FINAL PROJECT: CINEMA BOOKING SYSTEM

STORING & RETRIEVING DATA

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DECEMBER 19TH, 2021

GROUP 20

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NOVA IMS

imCinema
Booking System

imCinema is a Portuguese cinema chain, which has been growing and cementing its position in the national market since 2017, due to the excellent location of its facilities, the comfort that its cinemas provide to customers and the competitive prices it offers. Recently, the managers of imCinema decided that the company should have a database, which would store the data of the transactions that take place in its cinemas.

At this moment, imCinema has 6 cinemas, spread over 5 cities: Lisboa - which has more than one cinema -, Porto, Aveiro, Coimbra and Faro. Each of these cinemas has a varied number of rooms, each of which has a different capacity. So, each of these Cinema-Room pairs has a certain number of rows, and in each row, there is a certain number of seats. One of imCinema's objectives is to provide its customers with a wide variety of films and categories (each film may have more than one category), at different times, to attract as many film enthusiasts as possible. Every day of the week, in all imCinema cinemas, there are exhibitions of different films in each of the rooms at different times.

imCinema has several types of tickets: "Adult", "Child", "Family", "Student" and "Partnership Discount", each with its own cost. These tickets can be purchased by its customers and, in each of the bookings made by customers, only one of the types of tickets can be bought, but in a variable quantity. In each of the moments that a customer purchases tickets for an exhibition, he can also purchase some snacks (different options of food and drinks, each of these options having an associated cost), from a wide range that imCinema offers, so that customers can consume products while watching the films. Each of these bookings is associated with a payment (which includes the cost of the tickets and snacks that were purchased by the customer in the booking in question), which can be made through one of the different methods of payment that imCinema has available: Money, Card, PayPal and MBWay. Each of these bookings that customers make is supervised by an imCinema staff member, and within the organizational structure of the cinema chain, there are several roles (Manager, Sub-Manager, Cleaning Staff, Cashier and Technician) that the staff members may play (each staff member may be associated to several roles simultaneously).

Each exhibition (i.e. when a film is playing in a certain room, of a certain cinema, at a certain time and on a certain day) has a certain number of seats, which corresponds to the capacity of the room where the exhibition in question is taking place. These seats may be vacant or occupied. If they are occupied, this is due to the fact that there was a booking for that exhibition and for that specific seat. This way, imCinema can control the occupancy of its cinemas, in each one of the exhibitions it provides.

Finally, imCinema stores its customers' data (the most sensitive data, such as NIFs and passwords are encrypted, for the customers' safety) to provide them a better service and increase their loyalty. So, the day after a customer visits an imCinema cinema, the customer receives in his/her e-mail a contact from the company, so that the customer can give a rating to the experience he had the day before. To define imCinema's 3 best customers, imCinema's managers established as a criterion the total amount spent by each of their customers. Thus, for each customer all the payments he made will be added up, and the customers will be ranked by the total amount spent.

role
- 🔑 Role_ID INT
- 🔷 Role_Name VARCHAR(45)
- Indexes ▶

cinemaroom
- 🔑 CRoom_ID INT
- 🔶 Cinema_ID INT
- 🔷 CRoom_NrSeats INT
- Indexes ▶

seat
- 🔑 Seat_ID INT
- 🔶 Cinema_ID INT
- 🔶 CRoom_ID INT
- 🔷 Seat_Row VARCHAR(45)
- 🔷 Seat_Number INT
- Indexes ▶

head_and_totals

details

city
- 🔑 City_ID INT
- 🔷 City_Name VARCHAR(45)
- Indexes ▶

log
- 🔑 Log_ID INT
- 🔷 Log_Datetime DATETIME
- 🔷 Log_OldDatetimeExhibition DATETIME
- 🔷 Log_NewDatetimeExhibition VARCHAR(45)
- 🔷 Log_Exhibition_ID INT
- Indexes ▶

staff_role
- 🔑 Staff_ID INT
- 🔑 Role_ID INT
- Indexes ▶

cinema
- 🔑 Cinema_ID INT
- 🔷 Cinema_Name VARCHAR(45)
- 🔷 Cinema_Adress VARCHAR(45)
- 🔷 Cinema_Contact VARCHAR(45)
- 🔷 Cinema_NrCinemaRooms INT
- 🔶 City_ID INT
- 🔷 Cinema_Email VARCHAR(45)
- Indexes ▶

booking_seat
- 🔑 Booking_ID INT
- 🔑 Seat_ID INT
- 🔑 Exhibition_ID INT
- Indexes ▶
- Triggers ▶

snack
- 🔑 Snack_ID INT
- 🔷 Snack_Name VARCHAR(45)
- 🔷 Snack_Price FLOAT
- 🔷 Snack_Tax FLOAT
- Indexes ▶

staff
- 🔑 Staff_ID INT
- 🔷 Staff_Username VARCHAR(45)
- 🔷 Staff_Password VARCHAR(45)
- 🔷 Staff_Active TINYINT
- 🔷 Staff_StartDate DATETIME
- 🔷 Staff_EndDate DATETIME
- Indexes ▶

booking
- 🔑 Booking_ID INT
- 🔶 Cust_ID INT
- 🔶 Payment_ID INT
- 🔶 TT_ID INT
- 🔷 Booking_NrTickets INT
- 🔶 Staff_ID INT
- 🔷 Booking_Rating INT
- Indexes ▶

payment_methods
- 🔑 PM_ID INT
- 🔷 PM_Name VARCHAR(45)
- Indexes ▶

customer
- 🔑 Cust_ID INT
- 🔷 Cust_FirstName VARCHAR(45)
- 🔷 Cust_LastName VARCHAR(45)
- 🔷 Cust_Password VARCHAR(45)
- 🔷 Cust_Contact VARCHAR(45)
- 🔷 Cust_Username VARCHAR(45)
- 🔷 Cust_NIF INT
- 🔷 Cust_Email VARCHAR(45)
- Indexes ▶

snack_booking
- 🔑 Snack_ID INT
- 🔑 Booking_ID INT
- 🔷 SnackBooking_Quantity INT
- Indexes ▶

payment
- 🔑 Payment_ID INT
- 🔶 PM_ID INT
- 🔷 Payment_Value VARCHAR(45)
- 🔷 Payment_Date DATETIME
- Indexes ▶

ticket_type
- 🔑 TT_ID INT
- 🔷 TT_Name VARCHAR(45)
- 🔷 TT_Price FLOAT
- 🔷 TT_Tax FLOAT
- Indexes ▶

category_movie
- 🔑 Cat_ID INT
- 🔑 Movie_ID INT
- Indexes ▶

movie
- 🔑 Movie_ID INT
- 🔷 Movie_Title VARCHAR(45)
- 🔷 Movie_Duration INT
- 🔷 Movie_PGRating VARCHAR(45)
- 🔷 Movie_PremiereDate DATETIME
- 🔷 Movie_LastDate VARCHAR(45)
- 🔷 Movie_OnDisplay TINYINT
- 🔷 Movie_Rating FLOAT
- 🔷 Movie_ReleaseYear INT
- Indexes ▶

exhibition
- 🔑 Exhibition_ID INT
- 🔶 Movie_ID INT
- 🔶 Cinema_ID INT
- 🔶 CRoom_ID INT
- 🔷 Exhibition_BeginDateTime DATETIME
- 🔷 Exhibition_EndDateTime DATETIME
- 🔷 Lotation FLOAT
- Indexes ▶
- Triggers ▶

category
- 🔑 Cat_ID INT
- 🔷 Cat_Name VARCHAR(45)
- Indexes ▶

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