

CASE 3: Olde with an 'E'

Olde Time Movie Rentals (OTMR) rents eclectic hard-to-find classic movies and foreign films in greater Metropolis. They are a boutique catering to high-end cinephiles. Even though OTMR only opened their doors two years ago they have grown significantly and can no longer manage their business using the software they found on the Internet. The owner's daughter had taken a database course at a local tech college and began to design a solution but has gone out of state to finish her degree and has not completed the work. They have hired your firm to help them create a robust DBMS to manage their growing collection of movies, outlets, employees, and customer base.

Each OTMR store has a unique distributor that supplies the store with its select products, though a distributor may supply more than one store. Each store has a name, an address, and a phone number.

The new DBMS also stores information about OTMR's employees. The employee dataset includes employee name, supervisor, store location, home address, phone number, Social Security Number (SSN), and date of hire.

Customer information includes customer name, address, phone number, and customer status (eg *preferred, senior, other*).

For each movie rental, the DBMS records the following; which employee made the sale, the customer, movie title, copy (ie type) rented, payment method, date and time of rental, status (*rented, returned_in_time, returned_late*), the rental rate, and if applicable, the due date and any overdue charges. The payment may be made in a number of ways (*cash, check, credit card, direct debit*) and such information must be tracked. In addition, it may be that the employee that accepts the payment may be other than the one that initiated the rental. In either case, relevant information must be kept, that is, credit card type and number if applicable, check number if applicable, amount of payment, date and time of payment, and finally payment status (*completed* if cash has been received, *approved* if some other form of remittance is pending).

The new DBMS is also expected to maintain OTMR's inventory lists. For each inventory item the following data are tracked; the condition of the media, the title of the movie, director's name, a simple description, the name of (a single) major leading actor (star), the movie's rating (a number from 1 to 5), and genre (*mystery, comedy, documentary, drama, historical, fantasy, horror*).

REQUIREMENTS:

OTMR's owner's daughter worked with each store manager and determined what data was to be maintained by the new DBMS. While not exhaustive it is functionally complete. Groups of attributes were identified and loosely clustered. However, information about keys and relationships between groups have been misplaced. To avoid any further delays you are to implement your DBMS based on this data.

TASK:

1. implement the schema
2. populate the new DBMS
3. be able to respond to (at least) the following queries;

1. List the last names of all customers who are now renting from OTMR
 2. List all the customers who live in UpTown. List their name and address, sorted by name
 3. List the total payment received by each employee, sort by employee number
 4. List the total number of movies rented out by each store, grouped and sorted by store ID
 5. List all the movies never rented out in each store, and grouped by store ID and sorted by movie ID
 6. List all the customers who did not rent any movie and sort by customer ID
 7. List the total amount received by each payment type, sort by payment description
 8. Display the number of movies rented out based on the movie genre, sort by genre
 9. List the top 5 customers based on their total payment, and sort in descending order by total payment
 10. List all the managers and the names of the employees they manage. Sort by manager ID then by employee ID
4. Write a simple program in a language of your choice using embedded SQL to execute the 10 queries above.