
Key performance indicator

Why do we create prototypes?
To better define our visualization with low effort
To test if we are able to answer audience questions
To iterate over potential designs

Who is the intended audience of analytical dashboards?
Top level management

How many screens does a Dashboard fill?
1

Geographic visualizations and software

There is only one accepted projection for geographic visualizations
False

What is the standard format for professional GIS files?
Shapefiles

How does Topojson reduce file size?
Reducing repetition
Delta-encoding values
Quantizing coordinates

What is 0.0 in geographical coordinates?
Bottom Left

What is a choropleth map?
A map with shaded areas representing quantitative values

Develop SVG (singular)
Scalable Vector Graphic

Give three reasons to choose Tableau as a preferred visualization tool
Can work with large dataset
It requires no programming skills
It is very intuitive and easy
Constant updates

Give three reasons to choose Ggplot as a preferred visualization tool