

Exercise6: Visual Perception

(20 points)

Due: 19.06.2022 8AM

Please state the name of both, collaborating students.

Name of author 1: Jonas Stettner

Name of author 2: Ana Sanchez Acosta

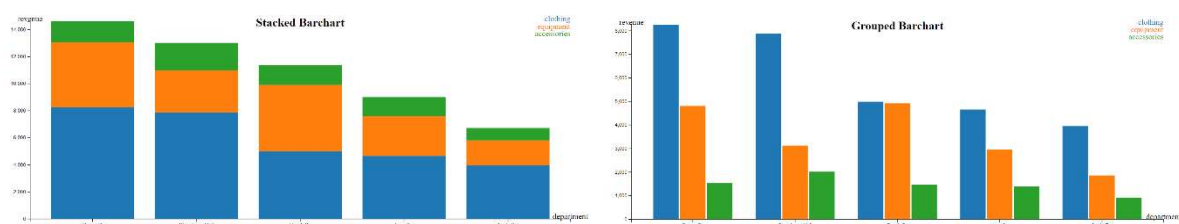
Task 1: Visual Comparison

(12 points)

Task 1a)

(8 points)

Your task is to implement a stacked barchart **and** a grouped barchart for the given dataset.



The provided data can be found in **data.js** and consists of revenue numbers for different stores, split up in different departments.

The barcharts shall include:

- A Title, displaying either “*Stacked Barchart*” or “*Grouped Barchart*”
- X & Y Scales, including labels
- Colored bars for each department
- A *legend* for the color scale
- A Tooltip showing the store, the department, and the revenue value

Task 1b)

(4 points)

Which of the barchart implementations in Task 1a) would you choose regarding the following tasks? Explain why it is more suitable compared to the other one.

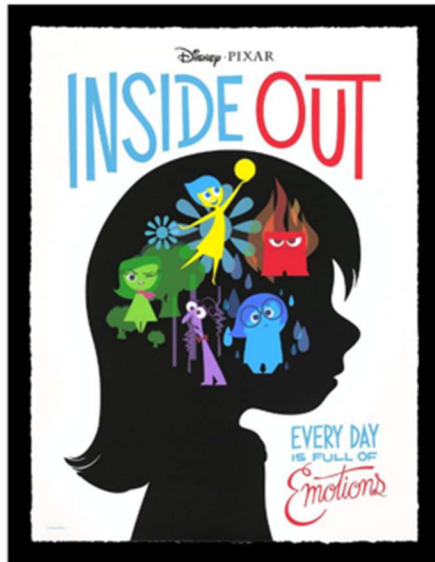
- Reading absolute revenue values
- Comparing department revenue values

In terms of scalability (having more stores and more departments), which other visualization might be a better choice? Please justify your answer.

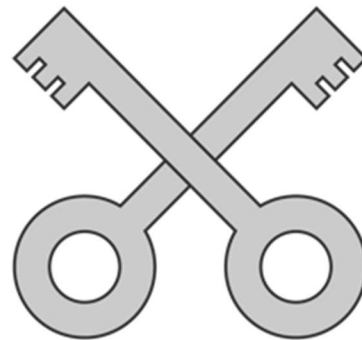
Task 2: Gestalt Laws

(8 points)

In the following, eight images are presented. Allocate one Gestalt Law to each image and justify your answer shortly. Multiple answer could be correct.



a)



b)



c)



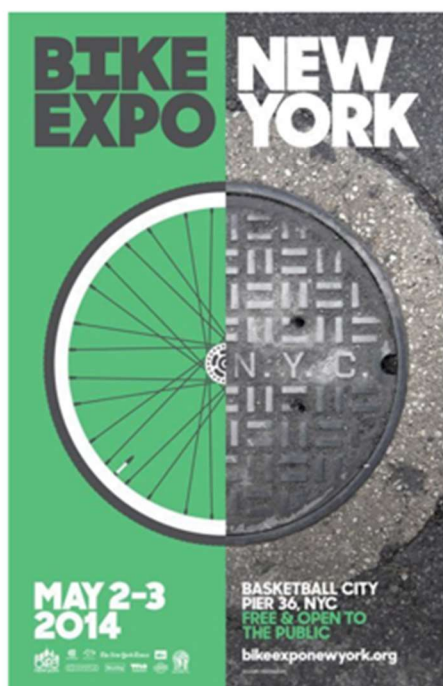
d)



e)



f)



g)



h)

Answer:

- a) Similarity: Each emotion character has one color and the elements associated with each emotion have the same color. For example, the Flames of the red guy (anger) are in shades of red and orange.
- b) Continuity: one of the keys is cut because it is in the 'background' but we can deduce that both parts form a single key because of the continuity of the lines.
- c) Proximity: The triangle shaped chips lie next to each other and form two groups, that can be interpreted as two rows of teeth.
- d) Enclosed region: the background of each of the pictures against the white background of the whole image causes the brain to interpret every picture as a single element.
- e) Closure: the eye closes the gaps forming a panda although there is no line between the white part of the panda and the background.
- f) Continuity: there are many overlapping objects, but they are identifiable because of the smoothness and continuity of the lines.
- g) Symmetry: The poster is divided in the middle and the symmetric parts that form the circle are perceived as a whole, creating a connection between the bike wheel and NYC.
- h) Figure and Ground: There is an arrow between E and x formed by the white background of these letters.

After completing your answers, export the docx-File to PDF and upload it alongside the source code files.

Submission: Zipped *barchart* folder including all files (index.html, index.js, index.css, data.js, d3.js) and a PDF of the completed written exercise.

Please form a group of **2 Students**. Only 1 member of the group must submit the exercise in ILIAS. Please state the collaborators in the beginning of the document.