

Instructions

Welcome and thank you for participating in this study.
All results gathered during this test will be anonymized.

Feel free to make comments aloud, and to ask questions to the experimenter.

Experiment Description

This experiment aims at evaluating whether *Graphies* enables the design of engaging and expressive node-link diagram visualizations.

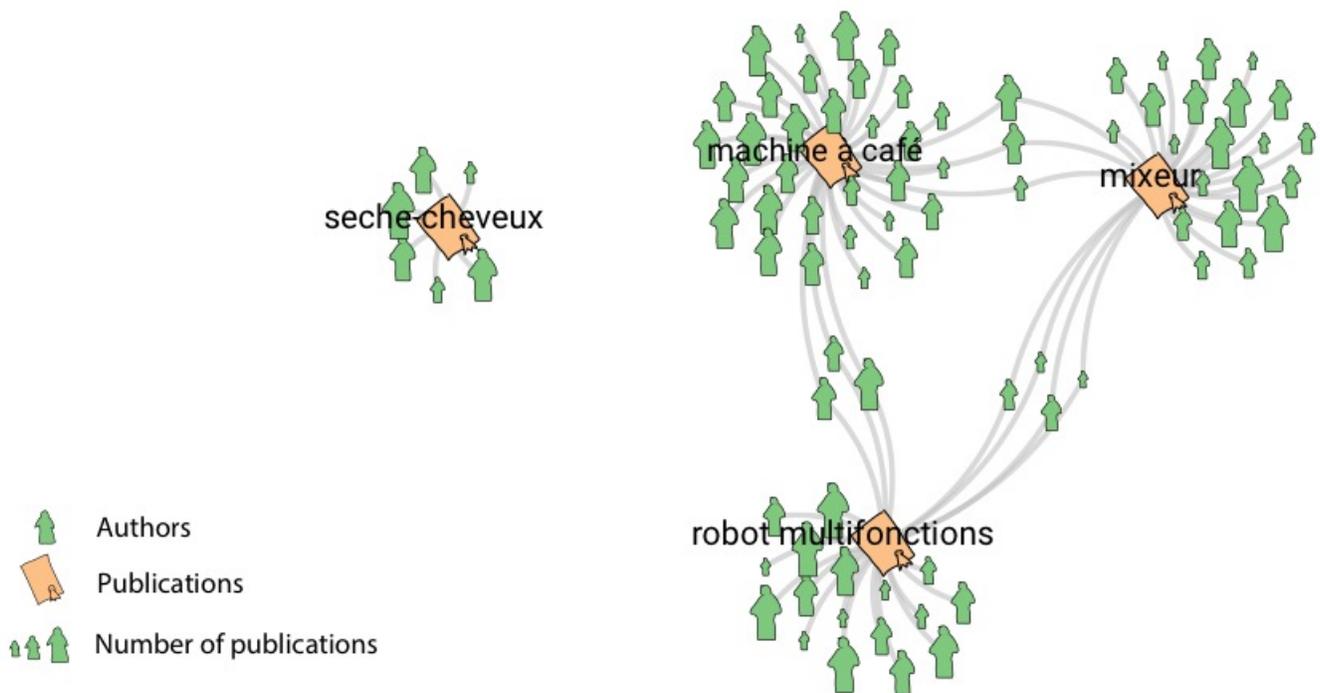
The experiment is organized in three steps:

- 1- You will watch a short demonstration perform by the instructor and you will have to reproduce some specific actions to personalize the graph visualization.
- 2- Then comes the main experiment. It consists of a series of 3 tasks. Each task is similar to the training task: you will be presented with a target visualization, that you will have to replicate. For each visualization, a short text explains what data the visualization shows. After each task, you will complete a short questionnaire.
- 3- Finally, we will ask you to perform a more open-ended task, in which you will be free to design the visualization of your choice for the “InfoVis” dataset. Design the visualization that you consider good to:
 - a. show the most productive actors (i.e., authors who have a significant number of articles)
 - b. show their articles, and visually emphasize the ones that have a high number of citations
 - c. [optional] illustrate the trend “when important actors collaborate, the resulting articles have a high impact”

At the end of the experiment, you will fill in another questionnaire.

Thank you!

Use Case 1



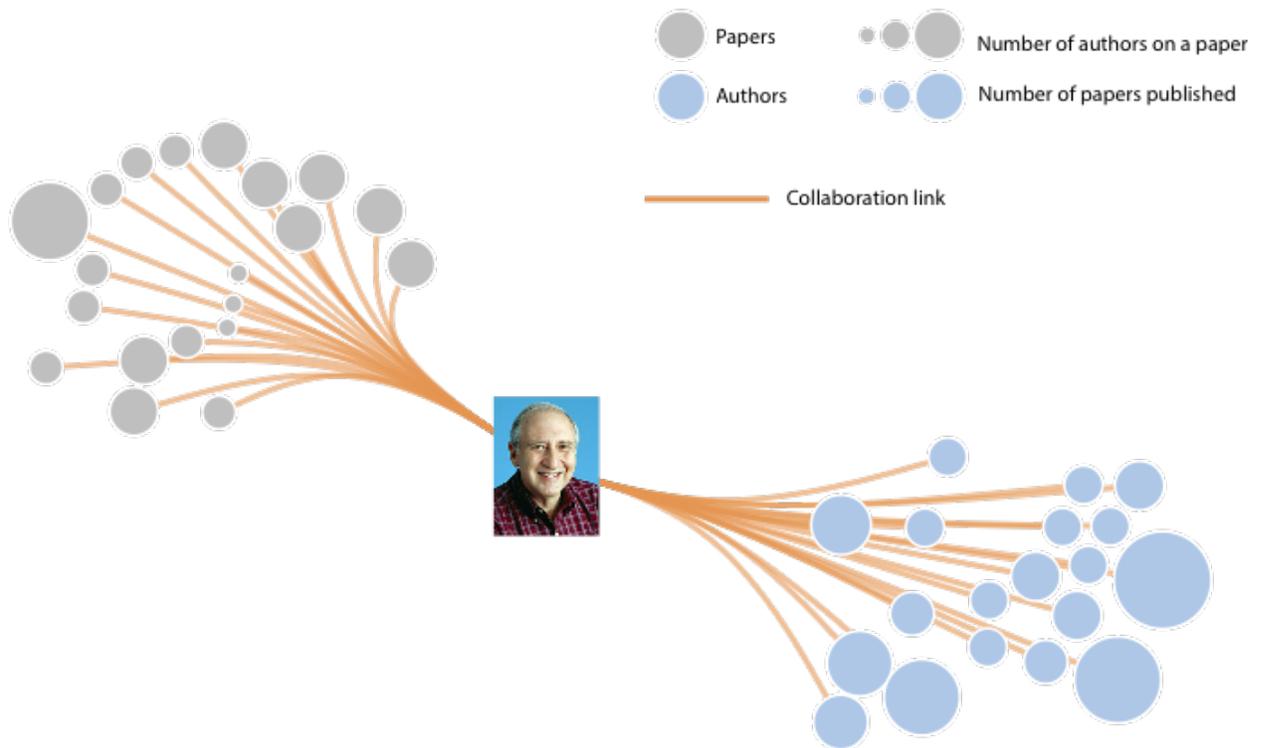
In this use case, you will be asked to:

- show authors of documents about home appliances;
- emphasize the most important authors (based on the number of publications they have authored).

Steps:

- 1) First, show the four documents about “machine a cafe”, “seche cheveux”, “mixeur” and “robot multifonctions”.
- 2) Then, show authors who have collaborated on those documents.
- 3) Represent authors and documents with glyphs resembling the ones shown in the above figure. Make the size of authors dependent on their number of publications, and the labels of the document nodes visible.
- 4) When satisfied with the result, save your visualization.

Use case 2



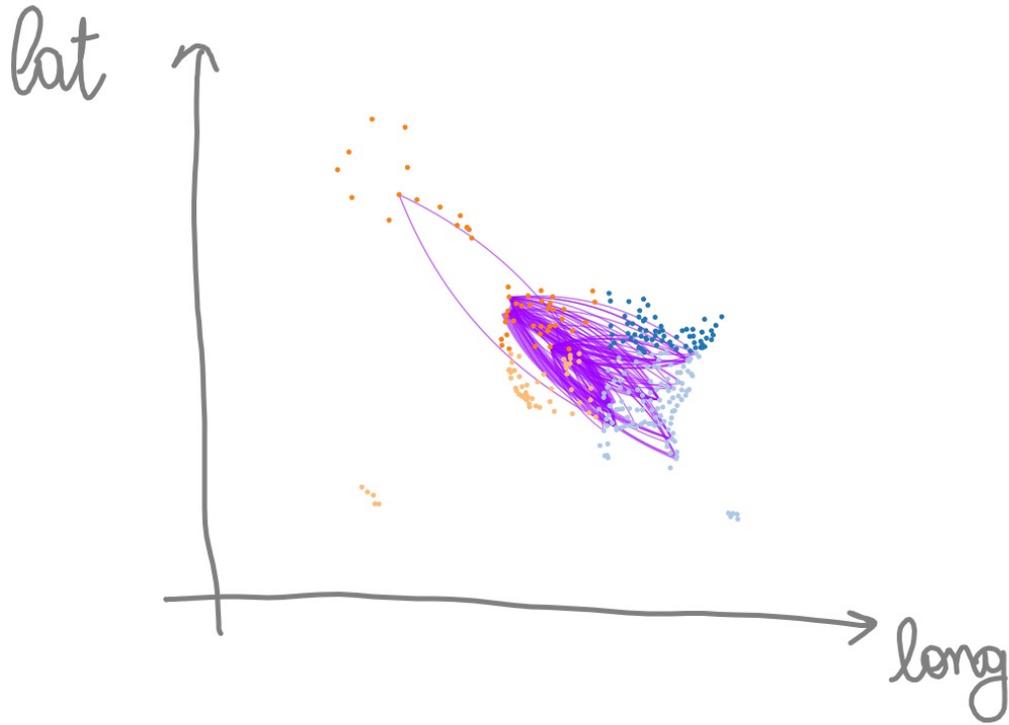
In this use case, you will be asked to represent all of Ben Shneiderman's papers, as well as all his co-authors.

Steps:

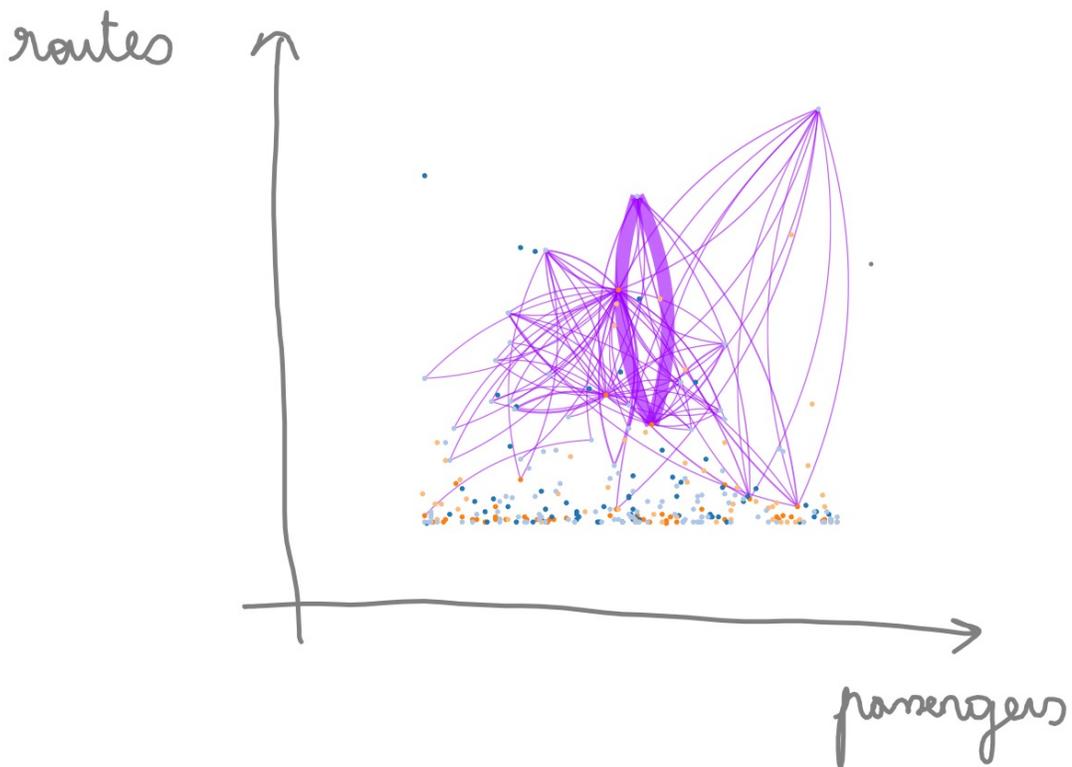
- 1) Show Ben Shneiderman with the picture that we make available on the file system.
- 2) Show all his co-authors and all his papers.
- 3) Make the size of nodes representing papers depend on their number of authors.
- 4) Make the size of nodes representing authors depend on their numbers of papers.
- 5) Finally, set the links' color to orange, and bundle edges to get a result similar to the one in the above figure.
- 6) When satisfied with the result, save your visualization.

Use case 3

In this use case, you will be asked to replicate the two visualizations (A) and (B) above, as well as a video transitioning between the two.



A



B

Steps:

- For Visualization (A):
 1. Show all airports.
 2. Record a frame in the video editor ([video frame 1](#))
 3. Lay out nodes according to their geographical location (longitude on the x-axis, latitude on the y-axis).
 4. Show routes (connections) between the South East and the North West airports only.
 5. Make links purple, and set their stroke size to depend on the number of carriers.
 6. Sketch x- and y- axes, and their labels.
 7. When satisfied with the result, record it as frame in the video editor ([video frame 2](#)).

- For Visualization (B):
 1. Change the nodes' layout: make their location on the x-axis depend on the number of passengers, and their location on the y-axis depend on the number of routes (liaisons) going through them.
 2. Sketch the new x- and y-axes, and their labels.
 3. When satisfied with the result, record it as frame in the video editor ([video frame 3](#)).
 4. Export the 3-frame video.