GROUP 80

Phase I

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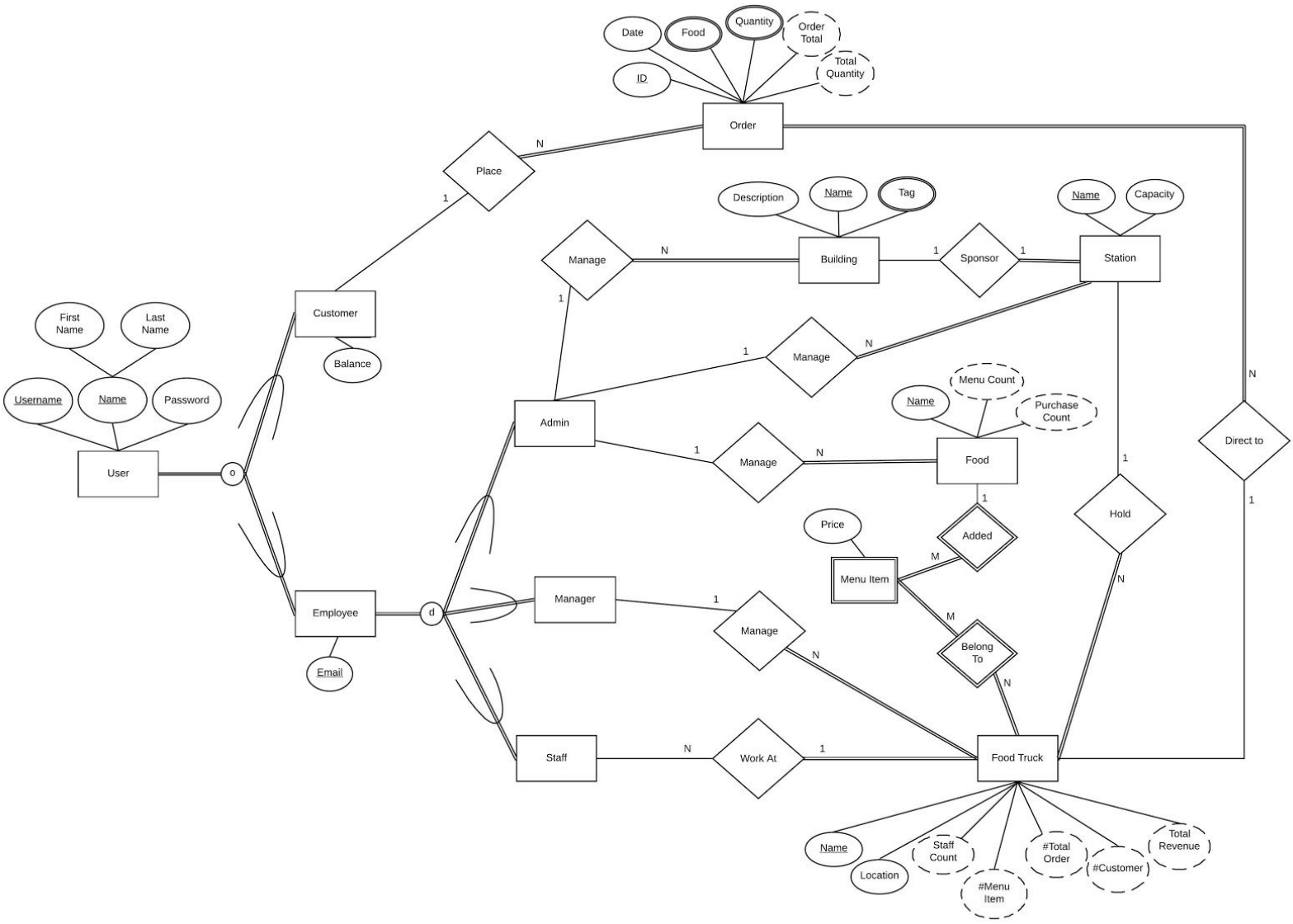
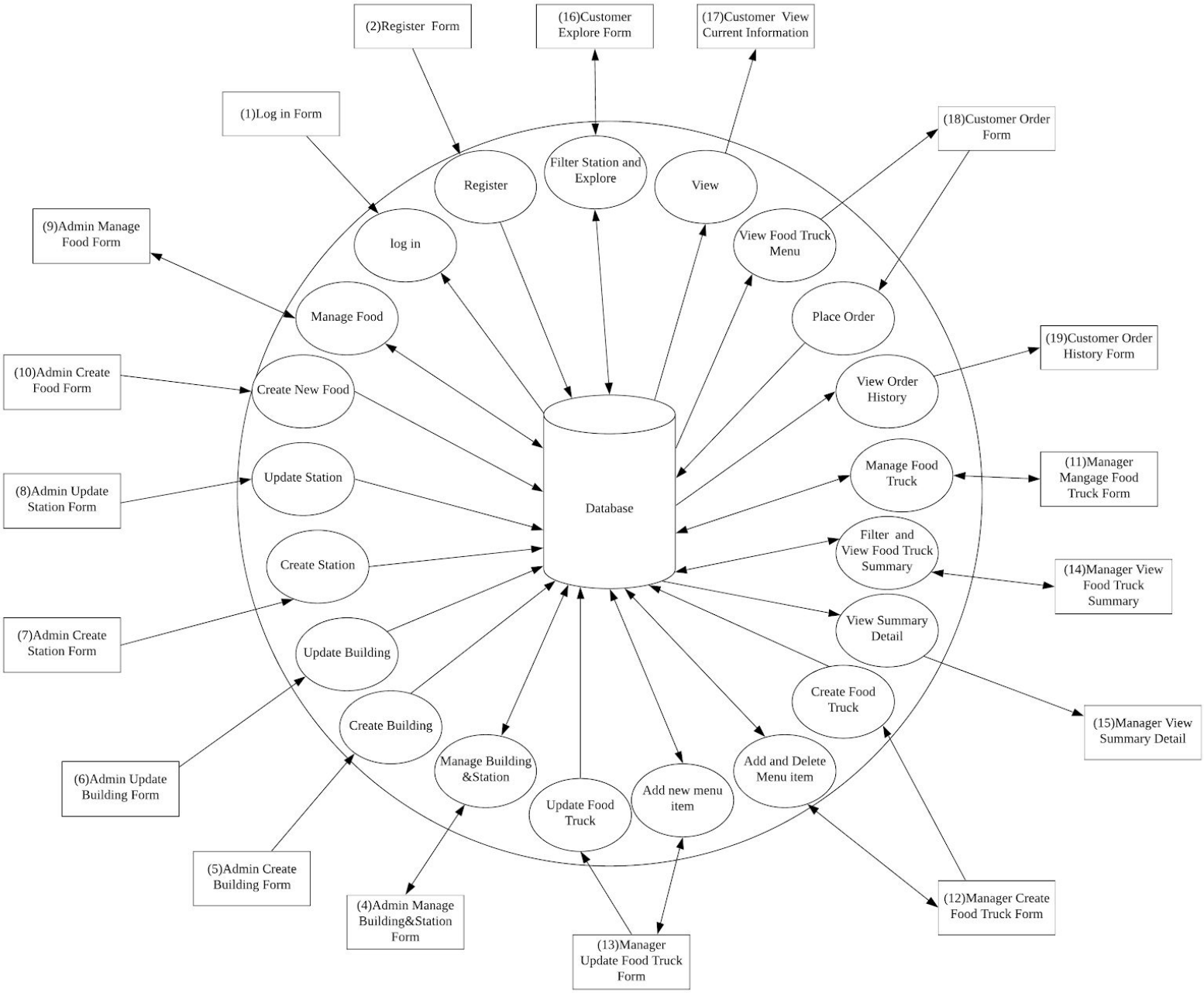
Enhanced Entity Relationship (EER) Diagram



Information Flow Diagram (IFD)



Logical Constraints:

1. When the station is updated, the new station name should be the same as the old one. (Transition Constraints)
2. When the balance is updated, it should be increased only by customers and should be decreased only by food trucks.(Semantic Constraints)
3. Total number of food trucks in each station cannot exceed the building's capacity. (Aggregate Constraints)
4. Total cost of the order cannot exceed the customer's current balance. (Equational Constraints)
5. Total number of staff should be larger than the number of food trucks. (Aggregate Constraints)
6. Total number of buildings should be larger than the number of stations. (Aggregate Constraints)

Assumptions:
We assume some maximum values of certain attributes, since it will influence the constraints we set within the database.

1. Quantity of a single order can't exceed 100. Since in reality, usually there is a bound how many pieces of food one could buy.
2. Amount of the building's tag can't exceed 6. We put on this assumption because we think in reality one should not use too many tags to describe a thing.
3. Capacity of a building can't exceed 30. A building shouldn't hold too many stations.
4. When food truck gets updated, the total number of menu items cannot be less than the previous total number. (Transition Constraints)