FastFruits - An Online Retail Store

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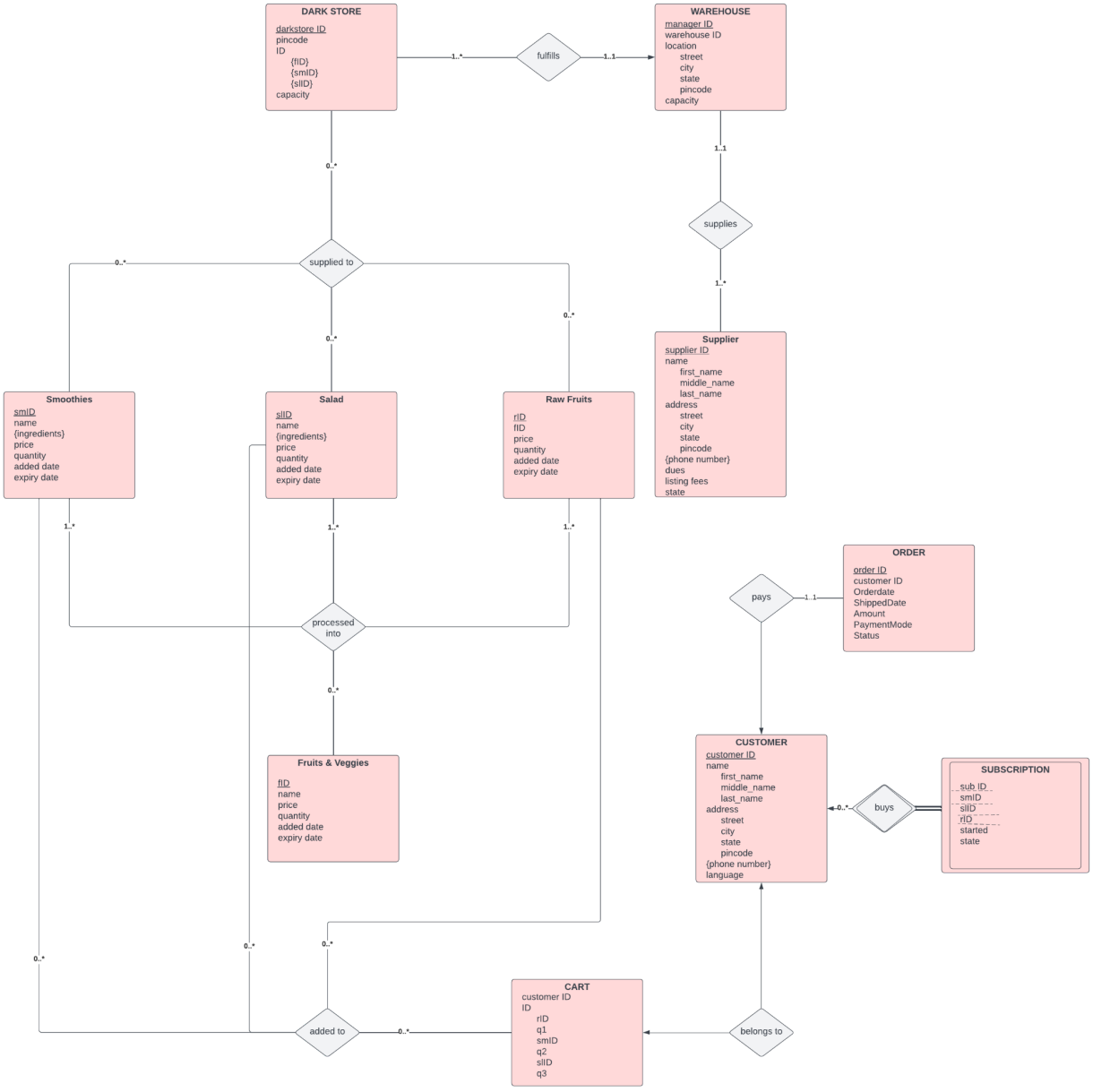
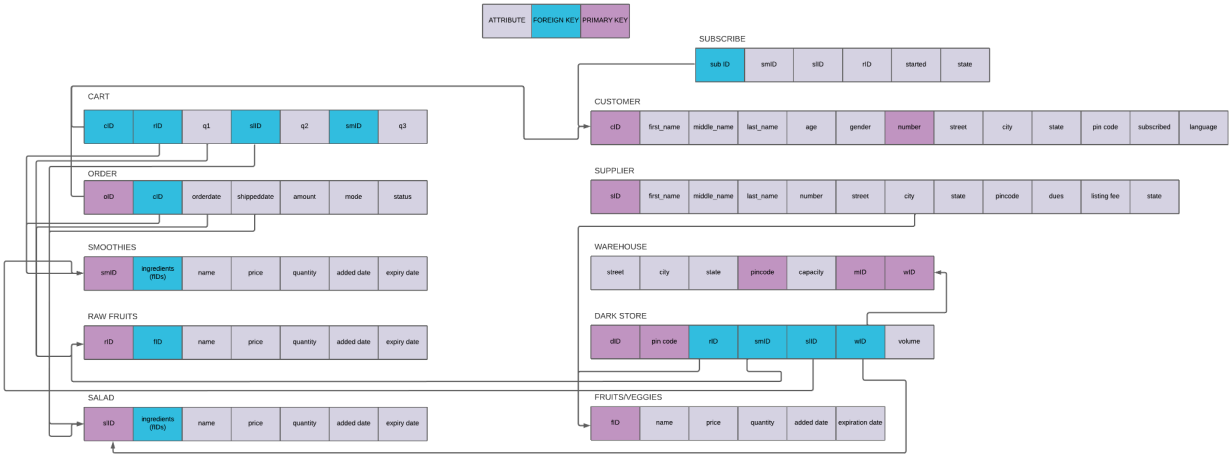
Scope of the Work

FastFruits has a centralized warehouse that fulfills the demands of various dark stores. Each dark store has a unique ID, various stock IDs, and a pin code to specify its location. The suppliers restock the warehouse. To keep track of the suppliers, we use a unique supplier ID. Apart from that, we store their names, phone numbers, SKUs supplied(via Fruit ID), dues, listing fees, and a ternary state(inactive, active, and part-time). All our stock is stored in a persistent Fruits and Vegetables table, with each stock instance having a unique fruit ID as the primary key. Also, we store basic details associated with the particular fruit, including its name, buying price, quantity, expected expiry date, and date of arrival. Further, to aid our lifecycle management algorithm, we store fruits at different stages of ripeness in different tables(i.e, Raw Fruits, Salads, and Smoothies). In each table, the SKU has a unique ID as the primary key and a reference ID from the stock table as the foreign key. We also store the names, prices, ingredients, and quantities for the different SKUs. Eventually, our dark stores supply these processed items. To cater to that, each dark store stores relevant IDs as foreign keys to refer to these tables. From the customer's perspective, all of them have unique customer IDs. We also store their names, phone numbers, ages, gender, email address, pin codes, delivery address, languages, and subscriptions(boolean). The pin code is used to assign a dark store to the customer that is closest to them. The customer buys fruits and vegetables, which are temporarily stored in their carts. The cart uses customer ID as a foreign key and stores relevant product IDs(raw fruit ID, smoothie ID, salad ID), the checkout prices, and overall quantities. Once the consumer completes the payment, the items in the cart are added to orders. Apart from the data stored in the cart, the orders table also stores the total revenue from the order, mode of payment, and committed delivery date.

ER Diagram


DARK STORE
darkstore ID
pincode
ID
{fID}
{smID}
{slID}
capacity
fulfills
1..*
1..1
WAREHOUSE
manager ID
warehouse ID
location
street
city
state
pincode
capacity
0..*
1..1
supplies
1..*
supplied to
0..*
0..*
0..*
Supplier
supplier ID
name
first_name
middle_name
last_name
address
street
city
state
pincode
{phone number}
dues
listing fees
state
Smoothies
smID
name
{ingredients}
price
quantity
added date
expiry date
Salad
slID
name
{ingredients}
price
quantity
added date
expiry date
Raw Fruits
rID
fID
price
quantity
added date
expiry date
1..*
1..*
1..*
processed into
0..*
Fruits & Veggies
fID
name
price
quantity
added date
expiry date
pays
1..1
ORDER
order ID
customer ID
Orderdate
ShippedDate
Amount
PaymentMode
Status
CUSTOMER
customer ID
name
first_name
middle_name
last_name
address
street
city
state
pincode
{phone number}
language
0..*
buys
SUBSCRIPTION
sub ID
smID
slID
rID
started
state
0..*
0..*
0..*
added to
0..*
CART
customer ID
ID
rID
q1
smID
q2
slID
q3
belongs to

Relational Model



Customer = (cID, first_name, middle_name, last_name, age, gender, {number}, street, city, state, pincode, language)
Subscribe = (subID, smID, slID, rID, started, state)
Supplier = (sID, first_name, middle_name, last_name, {number}, street, city, state, pincode, dues, listing fee, state)
Warehouse = (street, city, state, pincode, capacity, mID, wID)
DarkStore = (dID, pin code, smID, rID, smID, capacity)
Fruits & Veggies = (fID, name, price, quantity, added date, expiration date)
Salad = (sID, ingredients, name, price, quantity, added date, expiry date)
Raw Fruits = (rID, fID, name, price, quantity, added date, expiry date)
Smoothies = (smID, ingredients, name, price, quantity, added date, expiry date)
Order = (oID, cID, orderdate, shippeddate, amount, mode, status)
Cart = (cID, rID, q1, smID, q2, slID, q3)