



Global Video- Gaming Industry Analysis (1980-2016)

FA 550-A Data Visualization Application

Final Project Submission

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About the dataset

- The dataset chosen is named- “Video Games Global Sales.”
- The dataset is available on Kaggle website
- The dataset explores the different video games that have been created and launched from the period of 1980 to 2016
- We have approximately the data for about 16,600 video games
- Includes the video games that sold a minimum of 100,000 copies
- The link for the dataset can be found below:

<https://www.kaggle.com/datasets/gregorut/videogamesales>



Project Agenda

Project Overview- The main idea underlying the project is to analyze the Video Gaming market in different geographic regions of the world over a timeline- 1980 to 2016

Project Objective-

- Analyze Sales in different geographic regions
- Understand target audience preferences and identifying major trends in different geographic regions
- Identify top performing games, genre, platforms in different regions over time

Project Scope- The project will focus on Video Game Sales from 1980-2016 in different geographic regions of the world- North America, European Union, Japan, Other regions of the world. The analysis will cover major Video Game platforms, genre, global ranking, publisher and the year of game release



Project Timeline

Date	Deliverables
04/12/2023	<ul style="list-style-type: none">Defining scope, objectives, domain research, data structuring
04/16/2023	<ul style="list-style-type: none">Clean data setChecking research question narrative fit and mapping pipeline to find right insights
04/22/2023	<ul style="list-style-type: none">Developing 3 dashboard with multiple charts of various types each serving a specific purpose in narrative development
04/24/2023	<ul style="list-style-type: none">Developing a story narrative and adding the findings, conclusion, etcNoting key insights, framing recommendations, references, deciding sensitive-vision friendly color schema, font style, font size, labelling, etc
04/26/2023	<ul style="list-style-type: none">Ensuring everything is in place and submitting the project in the right format with all the right deliverables in place



Introduction

- With the advancements in technology and the constant demand from people to experience the adventure, thrill, horror, etc. emotions right from their living room called for the development of video games
- According to Grand View Research, the Global Video Gaming Market is expected to reach an estimated \$583.69 B by 2030
- The estimated industry CAGR is 12.90% between 2022 and 2030
- Some of the futuristic technologies expected to dominate the Gaming industry include- VR and AR, Cloud Gaming and Game Streaming, Sensory Technology, Brain- Computer Interface, etc
- Today Video Gaming is expanding its customer segments from people of age group 5 to 70 and across all geographic locations
- This calls for the need to analyze what people want in different locations and understanding what businesses working on the development of new video games should consider and adjust to suit the customer needs



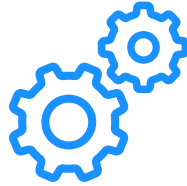
Data Dictionary

Column Name	Meaning
Rank	Ranking of overall Sales
Name	The name of the game
Platform	The platform on which game was released
Year	The year of release of the game
Genre	The genre of the game
Publisher	The name of the game publisher
NA_Sales	North America sales- in millions
EU_Sales	Europe sales- in millions
JP_Sales	Japan sales- in millions
Other_Sales	Sales in the rest of the world- in millions
Global_Sales	Total worldwide sales



Choice of tool selected- “Tableau”

Easy to understand
and Navigate User-
Interface



Advanced Analytics
features



Advanced
Storytelling features.

01

01

03

04

05



Wide variety of data
connectors



Unique filtering and
customization



Research Questions

01

What are the top 10 selling video games in different geographic locations, and how do they vary by region over the years?

02

Which are the top Publishers in different geographic locations and what were their total sales over the years?

03

Which were the 10 most popular video gaming platforms per geographic region and how that has changed over the years?

04

Which Video Gaming Genre had the maximum sales in different Geographic regions and how they compare to all other genre sales?

05

For the 5 most popular Video Gaming Platforms globally, which were the most popular Genre and how that differs with other platforms



Project Process

- To structure the data into a format wherein I am able to maximize the insights, I created 3 Parameters 1 Measure and 1 Dimension
- The Geographic Dimension calls for a specific values from specific features by means of creating a Measure as follows:

Name

Geographic Location

Properties

Data type

String

Display format

North America

Current value

North America

Value when workbook opens

Current value

Allowable values

☐ All

☒ List

☐ Range

Value	Display As
North America	North America
European Union	European Union
Japan	Japan
Other regions	Other regions
Global	Global
Click to add	

☒ Fixed

☐ When workbook opens

Add values from

Geographic Location

```
CASE [Parameters].[Geographic Location]
WHEN "North America" THEN [NA Sales]
WHEN "European Union" THEN [EU Sales]
WHEN "Japan" THEN [JP Sales]
WHEN "Other regions" THEN [Other Sales]
WHEN "Global" THEN [Global Sales]
END
```

The calculation is valid.

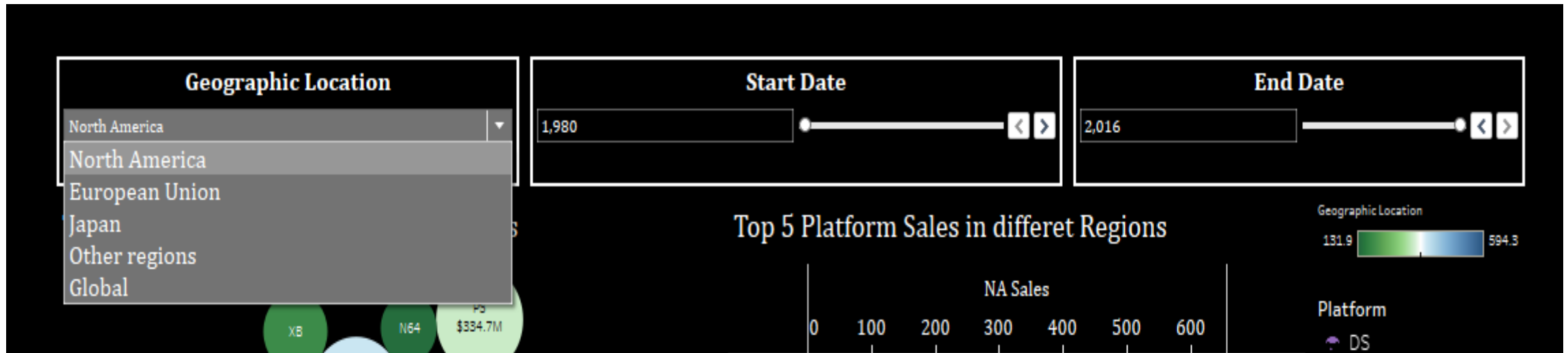
11 Dependencies

Apply

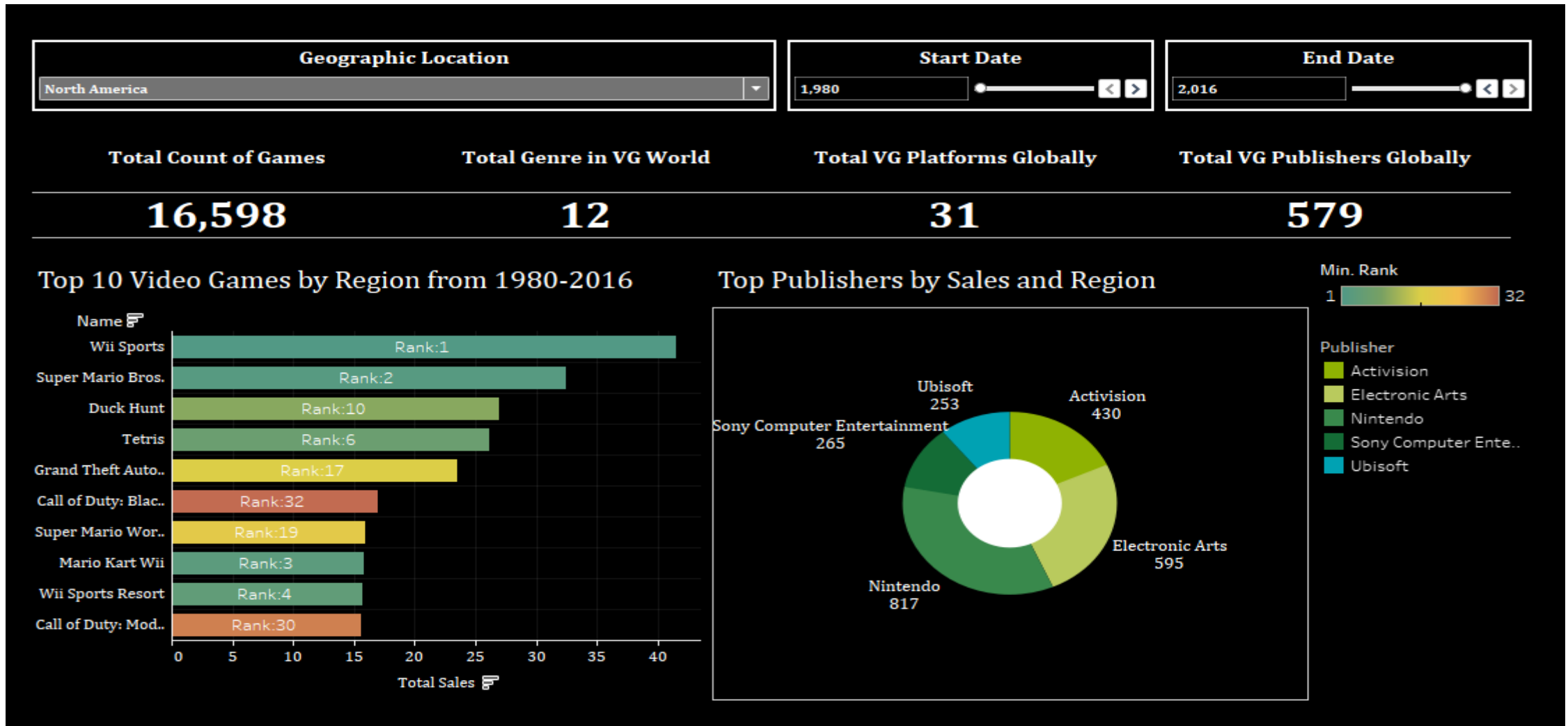
OK



- Each dashboard has multiple level of granularity using 3 filters- Geographic location, Start date, End date
- Within Geographic location, there are multiple options- North America, European Union, Japan, Other regions and finally the entire Global sales
- The other 2 filters- Start date and End date define the timeline for which the visualization will be created



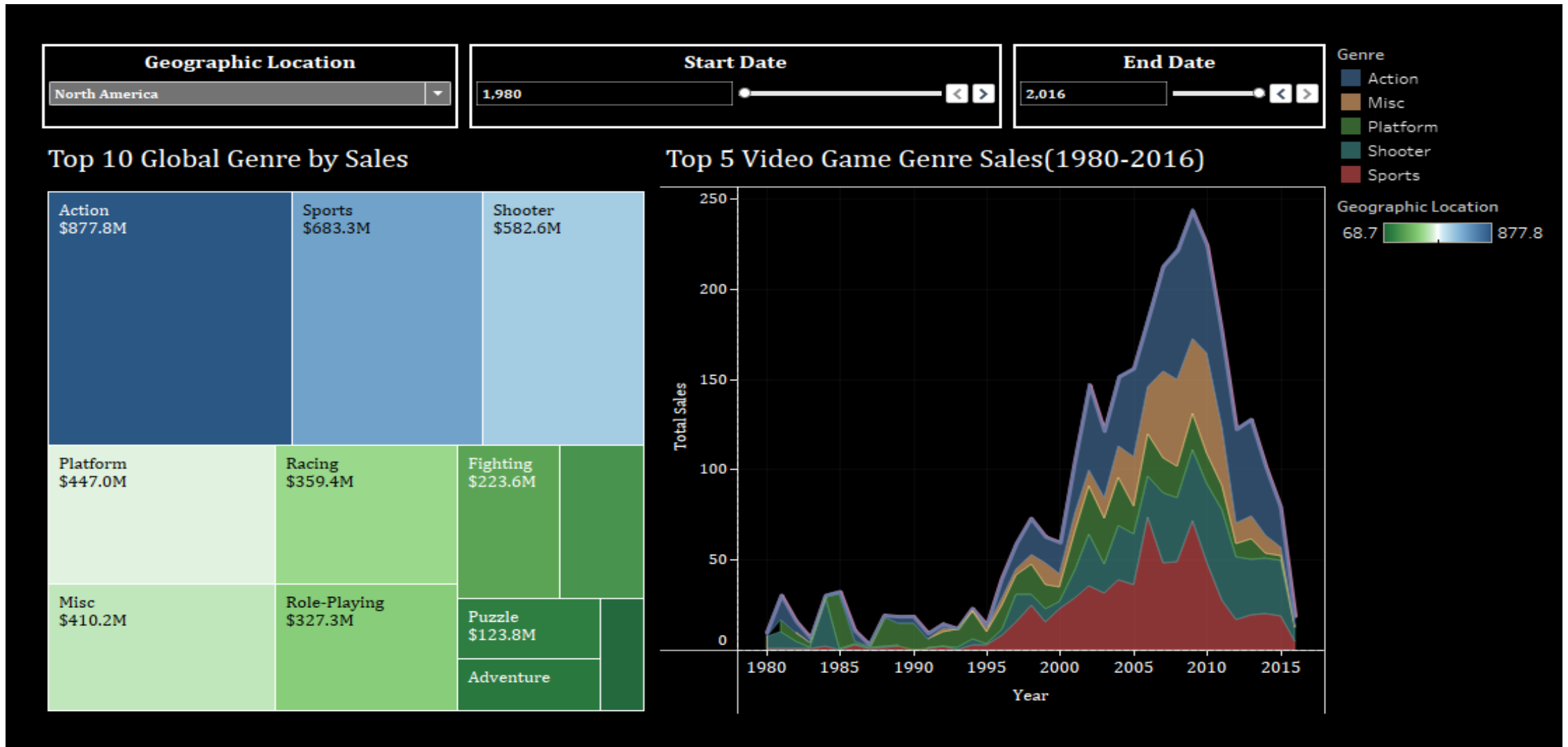
Dashboard 1: Game and Publisher Analysis





- There are 16,598 games under study, 12 different gaming genre, 31 platforms globally available for gaming and a total of 579 different publishers have contributed to the amazing games popular globally
- The two key types of charts used in this dashboard include- Donut chart and Bar chart
- The bar chart here represents the name of 10 Video Games that are most popular- by Total geographic sales
- In different geographic regions the preferences with respect to the genre, taste and preference of the game changes and also these changes can be mapped with respect to the time series
- The donut chart here helps identify the 5 key publishers in each geographic region by total sales

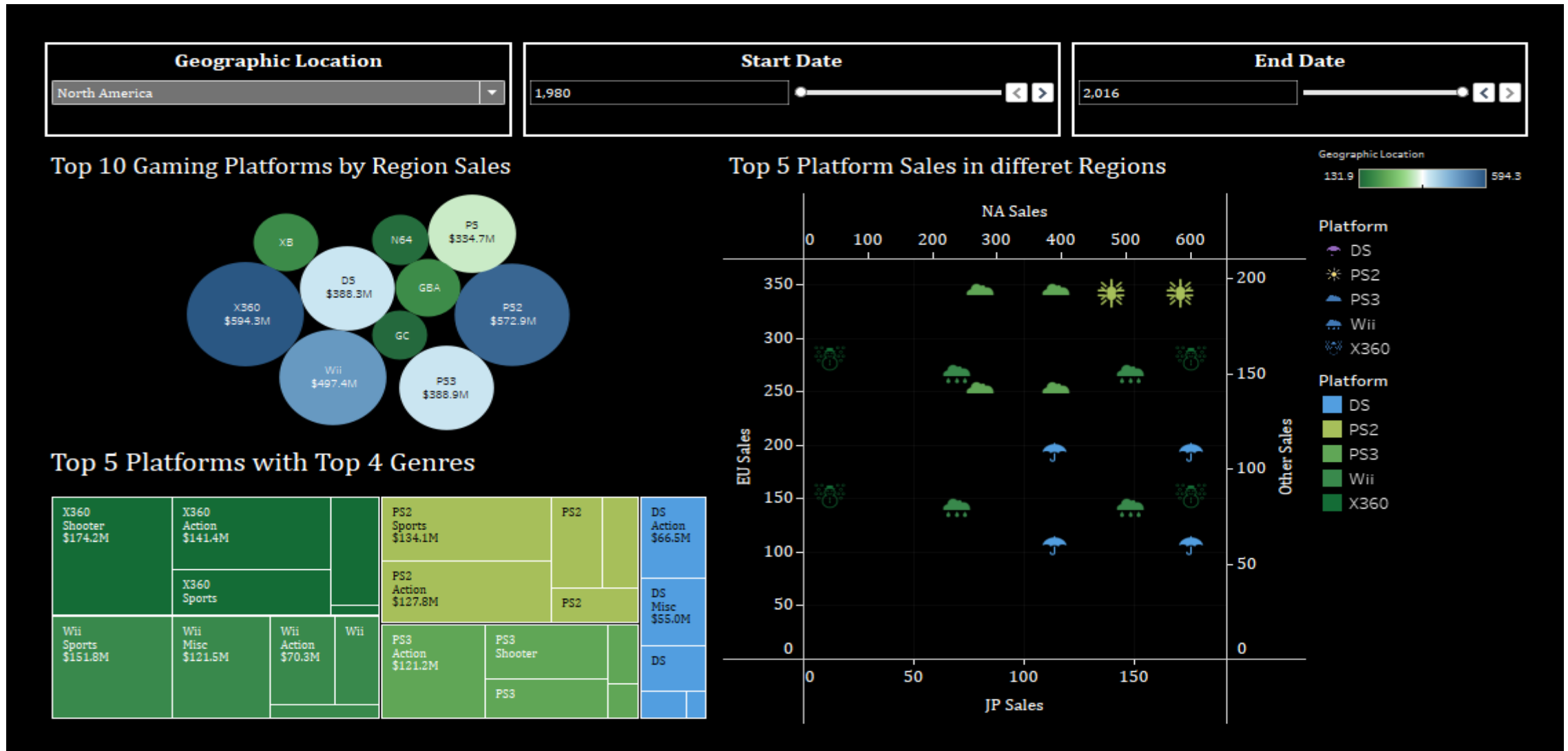
Dashboard 2: Video Game Genre Analysis



- This dashboard is specific with respect to Genre analysis with time frame and geographic location/region being customizable for analysis
- The dashboard has 2 specific type of charts- tree map and area chart
- The area chart here represents the total sales of Video Games in different Geographic regions from 1980-2016
- The Tree map here represents all the 12 different Video Gaming Genre's and their standing in comparison to all the others in terms of Total Sales
- By comparison we can observe that the most popular genre globally include- Action, Sports, Shooter, Racing, Misc, Role-playing, Adventure, etc



Dashboard 3: Video Game Platform Analysis



- This chart is focused on analyzing the Platform insights- be it which are the majorly used and preferred Platforms in the different geographic regions across the globe, to which platforms have what revenue generation, etc.
- The dashboard has 3 chart types- the Tree map chart, Bubble chart and finally the Scatterplot chart
- The bubble chart initially highlights the 10 most preferred Video gaming and Streaming platforms and also shows their respective Sales in that region
- The Tree map is especially unique here, as it adds an additional level of granularity as it not just highlights the 5 most preferred platforms but at the same time also shows the top 5 genre in each of these platforms
- The Scatterplot brings together 4 different regional sales scales on 4 different axis and we are able to compare the sales data for the 5 most preferred platforms together in a 4-D space



Key Findings

- On a Global scale, the top games with respect to criteria of global rank, global sales include- Wii Sports(1 rank), GTA, Super Mario, Call of Duty, Pokémon others are mainly some sub- parts/ versions of the same game
- The largest Video Gaming market is North America with a sales till date amounting to \$4,393 M, followed by European Union with \$2,434 M, Japan with \$1,291 M and finally Other regions of the world with a sales of \$798 M
- The most popular, successful and preferred Video Gaming platforms till date on a global level includes PS2, XBox360, PS3, Wii, PS, DS and so on
- Out of the 12 unique genre, the most preferred Video gaming genre globally are Action, Sports, Shooter, Role- playing, Misc, Platform, Racing, etc.
- On a global level, the Video Gaming Industry market leaders in terms of Publishing houses include some very renowned names- Nintendo, Electronic Arts(so-called EA Sports), Sony Computer Entertainment, Activision, etc.



Recommendations

The following are some simple recommendations:

- **Identify growth opportunities:** Given the estimated CAGR of 12.9%, companies should explore growth opportunities by analyzing emerging markets, consumer preferences, and new technologies or platforms.
- **Analyze successful publishers:** Analyzing the success factors of industry leaders such as Nintendo, Electronic Arts, Sony Computer Entertainment, and Activision can provide valuable insights and best practices for other companies to implement.
- **Study top-performing genres:** Since Action, Sports, Shooter, Role-playing, Misc, Platform, and Racing are the most popular video gaming genres, analyzing the success factors of games within each genre can help companies develop games that appeal to their target audience.



References

- Intelligence, I. (2023, January 25). US video game industry: Trends & Forecast 2023. Insider Intelligence. Retrieved April 20, 2023, from <https://www.insiderintelligence.com/insights/us-gaming-industry-ecosystem/>
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THANK YOU

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