Instruction of making Pitfalls

Description: *Pitfalls show possible misinterpretations of a visualization. While there is a long list of technique independent pitfalls.*

Step 1
Indentify pitfalls: missing labels, different but hard to perceive colors, not colorblind safe, or deception.
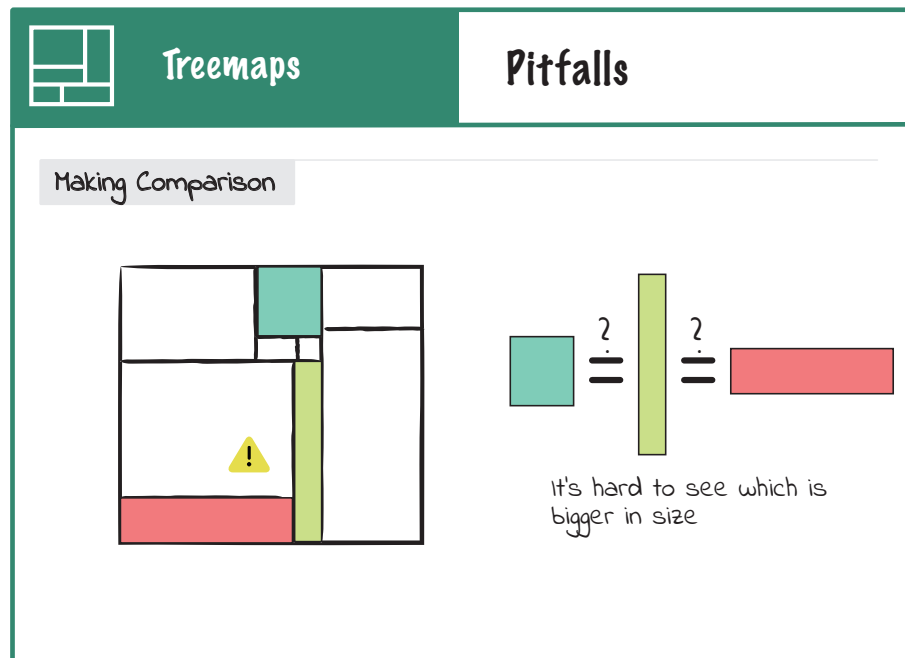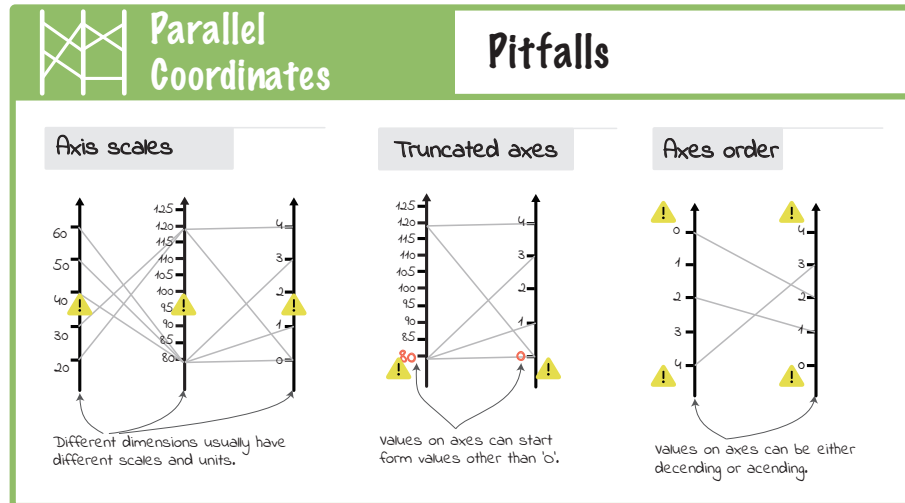
Step 2
Give each pitfall a name, this can be the position where the pitfall is located (e.g., Axis scales) or a misinterpretation (e.g., 'attach meaning to the axes' in time curve)

Step 3
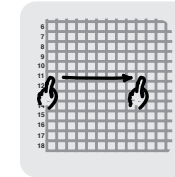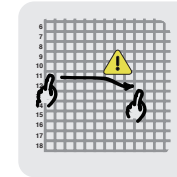Show correct and incorrect cases where appropriate

Examples:

Parallel Coordinates — Pitfalls

Axis scales

Different dimensions usually have different scales and units.

Truncated axes

values on axes can start form values other than 'o'.

Axes order

values on axes can be either decending or acending.

Treemaps — Pitfalls

Making Comparison

It's hard to see which is bigger in size
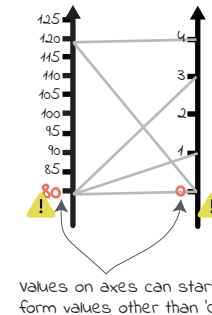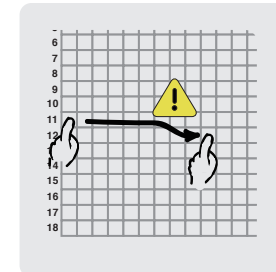
Design Guidlines:

Follow a row

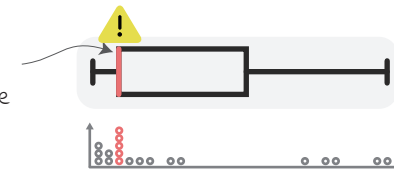Be careful when following a row (or column), to not change into a neighboring one!

✗   ✓

Show correct and incorrect cases where appropriate, show a ✓ or ✗ to label incorrect and correct visualization respectively

Label the region of a fallacy with an ⚠ symbol.

values on axes can start form values other than 'o'.

Overlapping

The lower quartile and the median are overlapped, this occurs when the **25%** of values are **same** between the lower quartile and the median.

The minimum and the lower quartile are overlapped, this occurs when the **25%** of values are **same** between the minimum and the lower quartile.