

The state of the industry:

A deep dive in to video game sales trends

Abstract

This study delves into the world of video game sales by utilizing a dataset comprising games that have sold more than 100,000 copies, sourced from vgchartz.com. The research's primary objective is to

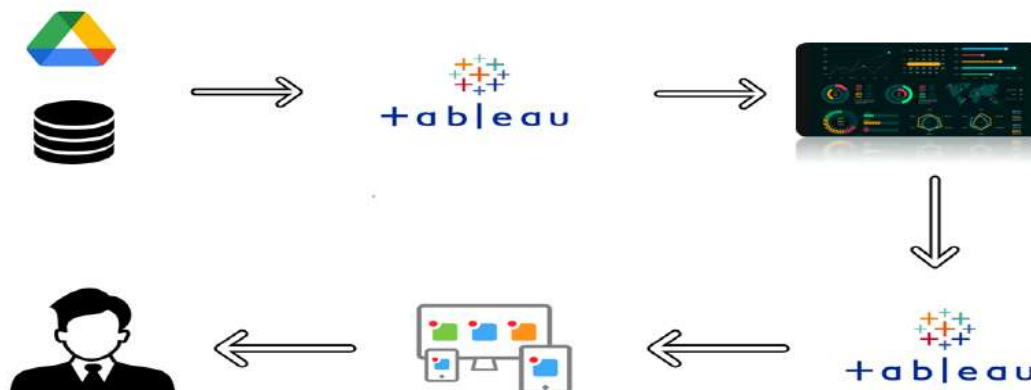
create a user-friendly Tableau dashboard for visualizing and analyzing key trends in video game sales. This interactive dashboard aims to provide insights into the gaming industry, allowing users to explore sales patterns and performance metrics across different titles.

Introduction

Video game sales analysis is the process of collecting and analyzing data about the sales of video games in order to understand market trends and consumer behavior. This type of analysis can be useful for a variety of purposes, including identifying the most popular games and genres, predicting future sales, and developing marketing strategies. Video game sales analysis typically involves collecting data from Kaggle sources. It was generated by a scrape of vgchartz.com. This data may include information about the number of units sold, the retail price, and the platforms on which the games are played. Once the data has been collected, it is typically analyzed using tableau. The results of the analysis can be used to identify trends and patterns in the market, and to make informed decisions about the development and marketing of video games. Video game sales analysis may be conducted by game developers, publishers, retailers, and other industry professionals. It is an important part of the video game industry, as it helps to understand the needs and preferences of consumers and to identify opportunities for growth and innovation.

Analysing sales data from more than 16,500 games. This dataset contains a list of video games with sales greater than 100,000 copies. It was generated by a scrape of vgchartz.com.

Technical Architecture:



Explain the prerequisites and setup required to run the project:

Prerequisites

Before getting started with this project, ensure you have the following prerequisites:

List the software and tools that need to be installed before running the project, such as:

- ✓ MySQL
- ✓ Create a Tableau Desktop Account with a student's ID
- ✓ Create a Tableau Public account with a personal ID

Installation

To install the necessary dependencies for this project, follow these steps:

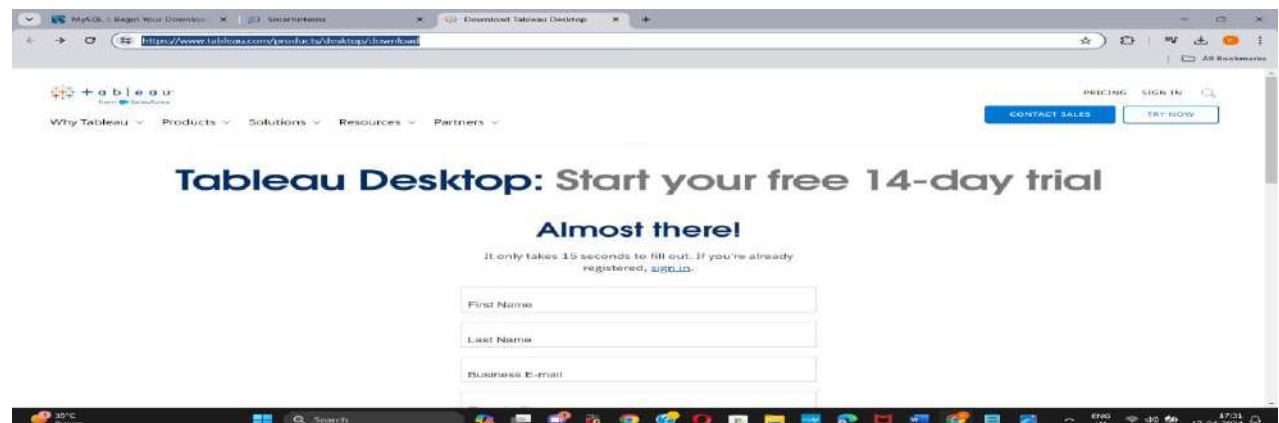
Install MYSQL: Visit the MYSQL website and download the latest version of MYSQL

(<https://dev.mysql.com/downloads/workbench/>)



Create Tableau account with student id: By using the below link we can sign up the tableau account and download the tableau

<https://www.tableau.com/products/desktop/download>



Project Flow

To accomplish this, we have to complete all the activities listed below,

- Define Problem / Problem Understanding
 - Specify the business problem
 - Business requirements
 - Literature Survey
 - Social or Business Impact.
- Data Collection & Extraction from Database
 - Collect the dataset,
 - Storing Data in DB
 - Perform SQL Operations
 - Connect DB with Tableau
- Data Preparation
 - Prepare the Data for Visualization
- Data Visualizations
 - No of Unique Visualizations
- Dashboard
 - Responsive and Design of Dashboard
- Story
 - No of Scenes of Story
- Performance Testing
 - Amount of Data Rendered to DB ‘
 - Utilization of Data Filters
 - No of Calculation Fields
 - No of Visualizations/ Graphs
- Web Integration
 - Dashboard and Story embed with UI With Flask

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

Refer Project Description

Activity 2: Business requirements

Business requirements for analyzing video game sales would include data on the sales of specific video games, information on the gaming industry as a whole, and data on consumer demographics and purchasing habits. This information can be used to identify trends and make informed decisions on marketing and development strategies for future video game releases. Additionally, it's also important to have information on platform sales, region, and competition in the market.

Activity 3: Literature Survey (Student Will Write)

Video Game Industry Analysis: Insights and Forecast- by Research and Markets (2016)
This report provides a comprehensive analysis of the global video game industry, "Video Game Industry: Current Trends and Future Opportunities" by PwC (2019) - This report analyzes the current state of the global video game industry, including market size and growth, revenue streams, and consumer demographics. It also explores future opportunities for the industry, such as the potential for virtual reality and mobile gaming.

"Global Video Game Market: Size, Trends & Forecasts (2018-2022)" by Daedal Research (2018) - This report provides a detailed analysis of the global video game market, including market size and growth, segmentation by platform, and regional trends. It also includes market forecasts for the next five years.

"Video Game Sales by Platform: A Comparative Analysis" by Newzoo (2017) - This report compares the sales of video games across different platforms, including consoles, PC, and mobile. It also includes data on the top-selling games for each platform and analyses trends in the industry.

Activity 4: Social or Business Impact.

Social Impact:

Increased social interaction and connection through online multiplayer gaming.
Increased awareness and representation of diverse groups in the gaming industry.
Increased accessibility to gaming through mobile and online platforms. Increased use of gaming as a form of therapy or rehabilitation

Business Impact:

Increased revenue for the gaming industry. Increased competition among game developers and publishers. Increased investment in research and development for new technologies and platforms. Increased use of data analytics to track player behaviour and improve game design. Increased use of microtransactions and in-game purchases for additional revenue streams.

Milestone 2: Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes and generate insights from the data.

Activity 1: Collect the dataset

Please use the link to download the dataset:

<https://www.tableau.com/products/desktop/download>

Activity 1.1: Understand the data

The data source of this project contains a list of video games with sales greater than 100,000 copies. It was generated by a scrape of vgchartz.com.

Fields include

1. Rank - Ranking of overall sales
2. Name - The games name
3. Platform - Platform of the games release (i.e. PC, PS4, etc.)
4. Year - Year of the game's release
5. Genre - Genre of the game
6. Publisher - Publisher of the game
7. NA_Sales - Sales in North America (in millions)
8. EU_Sales - Sales in Europe (in millions)
9. JP_Sales - Sales in Japan (in millions)
10. Other_Sales - Sales in the rest of the world (in millions)
11. Global_Sales - Total worldwide sales.

Activity 2: Storing Data in DB & Perform SQL Operations

Explanation video link:

https://drive.google.com/file/d/1wN6E9TTToLNgGd7g907gaj6CayNHCPsW0/view?usp=drive_link

Basic SQL Operations

Explanation video link:

https://drive.google.com/file/d/1u3_rPEvozmSaBY6u2cBOsKzkSGQcW8b7/view?usp=drive_link

Activity 3: Connect DB with Tableau

Explanation video link:

https://drive.google.com/file/d/1wN6E9TTToLNqGd7g907gaj6CayNHCPsW0/view?usp=drive_link

Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency.

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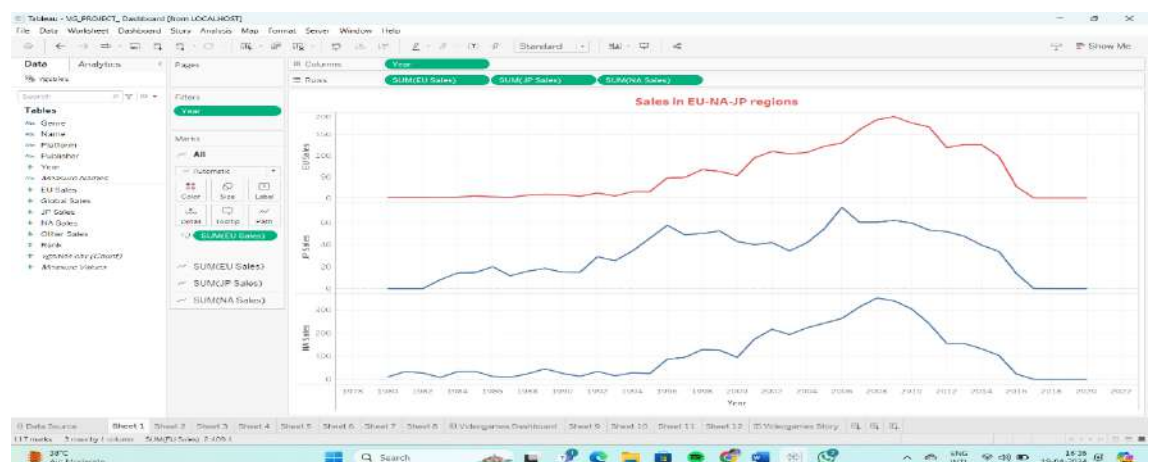
Milestone 4: Data Visualization

Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of Radisson Hotels include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of sales of Games.

Activity 1.1: Sales in different region Analysis



Explanation video link:

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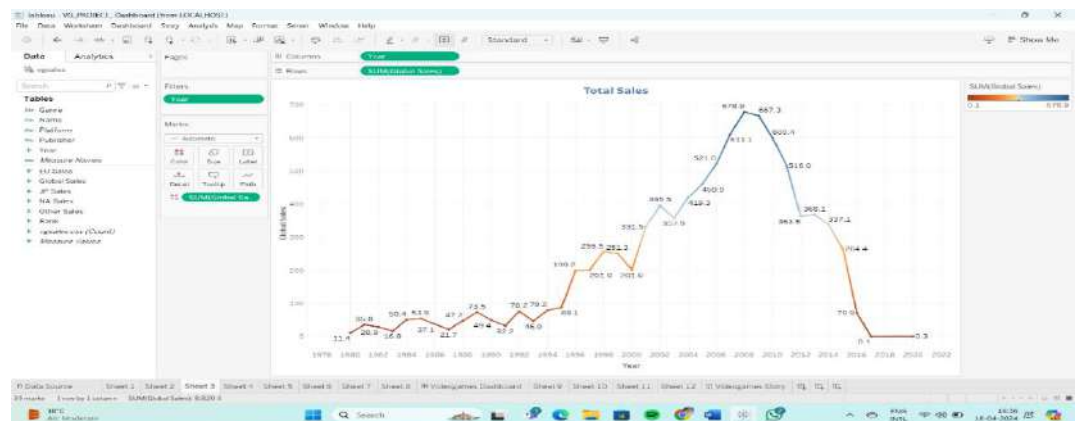
Activity 1.2: Genre with rank Analysis



Explanation video link:

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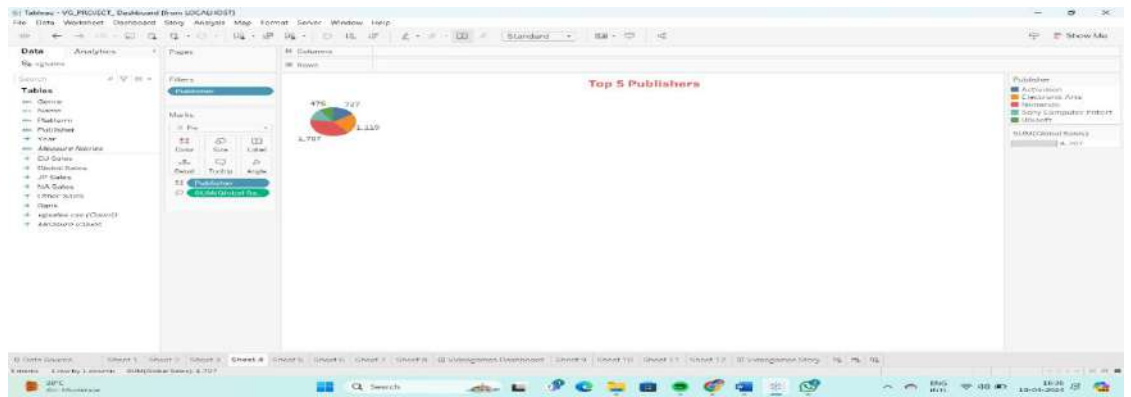
Activity 1.3: Total Sales Analysis



Explanation video link:

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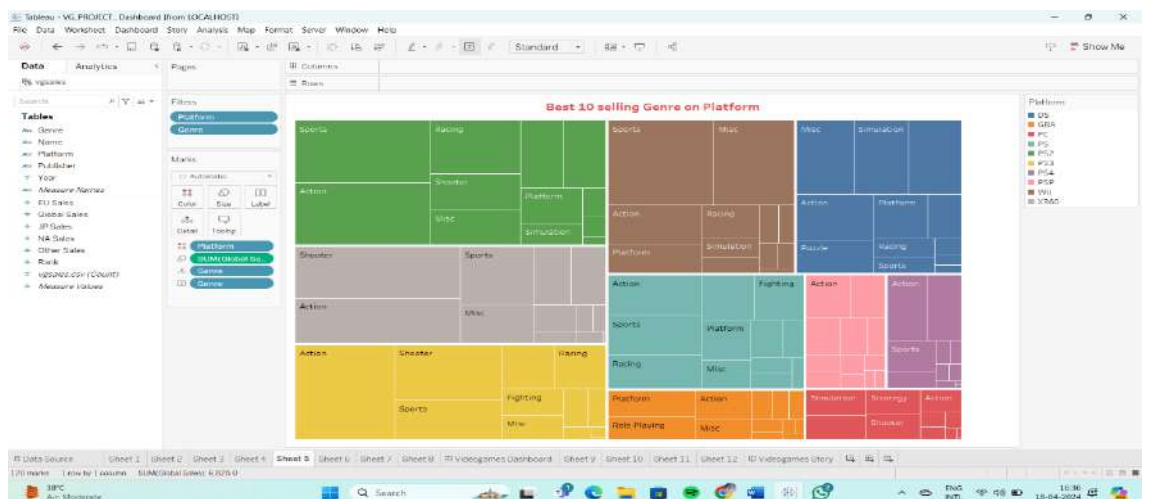
Activity 1.4: Top 5 publishers Analysis



Explanation video link:

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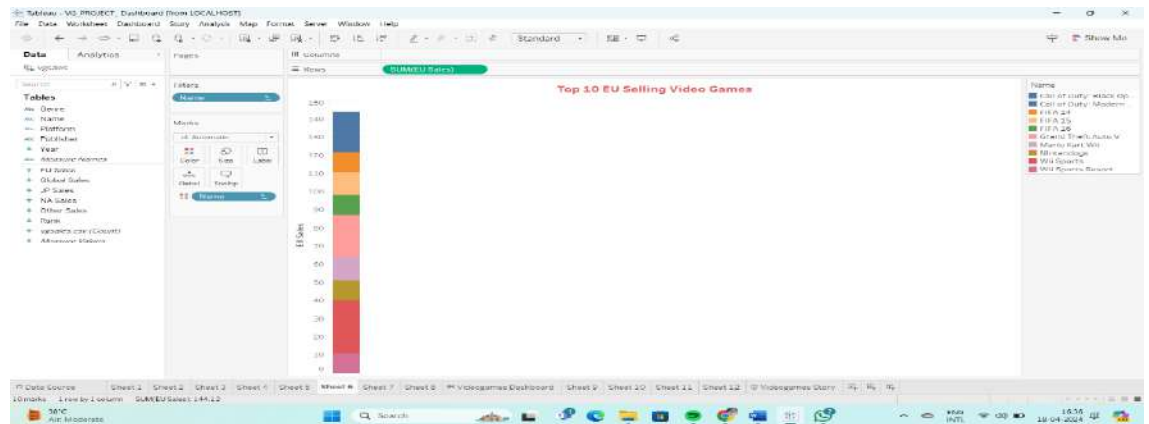
Activity 1.5 Best 10 selling genres on platform Analysis



Explanation video link:

https://drive.google.com/file/d/1eh4Fxn7mgrinNpF8whQJq2LG7Sdr5tPf/view?usp=drive_link

Activity 1.6: Top 10 EU selling video games Analysis



Explanation video link:

https://drive.google.com/file/d/1MrYj4dYrSvqYYbl_CQbDEfp0wiCDYIIT/view?usp=drive_link

Activity 1.7 Top 10 Japan selling video games Analysis

Explanation video link: https://drive.google.com/file/d/1TINtOkw8043ZDOMC-eqCUV4-VRqM_r87/view?usp=drive_link

Activity 1.8: Top 10 NA selling video games

Explanation video link: https://drive.google.com/file/d/14hwaSRnsJ-h1VbYQf2EvzY4T_5CQovzO/view?usp=drive_link

Milestone 5: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data, and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

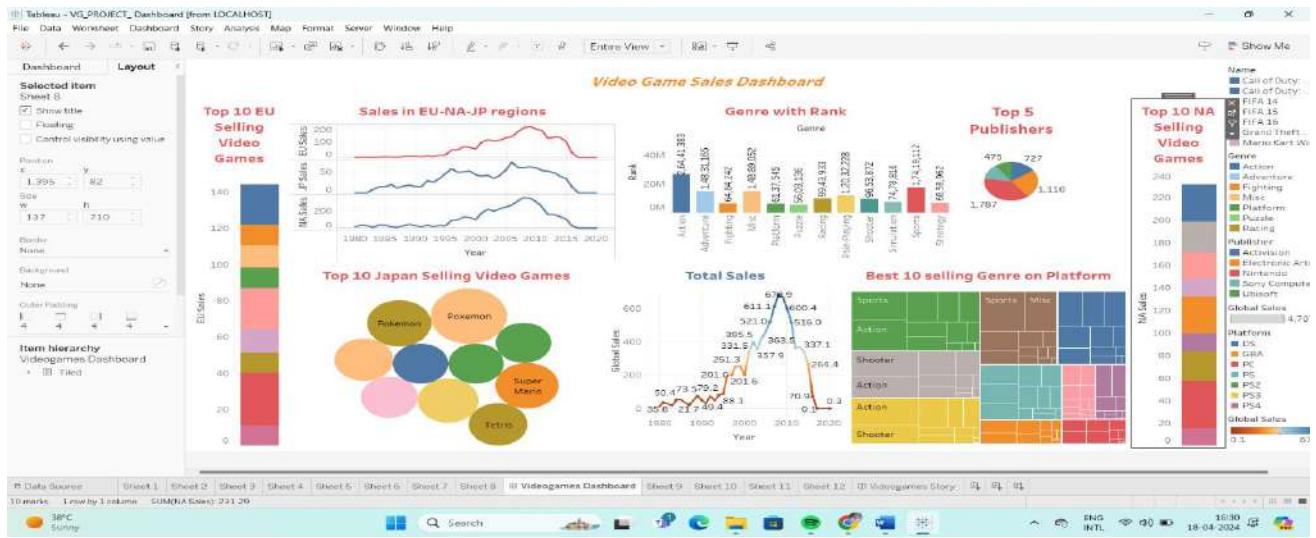
Activity :1- Responsive and Design of Dashboard

The responsiveness and design of a dashboard for analyzing the performance and efficiency of Radisson Hotels is crucial to ensure that the information is easily understandable and actionable. Key considerations for designing a responsive and effective dashboard include user-centered design, clear and concise information, interactivity, data-driven approach, accessibility, customization, and security. The goal is to create a dashboard that is user-friendly, interactive, and data-driven, providing actionable insights to improve the performance and efficiency of Radisson Hotels.

Once you have created views on different sheets in Tableau, you can pull them into a dashboard.

Explanation video link:

https://drive.google.com/file/d/1dJyXcF6B5p-do2rk5k5SKJLN45afN3Lx/view?usp=drive_link



Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity:1- No of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of the performance and efficiency of video games analysis will depend on the complexity of the analysis and the specific insights that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.

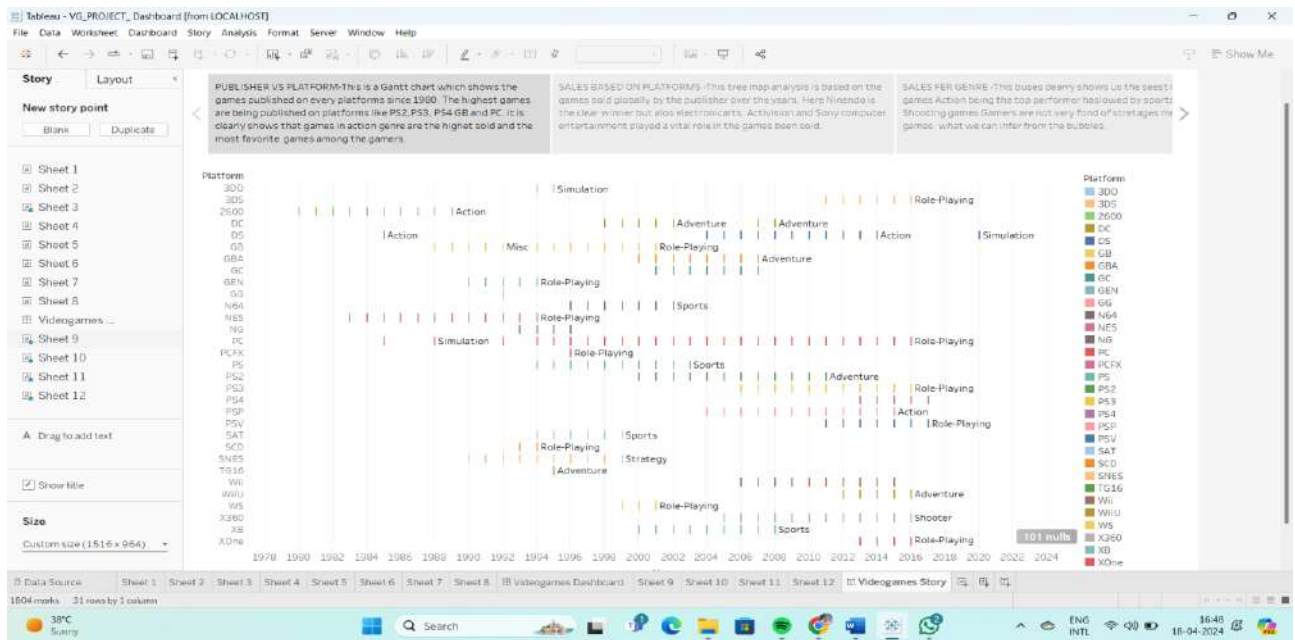
Explanation video link:

Story Part 1:

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Story Part 2:

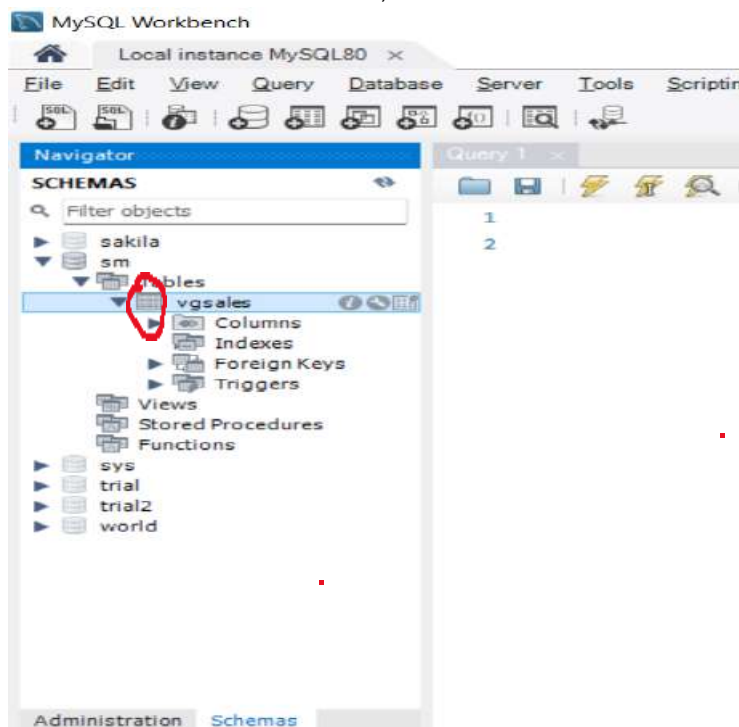
https://drive.google.com/file/d/12aQ47qygGcKGtgaeky59CScvhaz0U4os/view?usp=drive_link

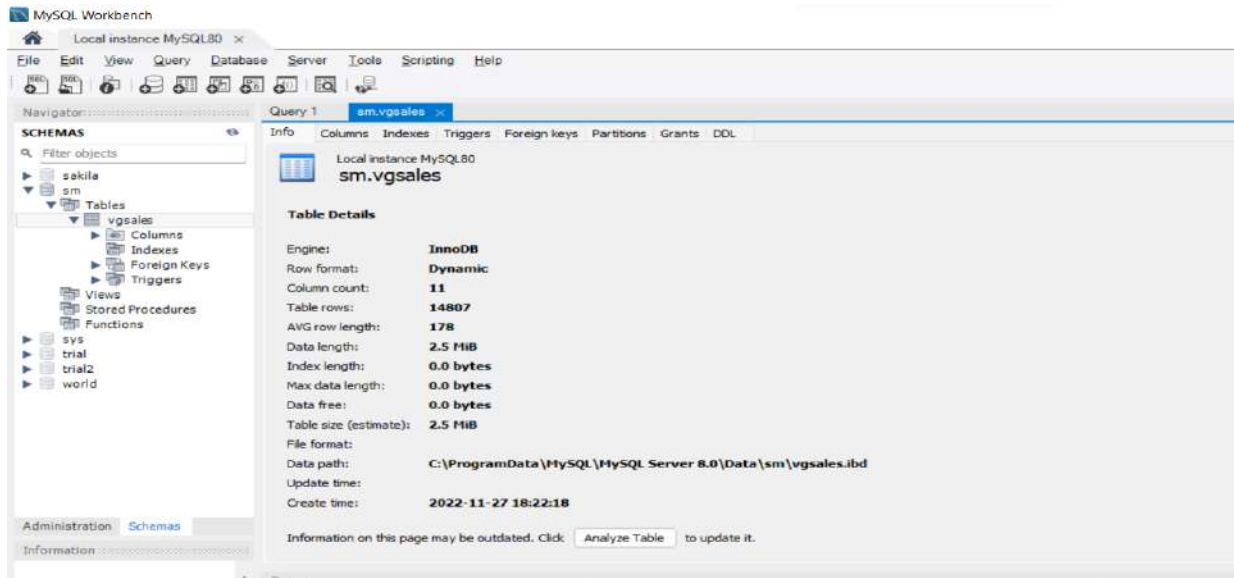


Milestone 7: Performance Testing

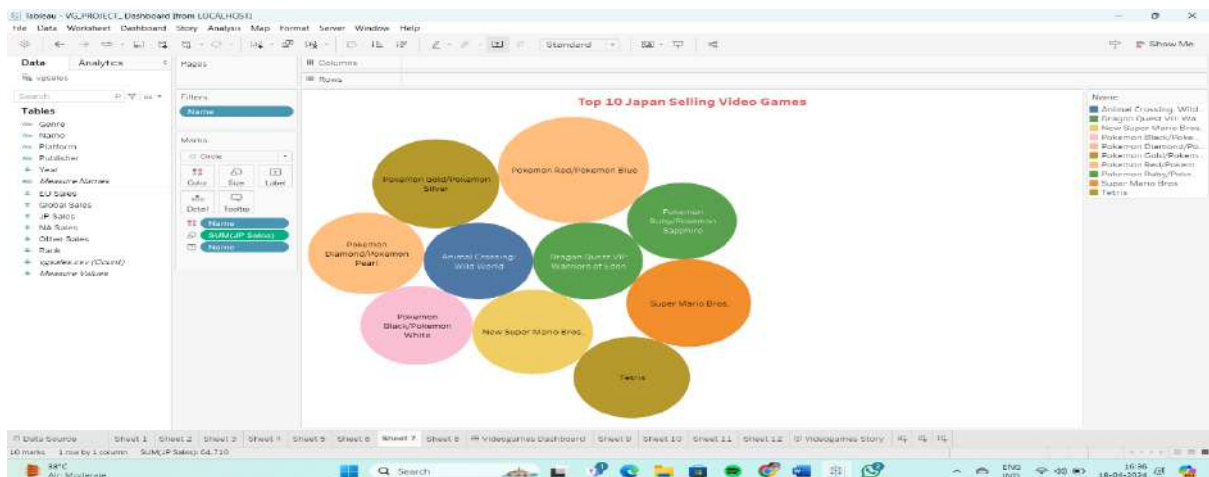
Activity 1: Amount of Data Rendered to DB

- The amount of data that is rendered to a database depends on the size of the dataset and the capacity of the database to store and retrieve data.
- Open the MySQL Workbench, go to the database then click to expand the tables, select the table and click on (i) button to get the information related to table such as column count, table rows etc.





Activity 2: Utilization of Data Filters



Activity 3: No of Visualizations/ Graphs

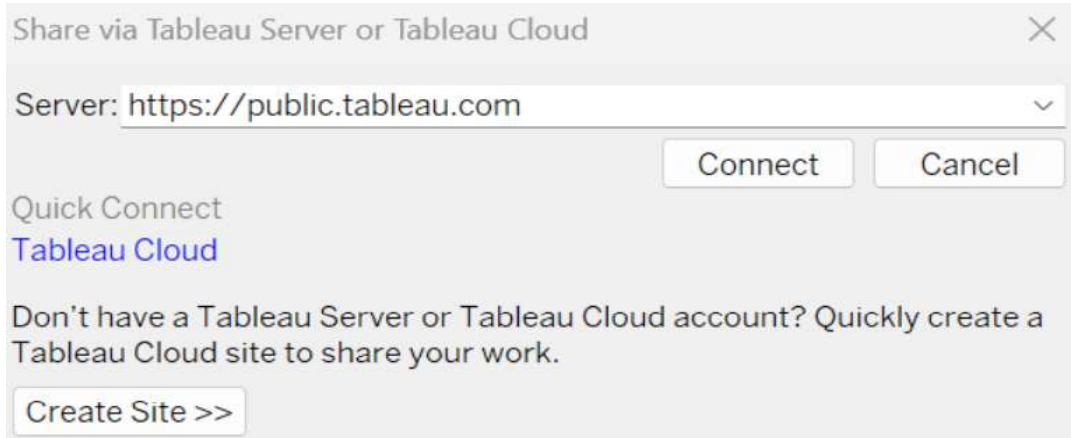
1. Sales in different region Analysis
2. Genre with rank Analysis
3. Total Sales Analysis
4. Top 5 publishers Analysis
5. Best 10 selling genres on platform Analysis
6. Top 10 EU selling video games Analysis
7. Top 10 Japan selling video games Analysis
8. Top 10 NA selling video games

Milestone 8: Web integration

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

Publishing dashboard and reports to tableau public

Step 1: Go to Dashboard/story, click on share button on the top ribbon



Give the server address of your tableau public account and click on connect.

<https://www.youtube.com/watch?v=9T-B7mBgYjs>

You can take the above video as reference for this project.

Step 2: Once you click on connect it will ask you for tableau public user name and password



Once you login into your tableau public using the credentials, the particular visualization will be published into tableau public

Note: While publishing the visualization to the public, the respective sheet will get published when you click on share option.

Tableau Public account link:

<https://public.tableau.com/app/profile/rangisetti.jhansi/vizzes>

VG_Dashboard_link: https://public.tableau.com/app/profile/rangisetti.jhansi/viz/VG_PROJECT_Dashboard/VideogamesDashboard

VG_Story_link: https://public.tableau.com/app/profile/rangisetti.jhansi/viz/VG_PROJECT_Story/VideogamesStory

Activity 1: Dashboard and Story embed with UI With Flask

Explanation video link:

https://drive.google.com/file/d/17OAEtO_uCcS0dfvNyyHVyU_vEPp77-B/view?usp=drive_link

