Data warehousing and BI systems

Drone delivery service

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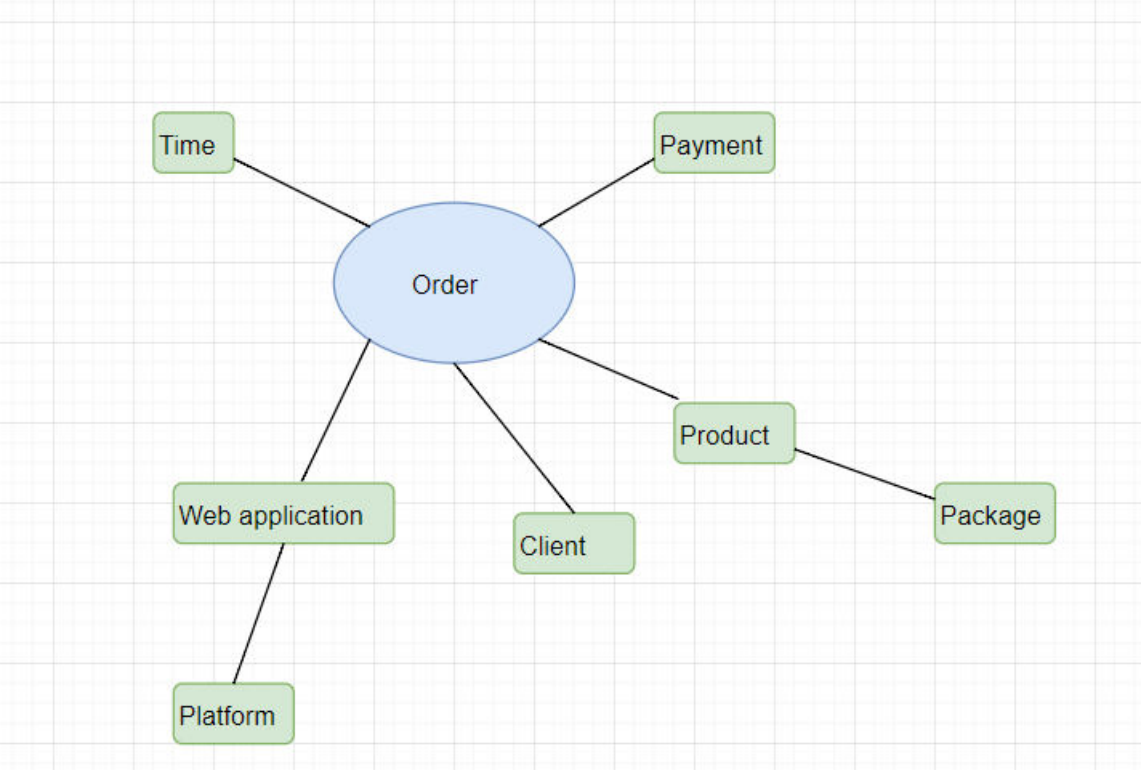
I. The aims of data warehouse implementation

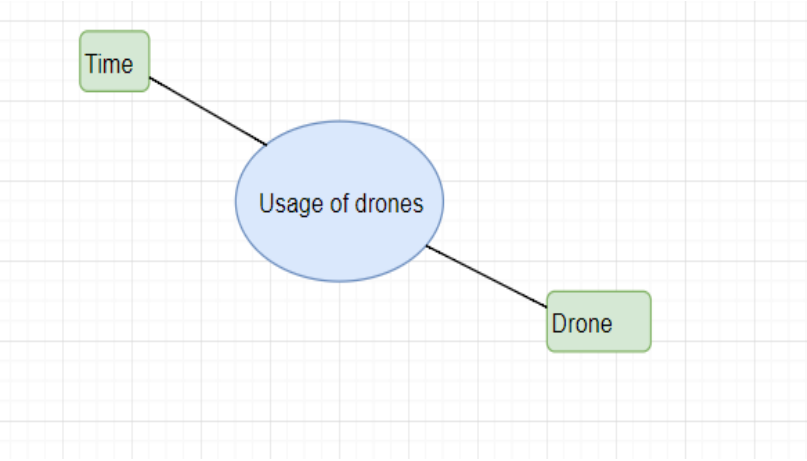
The aim of implementing a data warehouse in our drone delivery service reality is to collect data such as sales, the deliveries made by drones and data from the drones themselves. Data such as this is invaluable as it can help make better management decisions and see which parts of the company need improvement.

II. Conceptual model of data warehouse

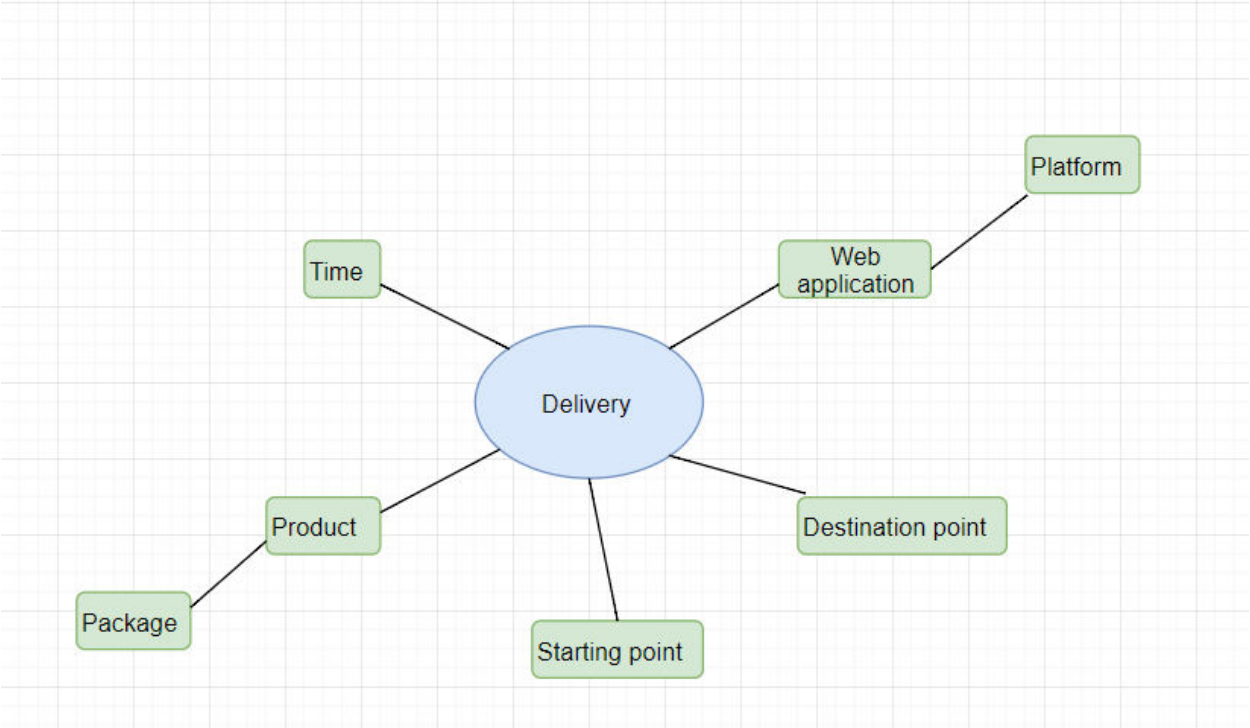
Drone delivery service ORDER fact. Dimensions : Payment, Time, Client, Product, Web application



Drone delivery service USAGE OF DRONES fact. Dimensions : Time, Drone



Drone delivery service DELIVERY fact. Dimensions : Time, Web application,Destination point, Starting point, Product



Facts and measures

Order

- Estimated order value
- Weight of order
- Average order time

Delivery

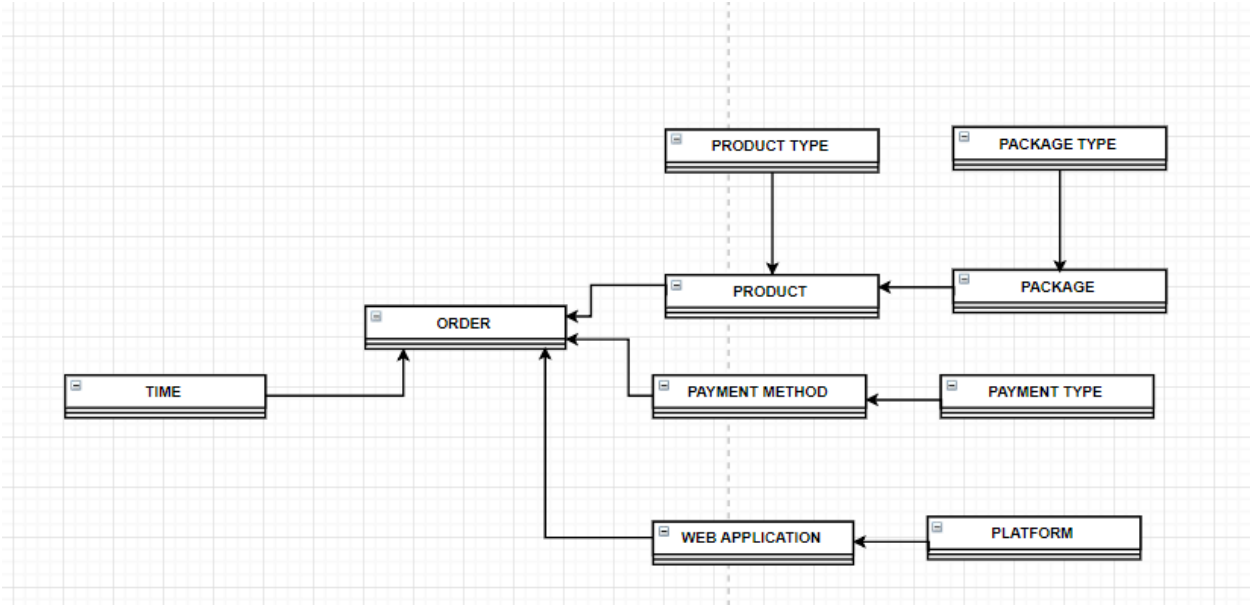
- Total distance delivered
- Shortest delivery distance
- Longest delivery distance
- Time of delivery
- Average time of delivery

Usage of drones

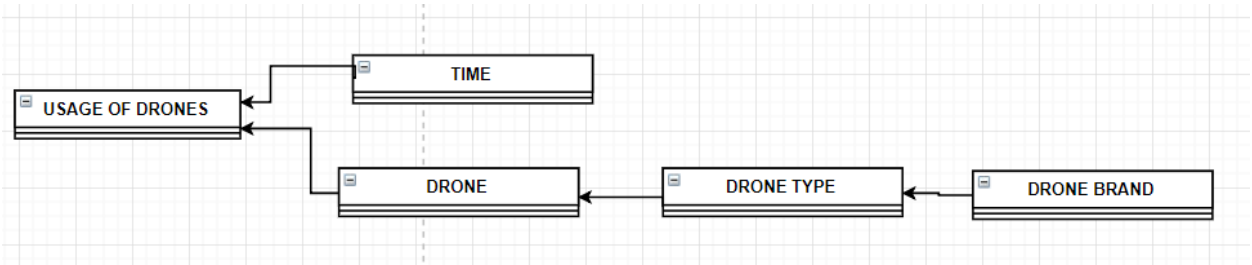
- Orders completed
- Profit made from drones
- Cost of maintenance

III. Database structure of data warehouse

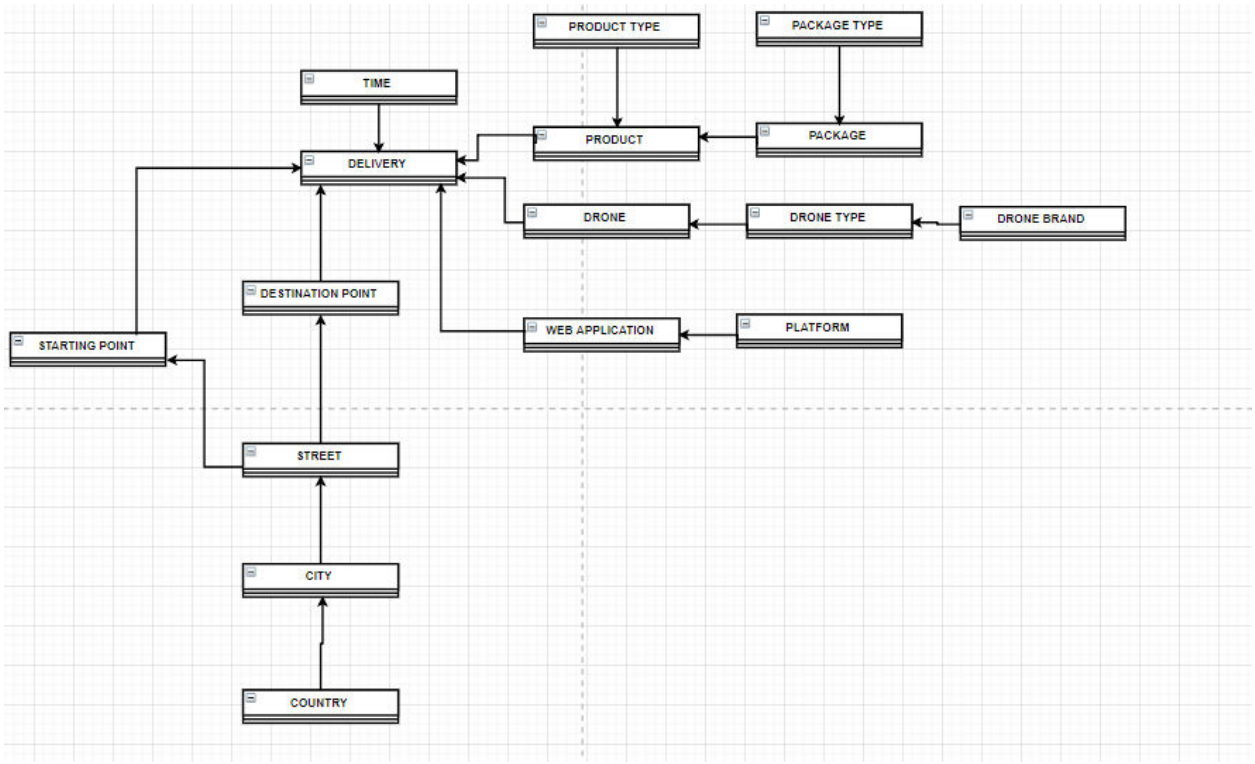
Order fact snowflake scheme



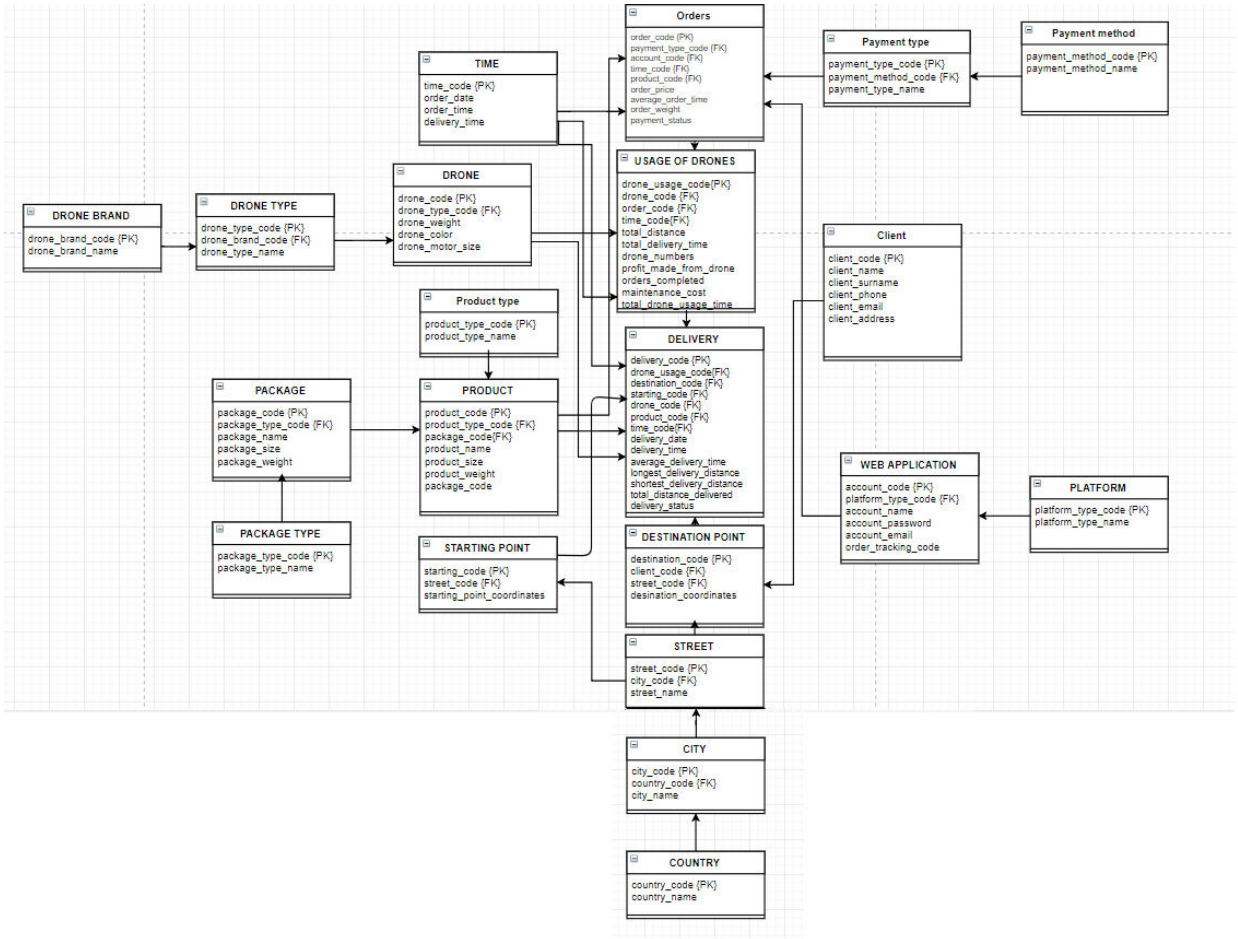
Usage of drones fact snowflake scheme



Delivery fact snowflake scheme



Database snowflake scheme with columns


Orders
order_code {PK}
payment_type_code {FK}
account_code {FK}
time_code {FK}
product_code {FK}
order_price
average_order_time
order_weight
payment_status
Payment type
payment_type_code {PK}
payment_method_code {FK}
payment_type_name
Payment method
payment_method_code {PK}
payment_method_name
TIME
time_code {PK}
order_date
order_time
delivery_time
USAGE OF DRONES
drone_usage_code{PK}
drone_code {FK}
order_code {FK}
time_code{FK}
total_distance
total_delivery_time
drone_numbers
profit_made_from_drone
orders_completed
maintenance_cost
total_drone_usage_time
DRONE
drone_code {PK}
drone_type_code {FK}
drone_weight
drone_color
drone_motor_size
DRONE BRAND
drone_brand_code {PK}
drone_brand_name
DRONE TYPE
drone_type_code {PK}
drone_brand_code {FK}
drone_type_name
Client
client_code {PK}
client_name
client_surname
client_phone
client_email
client_address
Product type
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product_type_name
DELIVERY
delivery_code {PK}
drone_usage_code{FK}
destination_code {FK}
starting_code {FK}
drone_code {FK}
product_code {FK}
time_code{FK}
delivery_date
delivery_time
average_delivery_time
longest_delivery_distance
shortest_delivery_distance
total_distance_delivered
delivery_status
PACKAGE
package_code {PK}
package_type_code {FK}
package_name
package_size
package_weight
PRODUCT
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product_type_code {FK}
package_code{FK}
product_name
product_size
product_weight
package_code
WEB APPLICATION
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platform_type_code {FK}
account_name
account_password
account_email
order_tracking_code
PLATFORM
platform_type_code {PK}
platform_type_name
PACKAGE TYPE
package_type_code {PK}
package_type_name
STARTING POINT
starting_code {PK}
street_code {FK}
starting_point_coordinates
DESTINATION POINT
destination_code {PK}
client_code {FK}
street_code {FK}
desination_coordinates
STREET
street_code {PK}
city_code {FK}
street_name
CITY
city_code {PK}
country_code {FK}
city_name
COUNTRY
country_code {PK}
country_name