Wizard's First Rule, DataViz Milestone 2

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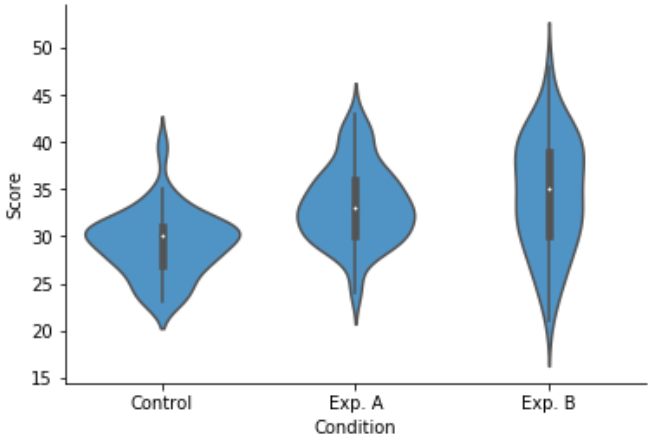
Description:

The core problematic of the project can be found in the GitHub's readme.
As a quick recap, the goal is to analyze and show how cultural differences might reflect in video game sales and console preferences.

Graphs:

1) *Introduction to the dataset*



Description
This graph will display the years on the y axis and on the x axis the user can choose what to display between: console, game genre and region. This is an introductory graph to give the user an overview of the content of the dataset if he's interested. The width of the data would be the revenue (for a specific year and specific console for example).

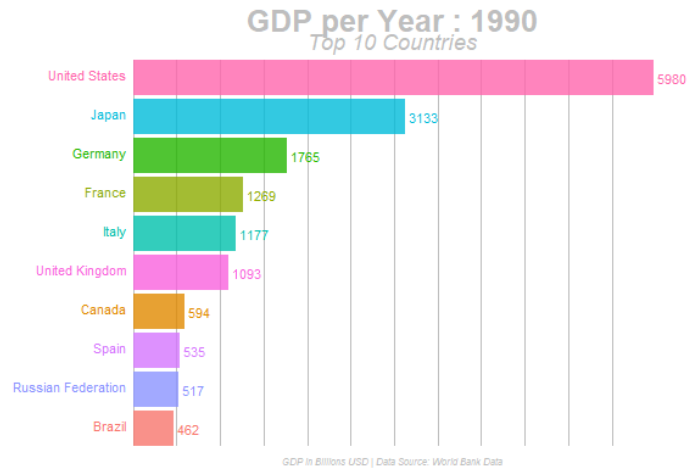
Widgets
A drop down button to choose what to display on the x axis.

Implementation
To implement it, we would need to group the data by the category and the year, and sum all elements inside of each pair of categories/year. And with this data we can use the d3.histogram() element to create the plot, like in this example.

Needed material and tools:
The D3 lectures, javascript lecture, do and don't in viz.

Additional ideas
Display inside the graph an image of the console, or of the region or the category to make the visual more appealing.

2) *Best selling video games*



Description
In our graph we would display the top games (top10 for example) with the highest revenue through the years, this would allow us to see the evolution of the type of games, if there's a lot of changes among the top or not, etc…

Widget
User could either go to a specific year (scroll on a slider) or press on a play button to see the evolution

Implementation
Create a racing chart using d3 library similar to this example, with our data being the year of creation of the game and its revenue.

Needed material and tools:
The lectures on D3 and the lecture on colors
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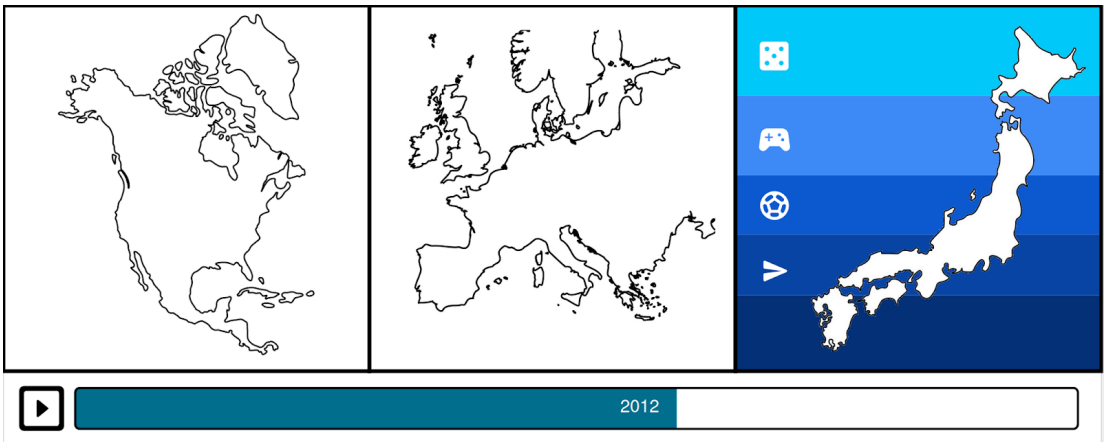
Additional ideas
The color of the bars would be the category of the video game. The user could choose to display the graph for each type of region to observe the difference between each region. When clicking on a game have a short description of the game

3) Video game genre preferences (per region)



Description:
Each region (USA / EU / JP) would have its own box.
The background would represent the proportion of the top 4 / 5 most selling genres.
(In the above sketch, only japan is filled but the other regions would have similar content)

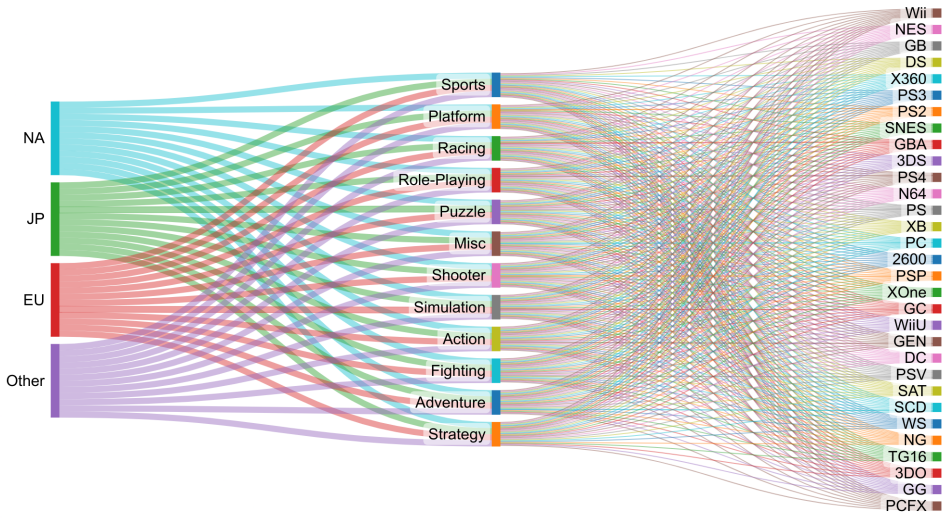
Widgets:
On hover of a color (genre in a region), a window would appear displaying the games that represent this portion.
On the bottom one would find a time slider, to be able to pick a specific year or press play to have a fluid animation.

Implementation:
The graph itself would be composed of three independent stacked bar charts (each box).
Over top of which the country's outline would need to be added.
On the left of each box, the icons would represent the video game genre of it's respective portion. Another possibility is that each section's background would have a grid pattern of the icon (see lecture on tabular data, slide 14)

Needed material and tools:
Lectures on D3
Lecture on interaction and transitions.

Additional Ideas:
The original idea was to have the surface of the country/region be used to display the proportion of each genre. However after some preliminary visualizations, it proved to be hardly readable (especially japan). We will still explore this possibility, but the graph as described above is much more readable.

4) Sankey, region-genre-console



Description:
This Sankey diagram represents the flow from regions (leftmost nodes) to consoles (rightmost nodes), with an intermediate step representing the game's genres (middle nodes). Line width represents the amount of flow between nodes (in this image, flows are equally distributed, which is not our dataset case). This should highlight the proportionality of region/culture toward game genre and console.

Widgets:
To enhance the user experience, we should allow displaying only the requested region/genre/console and also enable moving nodes to reorder the diagram.
Hovering a node might show a descriptive image (geographical representation of region | pictogram representing genre | image of selected console).

Implementation:
The implementation would require the `d3-sankey` script in addition to the basic `d3`. Data should be parsed and shaped to the required format. Reference images that appear on hovering should also be collected as it is not part of our .csv data. Maybe link to wikipedia link.

Needed material and tools:
Differents lectures slides should be useful there:

- Javascript, D3.js and interaction slides
- colors perception and Do-and-dont-in-viz lectures should bring good guideline for message transmitting.
- map related lecture (present sankey diagram)
- future lecture, such as `Storytelling` slideset from week 13

Additional Ideas:
It might be interesting to have multiple coordinated view diagrams to improve user feeling of proportion.