

# CSC/SDS 109: Communicating with Data

## HW 03: Playing with Perception

*This is an individual or pair assignment-- you pick (collaboration is highly encouraged)!*

### Goals:

- Explore how perception can be leveraged to change a visualization

## Instructions

### Part 1: Visualizations

1. Find a dataset of interest to you. You are free to use any dataset you want. You are encouraged (but not required) to branch out beyond the sample datasets posted to the course website. It is recommended that you use a clean dataset, i.e. one that is readily readable by Tableau.
2. Create a visualization that communicates an interesting pattern in your dataset. Your visualization must include:
  - At least three variables
  - Theoretically sound data-visual mappings, one of which is color (hue, saturation, or luminance)
  - General good formatting
3. **Modify your visualization's use of color** (hue, saturation, or luminance) to intentionally mislead the viewer - that is, distract from the "point" you made in your first visualization (without changing the data or the structure of the visualization itself). The goal here is to be subtle and use perceptual tricks.
4. **Modify your original visualization's use of one additional visual channel (not color)** to intentionally mislead the viewer - that is, distract from the "point" you made in your first visualization (without changing the data or the structure of the visualization itself). The goal here is to be subtle and use perceptual tricks.

## Part 2: Find a Friend

For the second part of this assignment, find a friend (preferably someone not in this course). Show them each of your misleading visualizations (one at a time) and ask them what conclusions they draw. For both visualizations, do not explain your visualization! Ask your friend to narrate their thinking process out loud as they read each visualization and draw conclusions.

While your friend reads take notes on what you observe. Specifically:

- What parts of the visualization are they looking at?
- What do they notice?
- What meaning do they make of what they see?
- Was your deception effective?

## Part 3: Deliverables

- A link to your dataset
- Screenshots of each visualization (three total, two deceptive)
- A document that contains:
  - An explanation of the interesting pattern your first visualization shows
  - An explanation of the perceptual trick in each deceptive visualization
  - Your observations from Part 2

## Submission

Submit your deliverable(s) as a PDF on Gradescope. If you worked with a partner, submit as a group (<https://guides.gradescope.com/hc/en-us/articles/21863861823373-Adding-Group-Members-to-a-Submission>).

## Rubric

*The following matches the rubric you will see on Gradescope.*

	Points	Criteria
Visualization 1	0.5	Screenshot
	2	Description of interesting trend
	1.5	At least three variables
	1	Color-data mapping
	2	Appropriate data-visual mappings
	0.5	Descriptive title
	0.5	Readable axis titles
	0.5	Readable axis labels
	0.5	A legend if necessary
Visualizations 2 & 3	0.5	Screenshot
	2	Perceptual deception (color / other)
	2	Appropriate data-visual mappings
	0.5	Descriptive title
	0.5	Readable axis titles
	0.5	Readable axis labels
	0.5	A legend if necessary
	2	Friend observation notes
	2	Reflection on deception efficacy
TOTAL	30	