ROCKBUSTER STEALTH LLC

Data Dictionary

Hannes Franz Lazer /

CareerFoundry / Data Analytics / January 2024

Table of Content:

1. The Company

Rockbuster Stealth LLC is a movie rental company that used to have stores around the world. Facing stiff competition from streaming services such as Netflix and Amazon Prime, the Rockbuster Stealth management team is planning to use its existing movie licenses to launch an online video rental service in order to stay competitive.
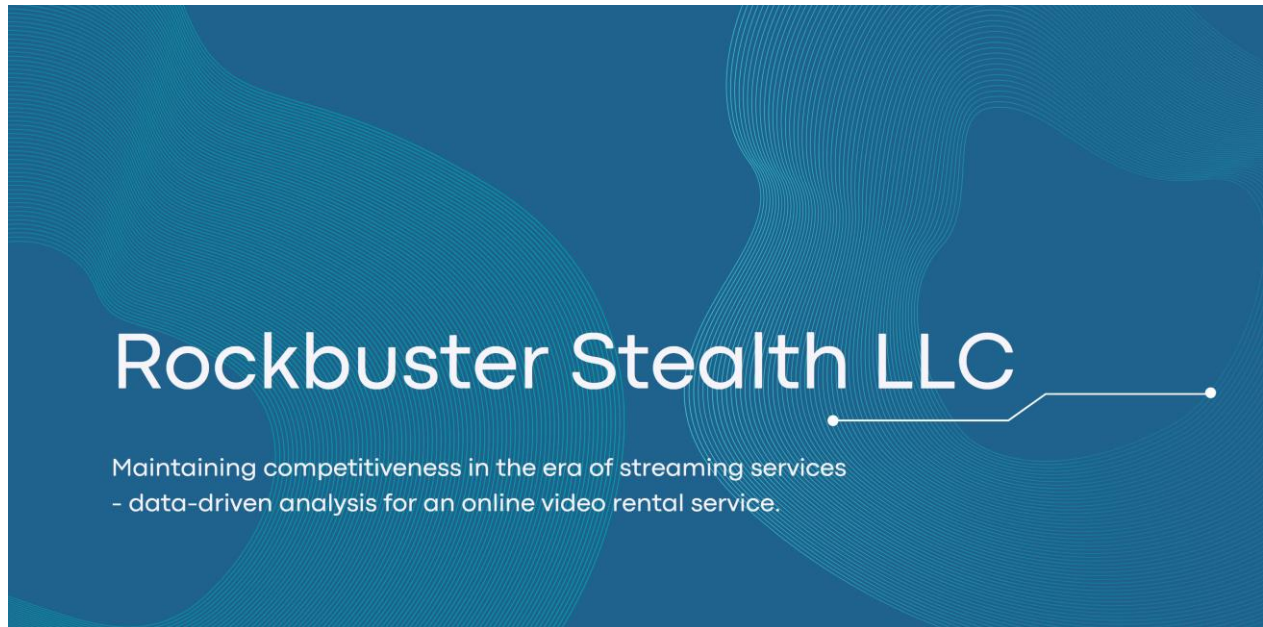
2. Entity Relationship Diagram (ERD)

This Entity-Relationship Diagram (ERD) represents a snowflake schema. The schema consists of a fact table, dimension tables, and sub-dimension tables. The sub-dimension tables, such as city and country, enhance the schema by providing additional levels of detail and categorization.

film_actor

Column	Type
actor_id	SMALLINT
film_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

actor

Column	Type
actor_id	SERIAL
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

inventory

Column	Type
inventory_id	SERIAL
film_id	SMALLINT
store_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

film

Column	Type
film_id	SERIAL
title	CHARACTER VARYING(255)
description	TEXT
release_year	year
language_id	SMALLINT
rental_duration	SMALLINT
rental_rate	NUMERIC(4,2)
length	SMALLINT
replacement_cost	NUMERIC(5,2)
rating	mpaa_rating
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
special_features	TEXT[]
fulltext	TSVECTOR

language

Column	Type
language_id	SERIAL
name	CHARACTER(20)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

film_category

Column	Type
film_id	SMALLINT
category_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

category

Column	Type
category_id	SERIAL
name	CHARACTER VARYING(25)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

payment

Column	Type
payment_id	SERIAL
customer_id	SMALLINT
staff_id	SMALLINT
rental_id	INTEGER
amount	NUMERIC(5,2)
payment_date	TIMESTAMP(6) WITHOUT TIME ZONE

rental

Column	Type
rental_id	SERIAL
rental_date	TIMESTAMP(6) WITHOUT TIME ZONE
inventory_id	INTEGER
customer_id	SMALLINT
return_date	TIMESTAMP(6) WITHOUT TIME ZONE
staff_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

customer

Column	Type
customer_id	SERIAL
store_id	SMALLINT
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
email	CHARACTER VARYING(50)
address_id	SMALLINT
activebool	BOOLEAN
create_date	DATE
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
active	INTEGER

staff

Column	Type
staff_id	SERIAL
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
address_id	SMALLINT
email	CHARACTER VARYING(50)
store_id	SMALLINT
active	BOOLEAN
username	CHARACTER VARYING(16)
password	CHARACTER VARYING(40)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
picture	BYTEA

store

Column	Type
store_id	SERIAL
manager_staff_id	SMALLINT
address_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

address

Column	Type
address_id	SERIAL
address	CHARACTER VARYING(50)
address2	CHARACTER VARYING(50)
district	CHARACTER VARYING(20)
city_id	SMALLINT
postal_code	CHARACTER VARYING(10)
phone	CHARACTER VARYING(20)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

city

Column	Type
city_id	SERIAL
city	CHARACTER VARYING(50)
country_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

country

Column	Type
country_id	SERIAL
country	CHARACTER VARYING(50)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

Powered by yFiles

3. Tables

🔒	Primary key
⇄	Foreign key

Fact tables[1]

Rental

	Column	Data Type	Description
🔒	Rental_id	SERIAL	Primary Key, identifying unique rental event
	Rental_date	TIMESTAMP (6) WITHOUT TIMEZONE	Date of movie rental
⇄	Inventory_id	INTEGER	Unique ID, linked to inventory information
⇄	Customer_id	SMALLINT	Unique ID, linked to customer information
	Return_date	TIMESTAMP (6) WITHOUT TIMEZONE	Date, when movie is returned to the system
⇄	Staff_id	SMALLINT	Unique ID, linked to staff information
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Inventory	Rental.inventory_id=inventory.inventory_id
Customer	Rental.customer_id=customer.customer_id
Staff	Rental.staff_id=staff.staff_id

Links from:

Table	Join
Payment	Payment.rental_id=rental.rental_id

---

[1] *Broadly speaking, fact tables store information about events, and dimension tables store information about the entities involved in those events. Fact tables typically have two columns: one with numerical values and one with foreign keys that link to dimension tables, which hold descriptive information about various entities.*

Payment

	Column	Data Type	Description
🔒	Payment_id	SERIAL	Primary Key, identifying unique payment transaction
⇄	Customer_id	SMALLINT	Unique ID, linked to customer information
⇄	Staff_id	SMALLINT	Unique ID, linked to staff information
⇄	Rental_id	INTEGER	Unique ID, linked to rental information
	Amount	NUMERIC(5,2)	Total amount linked to specific rental transaction
	Payment_date	TIMESTAMP (6) WITHOUT TIMEZONE	Transaction date

Links to:

Table	Join
Rental	Payment.rental_id=rental.rental_id
Customer	Rental.customer_id=customer.customer_id
Staff	Rental.staff_id=staff.staff_id

Dimension table

Customer

	Column	Data Type	Description
🔒	Customer_id	SERIAL	Unique ID for each costumer record
	Store_id	SMALLINT	Unique ID, linked to store information
	First_name	CHARACTER VARYING(45)	First name of the customer
	Last_name	CHARACTER VARYING(45)	Last name of the customer
	Email	CHARACTER VARYING(50)	Email from the customer
⇄	Address_id	SMALLINT	Address of the customer
	Activebool	BOOLEAN	true or false statement
	Create_date	DATE	Date record was created
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update
	Active	INTEGER	Binary 1/0 if customer is active

Links to:

Table	Join
Address	Customer.address_id=address.address_id

Links from:

Table	Join
Rental	Rental.customer_id=customer.customer_id
Payment	Payment.customre_id=customer.customer_id

Staff

|	Column	Data Type	Description
🔒	Staff_id	SERIAL	Unique ID for each staff member
	Store_id	SMALLINT	Unique ID, linked to store information
	First_name	CHARACTER VARYING(45)	First name of the staff member
	Last_name	CHARACTER VARYING(45)	Last name of the staff member
	Email	CHARACTER VARYING(50)	Email from the staff member
⇄	Address_id	SMALLINT	Address of the staff member
	Active	BOOLEAN	staff member account is active – true/false
	User_name	CHARACTER VARYING(16)	Online username of staff member
	Password	CHARACTER VARYING(40)	Online password of staff member
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update
	Picture	BYTEA	Photo of staff member

Links to:

Table	Join
Address	Staff.address_id=address.address_id

Table	Join
Rental	Rental.staff_id=staff.staff_id
Store	Store.address_id=staff.address_id
Payment	Payment.staff_id=staff.staff_id

Store

	Column	Data Type	Description
🔒	Store_id	SERIAL	Unique ID, linked to store information
⇆	Manager_staff_id	SMALLINT	Unique ID, linked to staff information
⇆	Address_id	SMALLINT	Unique ID, linked to address information
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Address	Store.address_id=address.address_id
Staff	Store.staff_id=staff.staff_id

Address

|	Column	Data Type	Description
🔒	Address_id	SERIAL	Unique ID
	Address	CHARACTER VARYING(50)	Address details
	Address2	CHARACTER VARYING(50)	Extra address details
	District	CHARACTER VARYING(20)	Name of the district
⇆	City_id	SMALLINT	Unique city number
	Postal_code	CHARACTER VARYING(10)	Postal code details
	Phone	CHARACTER VARYING(20)	Phone number
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
City	Address.city_id=city.city_id

Links from:

Table	Join
Store	Store.address_id=address.address_id
Staff	Staff.address_id=address.address_id
Customer	Customer.address_id=address.address_id

City

	Column	Data Type	Description
🔒	City_id	SERIAL	Unique ID
	City	CHARACTER VARYING(50)	Name of the city
⇄	Country_id	SMALLINT	Unique country number
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Country	City.country_id=country.country_id

Links from:

Table	Join
Address	Address.city_id=city.city_id

Country

	Column	Data Type	Description
🔒	Country_id	SERIAL	Unique ID
	Country	CHARACTER VARYING(50)	Name of the country
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links from:

Table	Join
City	City.country_id=country.county_id

Film Actor

	Column	Data Type	Description
⇄	Actor_id	SMALLINT	Unique ID, linked to actor information
⇄	Film_id	SMALLINT	Unique ID, linked to film information
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Actor	Film_actor.actor_id=actor.actor_id
Film	Film_actor.film_id=film.film_id

Actor

	Column	Data Type	Description
🔒	Actor_id	SERIAL	Unique ID, linked to actor information
	First_name	CHARACTER VARYING(45)	First name of the actor
	Last_name	CHARACTER VARYING(45)	Last name of the actor
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links from:

Table	Join
Film_actor	Film_actor.actor_id=actor.actor_id

Inventory

	Column	Data Type	Description
🔒	Inventory_id	SERIAL	Unique ID, linked to inventory information
⇄	Film_id	SMALLINT	Unique ID, linked to film information
	Store_id	SMALLINT	Unique ID, linked to store information
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Film	Inventory.film_id=film.film_id

Links from:

Table	Join
Rental	Rental.inventory_id=inventory.inventory_id

Language

	Column	Data Type	Description
🔒	Language_id	SERIAL	Unique ID, linked to language information
	Name	CHARACTER (20)	Name of the language
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links from:

Table	Join
Film	Film.language_id=language.language_id

Film

	Column	Data Type	Description
🔒	Film_id	SERIAL	Unique ID
	Title	CHARACTER VARYING(255)	Title of the movie
	Description	TEXT	Description of the movie
	Release_year	YEAR	Release year
⇄	Language_id	SMALLINT	Unique ID, linked to language information
	Rental_duration	SMALLINT	Duration of movie rental
	Rental_rate	NUMERIC(4,2)	Rating score by customers
	Length	SMALLINT	Duration of the movie
	Replacement_cost	NUMERIC(5,2)	Costs to replace the rental movie
	Rating	MPAA_RATING	Age rating
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update
	Special_features	TEXT[]	Special features of the movie
	Fulltext	TSVECTOR	Additional movie information

Links to:

Table	Join
Language	Film.language_id=language.language_id

Links from:

Table	Join
Film_actor	Film_actor.film_id=film.film_id
Film_category	Film.category.film_id=film.film_id
Inventory	Inventory.film_id=film.film_id

Film Category

	Column	Data Type	Description
🔒⇄	Film_id	SMALLINT	Unique ID, linked to film information
🔒⇄	Category_id	SMALLINT	Unique ID, linked to category information
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links to:

Table	Join
Category	Film_category.category_id=category.category_id
Film	Film_category.film_id=film.film_id

Category

	Column	Data Type	Description
🔒	Category_id	SERIAL	Unique ID, linked to category information
	Name	CHARACTER VARYING (25)	Name of the category
	Last_update	TIMESTAMP (6) WITHOUT TIMEZONE	Date and time of the last update

Links from:

Table	Join
Film_category	Film_category.category_id=category_category_id