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CSE 3241 Project Checkpoint 01
In a NEATLY TYPED document, provide the following:

1. List names of all your team members. Provide a paragraph explaining how you have been working as a team under remote setup so far, how you plan to communicate with each other, share work, etc. Any issues related to time differences, technology constraints, etc?

Daniel Lim, Yi Chen, Blake Charlton, and Nicki Baehre.
We created a group messaging chat on iMessage so we can communicate. We used google drive to share our work. We have been meeting on zoom on Thursdays during our scheduled class time. We have also met on other days if we need more time to get things done before the checkpoint.

2. Based on the requirements given in the project overview, list the entities to be modeled in this database. For each entity, provide a list of associated attributes. Make sure that your design allows for proper handling of buyer/seller interactions such as orders, payments, feedback, and karma points.

Buyers - membership type, purchase history
Sellers - profits
Account - Name, Address, Karma Points, phone number
Products - Name, price of product, quantity, Buyer Feedbacks, availability, on sale or not, images
Virtual storefront - Name, products offered, payments accepted
Payments - type of account, amount paid
Order - order number, order date and time

3. Based on the requirements given in the project overview, what are the various relationships between entities? (For example, "CUSTOMER entities purchase IP Item entities").

Each seller entity owns a storefront entity which sells a product entity.
Each buyer entity purchases a product entity and makes a payment entity. Each buyer entity wishes a wish list entity and contains a shopping cart entity.
Virtual storefront entity has the product entity.

4. Propose at least two additional entities that it would be useful for this database to model beyond the scope of the project requirements. Provide a list of possible attributes for the additional entities and possible relationships they may have with each other and the rest of the entities in the database. Give a brief, one sentence rationale for why adding these entities would be interesting/useful to the stakeholders for this database project.

We propose adding a shopping cart entity and a wishlist entity. A wish list could have attributes of the amount of the product and the price, and number of products put on the list, an account has an account type, username, account number, activity status, transaction history.
A shopping cart would have attributes number of items, how long the items have been there, price of items

5. Give at least four examples of some informal queries/reports that it might be useful for this database might be used to generate. Include one example for each of the additional entities you proposed in question 3 above.

There could be a report for profits of the storefronts. There could be a query that returns all products in a certain category. Someone could query a person's wishlist to see what they should get them as a gift. You could query products to see if a product is available.

6. Suppose we want to add a new IP Item to the database. How would we do that given the entities and relationships you've outlined above? Is it possible to add up to five images for the IP Item? Is it possible for the IP Item to be purchased by more than one Payment Type? Is it possible for the Buyer to purchase IP Items from multiple Sellers at one time? Can a Buyer leave feedback on multiple items in the Seller's store? Explain how your model supports these possibilities. If it does not, make changes that allow your design to support all these requirements.

To add a new IP item to the database, a seller would create a new listing. Our model supports up to five images for the IP item based on the images attribute of the product. It is possible for the IP item to be purchased by more than one Payment Type due to the payments accepted attribute of the storefront. It is possible for the Buyer to purchase IP items from multiple sellers at one time due to the shopping cart. A buyer can leave feedback on multiple items in the seller's store via the buyers feedback attribute of the product.

7. Determine at least three other informal update operations and describe what entities would need to have attributes altered and how they would need to be changed given your above descriptions. Include one example for each of the additional entities you proposed in question 4 above.

Products need to be able to have their price, availability, and sale updated. The shopping cart needs to be able to have products added and removed from it. The wishlist needs to be able to have products added and removed from it.

8. Provide an ER diagram for your database. Make sure you include all of the entities and relationships you determined in the questions above INCLUDING the entities for question 4 above, and remember that EVERY entity in your model needs to connect to another entity in the model via some kind of relationship. You can use draw.io for your diagram. If drawing on paper,

make sure that your drawing is clear and neat. Ensure that you use a proper notation and include a legend.
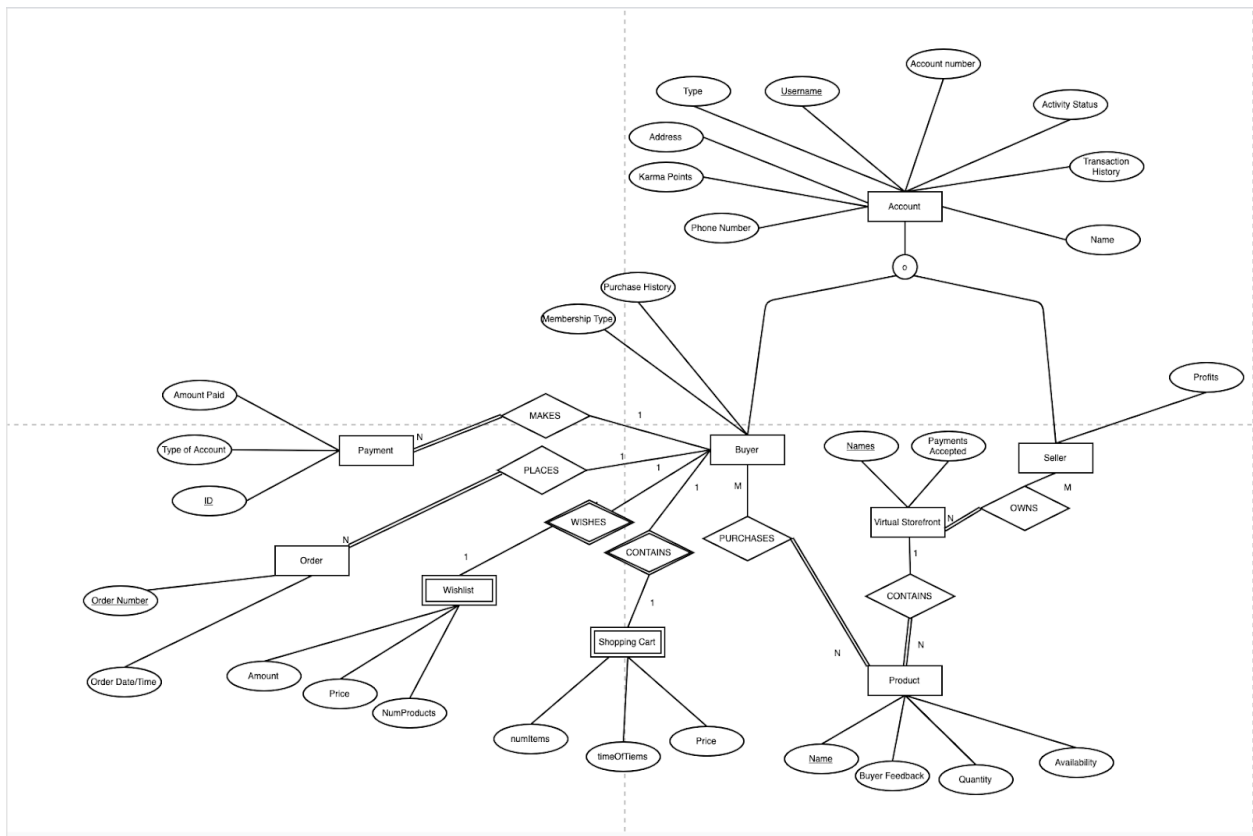
NOTE: 'Informal' means stated in plain English, not in SQL or Relational Algebra.