Urban Data Visualization Cards

This is a short version of the instructions. A more in-depth version with more materials is available online:

Advice for all activities

If you are short on card-decks, we also have a digital version you can use in online collaboration apps.

To kick off each activity use our UDV introduction slides (see QR-code).

For all activities you will need workshop materials (pencils, postIts, paper, etc).

We recommend groups of max. five people. If working with larger groups split the groups up (more card decks required).

The time given for each activity is a rough minimum. The activities can easily be extended by either giving more time for each step or combining activities, e.g. create + critique or critique + calibrate. You can also speed up the activities by preselecting the dimensions for the session.

Help us improve the cards

On the website you will find a link to a feedback form. Your feedback helps us evaluate and improve the cards.

Reference Paper

Goodwin, S., Meier, S., Bartram, L., Godwin, A., Nagel, T., & Dörk, M. (2021, April). Unravelling the human perspective and considerations for urban data visualization. In 2021 IEEE 14th Pacific Visualization Symposium (PacificVis) (pp. 126-130).

Create

2 hours

Purpose

Based on an urban challenge develop data-driven concepts for potential visualisation solutions.

Preparation

Define the challenge and its require-ments (e.g. user groups and their expectations) and contextual infor-mation (e.g. where and how will it be deployed). If data exists, provide details (e.g. dimensions, origin).

Activity

1. Intro of workshop & participants.
2. Presentation of challenge.
3. Each participant picks (at least) one dimension card and summarises it to the group.
4. Group selects (max.) 3 dimensions they think are most important to the presented challenge.
5. The groups set up the dimension scales for the selected dimensions.
6. Jointly position the green markers (X) onthe dimension axis, reflecting the requirements for the presented challenge.
7. In groups of 2 (max 3) the participants sketch out ideas for potential visualisations.
8. To inspire the process, each group goes through the reflection cards, that are relevant for the selected dimensions.
9. Presentation of results.

Next steps

If you have multiple outputs, use **Critique** to find the best result for the challenge. Or use the **Calibrate** activity to further refine the result as a second iteration.

Critique

1 hour

Purpose

A guided group reflection to analyse the weaknesses and strengths of urban data visualisations.

Preparation

Per visualisation prepare at least two screenshots (overview & detail), a short description of the visualisation, the data behind it and it's context, as well as a link to the live version (if available).

Activity

1. Intro of workshop & participants.
2. Each group receives one vis and familiarises themselves with it.
3. Each participant picks (at least) one dimension card and summarises it to the group.
4. Group selects (max.) 3 dimensions they think are most important to the presented challenge.
5. The groups set up the dimension scales for the selected dimensions.
6. In regards to the selected dimensions, discuss the weaknesses and strengths of the visualisation.
7. To inspire the process, each group goes through the reflection cards, that are relevant for the selected dimensions.
8. Use the green markers (X) on the dimension axis to highlight to indicate the weaknesses and strengths.
9. Presentation of results.

Next steps

If you want to improve the vis based on the identified characteristics, use the **Calibrate** activity. If you want to use this as a starting point to develop a new visualisation, use the **Create** activity.

Calibrate

1 hour

Purpose

Improve an existing urban data visualisations, based on a set of dimensions.

Preparation

Per visualisation prepare at least two screenshots (overview & detail), a short description of the visualisation, the data behind it and it's context, as well as a link to the live version (if available).

Activity

1. Intro of workshop & participants.
2. Groups get to know the visualisation
3. Each participant picks (at least) one dimension card and summarises it to the group.
4. Group selects (max.) 3 dimensions they think are most important to the presented challenge.
5. The groups set up the dimension scales for the selected dimensions.
6. Flip the axis to highlight the current state of the visualisation.
7. Place the marker to indicate how it should be improved.
8. Sketch ideas how to improve the vis.
9. To inspire the process, each group goes through the reflection cards, that are relevant for the selected dimensions.
10. Presentation of results.

Next steps

This activity should have helped you get closer to a final concept. If you want to further improve, use another iteration of either **Critique** or **Calibrate** activities.

Curate

Depends on collection size

Purpose

Starting from a collection of visualisations, organising and curating a selection (e.g. for an exhibition or book).

Preparation

Per visualisation prepare some reference material (e.g. screenshots or links) and an outline of the target collection and it's requirements for which to jointly select visualisations.

Activity

1. Intro of workshop & participants.
2. Present the outline of the desired collection and its focus.
3. Each participant picks (at least) one dimension card and summarises it to the group.
4. The group selects all dimensions that fit the theme of the collection.
5. The groups set up the dimension scales for the selected dimensions as reference. Each scale has 5 steps.
6. The group jointly classifies all the visualisations in each dimension.
7. Based on the results the group can then discuss which visualisations rank the highest across the target dimensions and select the best fitting visualisations for the collection.

Next steps

An organised collection can help with **other activities**, as it is now easy to find visualisations that match certain criteria (e.g. complexity for novice users) and thereby, serve as reference examples.