Isaac Kim

Professor Itani

CS450

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Project Component 1

1. **Draft1**: My first draft was just a rough sketch so that I could get a big picture of what everything looks like.
2. **Draft 2**: In the second draft, we can see that it is a lot neater, and I remove some entities like affiliation kit, as well as link purchases/transactions to customers. I also try to organize the er diagram to make it more readable.
3. **Draft 3**: In draft 3, I try to focus more on making the branches and offers more clear, as well as separating redemption history and the purchases since I did not think they were separated in the beginning.
4. **Draft 4**: In draft 4, I clean up the structure of the ER diagram, as well as relinking transactions with redemption history since I thought that redeeming prizes using points still counted as a transaction. I also turned transaction into its own entity since it has its own attributes.
5. **Draft 5**: Draft 5 is mostly a cleanup of draft 4, but I also try to include many more attributes of entities that I could think of. I also unlink Transactions from Redemption History since redemption history is exclusively for points redemption. This is the last draft I made before the final ER Diagram where I added additional constraints according to the business rules as well as adding more attributes where I saw fit.

Assumptions/Rules:

1. Families cannot be identified unless by their members, which is why I made it a weak entity.
2. A customer can only be in one family at a time, but families can have multiple customers in it.
3. A customer can only have one card at a time and likewise, a card can only have one customer attached to it.
4. A transaction cannot be linked to multiple cards. A card can have multiple transactions linked to it.
5. Multiple point offers can be used on a single transaction, and multiple transactions can have the same offer applied to it.
6. Offers of the same type can be offered at multiple branches, and branches can offer multiple different offers.
7. The bonus % point accumulation for family members can be changed.
8. Transactions can only be made by one customer at a time, but customers can make multiple transactions.
9. Transactions must include at least one product, otherwise it can’t be a transaction (no transactions of 0).
10. Customers can claim multiple prizes, but a claim must have at least one prize, otherwise there is no claim (no claim of 0 prizes).
11. Exchange centers can offer multiple prizes, and prizes can be claimed from multiple exchange centers.
12. Redemption History stores multiple claims of customers and different claims can go into different customers’ redemption history.