**Assignment 7**

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# **Relationship Table**

Diagram

Description automatically generated

# **Tables and their purpose**

## **Customer Table**

**Purpose:** This table is used to store customer details who have registered on the Cineplex PPV platform. This table can be used for identifying customers, their details and preferences.

**Range of values:** Cust\_ID is a unique identifying number which is assigned to each customer profile. Cust\_Name element can store any text values, Phone Number can store a maximum of 10 digits plus a country code and Email can store any valid email address for which a background verification will be done.

**Primary key:** Cust\_ID

## **Movie Table**

**Purpose:** The information about all the movies that are available on the PPV platform will be stored in this table. It helps in identifying movies, their details, genres and release dates.

**Range of values:** Movie\_ID is an element which is assigned a unique identifying number. Movie\_Name can store any text values, Movie\_Details can store a brief description of the movie, with a maximum of 250 characters, the release date can store any valid date and Genre can store any movie category.

**Primary key:** Movie\_ID

## **Payment Table**

**Purpose:** Payments made by customers for movie orders and subscriptions and the related information will be stored in this table. Tracking customer payments and their subscription plans can be done with the help of this table.

**Range of values:** Payment\_ID is a unique identifier assigned to each payment. Payment\_Date can store any valid date, Payment\_Amount can store any positive numeric value and Plan Type can store the type of plan chosen by the customer.

**Primary key:** Payment\_ID,

**Foreign Key:** Cust\_ID (linked to the Customer Table)

## **Subscription Table**

**Purpose:** This table stores information about the subscription plans chosen by customers. The preferences of the customers and their plans can be stored and used with the help of this table.

**Range of values**: Sub\_ID is a unique number assigned to each customer subscription. Plan Type can store the type of plan chosen by the customer.

**Primary key:** Sub\_ID

**Foreign key:** Cust\_ID (linked to the Customer Table)

## **Order Table**

**Purpose:** This table stores information about movie orders placed by customers. It helps in tracking customer orders and their preferences.

**Range of values:** Order\_ID is a unique identifier assigned to each order.

**Primary key:** Order\_ID

**Foreign keys**: Cust\_ID (linked to the Customer Table), Payment\_ID (linked to the Payment Table), Movie\_ID (linked to the Movie Table)

## **History Table**

**Purpose:** This table stores information about the movie viewing history of customers. It helps in tracking the viewing history of customers and their preferences.

**Range of values:** History ID is a unique identifier assigned to each viewing history. Date & Time of viewing can store any valid date and time, Content Viewed can store the name of the movie viewed.

**Primary key**: History ID

**Foreign key**: Cust\_ID (linked to the Customer Table), Order\_ID (linked to the Order Table)

## **Normalization rules applied:**

First Normal Form (1NF): All tables have atomic values in each column and no repeating groups.

Second Normal Form (2NF): All tables have a primary key and no partial dependencies.

Third Normal Form (3NF): All tables have no transitive dependencies.

## **How will these data elements interrelate?**

* Customer Table is linked to the Payment Table, Subscription Table, Order Table and History Table using the Cust\_ID foreign key.
* Payment Table is related to the Customer Table and Order Table using the Cust\_ID foreign key and to the Subscription, Table using the Plan Type field.
* Subscription Table is linked to the Customer Table using the Cust\_ID foreign key.
* Order Table is linked to the Customer Table, Payment Table and Movie Table using the Cust\_ID, Payment\_ID and Movie\_ID foreign keys.
* History Table is linked to the Customer Table and Order Table using the Cust\_ID and Order\_ID foreign keys.

# **Data Elements and their purpose**

1. **Customer Table**

Cust\_ID: This element gives the user a unique ID which can be used to differentiate one customer from another and to provide the best customer experience. It also serves as a primary key for the Customer Table.

Cust\_Name: This field is used to identify the customer and help in keeping track of their activities.

Phone Number: It will be used as means of communication with the customer.

Email: It will be used as means of communication with the customer with all their purchases on the platform and helps in identifying the customer. This can be used for providing the best customer support.

1. **Movie Table**

Movie\_ID: This element helps in identifying a movie from the database, and it also differentiates one movie from another and it serves as a primary key for the Movie Table.

Movie\_Name: It helps in identifying the movie and mainly helps the user in Searching the Movie from the database.

Movie\_Details: This element shows the information about the movie such as the director, actors, production company, and a summary.

Release\_date: This element shows the release date of the movie and helps the user in filtering the movie based on the release year.

Genre: This element shows which category that specific movie belongs to such as science fiction, action, comedy, romance, horror, and drama.

1. **Payment Table**

Payment\_ID: This element is the primary key for the Payment table. It helps in identifying the transaction within the system and helps in tracking the payments. Most importantly it will be unique for every transaction. This can be used for providing the best customer support.

Payment\_Date: It helps in Identifying when the transaction happened and helps in identifying the behavior of the user.

Payment\_Amount: This element shows how much was paid in the transaction and it is crucial in managing financial transactions.

Plan Type: This element helps in identifying what payment plan the customer has enrolled in.

Cust\_ID: This acts as the foreign key in the payments table and helps in easily tracking the customer and their transactions in the system.

1. **Subscription Table**

Sub\_ID: This element is the primary key for the Subscription Table. This will be unique for each subscription and allows tracking and managing the subscriptions and this can be used for Analytics and Customer support purposes.

Plan type: This would show what kind or what quality of service the subscription offers for instance to provide basic and premium plans, each with unique features and costs.

Cust\_ID: This element is the unique identifier for each customer and helps in identifying who has subscribed to the service.

1. **Order Table**

Order\_ID: This Element is the primary key for the Order table. It will be unique for each order placed for the customer and helps in tracking the order.

Cust\_ID: It will be used to associate the order with the customer and also helps in tracking the information about the order details from the customer.

Payment\_ID: It acts as the foreign key for the order table. It helps in associating the order with the payment made by the customer and also for the confirmation of the payment for the order.

Movie\_ID: It helps to associate the order in calculating the total price for the order.

1. **History Table**

History ID: This element is the primary key for the History table. It will be the unique identifier for the history table. It helps in tracking user records and helps in retrieving the details.

Cust\_ID: It acts as the foreign key to the History table. It helps in identifying the orders and who viewed the content, user activities and user interactions with the system.

Date & Time of Viewing: This stores when the customer has placed the order or when a customer has viewed the content.

Content Viewed: This element records what content the user has viewed and also helps in identifying the popular content.

Order\_ID: This element helps in tracking the history information in the order table.

# **References**

1. Parker, D. (2021, April 29). Using Visio with SQL Server Graph Databases - April 2018 update. Visual. Retrieved March 17, 2023, from <https://bvisual.net/2018/04/10/using-visio-with-sql-server-graph-databases-april-update/>
2. Peterson, R. (2023, February 11). What is normalization in DBMS (SQL)? 1NF, 2NF, 3NF example. Guru99. Retrieved March 17, 2023, from <https://www.guru99.com/database-normalization.html>