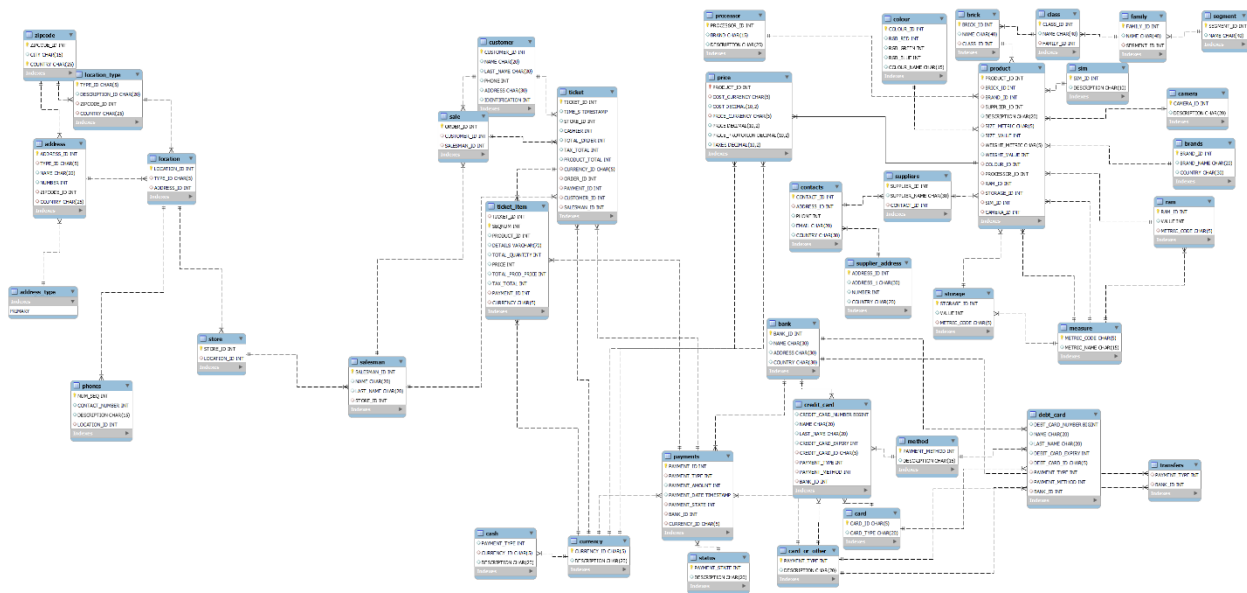# MODEL EXPLANATION

Our Mobile Phone Store model includes six models or schemes: Tickets, Store, Payment, Customer, Salesman and Products.

Ticket Model

The Tickets model is the result of the union of the other five models. In this you can find attributes and values corresponding to the rest of the models. Likewise, Tickets has 2 tables: Tickets and Ticket_Item. The first includes attributes such as Ticket_ID (Primary Key), Store_ID (Foreing Key), Currency (Foreign Key), Total_Order, among others. For its part, the Ticket_Item table connects directly with the Products schema, and includes Ticket_ID as Foreign Key, followed by a Sequential Number, which combined are transformed from a Primary Key of Products, order ID, ID of the method of payment, customer and cashier ID (all of them as FK), among others.

Store Model

The Store model has eight tables, including some Lookup tables and Binary tables (such as Address Type or Location Type). The main table of this scheme is Store, it contains the unique identification of each store (PK) and its respective location identification (RF). The location table

has a unique location identification (PK), a location type (FK from a lookup table), and a unique address (FK from the Address table). Very similar, Address has its own unique ID as PK, followed by an address type (FK from a lookup table), and its respective zipcode and country (FK from Zipcode table).

Payment Model

The Payments model is one of the most complex. The schema contains eleven tables: Payments, Transfers, Credit Card, Debit Card, Cash, Card or Other, Currency (lookup table), among others. The most important table, where the result of the other ten tables is found, is Payments. In this you can find the unique ID of Payment (PK), Payment Type (card, cash or transfer, this attribute being a FK from the Card or Other table), Payment Amount, Currency ID (FK), Bank ID (FK) , among others. The Currency table is very important, since it is a lookup table that allows us to connect the Payments table with the Tickets table. Additionally, the Card or Other table is a PK for each table of each type of transaction (credit card, debit card, cash or transfer). In the card tables we can find the payment type ID (FK referenced to Card or Other), card number, name found on the card, expiration date, card type ID (FK from the Cards table) , bank id (FK from the Banks table), among others. As already mentioned, the Cards table contains a PK with the ID of the card type ('AMEX', 'MC', ect) and its respective description of the card ('American Express', for example). In turn, the bank table contains the id of each bank (PK) with its respective name. Going a little more in detail, we have included the Method table, which indicates the type of payment executed with the card (swiping, dipping, contactless) and it has been given its own id (PK). On the other hand, the Status table has a unique number (PK) that determines the status of the transaction (accepted, rejected, canceled, etc.). All these last tables are referenced in the credit card and debit card tables.

Product Model

The Product model is the most detailed and extensive. It has 17 tables that include: characteristics of the products, suppliers, family, segment, category and product brick, prices and costs, among others.

The Color, Camera, Sim, Processor, Ram and Storage tables are those that contain specific characteristics for each product. All these tables have a unique attribute such as Primary Key, and its respective description (for example in Cameras: Id 1 = 'Standard Camera'). These tables help us to give the product specific characteristics.

The Measure table is a lookup table that has two attributes: first, a unique id (PK) with the type of measure (ex: KG, CM), and its description (ex: 'Kilograms', 'Centimeters'). This table helps us to connect tables like RAM, Storage, and others.

The Brands table contains a Primary key with the identification of the brand to which it corresponds, its name and its description.

On the other hand, we have created a specific table for providers, which contains a provider id (PK), provider name and contact id (information to contact them), which is a reference key of the Contacts table. The Contacts table in turn has a unique contact id (PK) and a unique address id (which is a reference key from the Supplier Address table). The Suppler_Address table has a unique address id (PK), with the address, number, and country.

To identify the product to be treated, we use the Merchandising Hierarchies mechanism, with the use of the Global Product Classification (GPC) method. So first we create a table called Segment, which contains a Primary Key with the ID of the industry sector and its respective description. The next table is Family, which contains a Primary Key with the ID of the broad division of a segment, its description, and the ID of the industry sector as Foreign Key of the Segment. The next table is Class, and it follows the same logic. It contains a Primary Key with the ID of the group of like categories, its description, and the ID of the broad division of a segment as the Foreign Key of Family. Finally, the Brick table, which contains a Primary Key with the ID of categories of like products, its description, and the ID of the group of like categories as Foreign Key of Class.

Once we have all the tables created, we move on to the Product table. It contains the unique identification of the product as Primary Key, and the main attributes of the tables already created, such as brick_id, brand_id, supplier_id, size measure and values, weight measure and values, among others (all of them Foreign Keys).

Lastly, we have the Prices table. In this we have the identification of the product as Primary Key, the cost currency, cost, price currency, price, tax, among others. Likewise, the identification attribute of the product that is as Primary Key, in turn is a Reference Key of the Product identification of the Product table.

Customer Model

The Customer model contains only one Customer table. This table contains five attributes: Customer ID such as Primary Key, name, last name, phone, address, and identification number. The Customer ID attribute is important as it will help us track sales made to a specific customer.

Salesman Model

The latest model is Salesman. This has two tables: Salesman and Orders.

The Salesman table has a specific ID for each seller (PK), first name, last name, and the Store ID to which it corresponds (FK of the Stores table).

The Orders table contains a unique ID of the order as the Primary Key, the Customer ID (FK from the Customer table), and the Salesman ID (FK from the Salesman table).