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Database Outline/Proposal – CSCI 2050, Database Management Systems.

Introduction

J Games, a company store selling video games, shall open this spring at 123 Century College Ave. This project's goal is to design and construct a database for J Games, which only sells video games. Customers, games, publishers, employees, purchases, stock levels, and returns information all will be saved in the database.

Users and Uses

Customers and employees will be the database's two primary users.

Customers can browse and buy games from the database, view their past purchases, and ask for returns.

The database will be utilized by the employees to manage consumer orders, modify game data, and access personnel information. They will also utilize it to handle returns and refunds, and update product availability.

Still, about employees, there will be a higher-level employee, like a manager that will use the database to create reports and analyze data.

Data points

Customers: This table will store information about customers, such as their name, address, email, and phone number.

- Customer ID (Primary Key)
- Name
- Address
- Email
- Phone Number

Games: This table will store information about each game, such as its name, genre, developer, release date, description, and price.

- Game ID (Primary Key)
- Publisher ID (Foreign Key referencing the Publishers table)
- Name
- Genre
- Rating
- Description
- Price

Publishers: This table will store information about game publishers.

- Publisher ID (Primary Key)
- Name

Employees: This table will store information about employees, such as their names, job title, and salary.

- Employee ID (Primary Key)
- Name
- Job Title
- Salary

Purchases: Keeps track of each individual game purchase made by customers

- Purchase ID (Primary Key)
- Customer ID (Foreign Key referencing the Costumers table)
- Game ID (Foreign Key referencing the Games table)
- Purchase Date
- Purchase Price
- Quantity

Returns: Tracks each return and refund separately and links each return to a specific order.

- Return ID (Primary Key)
- Order ID (Foreign Key referencing the Orders table)
- Return Date
- Reason for Return
- Refund Amount
- Refund Date
- Refund Method (credit to customer's account, cash, credit card, etc.)

Inventory: This table will store information about the store's current stock of each game.

- Game ID (Primary Key and Foreign Key referencing Games table)
- Stock Count

Important details:

- The store's current inventory will be manually updated as needed.

Expected Mutations

If new physical stores open in the future, changes will be necessary. A new "Stores" table will be necessary for the database to keep track of each store's location and inventory.

The Games table would then need to be updated to include a store ID, which would associate each game with the store that has that game in stock. The purchases table would also need to be updated to include a store ID column so that purchases can be associated with the store where they were placed.

There might be smart to expand the idea of genre and rating to separate tables.

Limitations

1- The database won't keep a record of the background information of each game such as when it was released, which store it was sold in first, or how long it was available in each location. It will only hold current information about each game and its availability at the stores.

2- The database won't keep tabs on the performance of employees such as how many games they have sold, how many orders they've processed, or how they've been doing sales-wise over time.

3- Inventory Control: The database won't handle the stock levels of each game at each store in **real time**. It will only store the present stock levels of each game, but it won't change these levels automatically as the games are sold. This will be a manual task carried out by employees.