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Problem 1: Design critique

The visualization under consideration wants to visualize differences of rating between the audience and critics and attempts to map the financial success of a movie.

The tasks that can be achieved by this visualization are:

- Comparing the ratings of different movies
- Comparing the discrepancies of the audience and critics of different movies
- Comparing financial success of different movies
- Find out which movies have won awards
- Find out when a movie came out
- Find out what budget a movie had
- Find out what the movie poster looks like (when clicked)
- Read the movie description (when clicked)

The y-axis is labelled with movie ratings from 0 – 100, underneath the graph the five categories of ratings are explained. I think that is appropriate, because putting the categories on the y-axis as well would be too much. A y-axis from 0 to 100 is intuitive enough in my opinion.

The x-axis is not labelled. It represents the discrepancy of the audience and critic rating (calculated as: audience-rating – critic-rating). Ranging from around -30 to 0 to 60.

It is not really clear who the ratio of the circles is calculated when resized by a financial parameter. But if we estimate the lie factor based on the area of the circles it is around 1.88.

The design in the graph is consistent. Data variation is shown instead of design variation.

The data-ink ratio is not totally maximized, because all the shapes in the graph are filled, while the shapes could just be stroked and unfilled. I think using points instead of circles would also increae the data-ink ratio and make this graph clearer.

I think the bar graph shown per movie is chart junk, because it is not explained what the colours or areas in the bar graph represent.

I think the data density is satisfactory in this graph, because the whole graph is packed with data points.

Information is often layered in the graph. For example the ratings of the audience and critics are layered with different colours. The circles also represent layered information when resized, then they both represent the rating of a movie (by position) and its financial success (by size).

Contrast is used very lightly in the graph in the background to distinguish the five categories of ratings. Contrast is used more strongly to emphasize the white space, depicting the net discrepancy from a 54 rating as starting point. Contrast is also created when to circles overlap, but this does not really seems to have a clear meaning.

Repetition is used in this graph with the pink and purple circles in the graph and in the data point description in the bottom left corner, while hoovering over a data point.

Alignment is used incorrectly with the white shape, because it is centre aligned around 54 on the y-axis with no clear meaning.

Proximity is used in the way that all movies with high critic rating are placed on the left site of the graph and all movies with low critic rating are placed on the right site of the graph.

The visual encodings that are used are: colour (to distinguish between audience and critics), position (to determine the rating value), stroke (to emphasize awards), height (to determine the discrepancy in ratings in the white shape) and area (when circles are resized).

The visual encodings colour and position are appropriate. Stroke is not appropriate because a white stroke is also used when a data point is hovered over, so you might think every movie you hover over won an award. Height in the white shape is not appropriate, because it is not consist with the y-axis. And area is also not appropriate, because of the lie factor is > 1 when the circles are resized.

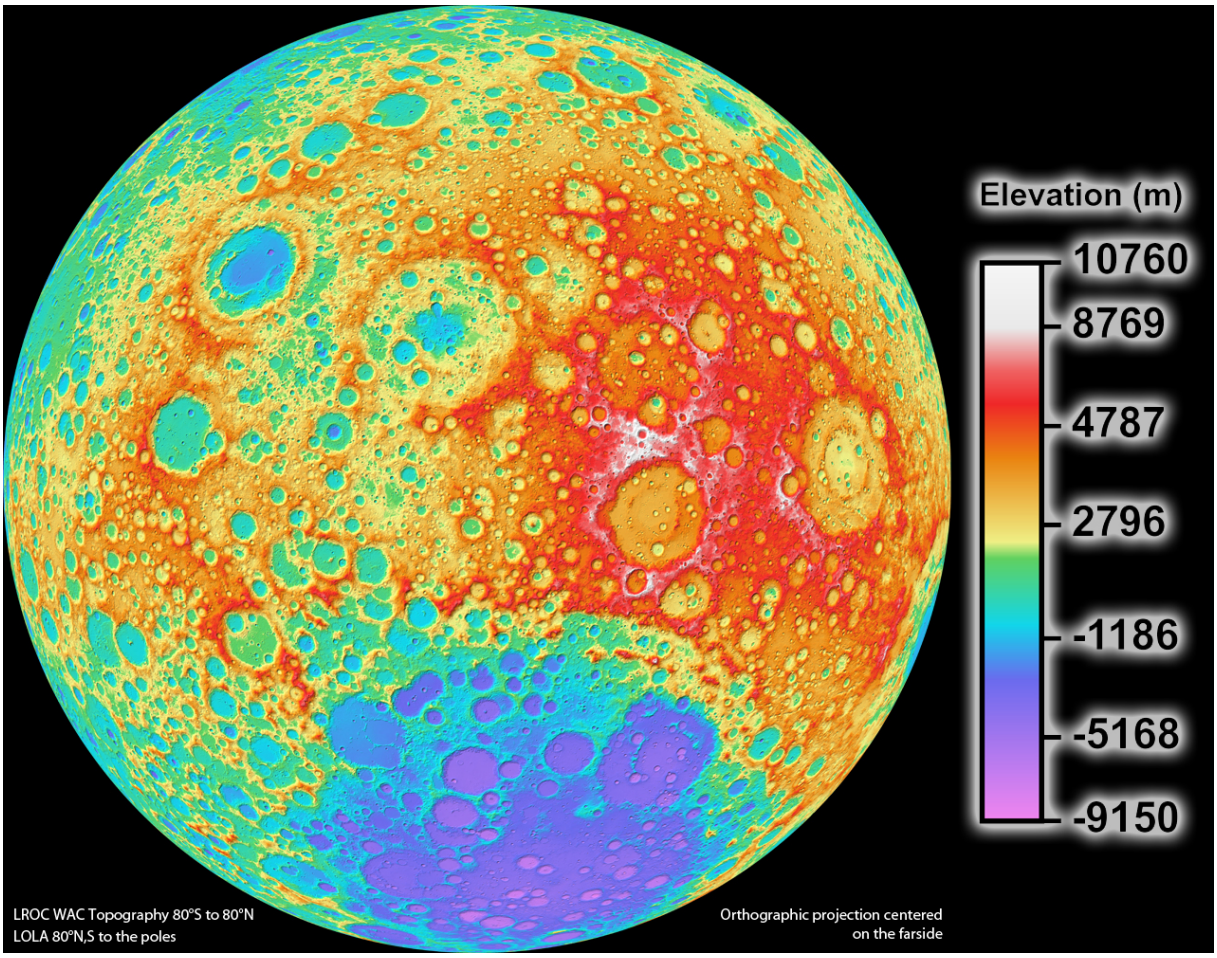
I like the aesthetics and style of the graph, because a dark background with bright colour on it are used. The graphs is vivid and playful because of its interactivity, when hovering from left to right with a vertical line following the cursor and the pop-up window when clicking on a data point.

The intended goal of the graph is to show the difference in the rating of the general audience and critics. This goal is not totally achieved, because a lot of other data is put into the graph as well and the white shape incorrectly tries to show the data that is also represented by the x-axis.

If I was designing this graph, I would draw the data points as points and not circles. I would also stroke the selected data point with a different colour as the award winning movies. And I would explain or leave out the bar graph in the data description. Lastly, I would leave out the white shape.

Problem 2: Rainbow colour map

http://www.nasa.gov/sites/default/files/images/605013main_WAC_CSHADE_O000N1800_1000.jpg



The objective of this map is the elevation of the far side of the moon. The audience is everyone interested in NASA's space journeys. It fails to successfully convey information, because perceptual ordering is very hard with a rainbow colour scheme. It is not clear from first sight which areas of the moon are lowest and which are highest. There is not a good reason for this specific visualization to use a rainbow colour scheme. A colour scheme with a single hue varying from light to dark would be more appropriate.