

Dupo Pilot Study

After initially implementing Dupo, we conducted a pilot study with four visualization authors. In this document, we outline the pilot study methods and impacts to our system design (checkpoints).

Method

Participants

We recruited four visualization authors through social media and snowballing as shown in Table 1.

| ID | Characteristics | Occupation | Data visualization experience |
|----|------------------------------------|--------------------------------|--|
| P1 | Novice to responsive visualization | PhD Student | 7 years as a researcher |
| P2 | Novice to responsive visualization | Data analyst | 6 years as an analyst |
| P3 | Novice to responsive visualization | Designer | 2 years as a UI designer |
| P4 | Non-novice | PhD Student Former Designer | 10 years as a creative visualization and UI designer |

Table 1. Pilot study participants

Procedure

- 1) Introduction and consent (10 minutes)
- 2) Trial 1 (manual version—Dupo without the recommender)
 - Training (7 minutes)—see the main study document
 - Task instruction (5 minutes)
 - Task (25 minutes): See the task part.
- 3) Trial 2 (recommender version)
 - Training (7 minutes)—see the main study document
 - Task instruction (5 minutes)
 - Task (25 minutes): See the task part.
- 4) Post-study interview (15 minutes): See the post-study part.
- 5) Wrap-up (5 minutes)

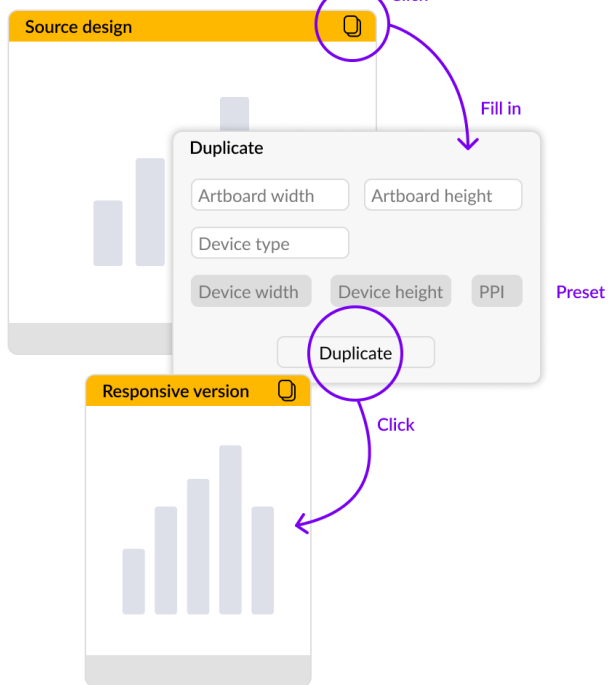
Checkpoints

Integrate multiple options for the same task

- Duplicate ⇒ Create a Responsive Version with preset sizes
- Change the default exploration view (a column view ⇒ a full view)

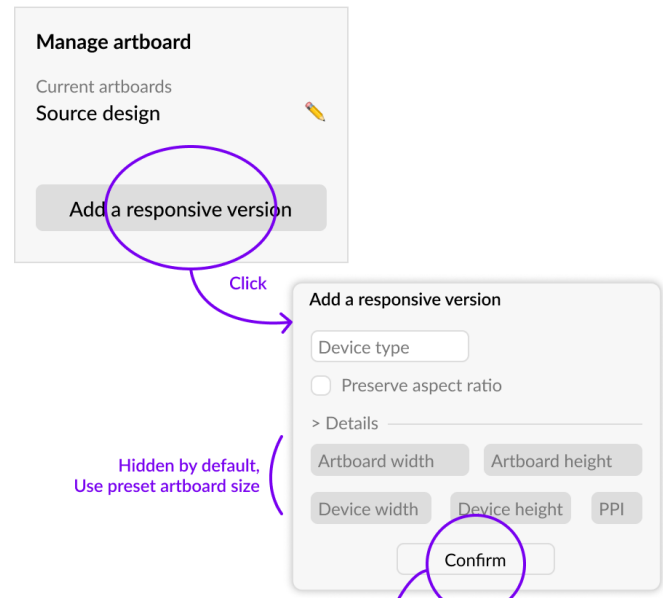
Duplicate/Default exploration view

Current Duplicate

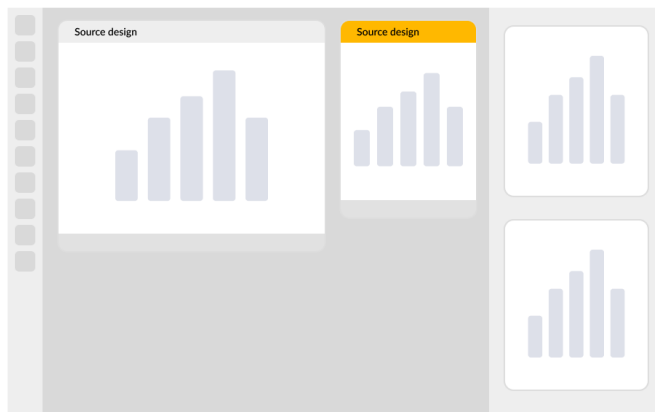


Changed Add a Responsive Version

Editing panel for the Artboard menu



Exploration view as a column



Exploration view as a pop-up window

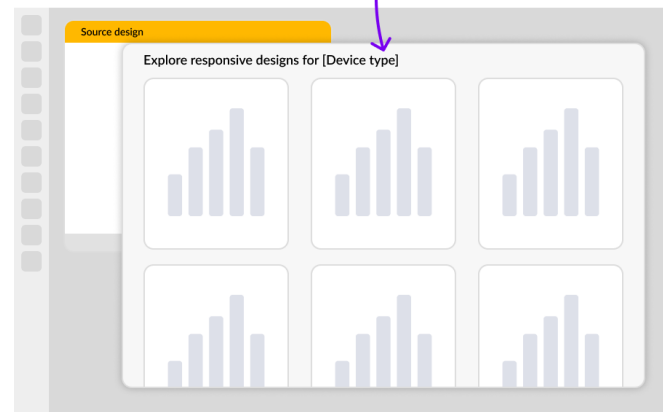


Figure 1. Updates to duplicate and artboard creation

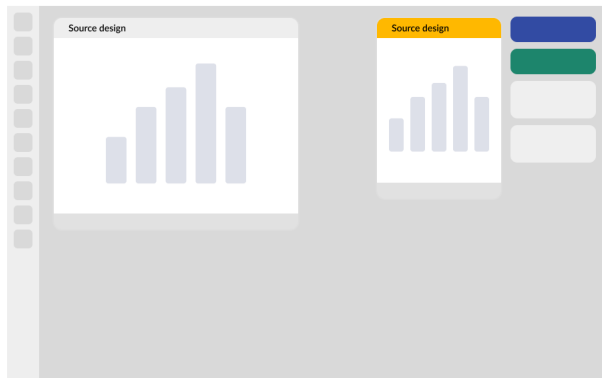
Recommender interface

- Remove “see similar” for artboards
- Make the artboard area more compact

See Similar/Artboard Panel

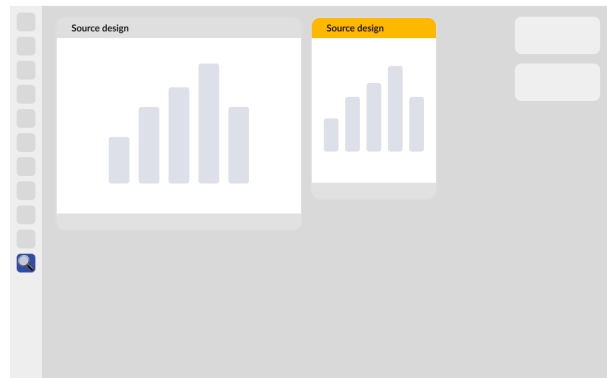
Current

Two buttons/Wide spacing



Changed

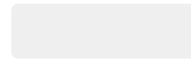
Single button & Reposition/Narrow spacing



Explore alternatives



See similar



Quick edits

Figure 2. Updates to the recommender buttons and artboard area

- Add an option to applying existing edits

From Scratch/Apply My Edits

If checked, manual edits applied to the existing version is also applied to the recommendations in order to save time for doing same edits again. Cicero by default checks applicability of edits.

If not checked, then recommendations do not consider the existing edits in case a user wants to start a new edit path.

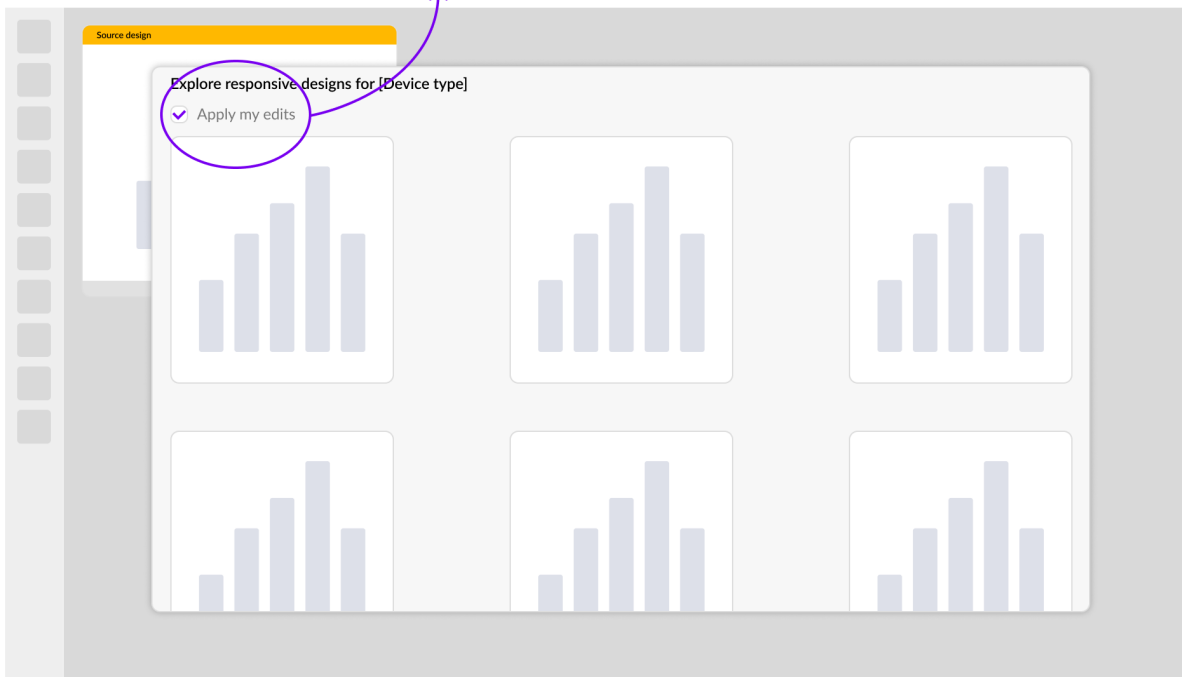


Figure 3. Updates to the Control Panel

Changes made to the study Design

Study material

Ask participants to bring several visualization designs they want to make alternative responsive versions to help participants to have more ownership to work and hence more engagement with the study. Participants had to spend more time on understanding the data and making non-essential comments (e.g., the color choice of a given source version).

Reduce the trial

Focus only on the mixed-initiative version but increase the trial time (25 \Rightarrow 30 minutes) because longer study time limits the participation of expert users.