

1.10: Storytelling with Data - Project Reflections

Looking back at the insights uncovered during the GameCo project, I decided to mainly focus on 3 aspects (**Sales & Market, Games & Genres, Publishers & Competitors**) in the data set and answer some key questions GameCo executives could have.

Sales/Market

What is the overall market trend?

What market has the most potential?

How many games per year were published and is there a trend?

We have to take the limitations of our data set into consideration before answering questions about the overall market. In a previous exercise, we learned that the data set we use doesn't include the sales numbers for digital distribution. The line chart clearly shows a rapid decline in overall video game sales since around 2008 (Figure 1) but if we consider that distribution of games changed to digital over the years, this decline makes sense but delivers the false narrative: fewer games are sold and the market is slowly dying out. Ultimately we only can draw conclusions about the "hard copy" market (the market for physical game units, sold in retail stores). The logical conclusion would be to investigate the digital market and do a separate analysis.

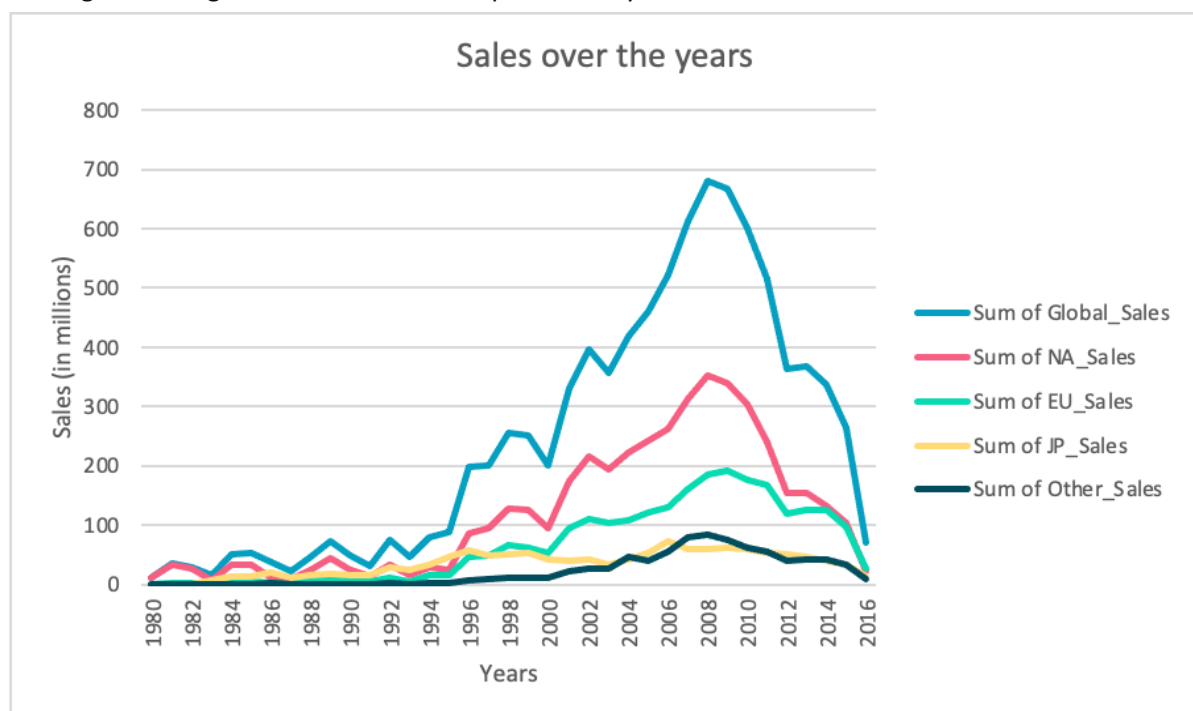


Figure 1: Sales over the years, the decline in sold game units from 2008 to 2016.

A closer look into how many games per year were released (figure 2) shows, that the number directly correlates to the decreasing number of sales. But considering the growth of the digital market, I wouldn't assume that fewer games were released, instead, I suggest that a decreasing amount of games are sold in retail stores.

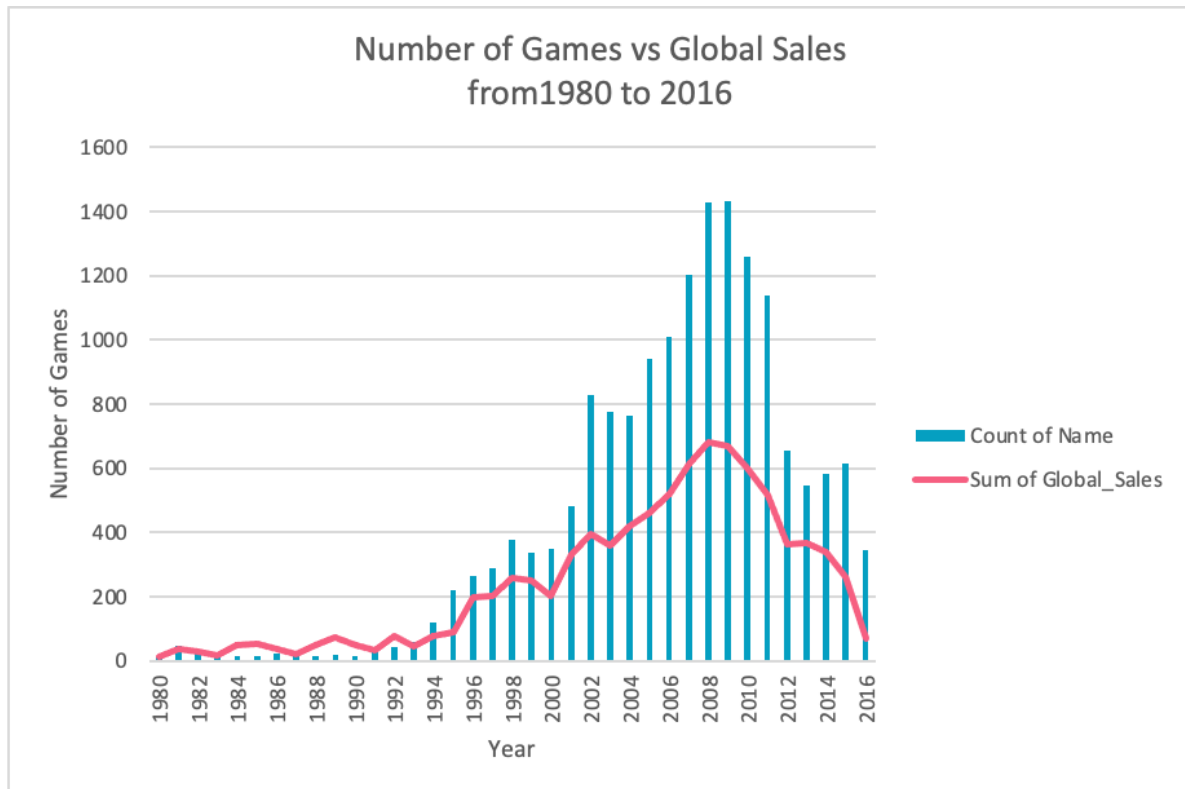


Figure 2: Number of games sold in correlation to global sales.

We looked at the market proportions for the 3 main markets over time (figure 3) and uncovered that the North American market lost its first place in market share in 2015 to the European market, while the Japanese market makes up a 5th of the overall proportions and is rising. I intend to include this insight in my presentation as it gives a good overview of the overall sales trends for each region.

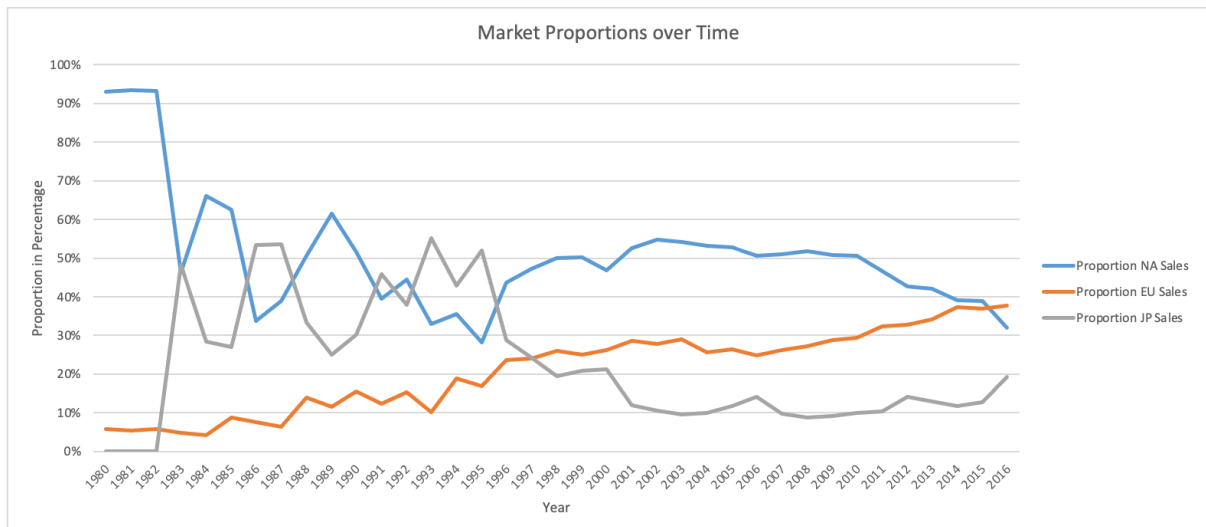


Figure 3: Market proportions over time

In exercise 1.9 we uncovered that the data set includes some high-value outliers in North American sales (figure 4). I took a closer look into what kind of games they are and classified them as "AAA Games" (*"The term "AAA Games" is a classification used within the video gaming industry to signify high-budget, high-profile games that are typically produced and distributed by large, well-known*

publishers..." (source: <https://www.arm.com>)). Furthermore, a lot of those games with high sales numbers in our data set are part of franchises (e.g. Mario titles, Pokemon games, etc.).

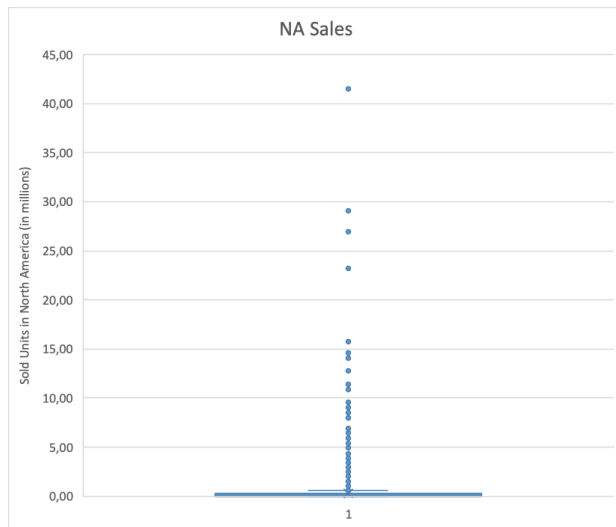


Figure 4: Box and Whisker Plot with high-value outliers

So as a new video game company I would make the recommendation to GameCo to not attempt to create a AAA game at first as they are not yet widely known about and the process of developing AAA games brings with it a high financial risk. GameCo could possibly try to investigate if there are licenses for popular intellectual properties they could acquire that could boost the awareness for a potential game.

Games & Genres

Are certain genres more popular than others?

What genres are popular in each market?

A simple bar chart shows clearly, that action games are the most popular on the global market. (figure below) with Sports and Shooter coming 2nd and 3rd after that. By including this insight GameCos executives know which genres could have the possibility to create the most revenue.

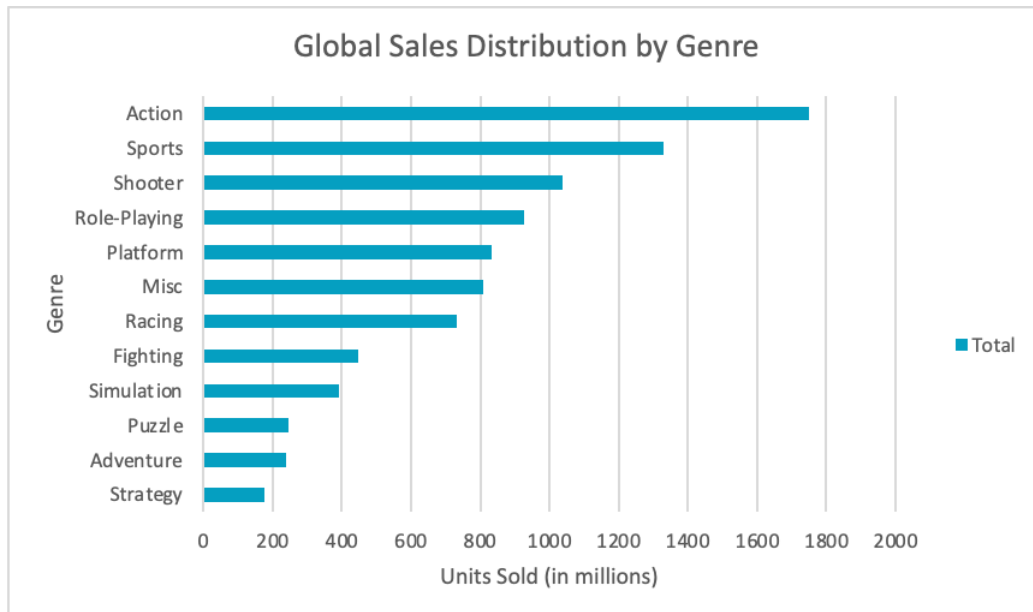


Figure 5: Global Sales Distribution by Genre

Taking sales region into account and looking closer at the market proportions by genre (Figure 6), it is clear to see that North America has the largest proportion in all games with Europe having a consistent percental share of the market and Japan favoring role-playing and strategy games. Knowing which genre is most popular in which region would give the executives an idea of where to invest the budget on what types of games.

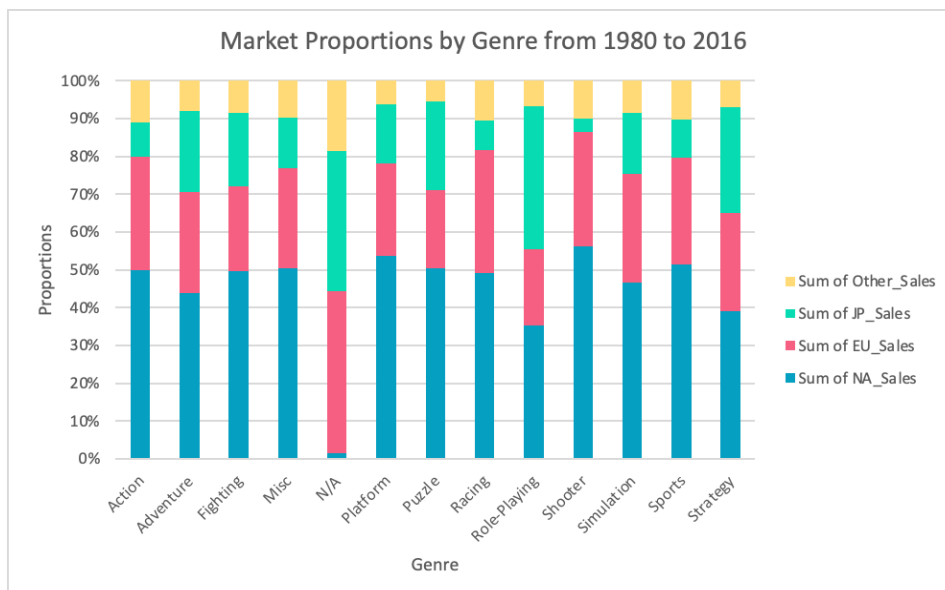


Figure 6: Market proportions by genre from 1980 to 2016.

Publishers (Competitors)

What are the most successful publishers right now?

How many games and what types of games did they publish?

What percentage of the market are they covering?

To give the executives a bit more insight into eventual competitors I looked into their ranking on the global market. (figure 7) The table shows the publisher who sold the most units globally from 1980 to 2016.

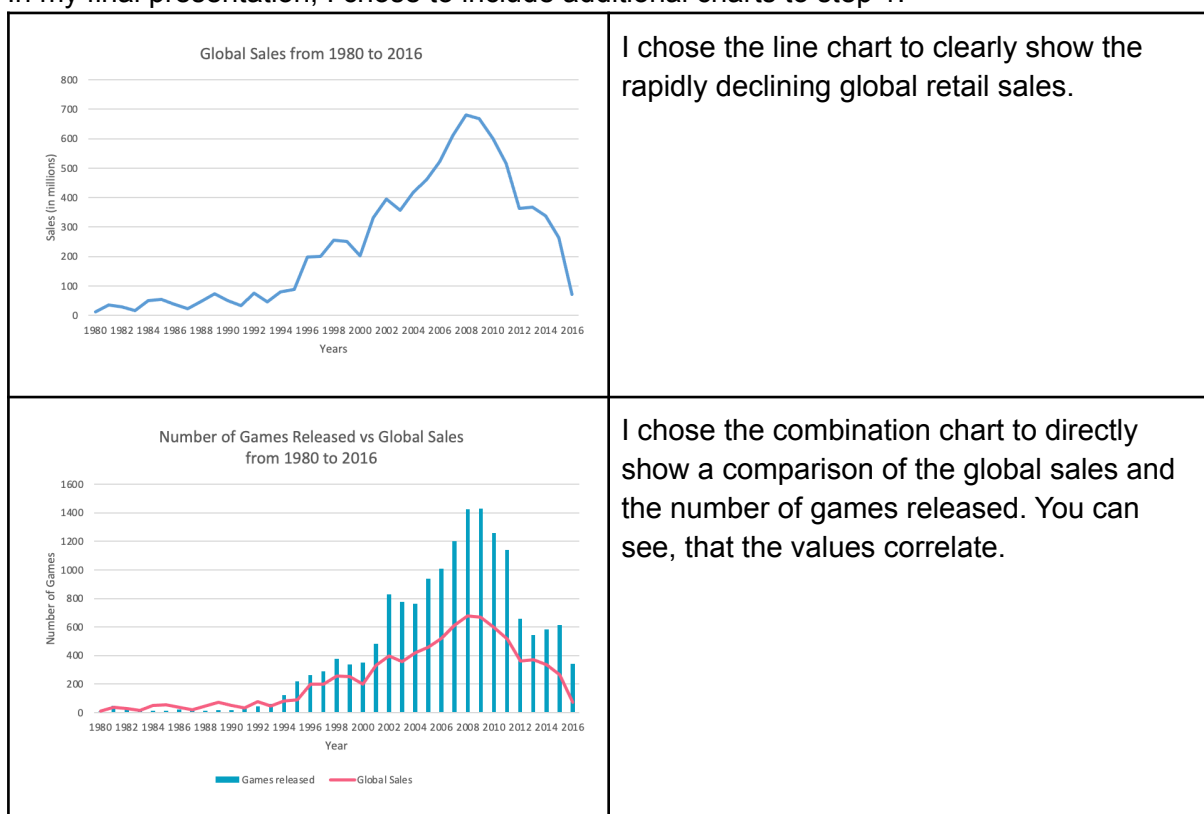
Row Labels	Sum of Global_Sales	Count of Name
Nintendo	1786,56	703
Electronic Arts	1110,32	1351
Activision	727,46	975
Sony Computer Entertainment	607,5	683
Ubisoft	474,67	920

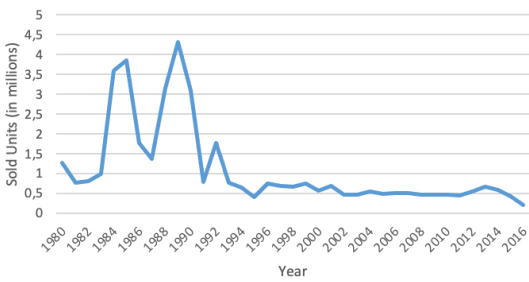
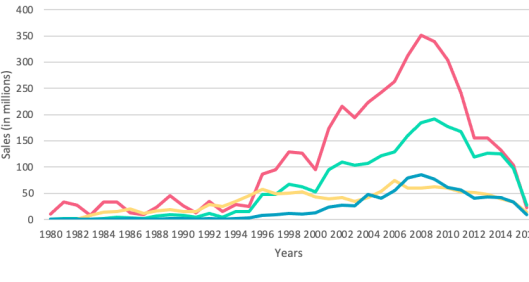
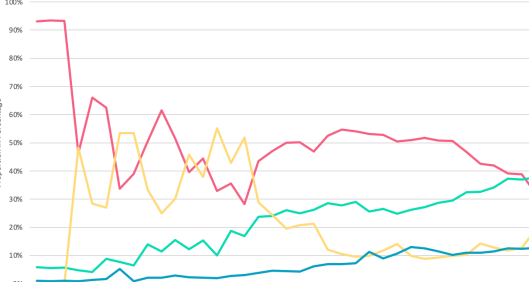
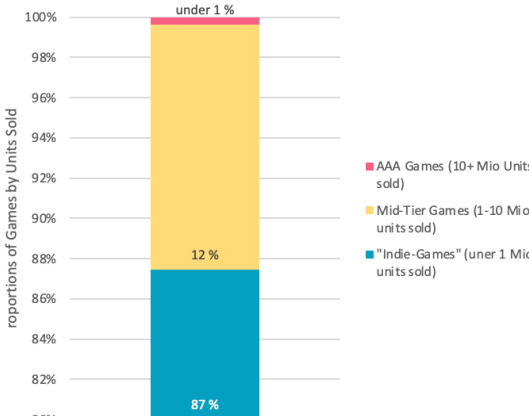
Figure 7: Top 5 Publishers by global sales and their number of games published.

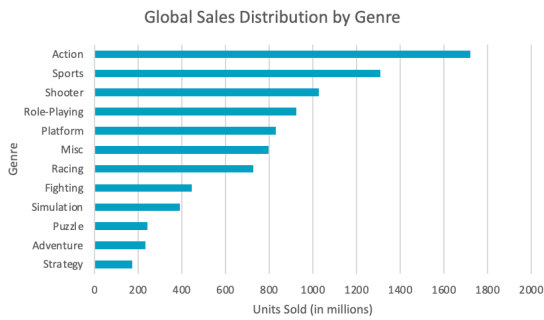
But for the sake of the presentation, I would focus on where the top publisher release their games (region).

Step 4: Why I choose particular visualizations.

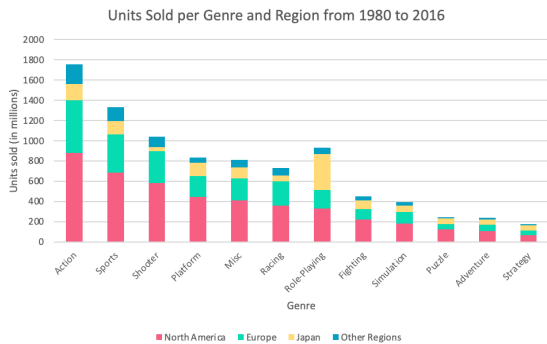
In my final presentation, I chose to include additional charts to step 1.



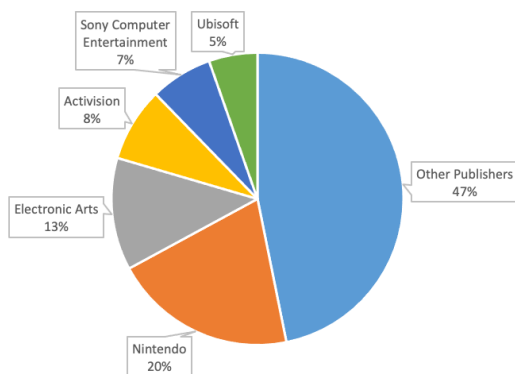
<p>Average Sales per Game over the Years</p>  <p>Sold Units (in millions)</p> <p>Year</p>	<p>But to show that the interest in gaming still stayed consistently the same over the last few years, I calculated the average sales per game to show the executives that, despite what the global sales trend shows, the gaming market is not dying and still has revenue potential.</p>
<p>Regional Sales from 1980 to 2016</p>  <p>Sales (in millions)</p> <p>Years</p> <p>North America Europe Japan Other</p>	<p>To show that the retail market in all regions is afflicted by a downward trend, I choose again a line chart. This chart also communicates briefly what market has the most sales/is the biggest.</p>
<p>Market Proportions over Time</p>  <p>Proportion in Percentage</p> <p>Year</p> <p>North America Europe Japan Other</p>	<p>Because the previous line chart (Regional Sales) only shows the number of units sold and doesn't accurately reflect the market trend, I choose to include the line chart for the market proportions. This clearly shows the potential for the different markets.</p>
<p>Proportions of Games by Mio Units Sold</p>  <p>Proportions of Games by Units Sold</p> <p>AAA Games (10+ Mio Units sold)</p> <p>Mid-Tier Games (1-10 Mio units sold)</p> <p>"Indie-Games" (uner 1 Mio units sold)</p> <p>87 %</p> <p>12 %</p> <p>under 1 %</p>	<p>I choose not to include the box and whisker chart from step 1 as I found the squished IQR area is not clear enough to see. Instead, I decided to classify the games from the data set into 3 categories to make it clear, that only a small number of games sell more than 10 million copies. I chose to use a 100% stacked column chart as I wanted to show the composition but not the overall number of all games released.</p>



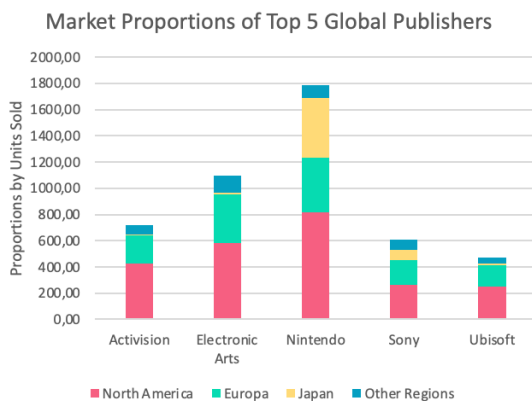
To show the most popular games I choose a 2D bar chart as I found it translated the information extremely fast and, compared to a column chart, the names of the genres are easier to read.



I chose the stacked column chart because it displays not only the amount of sold units but at the same time it also shows the composition of the different regions.



Instead of the list from step 1, I choose the pie chart because it clearly shows the overall market composition by publishers. I found it was quicker to read than the list.



I again chose to use the stacked column chart to first show which publisher sold the most game units and in which region.