✓ Done

Due: Sunday, 4 August 2024, 9:55 PM

Post a visualisation of one or multiple table dataset(s), then briefly

- identify the visualisation **idiom** and the **marks & channels** it uses
- discuss whether the idiom is a **good choice**, and
- identify the What? Why? How? of Munzner's framework described in the textbook.

Do not forget to add a link to the source of the visualisations.

Search for a diagram that is interesting and non-trivial. That is, do not just post a simple static pie chart with a few values, but instead post a visualisation that combines two or more idioms (e.g. bar charts and line charts), uses complex data sets, etc. Do not post a geographic map.

Do not use a visualisation that another student has already posted on the forum. Do not use a visualisation included or mentioned in the lecture, textbook, required or optional readings, or any other source discussed or shown during any unit activity. You must find an existing visualisation and not create a new visualisation.

You may use artificial **AI technology**, such as ChatGPT or Google Bard. We asked current generative AI tools to solve this task, and have sometimes received hilariously wrong responses. Sometimes the AI tool only produced vague responses that did not really answer the questions, and very often the responses included (sometimes wrong) recommendations that we did not ask for. Therefore, if you use AI tools to answer this task, it is crucial to critically assess and if necessary correct the answer.

Marking: The four forum postings combined contribute 4% to the unit mark. The mark has two components: (1) Ability to identify data visualisation principles taught in the unit (maximum 50%); (2) quality of the critical analysis conducted (maximum 50%).

Unread Post by Kai Yan Foo 1 min ago

China's Game Industry Growth throughout 2014 to 2021

Image Source: https://www.cocos.com/en/post/chinas-game-industry-grows-in-2021-what-will-happen-in-2022

Visualization Idiom: Combination bar and line chart

Is the visualization idiom a good choice?

Yes. From my perspective, based on the information provided, this particular chart is suitable for presenting two distinct datasets simultaneously, facilitating a comparison between the two sets of data. The blue bars in the visual graph show the gross revenue of the Chinese gaming industry in billions of RMB, while the orange line depicts the year-over-year (YoY) growth percentage. The orange line clearly displays the YoY growth trend, making it simple to distinguish between periods of high and low growth. It's important to understand that dual-axis charts can create a misleading connection between two sets of data if the scaling or interpretation is not accurate, despite having a shared axis, the graph effectively displays the data. Therefore, utilizing the visualization idiom is a suitable option for the data.

What? Why? How? framework by Munzner

What

The graph visualization shows the gross revenue in RMB in billions and percentage of year-over-year growth from year 2014 to 2021.

Type of dataset: Tables. Each year gross revenue in the Chinese gaming industry is represented by each bar in the bar chart.

Ordered & Qualitative data:

- **Quantitative**: The bars represent revenue in RMB (in billions), which is a measurable and comparable quantity. The data is ordered by year, showing a progression over time from 2014 to 2021.
- **Ordinal**: The YoY growth percentages are also ordered, showing the trend of growth rates over the same period.
- **Categorical**: The different years (2014 to 2021) are qualitative as they categorize the data points.

Attributes: Gross revenue in RMB (in billions) and percentage of YoY growth from 2014 to 2021.

Why

Overview and Purpose

The purpose of the graph visualization is to analyze the financial performance of the China game industry over time. This visualization helps in understanding both the absolute revenue figures and the relative annual growth trends for the game industry in China. The higher the gross revenue earned each year is represented by one blue bar and if the length of the bar is longer, it indicates that the gross revenue earned in that said year is higher the year that has a shorter bar.

Comparison

The visualization graph allows for a clear comparison between the actual revenue figures in RMB and the growth rate trend over time within China's game industry throughout the years of 2014 to 2021.

Distribution and Basic Interpretation

The visualization graph shows how the revenue earned is distributed within China's game industry as well as how its YoY growth trend is distributed. It can be seen that in terms of revenue, China's game industry revenue increased steadily from approximately 114.5 billion RMB to around 203.6 billion RMB throughout 2014 to 2017 but the growth slowed, reaching about 214.4 billion RMB in 2018 and then continued to rise, peaking at approximately 296.5 billion RMB in 2021. On the other hand, for YoY growth distribution, it was high, starting at 37.6% in 2014 and gradually decreasing to around 17.67% in 2018, indicating a contraction. Then its YoY growth then recovered as seen in the orange line that it has reached 22.98% in 2017 and dropped significantly to around 5.32 in 2018. It did gradually recover in 2019 to 7.66 and 20.71 in 2020 but it did again drop to around 6.4% by 2021. This shows at in terms of revenue for the China's Gaming industry, there is an upward trend where the revenue amount continue to grow throughout the years but in terms of YoY growth, there is a downward trend which implies that the rate at which a company's revenue, profit, or other financial metrics are increasing is slowing down over time.

How

Marks: Bars representing the gross revenue for each year. Lines representing the YoY growth percentage.

Channels:

- **Position**: The x-axis represents the years (qualitative data), and the y-axis on the left represents revenue in RMB (quantitative data), while the y-axis on the right represents YoY growth percentage (quantitative data).
- **Color Hue**: Different colors for bars and the line to distinguish between revenue and YoY growth.
- **Height/Length**: The height of the bars indicates the revenue amount, and the position of the line indicates the YoY growth percentage.

- **Labels/Annotation**: The labels/annotations added at the end of each bar are additional notes or comments added to the visualization to highlight important information or provide further explanation like in the image is the total revenue for the games in China gaming industry for each year