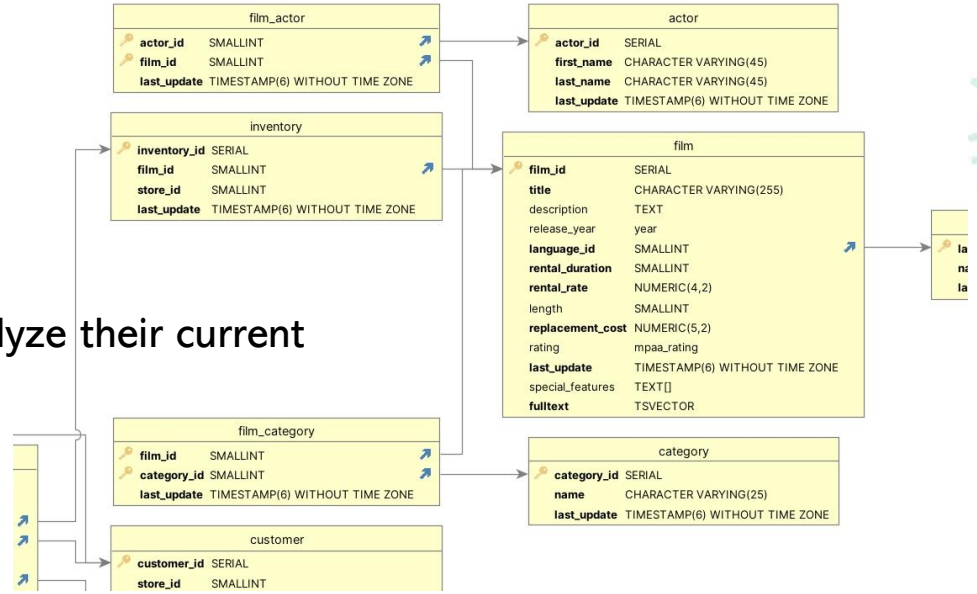
Rockbuster

Project Goals

Rockbuster wants to launch a new online video service.

To help shape a launch strategy I will analyze their current movie rental data on customers, rentals, movies and geographic sales.

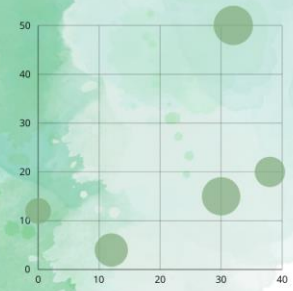


Data that I used

PostgreSQL: 2 fact tables and 13 dimension tables
Regions: worlwide
Other data: payment-, customer-, store- and film details
Created: ERD, SQL queries and visuals
Data Sources: Rockbuster Data Set

Skills that I applied

PostgreSQL
DbVisualizer
SQL Relational Databases
SQL Database Querying
Filtering, Cleaning and summarizing in SQL
Joining tables
Subqueries
Common Table Expressions



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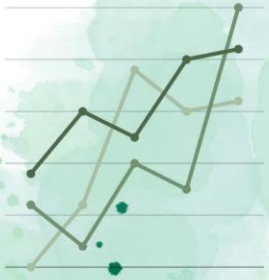
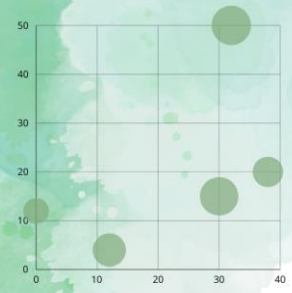
The process

Before installing PostgreSQL and practicing different basic queries, I learned about relational databases, their storage structure and the differences with non relational databases. Also the importance of data warehouses and relational database management systems (RDBMS) has been an important part of the beginning of this project. For the database of Rockbuster I created an ERD and interpreted it in a data dictionary to get familiar with the data and to know how to use it.

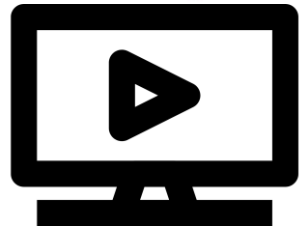


```
SELECT
D.country,
COUNT(A.customer_id) AS number_of_customers
FROM
customer A
JOIN address B ON A.address_id = B.address_id
JOIN city C ON B.city_id = C.city_id
JOIN country D ON C.country_id = D.country_id
GROUP BY
D.country
ORDER BY
number_of_customers DESC
LIMIT
10
```

When I started writing SQL commands, I discovered quickly that with little adaptions in the code, the difference in the results is big. The CRUD (Create, Read, Update and Delete) were the first commands I used. also applied constraints, to set rules for the data in a table. After learning SELECT FROM, I began writing queries to clean data and combined aggregate functions and used keywords to filter data. The queries started turning into larger and more complicated scripts when the course program teached me about JOIN queries, CTE queries and subqueries.



I completed the project by downloading important results of the movie rental data analysis as CSV files and use the files in Tableau to create strong visualizations. The visualizations I incorporated into a PowerPoint presentation, to make a recommendation for the launch of Rockbuster's online video service.



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Analysis

Number of customers and total revenue per country

Average Rental Duration:
4,99 days

Minimum Total Revenue
High Lifetime Value Customer:
$162,67

Best Performing Countries:
India, China, United States, Japan, Mexico, Brazil

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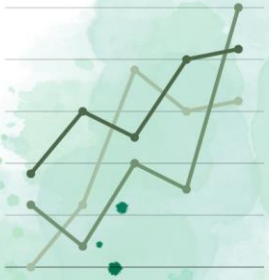
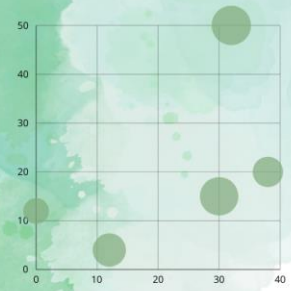
Recommendation



For the launch of the online video rental service, I would focus on the top 6 best performing countries: India, China, United States, Japan, Mexico and Brazil.
In 3 of those countries are 4 of the top 10 high lifetime value customers based.

Loyal customers with a total revenue from a minimum of $150,- could be offered an interesting discount to start their online video journey, that increases when they introduce new customers to Rockbuster.

For the first 3 months after the launch, I would offer a special discount or a free coupon if someone rents an online video for a minimum of 5 days.



Rockbuster should implement AI in order to measure and analyse online behaviour from (potential) customers. This can be used to optimize the offer in movies but also to analyse the results of the first 3 months and slowly expand to other countries.

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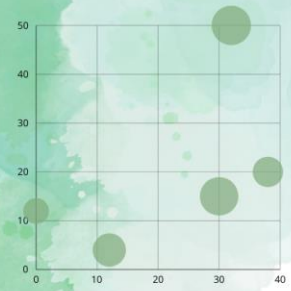
Personal evaluation

Successes

When writing the JOIN queries, I had to insert the result of the previous JOIN query into the new one. Instead of writing out the results such as ‘China’, ‘United States’ and ‘Mexico’, I incorporated the old query into the new one. This resulted in longer and more complicated queries, but this guarantees the correct outcome even if the data changes over time.

During the course program I built a strong relationship with my mentor. I followed his advice to continue practicing different SQL challenge. The first I did was an online SQL detective challenge which I finished successfully.



Challenges and lessons learned

This was my first project writing commands. In the beginning I struggled a bit with writing them correctly and consistent, but soon I understood the logic in the structure and the importance of writing it always in the same style, without typing errors. As with everything I learned so far in data analytics, it is essential to keep my data organized and understand the different data types.

Writing the data dictionary took me some time and it was one of the tasks I liked the least. But afterwards I value it much more as it made me understand the ERD, the data types and the different keys between tables much better.