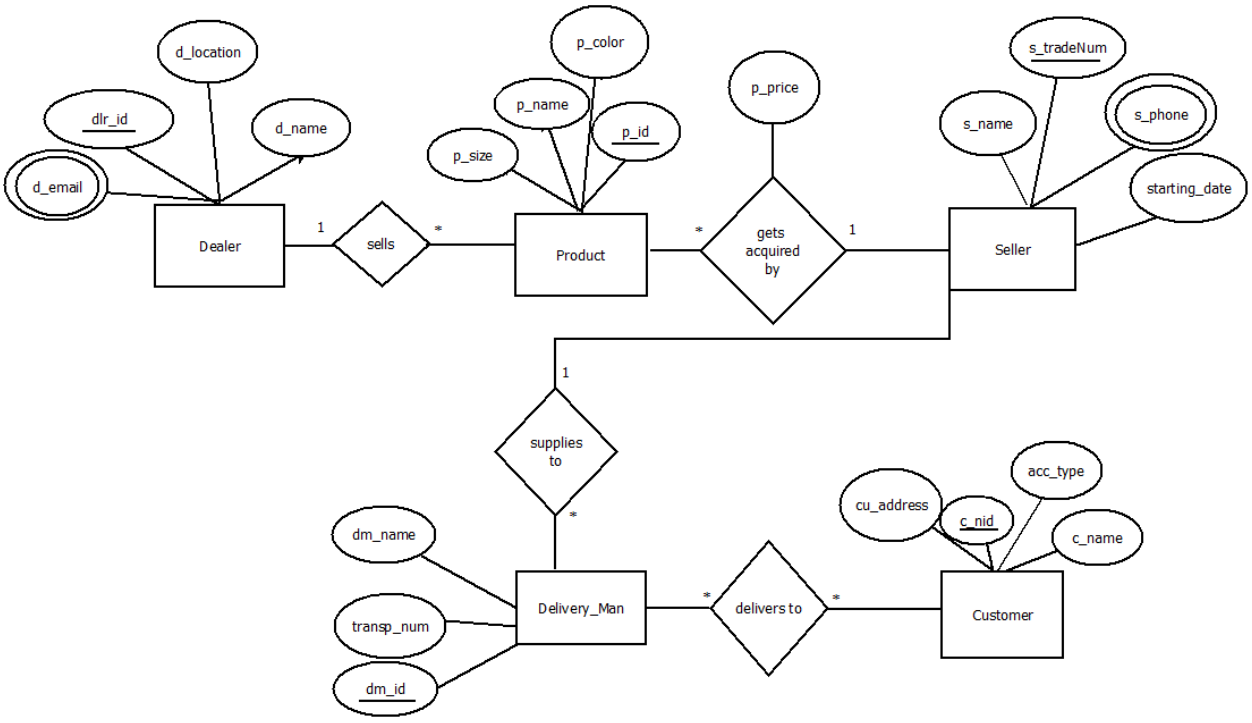
ONLINE SHOP MANAGEMENT SYSTEM

Scenario:

In an online shop management system, an online shop delivers many types of products to customers by delivery man in any location. An online shop has a dealer who is identical by their unique dealer id. A dealer has more attributes such as location from which they operate to, email and also their name. A dealer sells multiple products which gets acquired by a Seller. Each product has their unique id and they also have their name, size and color. Seller is identical to their unique trade license number and they have their usual name, phone number and the date which they started their business. Product has their prices which gets recorded by both the product and the seller who acquires it. There is also delivery man to deliver the products to the customers. A seller supplies the products to deliver to multiple delivery men. Each delivery man is recognized by their distinct delivery man id. They also have their name and the transport number which they use to deliver. There are many delivery men delivering products to many customers. Each customer has their unique nid for recognizing them separately and also, they are identical to their name, address and their account type in the online shop website.

ER Diagram:



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Normalization

 Foreign Key

 Primary Key

Sells (dlr_id, d_location, d_name, d_email, p_id, p_name, p_price, p_size, p_color)

1NF: d_email is a multivalued attribute

2NF: dlr_id, d_name, d_location, d_email

p_id, p_name, p_color, p_size, p_price

3NF: dlr_id, d_name, d_location, d_email

p_sizeid, p_size, p_price, p_color

p_id, p_name

Table for Sells:

1. dlr_id, d_name, d_location
2. p_sizeid, p_size, p_price, p_color
3. p_id, p_name, p_sizeid, dlr_id
4. dlr_id, d_email – composite primary key

Gets acquired by (p_id, p_size, p_name, p_color, p_price, s_name, s_tradeNum, s_phone, starting_date)

1NF: s_phone is a multivalued attribute

2NF: p_id, p_name, p_size, p_color, p_price

s_tradeNum, s_name, s_phone, starting_date

3NF: p_id, p_name

p_sizeid, p_size, p_price, p_color

s_tradeNum, s_name, s_phone, starting_date

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Table for gets acquired by:

1. p_id, p_name, p_price, s_tradeNum, p_sizeid
2. p_sizeid, p_price, p_size, p_color
3. s_tradeNum, s_name, starting_date
4. s_tradeNum, s_phone-composite primary key

Supplies to (s_tradeNum, s_name, s_phone, starting_date, p_price, dm_id, transp_num, dm_name)

1NF: s_phone is a multivalued attribute

2NF: s_tradeNum, s_name, s_phone, p_price, starting_date

dm_id, dm_name, transp_num

3NF: No transitive dependency

s_tradeNum, s_name, s_phone, p_price, starting_date

dm_id, dm_name, transp_num

Table for Supplies to:

1. s_tradeNum, s_name, p_price, starting_date
2. dm_id, dm_name, transp_num, s_tradeNum
3. s_tradeNum, s_phone- composite primary key

Delivers to (dm_id, transp_num, dm_name, c_nid, cu_address, acc_type, c_name)

1NF: No multivalued Attribute

2NF: dm_id, dm_name, transp_num

c_nid, cu_address, acc_type, c_name

3NF: No transitive dependency

dm_id, dm_name, transp_num

c_nid, cu_address, acc_type, c_name

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Table for delivers to:

1. dm_id, dm_name, transp_num
2. c_nid, cu_address, acc_type, c_name
3. t_id, dm_id, c_nid

Final Table List

1. dlr_id, d_name, d_location – **Dealer**
2. p_id, p_name, p_sizeid, dlr_id - **Product**
3. p_sizeid, p_size, p_price, p_color – **ProductInfo**
4. dlr_id, d_email – **Dealer1**
5. p_id, p_name, p_price, s_tradeNum, p_sizeid – **Product1**
6. s_tradeNum, s_name, p_price, starting_date - **Seller**
7. s_tradeNum, s_phone – **Seller1**
8. dm_id, dm_name, transp_num, s_tradeNum – **DeliveryMan**
9. c_nid, cu_address, acc_type, c_name - **Customer**
10. t_id, dm_id, c_nid - **TrackDelivery**