

A database for Hotels.com

1. Context of the problem

In order to store all the information about customers, hotels and flights for a booking web that extends internationally for everyone who wants to travel anytime and anywhere.

2. Data requirements

We are going to divide the data in the following parts:

- **Workers' administration**, for this we need to store about workers' DNI, full name, SSN, contract number, id number, mobile phone and email, address; types of workers: developers, administrators and coordinators.
- **Customers' administration**, in order to store this we need the following information about the clients: full name, login id, password, email, country and mobile phone.
- **Services' administration**, hotels (hotel name, list of available rooms with prices, address, rating, guests' comments and services) and flights (destiny country, precedence country, prices and available places - tourist or business-).

3. Functional requirements

- Elaborate an inform about the time spent in the web choosing the service.
- Elaborate the list of the flight companies more used.
- Elaborate a list of the best hotel, with best quality-price offers, etc.
- An inform about reviews moderation and if the web works correctly
- A list of the hotels which are most beneficiated using the webpage service
- An inform about numbers of visitors per hour in a week, and calculate the rating between weeks.
- An inform about workers activity in a week.

4. Entity sets, attributes and relationship sets

- Entity sets with attributes
 - Workers
 - WORKERS (DNI, SSN, Telephone number, email, Fax, Birth date, Address - city, street, number, floor, door, PC -, Full Name - Name and Surname -, worker id)
 - DEVELOPERS - inherits from WORKERS - (department code, coordinator id, group)
 - COORDINATORS - inherits from WORKERS - (department code, group)
 - ADMINISTRATION - inherits from WORKERS - (department code, position)
 - TEMPORAL WORKERS - inherits from DEVELOPERS - (contract number, initial date, end date)
 - PERMANENT WORKERS - inherits from DEVELOPERS- (contract number, initial date, seniority)
 - Customers
 - CUSTOMERS (login Id, password, Full name - Name and Surname -, Country, Telephone number, email)
 - NO MEMBERS - inherits from CUSTOMERS - (Common offers)
 - MEMBERS - inherits from CUSTOMERS - (Special offers, Award)
 - ANNOUNCED_COMPANIES (Company's name, Company's Id, offers)
 - Services
 - SERVICES (Service code, Customer's name, date, offer)
 - FLIGHTS (Flight Id, seat, class, type of ticket, origin, destination, date, date)
 - HOTELS (date, Ranking, Reviews, Hotel's name)
 - TOURISM_OFFERS (Type of attraction, Discount code, Company's name)

5. Special attributes

Composite(6): *si el atributo tiene dos o más atributos y es indivisible.*

- FullName (First and Second, and Surname) (CUSTOMERS).
- Address (WORKERS).
- Date (SERVICES)
- Account Number (PAYMENTS)
- Type of room (ROOMS)
- Seat (FLIGHTS)

Multivalued(3): *es un atributo que puede tener uno o más valores al mismo tiempo.*

- Telephone number (WORKERS)
- Fax (WORKERS)
- Complementary services (ROOMS)
- Type of attraction (TOURISM OFFERS)

NULL(12): *es un atributo cuyo valor es desconocido o perdido.*

- Complementary services (ROOMS)
- Offer code (HOTELS)
- Reviews (HOTELS)
- Ranking (HOTELS)
- Telephone number (CUSTOMERS)
- Fax (WORKERS)
- Floor - Address - (WORKERS)
- Door - Address - (WORKERS)
- Beds -Type of room - (ROOMS)
- Minibar - Type of room - (ROOMS)
- TV - Type of room - (ROOMS)
- Offers (ANNOUNCED COMPANIES)

Derived(6): *si el valor de un atributo puede ser determinado por el valor de otros atributos.*

- Seniority (WORKERS)
- Age (WORKERS)

6. Relationship sets

- CONWOR (CONTRACTS with WORKERS)
- ADMDEV (ADMINISTRATION with DEVELOPERS)
- DEVCOO (DEVELOPERS with COORDINATORS)
- COOADM (COORDINATORS with ADMINISTRATION)
- ADMCUS (ADMINISTRATION with CUSTOMERS) - Complaints, date, Complaint Id -
- SERFLI (SERVICES with FLIGHTS)
- SERHOT (SERVICES with HOTELS)
- SERT_O (SERVICES with TOURISM_OFFERS)
- ADMO_C (ADMINISTRATION with OTHER_COMPANIES)

7. Ternary relationship set

BOOKING (ADMINISTRATION, SERVICES and CUSTOMERS) - Account Number, Amount -

8. Weak Entity-Sets(3)

- CONTRACT (Contract Id, Date, type of contract)
- ROOMS (Check-in date, Check-out date, Complementary services, Smoker, Room number)
- HOTEL SERVICES (Id, Type of service, Price, Date)

9. International

By default, Hotels.com is destined to an international view in order to relate hotels, flights and different kind of services involved by hotels.

10. WORKLOAD TABLE

GROUP 28	TASK 1	AGREE?	TASK 2	AGREE?	TASK 3	AGREE?	TASK 4	AGREE?	TASK 5	AGREE?	OVERALL
I.C.	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	
D.C.	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	
B.V.	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	33,33%	Y	