Member:

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Quantum Flux - TCG SHOP

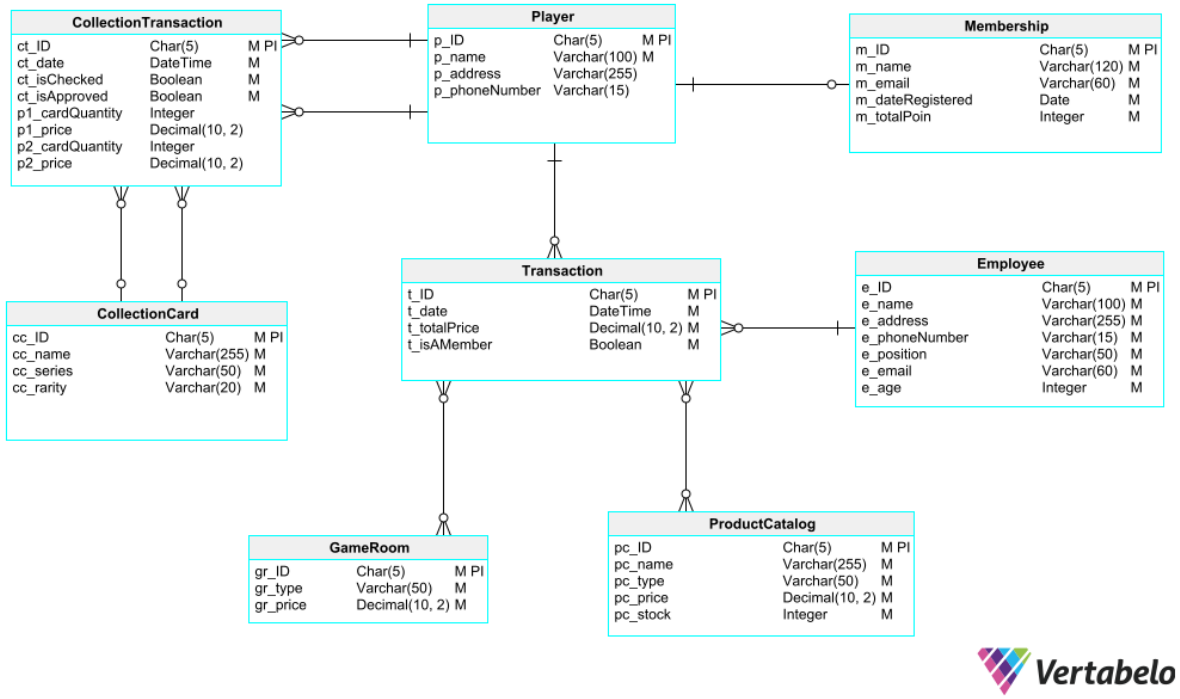
Given the current boom in Trading Card Games (TCG), an entrepreneur who is also a fan of TCG has decided to open a TCG-themed Game Center. Recognizing the need for a streamlined transaction process, the entrepreneur has enlisted the services of an acquaintance to design the database system. The Game Center will offer various card packs from different series (Pokemon, Yu-Gi-Oh, Magic The Gathering, etc.) and feature a card collection display, with some cards available for sale. Additionally, it also offers Game Boards. The owner is a geek, so he is also a veteran player, so he also became a card collector. Therefore, some of the cards owned by the owner are also sold to players. Players can buy/sell/trade cards with the owner's card collection.

The Game Center also offers a TCG game area where players can play against one another, it also offers a private room if the player doesn't want to wait their turn to play. The private game rooms are divided into three types (Regular, Deluxe, and VIP). To become a member, the player needs to have spent at least around 150k IDR and provide personal data, including their name and email. The benefits of becoming a member are Access to play in the Game Area, Earning points with every transaction, which can be exchanged for merchandise, and Enjoying discounts.

The entrepreneur desires a system that records employee data, including Employee ID, name, gender, phone number, email, and age. Each employee can handle multiple transactions by customers. Customers have the option to purchase more than one item per transaction. Employees will record whether the customer is a member, the total number of items purchased, the total amount due, and the preferred payment method.

The database design aims to facilitate efficient and accurate record-keeping for both employee management and customer transactions, ensuring a seamless experience for all patrons of the TCG-themed Game Center.

CDM:


CollectionTransaction
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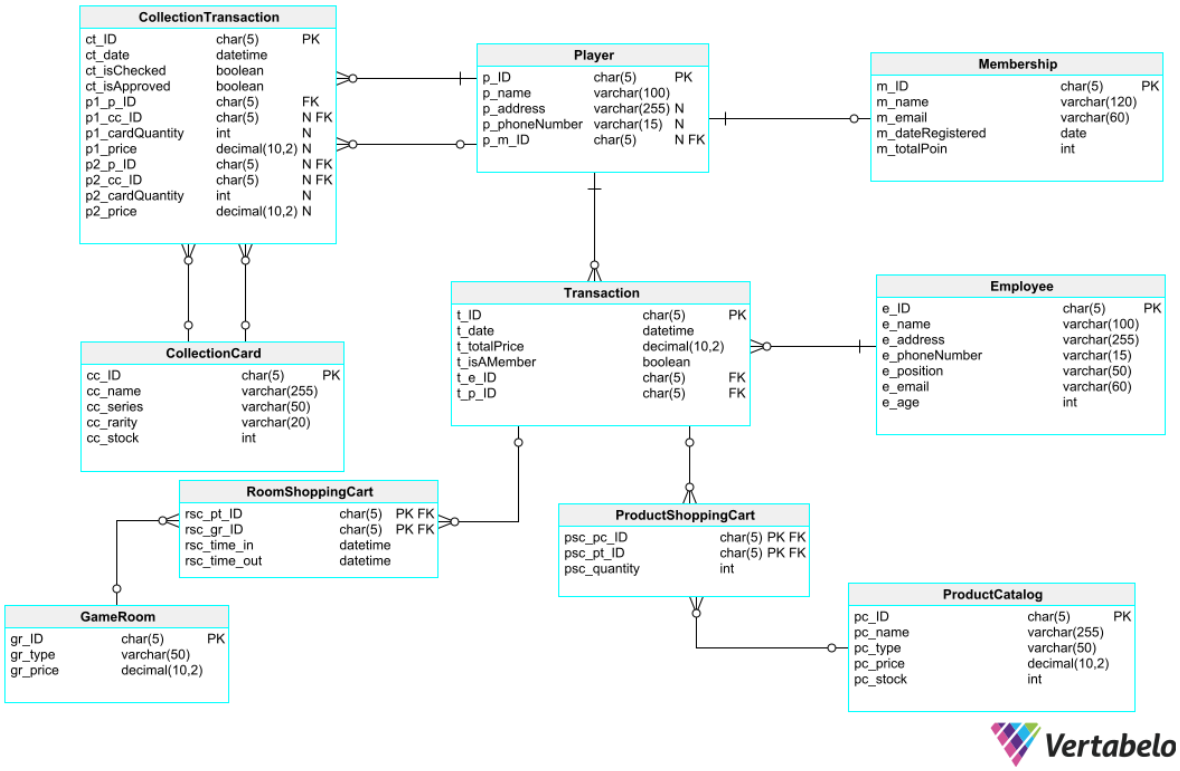
ct_date DateTime M
ct_isChecked Boolean M
ct_isApproved Boolean M
p1_cardQuantity Integer
p1_price Decimal(10, 2)
p2_cardQuantity Integer
p2_price Decimal(10, 2)
Player
p_ID Char(5) M PI
p_name Varchar(100) M
p_address Varchar(255)
p_phoneNumber Varchar(15)
Membership
m_ID Char(5) M PI
m_name Varchar(120) M
m_email Varchar(60) M
m_dateRegistered Date M
m_totalPoin Integer M
CollectionCard
cc_ID Char(5) M PI
cc_name Varchar(255) M
cc_series Varchar(50) M
cc_rarity Varchar(20) M
Transaction
t_ID Char(5) M PI
t_date DateTime M
t_totalPrice Decimal(10, 2) M
t_isAMember Boolean M
Employee
e_ID Char(5) M PI
e_name Varchar(100) M
e_address Varchar(255) M
e_phoneNumber Varchar(15) M
e_position Varchar(50) M
e_email Varchar(60) M
e_age Integer M
GameRoom
gr_ID Char(5) M PI
gr_type Varchar(50) M
gr_price Decimal(10, 2) M
ProductCatalog
pc_ID Char(5) M PI
pc_name Varchar(255) M
pc_type Varchar(50) M
pc_price Decimal(10, 2) M
pc_stock Integer M
Vertabelo

PDM :


CollectionTransaction
ct_ID char(5) PK
ct_date datetime
ct_isChecked boolean
ct_isApproved boolean
p1_p_ID char(5) FK
p1_cc_ID char(5) N FK
p1_cardQuantity int N
p1_price decimal(10,2) N
p2_p_ID char(5) N FK
p2_cc_ID char(5) N FK
p2_cardQuantity int N
p2_price decimal(10,2) N
Player
p_ID char(5) PK
p_name varchar(100)
p_address varchar(255) N
p_phoneNumber varchar(15) N
p_m_ID char(5) N FK
Membership
m_ID char(5) PK
m_name varchar(120)
m_email varchar(60)
m_dateRegistered date
m_totalPoin int
CollectionCard
cc_ID char(5) PK
cc_name varchar(255)
cc_series varchar(50)
cc_rarity varchar(20)
cc_stock int
Transaction
t_ID char(5) PK
t_date datetime
t_totalPrice decimal(10,2)
t_isAMember boolean
t_e_ID char(5) FK
t_p_ID char(5) FK
Employee
e_ID char(5) PK
e_name varchar(100)
e_address varchar(255)
e_phoneNumber varchar(15)
e_position varchar(50)
e_email varchar(60)
e_age int
RoomShoppingCart
rsc_pt_ID char(5) PK FK
rsc_gr_ID char(5) PK FK
rsc_time_in datetime
rsc_time_out datetime
ProductShoppingCart
psc_pc_ID char(5) PK FK
psc_pt_ID char(5) PK FK
psc_quantity int
GameRoom
gr_ID char(5) PK
gr_type varchar(50)
gr_price decimal(10,2)
ProductCatalog
pc_ID char(5) PK
pc_name varchar(255)
pc_type varchar(50)
pc_price decimal(10,2)
pc_stock int
Vertabelo

Assumptions:

- Because the card collection belongs to the owner, the transaction for the CollectionTransaction table is handled by the owner itself and not related to the employee.
- The TCG store limits players to one request at a time per query and employs an approval process for collection card transactions. If a player wishes to trade more than once, they need to submit another query.
- The Owner is included as the player with a unique ID “OWNER” in CollectionCardTransaction