Project Phase #2

Relational Schema

Conversion of EER Diagram to Relational Schema

Step 1: Mapping of Regular (Strong) Entity Types.
Strong Entities:

- Person (Union Type)
- Employee (Disjoint Entity) (Phone_number is multi-valued attribute and Age is derived attribute)
- Customer (Disjoint Entity) (Delivery_address is multi-valued attribute)
- Area Manager (Disjoint Entity)
- Deliverer (Disjoint Entity)
- Staff (Disjoint Entity)
- Silver Member (Disjoint Entity)
- Ordinary Customer (Disjoint Entity)
- Premium Member (Union Type)
- Meal Pass
- Vehicle
- Payment
- Shop
- Restaurant (Disjoint Entity) (Type is multi-valued attribute)
- Supermarket (Disjoint Entity)

Note: Mapping of Generalization and Mapping of Union Types (categories) whenever needed.

Step 2: Mapping of Weak Entity Types.
Weak Entities:

- Employment (Total participation with Employee entity)
- Promotion (Total participation with Shop entity)
- Schedule (Total participation with Shop entity)
- Product (Total participation with Supermarket entity)

Step 3: Mapping of Binary 1:1 Relationship Types.

- “Premium Member” Owns “Meal Pass” (Premium Member has total participation)
- “Silver Member” Owns “Member Card” (Silver Member has total participation)

Step 4: Mapping of Binary 1:N Relationship Types.

- “Area Manager” Supervises “Deliverer”
- “Deliverer” Registers “Vehicle”

- “Staff” Issues “Member Card”

Step 5: Mapping of Binary M:N Relationship Types.

- “Area Manager” Makes_contract “Shop”
- “Customer” Comments_on “Shop”

Step 6: Mapping of Multivalued Attributes.

- Employee (Phone_number is multi-valued attribute)
- Customer (Delivery_address is multi-valued attribute)
- Restaurant (Type is multi-valued attribute)

Step 7: Mapping of N-ary Relationship Types.

- Delivers (Deliverer, Vehicle, and Order)
  Note: “Delivery Info” is the name of the newly created relation.
- Places (Customer, Shop, Order, Promotion, Payment)
  Note: “Order Info” is the name of the newly created relation.