

The slide features a dark, textured background with a gradient from deep purple at the top to teal at the bottom. Several colored circles of varying sizes are scattered across the slide: a small purple circle and a medium green circle on the left; a small orange circle and a large yellow circle in the top right; and a small orange circle, a small pink circle, and a medium yellow circle in the bottom right. A small grey circle is also visible near the center-right.

# Data Analysis Portfolio

By: Alvin Lucero

# Professional Background

- **EDUCATION:**

- The University of Western Australia Present
  - Bachelor of Commerce - Accounting
- EntryLevel 2023
  - Certificate, Data Analyst Level 1
- The University of Western Australia 2021
  - Certificate, Data Analytics

- **WORK EXPERIENCE:**

- Pet Circle: Inventory Receiver 2021– Present

- **TECHNICAL SKILLS**

- **Languages:** SQL, Python, HTML5, CSS, JavaScript ES6+, NoSQL, R
- **Applications:** GitHub, MongoDB, PostgreSQL, GIT, Flask, Command Line, Visual Studio Code, Tableau, AWS, MYOB
- **Tools:** Excel, Databasing, Pandas, Jupyter Notebook, Scikit Learn, PySpark

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# Project 1: Udemy Data Analysis



# Project Description



To better understand the pricing and subscriptions data of Udemy courses (for four different subjects) and identifying trends and patterns



This will help us to:

Identify for which subject more courses should be created  
Create targeted strategies to increase the company revenue

# Key Questions

1. What are the total numbers of subscribers in each subject?
2. How does the average content duration/price/number of students vary across different subjects?
3. How many courses are free and paid for each subject?
4. What is the average price of web development courses at different levels?
5. What are the 20 most popular courses? Also, include the following information: Their level, Whether they are free or paid, Whether any are free beginner courses, and the duration of the courses.
6. Does content duration impact the price of the course?

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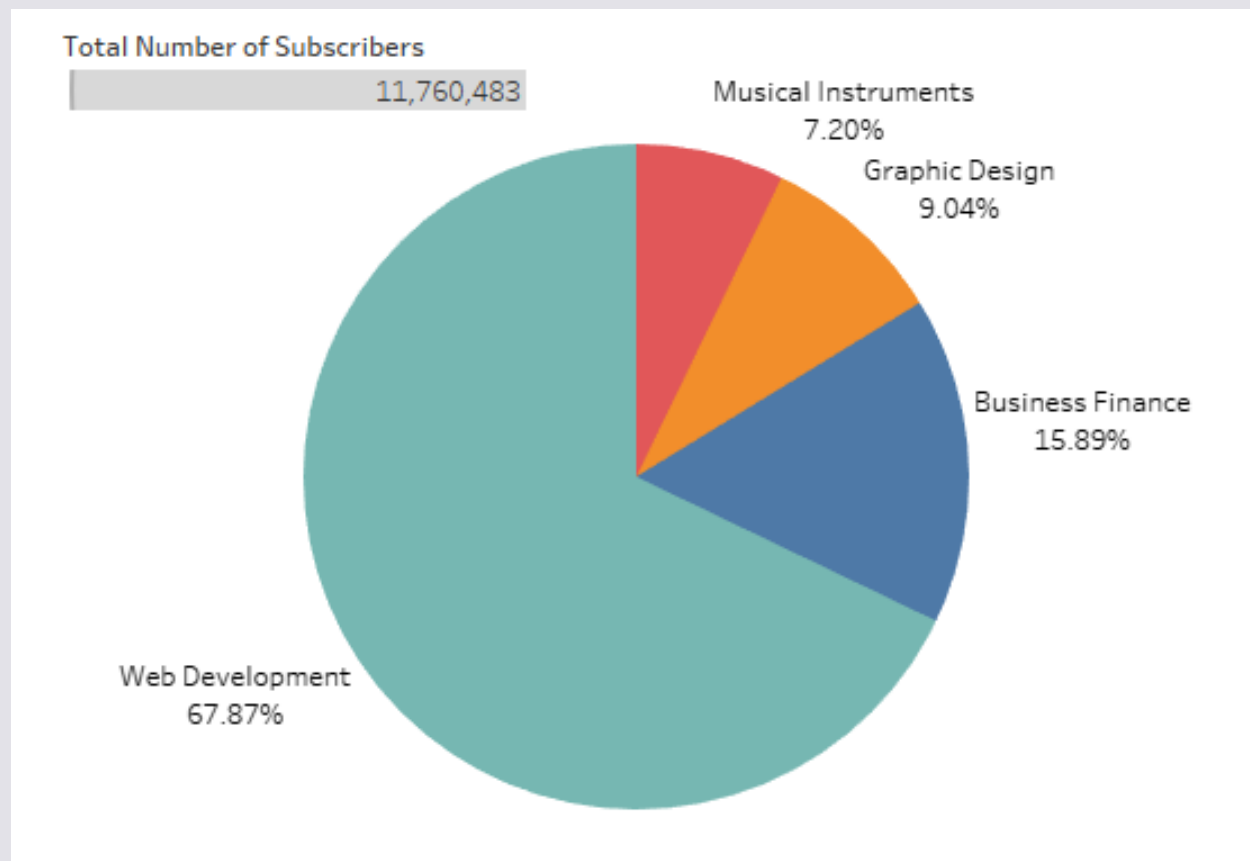
# Finding & Insights



# 1. What are the total numbers of subscribers in each subject?

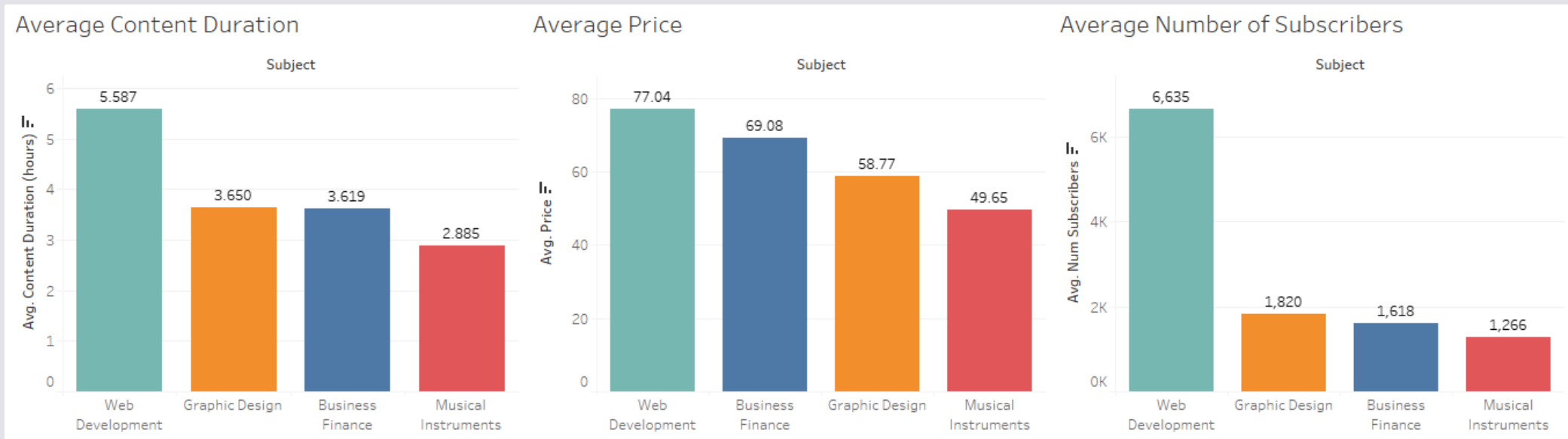
- There are a total of 11,760,483 subscribers in the analysed UdeMy Courses
- Web Development has the highest subscriber share, with close to 68% of users subscribing to this course

Subject	Total Number of Subscribers
Business Finance	1,868,711
Graphic Design	1,063,148
Musical Instruments	846,689
Web Development	7,981,935
<b>Grand Total</b>	<b>11,760,483</b>

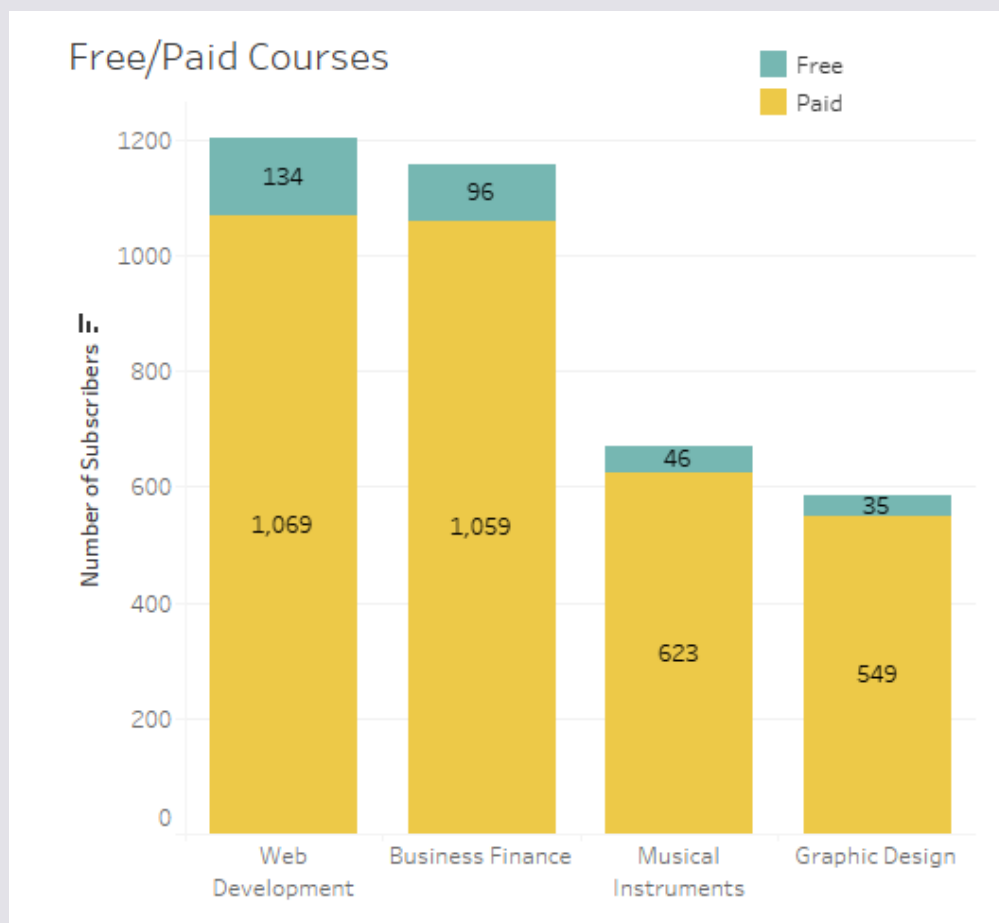


## 2. How does the average content duration/price/number of students vary across different subjects?

- Web Development has the highest average content duration, price and number of subscribers out of all the subjects, Musical Instruments have the least
- Despite its high content duration and price, Web Development still has the most subscribers to its courses, suggesting that price and content duration are not correlated to the number of subscribers



### 3. How many courses are free and paid for each subject?

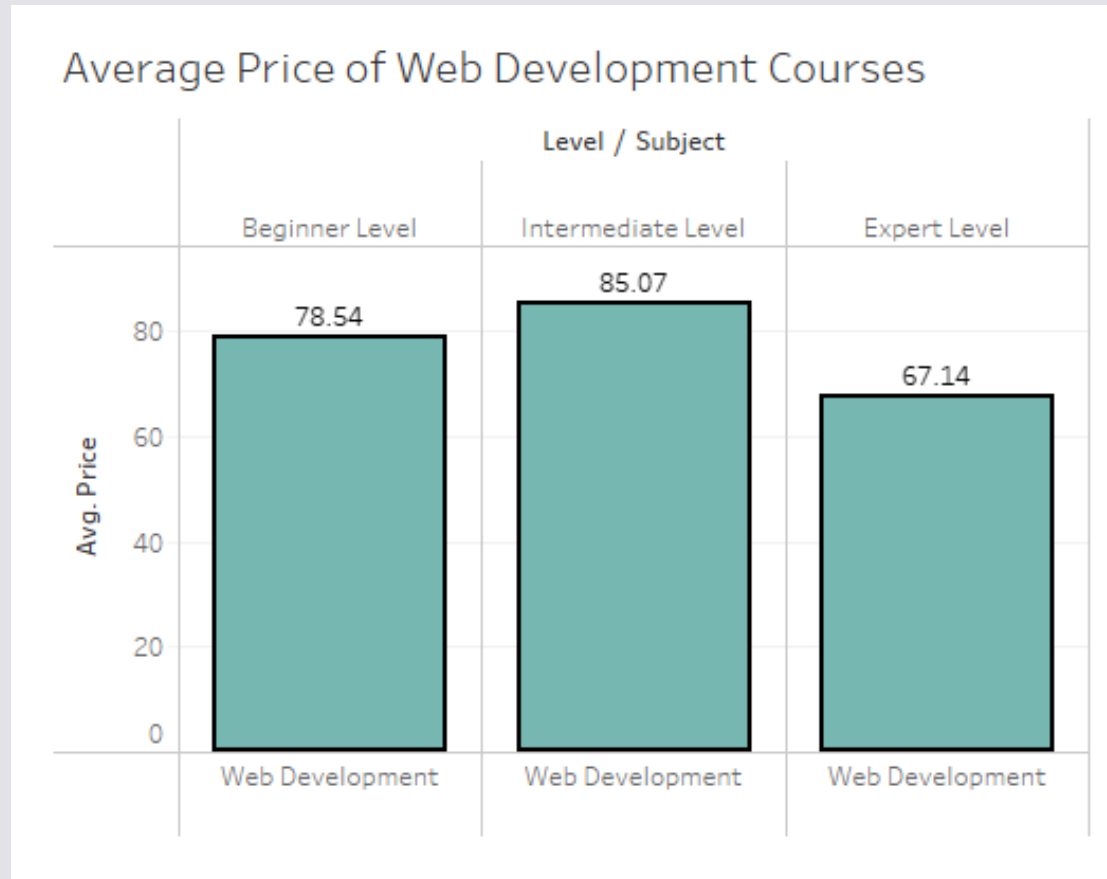


- Approximately 91% of courses are paid and 9% are free
- Web Development has the highest percentage of free courses, with around 11%
- Graphic Design has the least percentage of free courses, with around 6%

#### Count of Free or Paid Courses

Subject	% Paid Course
Business Finance	91.69%
Graphic Design	94.01%
Musical Instruments	93.12%
Web Development	88.86%
Grand Total	91.39%

## 4. What is the average price of web development courses at different levels?



- Web Development courses have an overall average price of \$74.55 across all levels
- Intermediate level courses are on average the most expensive courses at \$85.07
- Expert level courses are on average the least expensive courses at \$67.14

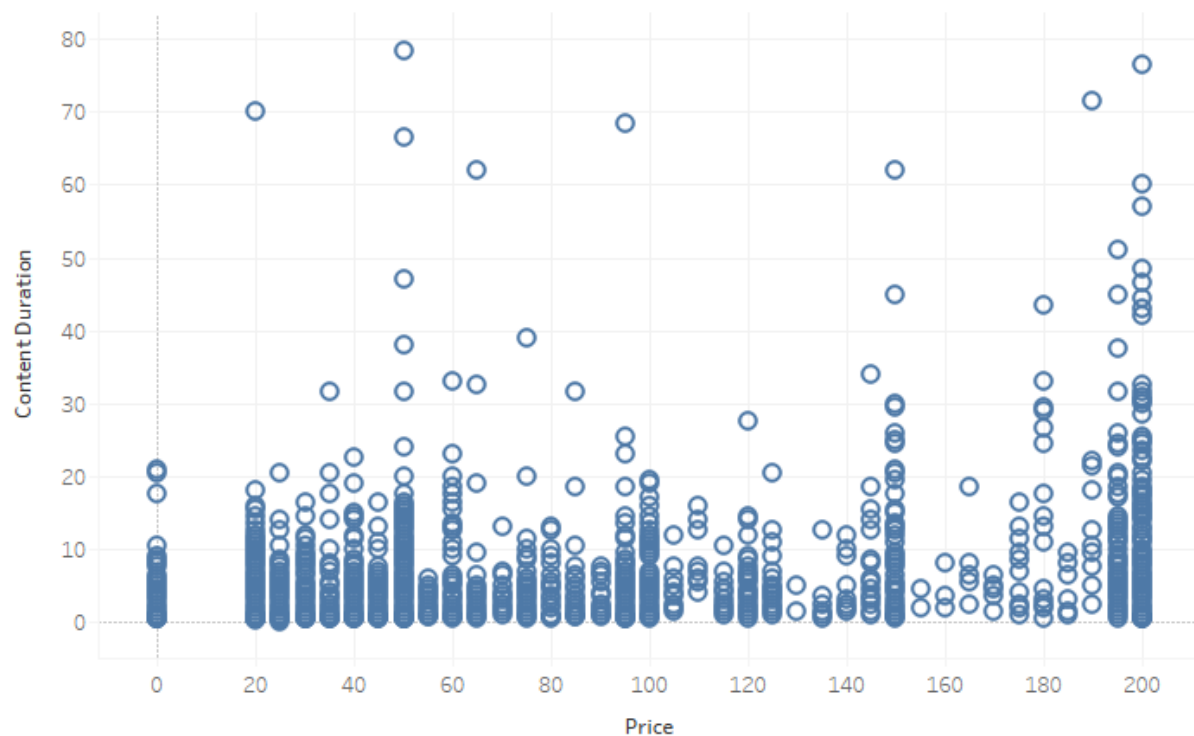
## 5. What are the 20 most popular courses?

course_id	course_title	level	free_or_paid	free_beginner	content_duration	num_subscribers
41295	Learn HTML5 Programming From Scratch	Beginner Level	Free	Yes	10.5	268923
59014	Coding for Entrepreneurs Basic	Expert Level	Free	No	3.5	161029
625204	The Web Developer Bootcamp	Beginner Level	Paid	No	43	121584
173548	Build Your First Website in 1 Week with HTML5 and CSS3	All Levels	Free	No	3	120291
764164	The Complete Web Developer Course 2.0	Beginner Level	Paid	No	30.5	114512
19421	Free Beginner Electric Guitar Lessons	All Levels	Free	No	4.5	101154
473160	Web Design for Web Developers: Build Beautiful Websites!	All Levels	Free	No	3	98867
94430	Learn Javascript & JQuery From Scratch	All Levels	Paid	No	2	84897
130064	Practical PHP: Master the Basics and Code Dynamic Websites	Intermediate Level	Free	No	6.5	83737
364426	JavaScript: Understanding the Weird Parts	All Levels	Paid	No	11.5	79612
238934	Pianoforall - Incredible New Way To Learn Piano & Keyboard	Beginner Level	Paid	No	30	75499
756150	Angular 4 (formerly Angular 2) - The Complete Guide	Beginner Level	Paid	No	22	73783
21386	Beginner Photoshop to HTML5 and CSS3	All Levels	Free	No	2	73110
65330	Web Development By Doing: HTML / CSS From Scratch	All Levels	Free	No	1	72932
405926	HTML and CSS for Beginners - Build a Website & Launch ONLINE	All Levels	Free	No	6	70773
11174	Become a Web Developer from Scratch	All Levels	Paid	No	27.5	69186
49798	Bitcoin or How I Learned to Stop Worrying and Love Crypto	All Levels	Free	No	8	65576
314462	Quickstart AngularJS	Beginner Level	Free	Yes	1.5	64128
128946	Learn Responsive Web Development from Scratch	All Levels	Free	No	4.5	59639
289230	Learn and Understand AngularJS	Beginner Level	Paid	No	7	59361

- 60% of the most popular courses are free, 40% are paid courses
- Only 2 courses are considered free beginner courses
- The average content duration for the top 20 courses is 11.375 hours

## 6. Does content duration impact the price of the course?

Price Vs Content Duration



- Content duration has no impact on the price of the course
- Similar duration length of courses have a wide range for its course cost
- 98% of courses are less than 30 hours in duration

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# Summary

# Summary of Findings:

- **Top 5 courses:**

- Almost 68% of subscribers come from Web Development and the top 5 courses are for Web Development as well

- **Business Finance vs Web Development:**

- Business Finance and Web Development have almost equal number of total courses (1155 vs 1203), but Web Development course are almost 2x in content duration and have 4x the average subscribers

- **Course Pricing:**

- The duration of the course has no correlation with the price of the course, with courses of the same length having a wide array of prices. The number of subscribers to a course also is not affected by the course price, with Web Development having the highest number of subscribers despite being the most expensive course.



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# Actions & Recommendations

## Recommended Actions:

- **Product Recommendations:**
  - Focus on creating more paid courses for the most popular subject of Web Development to increase revenue
- **Marketing Recommendations:**
  - Our data tells us that our web development courses are most popular, and people are willing to pay for it. Marketing and advertising campaigns should therefore focus on promoting Web Development courses

# Project 2: Video Game Sales Data Analysis



# Project Description



To better understand the data of Video Game Sales and identifying trends and patterns



This will help us to:

Provide insights and recommendations to improve sales and revenue

Help video game publishers make data-driven decisions about game development, marketing, and pricing

# Key Questions

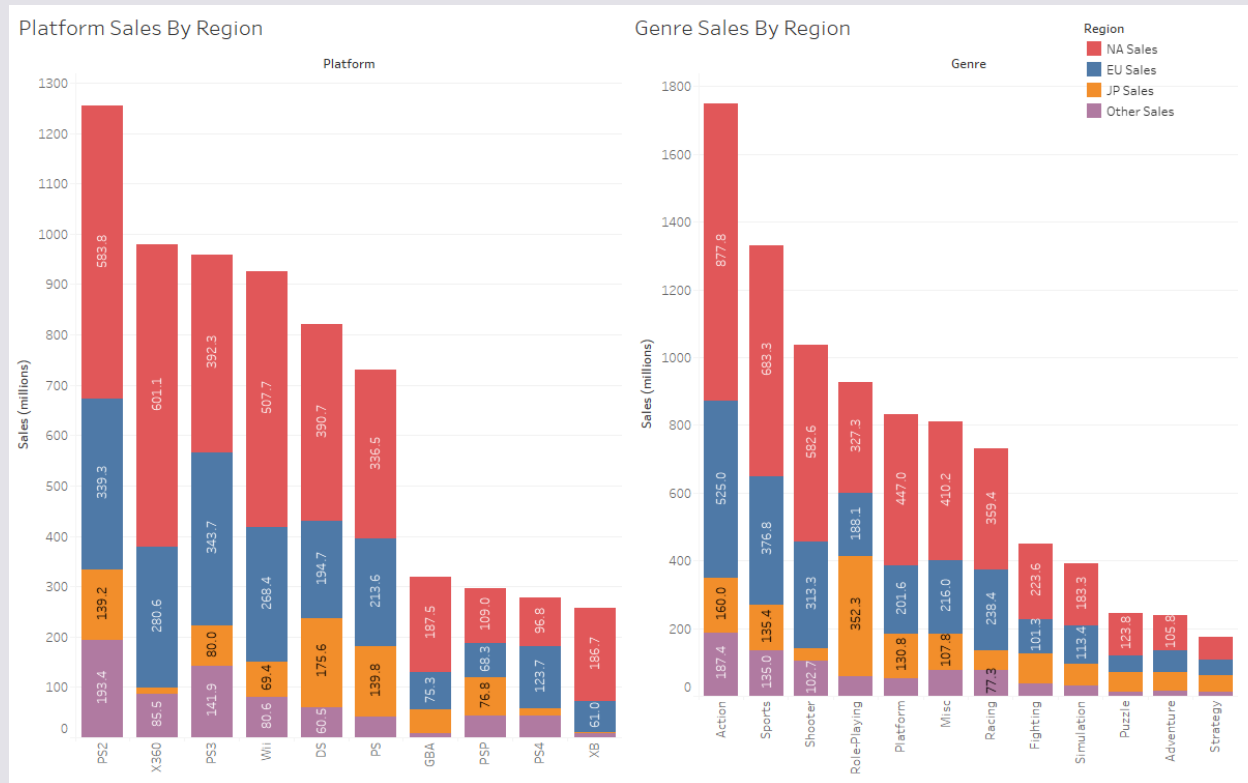
1. What are the most popular genres and platforms in different regions, and how can publishers tailor their marketing strategies accordingly?
2. Are there any trends in video game sales over time, and how do they vary by genre?
3. Which publishers have the highest and lowest sales, and what factors contribute to their success and failure?
4. How do video game sales differ between platforms between regions?
5. How do video game sales differ between genre between regions?



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# Finding & Insights

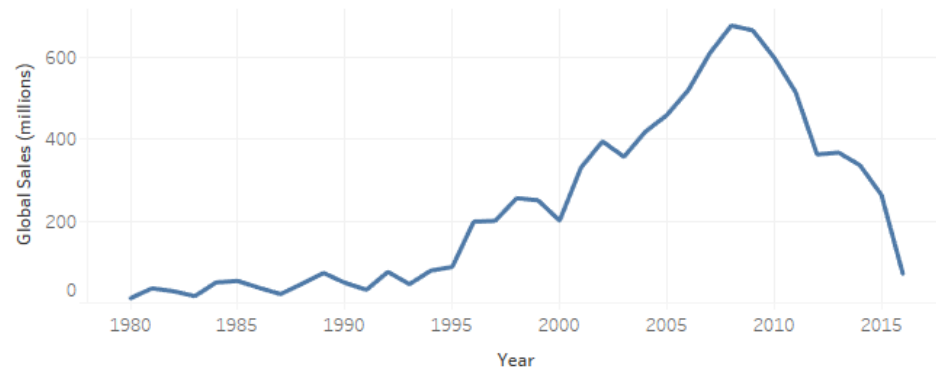
# 1. What are the most popular genres and platforms in different regions, and how can publishers tailor their marketing strategies accordingly?



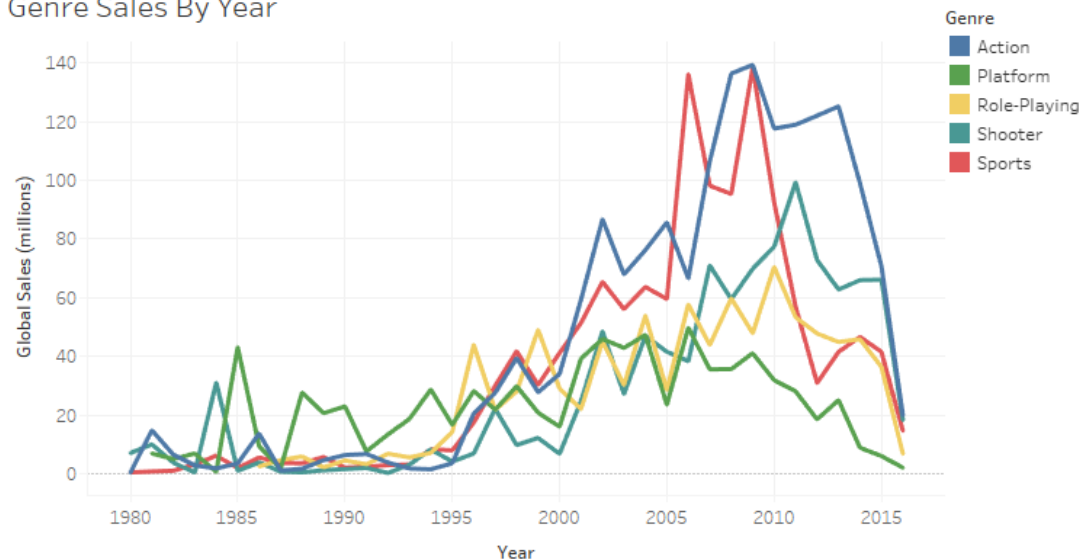
- The PS2 platform has the highest amount of video game sales during this period
- The Action genre has the most video game sales
- Most sales are within the North America region and the least sales come from Japan sales
- Publishers can tailor their marketing strategies to focus the North America region with action genre games

## 2. Are there any trends in video game sales over time, and how do they vary by genre?

Sales By Year



Genre Sales By Year

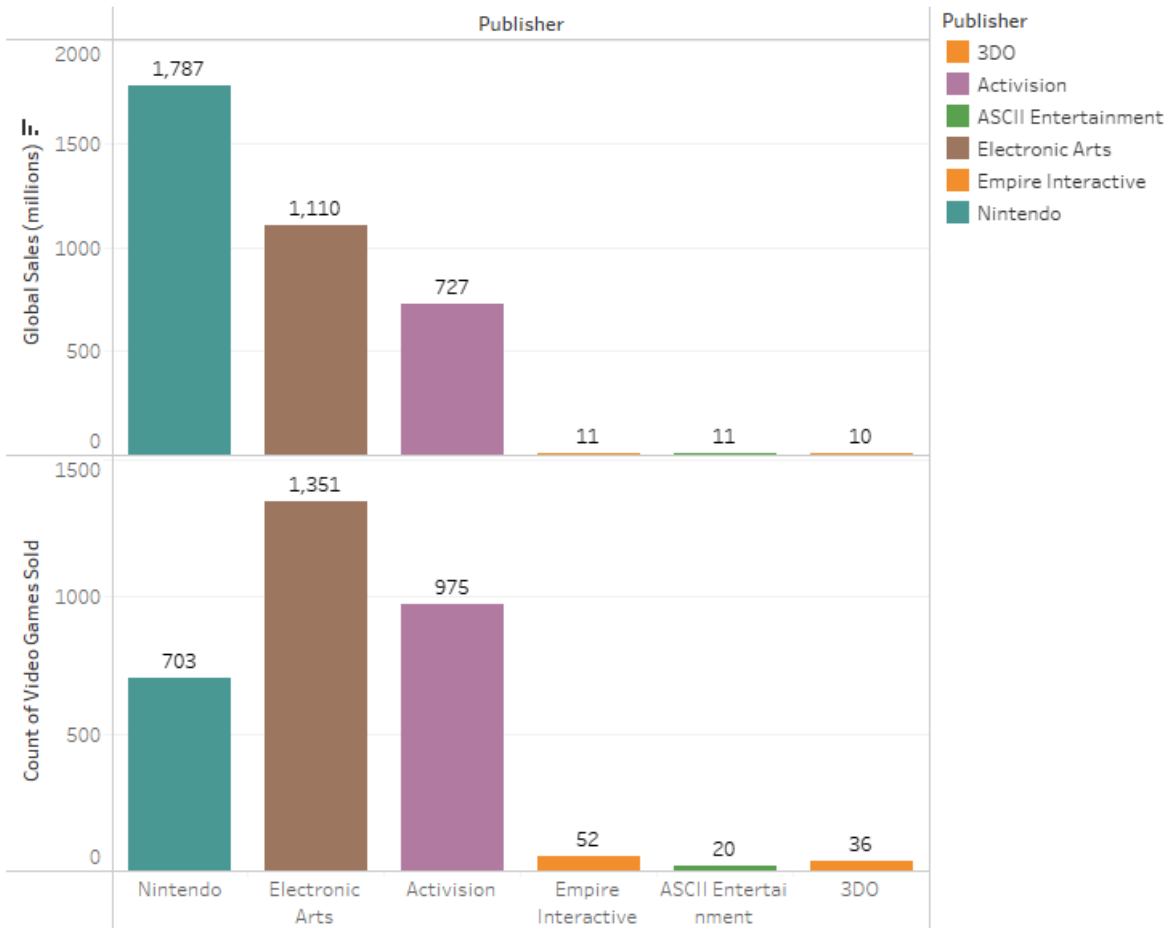


- Video game sales have steadily increased from 1980 to 2000
- There is a sharp rise in sales after 2000 before peaking in 2008 at 678.9 million global sales
- Action and Sports genres were the most sold video game genres during the rise in sales



### 3. Which publishers have the highest and lowest sales, and what factors contribute to their success and failure?

Publisher Sales



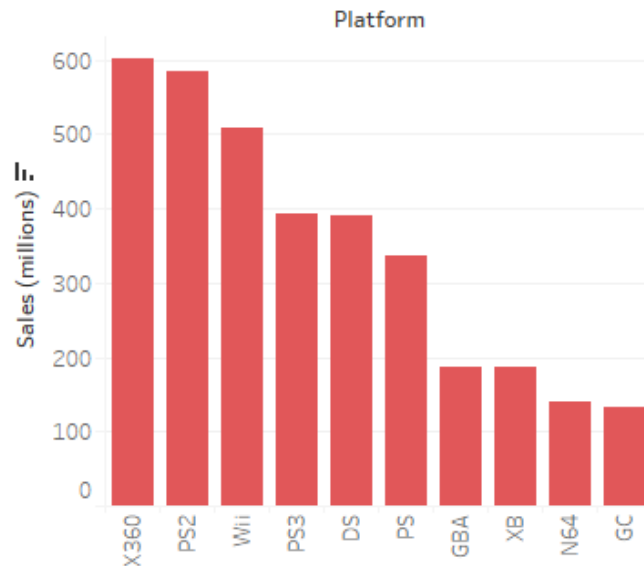
- Nintendo, Electronic Arts and Activision are the three publishers with the highest sales numbers
- Empire Interactive, ASCII Entertainment and 3DO are three publishers with the lowest sales numbers
- The number of video games sold by the publisher is a major contributing factor to the sales volume

Publisher	SUM of Global_Sales	COUNT of Global_Sales
Nintendo	1787	703
Electronic Arts	1110	1351
Activision	727	975
Empire Interactive	11	52
ASCII Entertainment	11	20
3DO	10	36
Grand Total	3656.64	3137

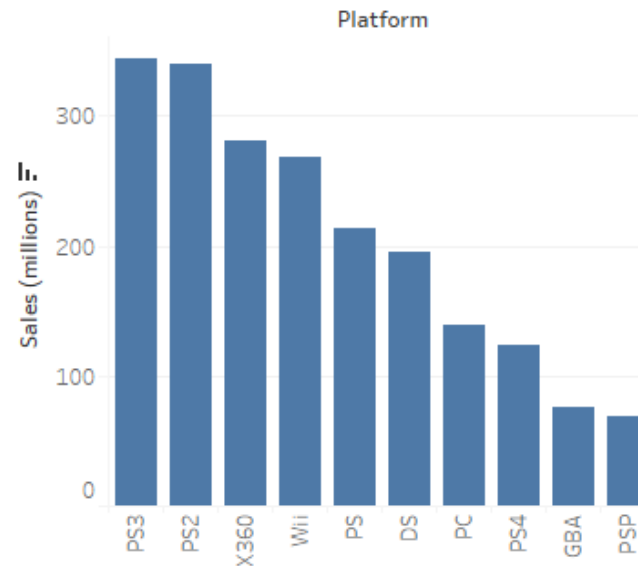
## 4. How do video game sales differ between platforms between regions?

- The top selling platform is different between regions
  - North America: Xbox 360
  - Europe: PS3
  - Japan: DS

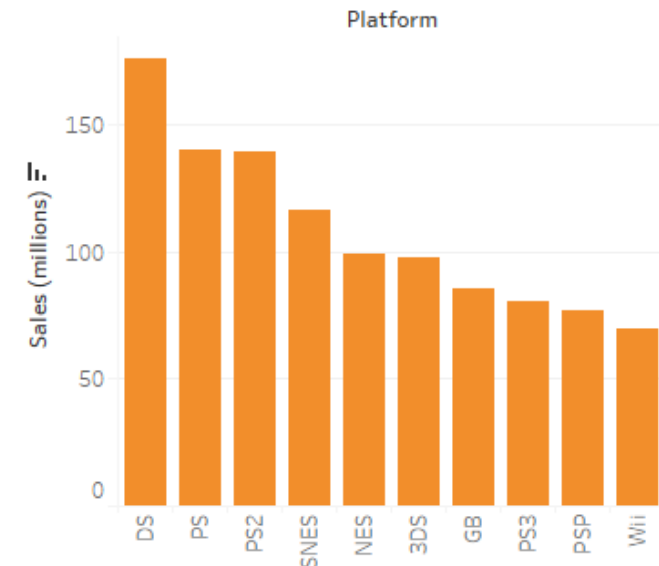
NA Top Platforms



EU Top Platforms



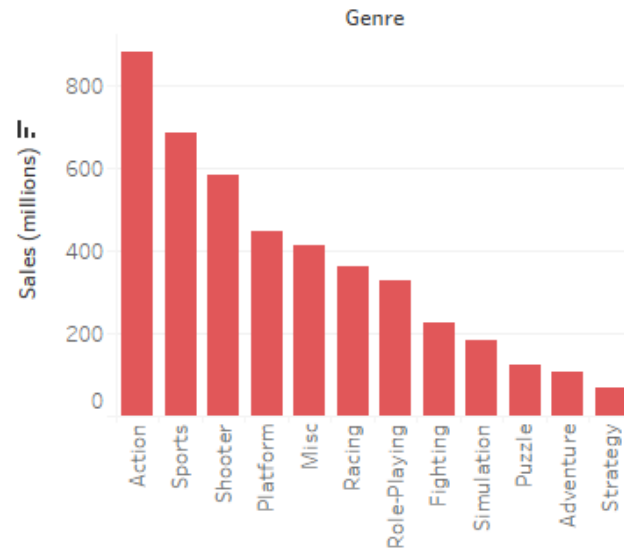
JP Top Platforms



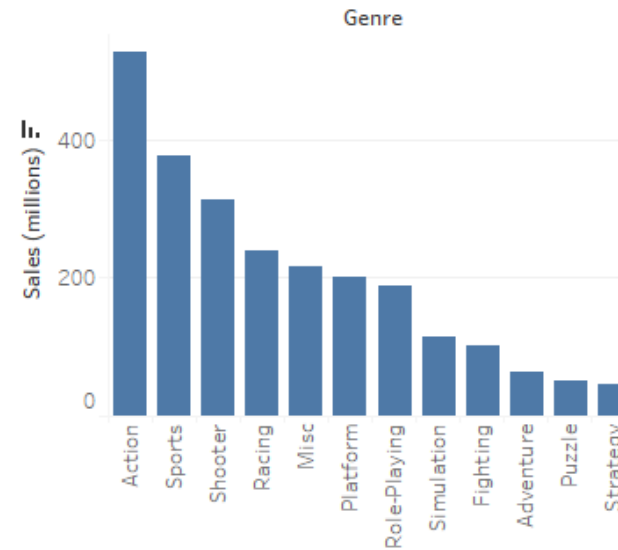
## 5. How do video game sales differ between genre between regions?

- The top selling genre is the same for North America and Europe: Action
- The top selling genre in Japan is Role-Playing

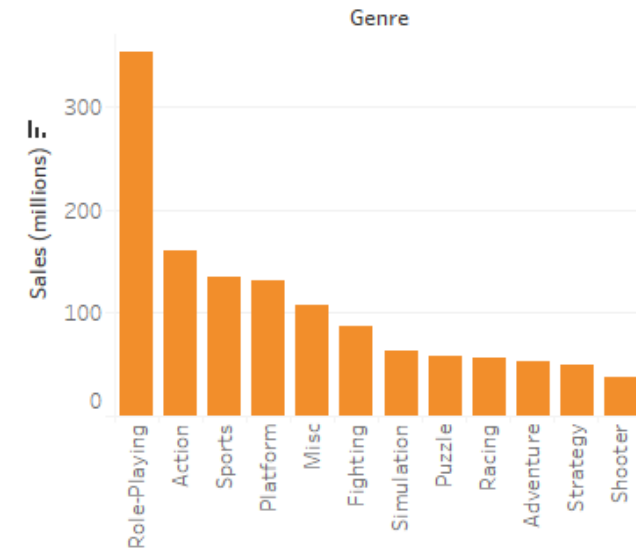
NA Top Genre



EU Top Genre



JP Top Genre



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# Summary

# Summary of Findings:

- **Region Differences:**

- Each region has different sales figures between platforms and genres

	Top Platform	Top Genre
• North America	Xbox 360	Action
Europe	PS3	Action
Japan	DS	Role-Playing

- **Successful Publishers:**

- Nintendo, Activision and Electronic Arts are the top 3 publishers in global sales
- Publisher global sales is correlated with the number of individual games published: the more individual games published, the greater the global sales

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# Actions & Recommendations

## Recommended Actions:

- **Product Recommendations:**
  - Focus on creating games with genre and platform that are specific to the target audience region
  - Avoid creating games with the least popular genres as found
- **Marketing Recommendations:**
  - Our data tells us that each region has genres and platforms that are more prevalent to consumers than others. Marketing and advertising campaigns should therefore focus on promoting the relevant games according to the region's preferences on platform and genre