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The visualization and visual encodings

The aim of the visualization is to visualize the correlation between difference in opinion between critics and public, and the success of the film.

The y-axis shows the ratings for the film (from overwhelming dislike to universal acclaim). The y-axis is appropriately labelled, however the x-axis is not at all. It is unclear to me what the x-axis actually shows. The purple circles represent critics, the pink represent the audience. The size of the circle can represent the variables (its interactive so it depends on what you choose they represent) : budget, profitability, domestic gross, foreign gross, worldwide gross, opening weekend theatre count, opening weekend gains, opening weekend success.

Some circles have white line, however nowhere is written how they differ from the other circles. Only after looking at several circles it became obvious that the white-circle-films have won some prices. I assume that the white geometric form in the background shows the distribution of difference in opinion between critics and audience. However, I would expect that the neutral point, when there's hardly a difference, would be in the middle of the graph. Now there is a bias to the right.

It is unclear where your mouse pointer has to be in order to select a circle and get the pop-up with the film title and some numbers (try it with a big circle, it is counter-intuitive).

From this visualization it becomes clear that there are a lot of films critics and audience disagree on. However, for further information, the visualization requires a lot of effort from the viewer.

The Lie factor.

If we look at the Lie factors of the aspects of the graph that describe the budgets, we see that the areas of the circles create a distorting effect on the visualization of the actual data. The effects were calculated by the difference between two values divided by the value of the first, thus $(x_2 - x_1)/x_2$. Thus, in the table below the effect data on the first row was calculated by $(185 - 150)/185$, the other rows were calculated likewise, except for the last row where the effect of the data was calculated by $(112 - 25)/112$. As we can see from the Lie factors, the factors of the budget data are either higher than 1.05 or lower than 0.95, thus the differences in budget do not correspond with the differences in either the area or diameter of the circles.

Budget (M)	Diameter (cm)	Area (cm²)	effect data	effect diameter	effect area	Lie factor diameter	Lie factor area
150	0,9	0,64	0,19	0,10	0,19	0,53	1,00
185	1	0,79	0,20	0,17	0,31	0,85	1,56
230	1,2	1,13	-1,05	-0,50	-1,25	0,47	1,19
112	0,8	0,50	-3,48	-0,60	-1,56	0,17	0,45
25	0,5	0,20	0,78	0,38	0,61	0,48	0,78

Tufte's visualization design principles

The data-ink ratio is rather high, so I suppose that requirement is met well enough. However, in order to minimize chart junk the background should be changed. There is no need for the background to be black. The circles would be better visible in a white background. And the weird geometric shape could also be represented by two lines, or black/blue or another colour. So ink

could be saved and readability increased if the background became white. The density of the data is high.

Graphic design principles

The graphic does not use contrast well. The idea of the graphic is to show the difference between the critics and the audience, yet the colours to represent these two groups lie close together (resp. purple and pink). It would have been better to choose two colours that are opposites. Repetition is used by this graph to show all the different monetary aspects of the graph. The budget, profitability, domestic gross etc. are all represented by the areas of the circles. The principle of alignment is not really applied to this graph, the y-values (20, 40, 60 etc.) are sort of floating. Proximity does not seem to play a very big role in this visualization, but where it is used, it is used well. Especially in the interactive part below the graph.

Conclusion

This visualization is not well designed. The meanings of the different encodings used are not immediately clear to the viewer (the weird white geometrical shape). The interactive part could be improved by making sure that a circle is selected if the mouse pointer is above its middle. The contrast between audience and critics could be improved and the Lie factor should be decreased. The aim of the visualization is not really met since the success of the film is hard to determine by looking at this graph alone.

Rainbow color maps

https://svs.gsfc.nasa.gov/forEducators/Start_Here.html

On the site above several visualizations are presented. I will only discuss the first one (Aquarius Sea Surface Salinity (2011-2014)). This visualization represents the salinity levels. Red is a very high salinity level, blue is very low. It intends to inform the reader of sea surface salinity levels. The audience is everyone with an interest in the subject (also layman). If you read the text you know that red represents very high salinity levels and blue very low. But what those levels are, what the scale is and what the other colors represent (orange, yellow, green and white) is unclear. So it would have been better if a different visualization was used and a legend included.