DATA 23700 Autumn 2025

Exercise 8: Alt-Text and Accessibility

Due November 21, 2025

Making data communication accessible is an important design goal, and it's not one that receives enough attention from visualization designers and their employers. With visualizations, a primary concern is the user experience of people who are blind or low-vision. Exercise 8 asks students to try writing alt-text as a way of making their visualizations more accessible.

In this exercise, we will reference Lundgard and Satyanarayan's study describing four levels description in alt-text (see figure below).

LEVEL NUMBER	LEVEL KEYWORDS	SEMANTIC CONTENT	COMPUTATIONAL CONSIDERATIONS
Level 4	contextual and domain-specific	*domain-specific insights, current events, social and political context, explanations*	contextual knowledge and domain-specific expertise (*perceiver-dependent*)
Level 3	perceptual and cognitive	*complex trends, pattern synthesis, exceptions, commonplace concepts*	reference to the rendered visualization and "common knowledge" (*perceiver-dependent*)
Level 2	statistical and relational	*descriptive statistics, extrema, outliers, correlations, point-wise comparisons*	access to the visualization specification or backing dataset (*perceiver-independent*)
Level 1	elemental and encoded	*chart type, encoding channels, title, axis ranges, labels, colors*	access to the visualization specification or rasterized image (*perceiver-independent*)

To complete this exercise, students should:

1. Pick a visualization you've made for this class.

2. Write alt-text for your visualization using at least two levels from Lundgard and Satyanarayan's framework.

3. Swap alt-text with a classmate without sharing your chart.

4. Take turns discussing what you understand about each other's visualizations using alt-text alone.

5. Write a paragraph reflecting on the challenges of communicating the visual in natural language.

Students must turn in a PDF on Gradescope containing (1) their visualization, (2) their alt-text for that visualization, and (3) their reflection paragraph. Although students are encouraged to work together and interact during this activity, each student should submit their own PDF for participation credit.