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Team Name: Gold Team

CS5200 DBMS Project - Game Ranker

PM5: Data Warehousing

Videos:

Jake - Intro, Sources: <https://youtu.be/5gpfwlzlyX0>

Eric - Sales ETL: <https://youtu.be/Z7D0Zm94s54>

Tom - Charts: <https://youtu.be/CdJJdf0y5Ao>

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External Data Sources

We used the following external data sources:

Game Sales Data

Info

The game sales data contains sales information for a variety of games, broken down by major geographical region (NA, JPN, PAL, World), as well as total sales.

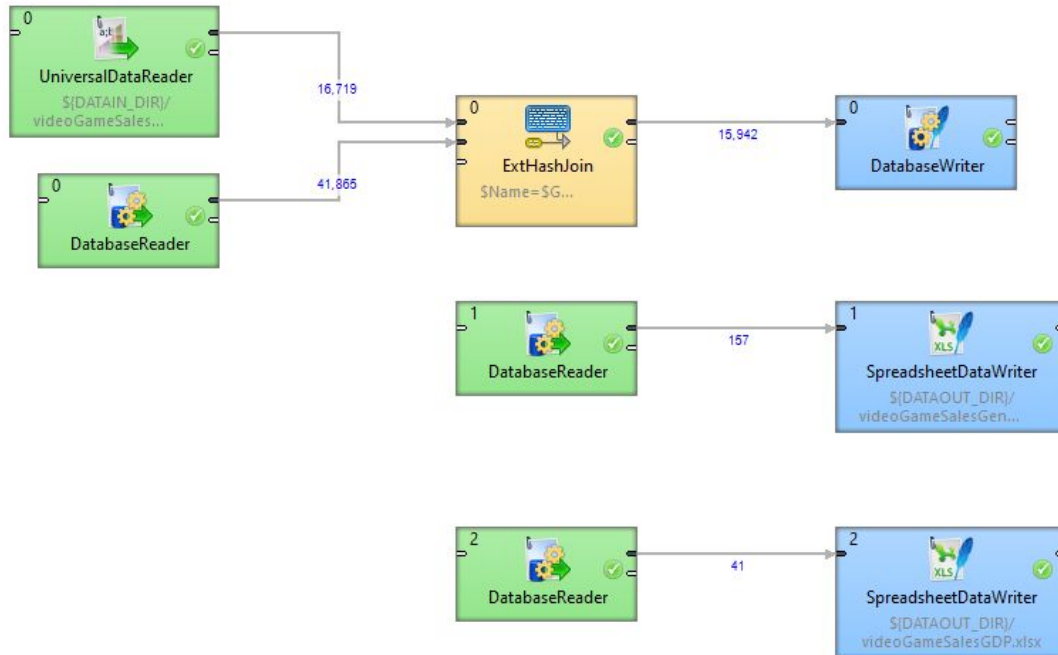
Contains

Information on game sales for particular regions of the world.

Use

This dataset can let us see if certain characteristics about games (Genre, Release Year, Reviews) have an impact on game sales.

ELT Workflow



World GDP Growth

Info

This dataset contains information about the GDP growth throughout the world from to present.

Derived from: <https://data.oecd.org/gdp/real-gdp-forecast.htm#indicator-chart>

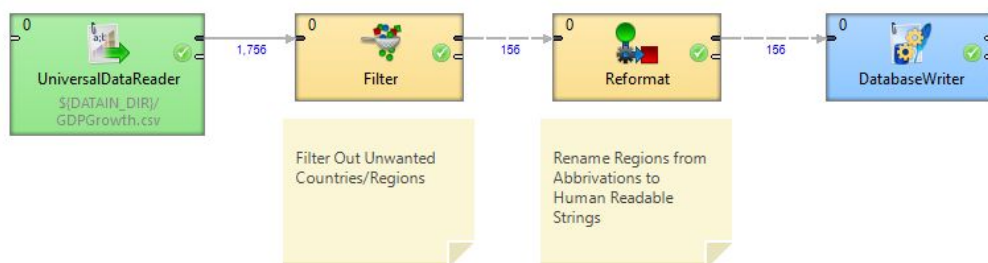
Contains

Information about individual countries GDP growth, along with various geographical regions of the world.

Use

We hope that this data will give insights about how the overall economy may affect the reviews and sales of games.

ELT Workflow



The ETL workflow:

1. Read in the data produced from the source website. This data contains information from selected regions, as well as the individual countries in those regions.
2. We strip out the unused country data, as we want just the data produced from the regions (NA, PAL, etc)
3. We reformat the country abbreviations into human readable strings.
4. Write the information into the database.

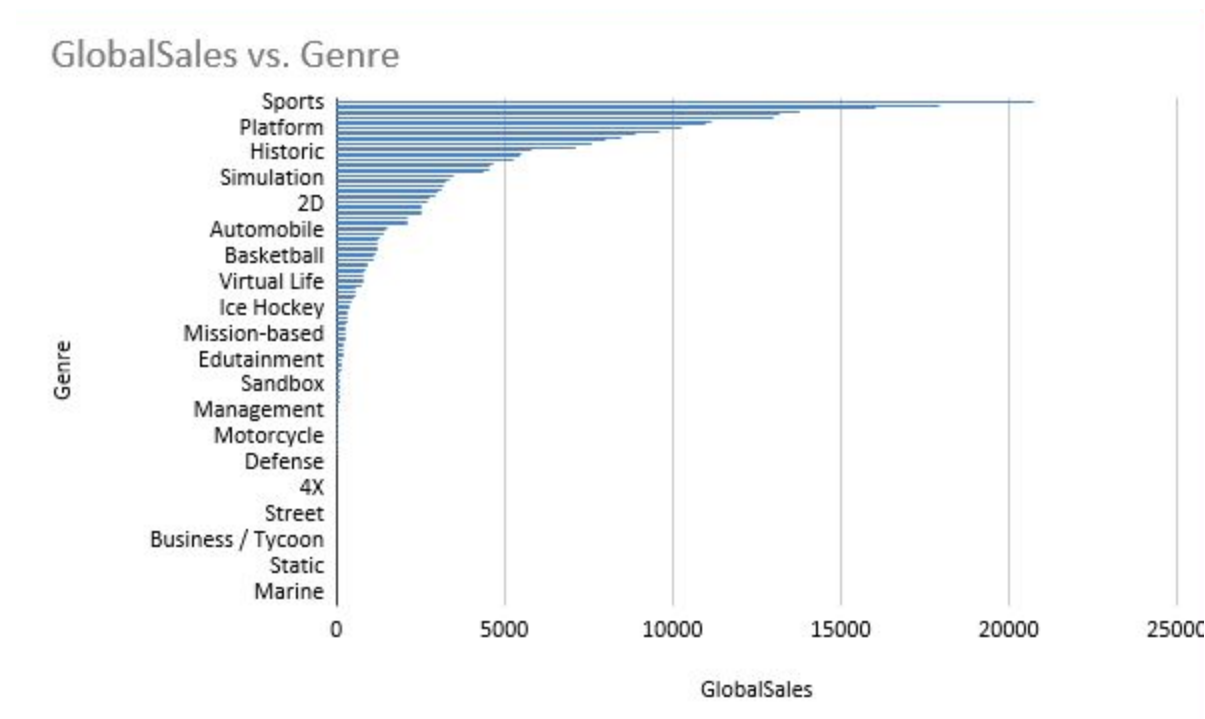
Insights

Chart 1: Do Action Games lead in Global Sales?

Hypothesis

Action games have the greatest number of global sales over a given sales period. This would suggest that they are the most popular.

Chart



Results

There is a clear trend in global sales in respect to the game genre. On average, Sports and Platform sales are significantly different than other genres as demonstrated above. Sports games have the greatest number of global sales on average in a given period.

Significance

It is essential for commercial developers to understand what genres are most lucrative for development. This will allow developers to better understand their sales target and projected gains relative to implementation costs.

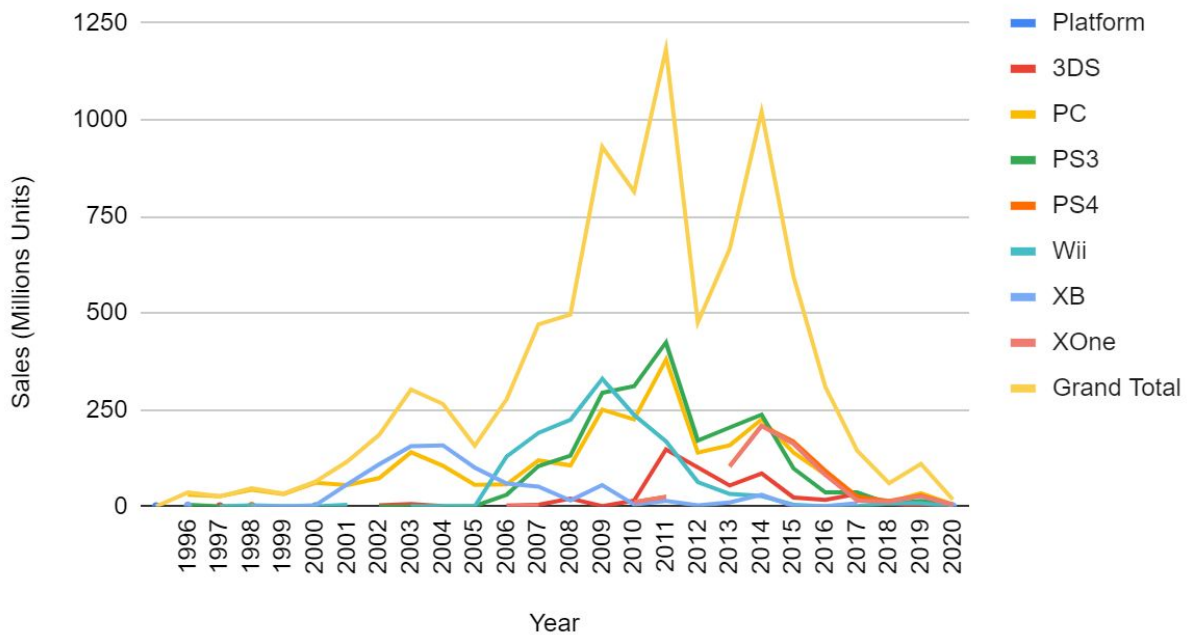
Chart 2: What are the sales trends for specific platforms over time.

Hypothesis

Over time, sales on some platforms will dwindle as new platforms are released.

Chart

Sales For Selected Platforms Over Time



Results

As expected, over time, some platforms' sales dwindle as others increase in popularity. Some platforms, like the PS3, still show steady sales numbers for a few years after its successor platform, PS4 is released.

Significance

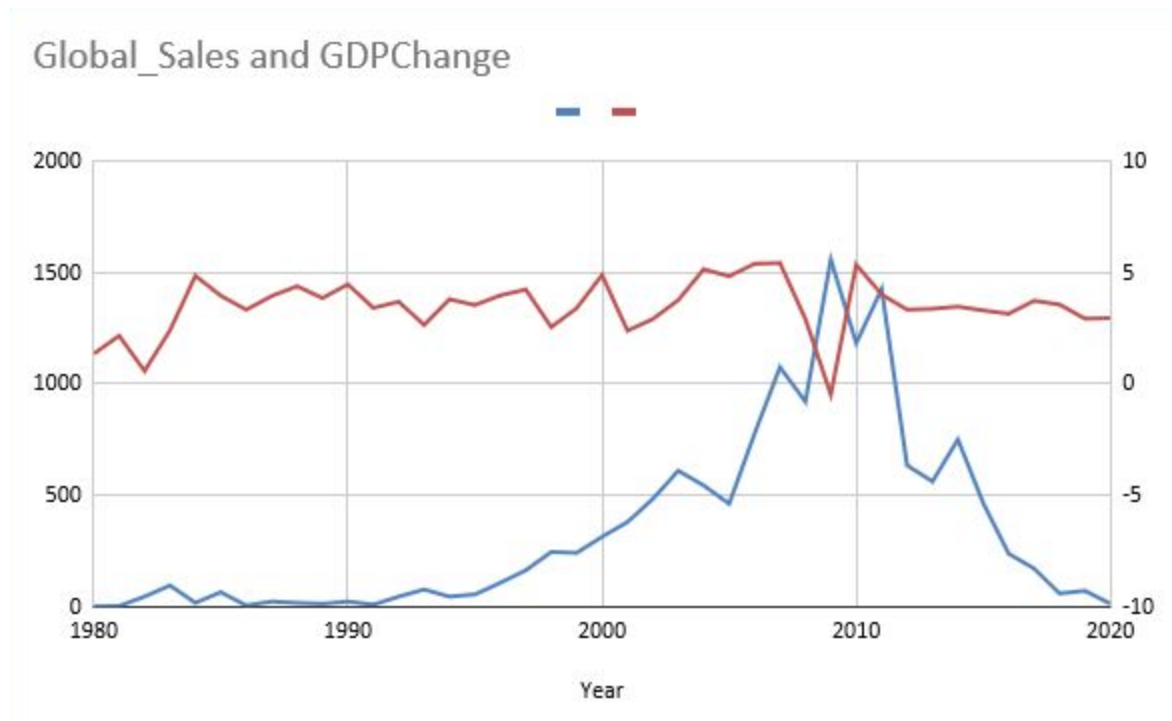
This is important for game developers, especially smaller studios. If they have limited resources, they would not want to target platforms with a low number of overall sales. They also likely would not want to target platforms that have declining sales numbers.

Chart 3: How are global sales impacted by economic health?

Hypothesis

People purchase less games when in economic crisis.

Chart



Results

There was a significant decrease in purchased games globally following the 2008 financial crisis.

Significance

Investigation of economic trends can better equip commercial developers in making informed decisions regarding game release dates, as well as revenue projections. As demonstrated above, in the event of financial crisis, the data indicates that a delayed release may be advantageous - otherwise developers may expect less revenue due to short term, unrelated costs to users.

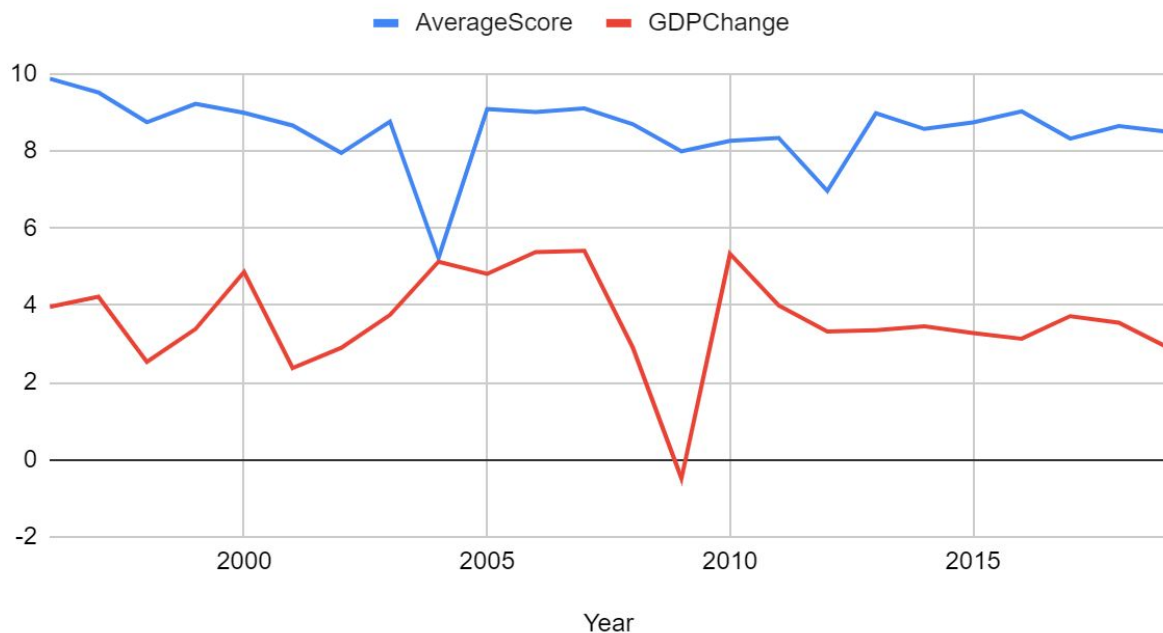
Chart 4: Do user ratings become more critical during economic downturns?

Hypothesis

Users may become more critical of games when the economy is doing poorly. They may expect more quality/value for their money for a given game.

Chart

User Average Score vs World GDP



Results

While there were no statistical patterns related to the world GDP growth rate and the average game review, there was a minor slump during the 2008 crisis, as well as in 2011-2012, when the economy started to normalize.

Significance

It would be interesting to see if there was some trend between the overall economy and how people perceive games value, by looking at the ratings. This might inform studios that were trying to release a game during a recession or boom about how it may affect sales projections.

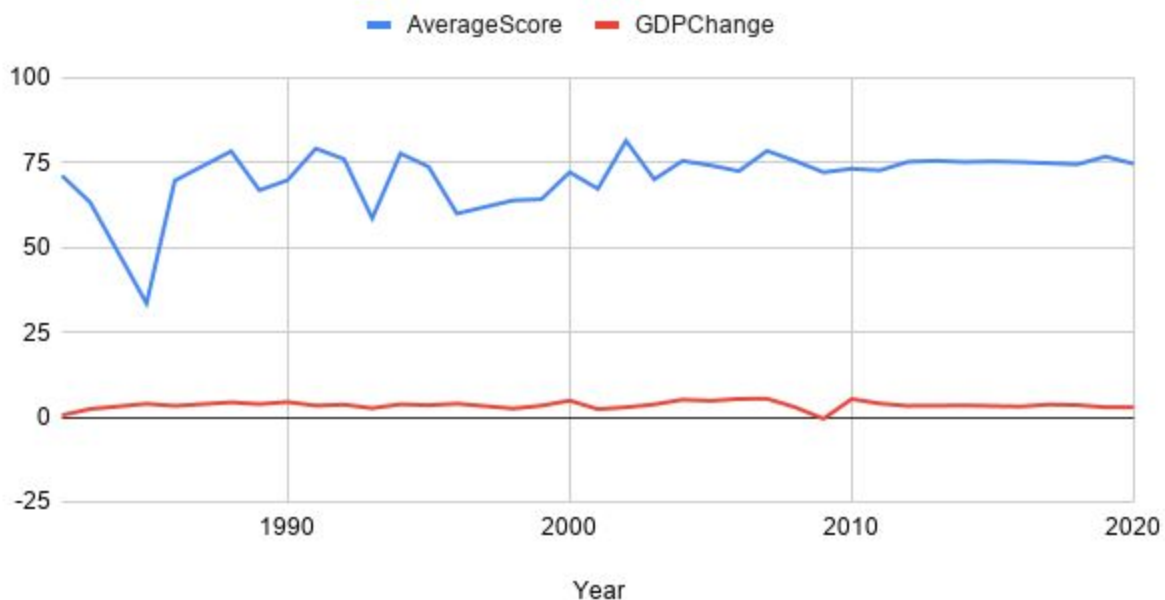
Chart 5: Do critics rate games more harshly during economic downturns?

Hypothesis

As opposed to users, critics may be less influenced by current economic conditions when they are rating games.

Chart

Critic Average Score vs World GDP



Results

There doesn't seem to be an appreciable difference between the overall critic scores and the state of the world economy. Like users, there are a few noticeable data points (2000, 2008), but nothing that is consistent across the entire period.

Significance

It may be advantageous to investigators to confirm whether or not there is bias in reviewing a subset of games in the event of a financial crisis. If we can prove no significant difference, we may be able to remove this confounding variable from the picture.