Implementation of database systems for order management for My Pymes

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Importance of Order Management in Today's Commerce

Efficient order management is crucial in today's commerce due to several key factors:

1. **Customer satisfaction**
2. **Inventory Optimization**
3. **Operating efficiency**
4. **Improved decision making**

Project description

This academic project aims to improve order management in stores through the design and implementation of a relational database. Using entity-relationship modeling techniques and normalization principles, a database was designed that optimizes order management.

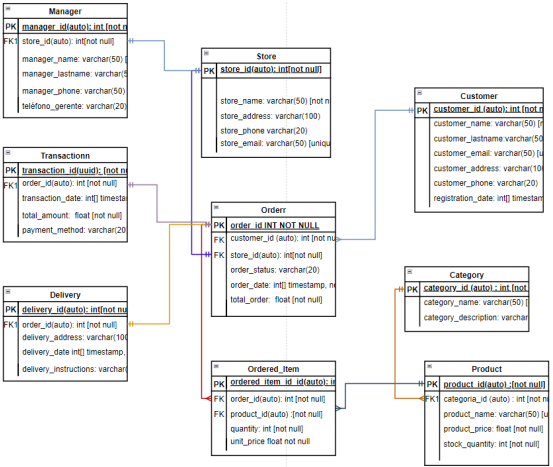
Methodology

For the development of the project, a structured methodology was followed based on the following key steps:

1. **Identification of Entities**
2. **Definition of Attributes**
3. **Identification of Relationships**
4. **Definición de Relaciones**
5. **Definition of Relationships**
6. **Defining Data Properties**
7. **construction of the ER Diagram**

Design of the topic base

Below is the ER diagram of the project:



Implementation

- **Product Catalog View:** The goal of this query was to provide a complete list of products available in the store's catalog.
- **View of completed orders:** This query was intended to display a list of orders that have been successfully completed.
- **View customer purchase history:** With this query, the aim was to obtain a detailed record of the purchases made by a specific customer.
- **View sales reports and data analysis:** The goal of this query was to generate detailed reports on sales made, including information such as order ID, date, products sold, and total sales.

Results

```
3 •  CREATE OR REPLACE VIEW ProductCatalogView AS
4    SELECT product_name, product_price, stock_quantity
5    FROM Product
6    ORDER BY product_name;
```

Figure. 2: View SQL

product_name	product_price	stock_quantity
Action Figure	39.99	90
Baby Monitor	99.99	25
Baby Stroller	199.99	20
Bicycle	299.99	15
Blender	49.99	30
Blu-ray Disc	19.99	70
Board Game	29.99	60
Bookshelf	149.99	10
Boots	129.99	40

Figure. 3: Board

Results

```
10 •  CREATE OR REPLACE VIEW CompletedOrdersView AS
11    SELECT *
12    FROM Orderr
13    WHERE order_status = 'completed';
```

Figure. 4: View SQL

order_id	customer_id	store_id	order_status	order_date	total_order
2	2	2	Completed	2024-01-07 11:00:00	149.99
5	5	5	Completed	2024-01-10 14:00:00	59.99
6	1	6	Completed	2024-01-11 15:00:00	299.99
8	3	8	Completed	2024-01-13 17:00:00	99.99
9	4	9	Completed	2024-01-14 18:00:00	399.99
11	1	2	Completed	2024-01-16 10:00:00	199.99
12	2	3	Completed	2024-01-17 11:00:00	149.99
15	5	6	Completed	2024-01-20 14:00:00	99.99
17	2	8	Completed	2024-01-22 11:00:00	199.99
19	4	10	Completed	2024-01-24 13:00:00	89.99

Figure. 5: Board

Results

```sql
CREATE OR REPLACE VIEW SalesReportsDataAnalysisView AS
SELECT o.order_id, o.order_date, oi.product_id, p.product_name, oi.quantity, oi.unit_price
FROM Orderr o
JOIN Ordered_Item oi ON o.order_id = oi.order_id
JOIN Product p ON oi.product_id = p.product_id;
SELECT * FROM SalesReportsDataAnalysisView;
```

Figure. 6: View SQL

order_id	order_date	product_id	product_name	quantity	unit_price
1	2024-01-06 10:00:00	1	Laptop	1	999.99
2	2024-01-07 11:00:00	2	Shirt	5	29.99
3	2024-01-08 12:00:00	3	Sofa	1	499.99
4	2024-01-09 13:00:00	4	Bicycle	2	299.99
5	2024-01-10 14:00:00	5	Novel	3	19.99
6	2024-01-11 15:00:00	6	Smartphone	1	699.99
7	2024-01-12 16:00:00	7	Headphones	1	199.99

Figure. 7: Board

Thanks!