Tutorial 2 : ERD Revision

Problem Description

A game store wishes to allow customers to rent games from each other.

Solution Description

A web app to manage rentals, make rentals and handle returns and payments.

Business Rules

A description of the entire business process of the solution completely agnostic of the technology

- Temporary game trades
- Customers must pay a deposit to join
- Customers can list a copy of a game they own for rental
- Staff must inspect games before listing and upon collection
- Customer incurs a late fee if the game is returned late

Constraints

Considerations and limitations of the operating environment of the client that would directly impact the solution.

- Customers must come in physically to borrow, return, submit games
- The game pool is entirely dependent on customers willing to submit their games
- There’s a risk of customers not returning the game, late returns or in a damaged condition

Questions

1. Review the business rules and constraints and identify possible entities and properties
2. Create a ERD diagram using crow's foot notation to model the solution.

User
username
password
type : customer | staff

Customer
PK custID
FK userID
status

Staff
PK staffID
FK userID

Game
gameID
name
audience rating
platform
onerID

Game Meta

gameID	Name	rating	platform
1	Smash Bros	T	Switch
2	No Mans Sky	E	Switch
3	No Mans Sky	E	PS5

Copies of the game for rental

gameID	Price	Status	Owner	PK Serial Number
1	10	available	1	12341231
1	15	available	2	12312412
1	100	available	3	13453132
1	10	available	1	23425322

Catalogue
CatID
GameID
price
status
staffID

Rental
RentID
FK catID
FK custID
date rented
date returned

StaffID

payment
payId
custID
amount
date
enum | “deposit” | “rental”

assume 2 weeks
late fees: 1.5 * price * num weeks late