INFO 3300 Project 2

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# A Musical Visualization

The theme of our data visualization is “Music through the Years”, through which we aim to portray the trends of various artists and genres throughout time. One part of our visualization is portrayed in the pie chart on the left and is obtained from the following datasets: http://www.statista.com/statistics/188910/us-music-album-sales-by-genre-2010/, which displays the album sales of various genres from 2008 to 2014. The second part of our visualization comes from http://www.statisticbrain.com/top-selling-music-artists-of-all-time/, a list of 91 artists whose music has been top-selling throughout the years. The data includes the artist’s name, the genre(s) of music they produce, the time period through which their music was popular, and their certified sales. We aimed to correspond this data with that in the pie chart and so certain artists whose genres did not correspond to any in the pie chart (example: swing), were eliminated during the processing of the file. Additionally, we had to be able to separate the start and end date of actors so we chose to have that as a space character.

The data nicely lends itself to two visualizations that interact by clicking on a certain genre in the pie chart, a timeline-like histogram is displayed on the right with that genre’s top 10 (or fewer depending on how many artists in the dataset produced music of that genre) artists. The pie chart displays the division of album sales by genre over the past seven years. The data comes from a JSON file containing specific sales numbers for each year. We decided to dynamically display this data to emphasize the changes in album sales that occurred from 2008-2014. Users can interact with this data using a slider bar. This form input is then used to select the corresponding year variables from the JSON file. The D3 interpolate function is used to calculate the necessary angle changes between years as genre’s album sales increase or decrease. This change is then animated by a transition function called on each path.

In the second visualization, each bar’s width in the timeline visualization spans the x-axis, a timeline of years, through which the artist was popular and upon hovering, the artist’s total certified sales and exact years active are displayed above the visualization. In order to map the years active to the timeline it was necessary to create two scales, one to generate the x position of the rectangle and one to generate the width of the rectangle. This was done using two linear scales, and the x-axis also used the x position scale. It is also useful to note that the artists are organized by sales, with the most selling artists listed at the top of the visualization

Our visualization allows us to seamlessly view the breakdown of music sales by genre for 2008-2014, and then view a genre breakdown of top sales. It provides an easy and visual way to learn about music sales and popularity. While we recognize that there may be some inconsistencies with the data (pop is not recognized as a popular genre until 2013), we believe that it still nicely outlines changes in the music industry throughout the past decade. A consideration we had while laying out the pie chart was whether to include the genre's on the pie chart itself or upon hovering. We decided that certain sections for genres were too small for the genre to be clearly visible on the pie chart and thus decided to opt for displaying the genre and its corresponding sales upon hovering. We also did not want to include a key with colors as we felt it was redundant information and would add clutter to the visualization. Another design aspect we want to clarify is the instructions for viewing the second visualization. They appear on the right side of the screen upon refreshing and above the first visualization. We have decided to leave it in both places because it is removed from the second visualization upon clicking on the pie chart and we wanted to ensure that any user would know how to switch to another genre breakdown even after the first click.

Some notable aspects that were highlighted by our visualizations were the growth of certain genres over time. We were surprised and interested by the growth of country music over the years. Additionally, it was interesting to learn that certain artists, like The Beatles, who were active for only a short period of time were so successful in sales. It was also valuable to find out that there were no top artists (based on our data) for the Christian/Gospel genre. The integration of the two visualizations allows users to gain a deeper and more historical look into the music industry.