

ERD Information

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In this file we'll explain the relations and attributes of our ERD. Please reference the file called "ER Diagram.pdf" for the ERD.

Relations:

In our ERD the double lines indicate mandatory participation for relations and disjoint participation for ISA relations.

First we'll explain the ISA relations. The first ISA relation is the "Person" - "Customer/Employee" relation. This relation is an overlapping ISA relation as a person can be both a customer and an employee. The second ISA relation is the "Product" - "Console/Game" relation. This relation is disjoint as a product can be either a console or a game, but not both.

Now let's look at the other relations in the ERD. The "Employee" - "Has" - "Contract" relation is a one-to-one relation as all contracts are made for the employee and a employee can only ever have one contract. The relation is mandatory for both entities, for an employee must have a contract and a contract can only exist if it has an employee attached to it.

The "Customer" - "Buys" - "Product" relation is a many-to-many relation as a customer can buy many products and a product can be bought by multiple customers. This relation is optional for both entities as a customer doesn't have to buy a product and a product doesn't have to be bought by a customer.

The "Employee" - "Works" - "Store" relation is a many-to-one relation as a store has multiple employees, but an employee can only work for one store. For the employee the relation is mandatory, for a store doesn't need employees to exist, but an employee must work for a certain store.

The "Store" - "Has" - "Stock" relation is a one-to-many relation as a store has multiple stocks but a stock is bound to one store. The relation is mandatory for the stock as a store can be stock-less, but a stock can only exist when bound to a store.

The "Stock" - "Has" - "Product" relation is a one-to-many relation as a product can be in multiple stocks, but a stock only represents one product. The relation is mandatory for the stock as a stock must represent a certain product in a store, while a product can be in no stock.

The "Product" - "Has" - "Supplier" relation is a many-to-one relation as a product can only have one supplier, while a supplier can have multiple products. The relation is mandatory for the product, for a product must have a

supplier to exist while a supplier can lack a product.

Attributes:

We'll now note all attributes for our entities.

The "Person" has a name, address and age. The "Customer" has a customerID, and point count. The "Employee" has EmployeeID and references to a storeID and contractID. The "Contract" has a contractID, start date, end date and a function explanation. The "Store" has a storeID, location and contact information. The "Stock" has a reference to a storeID and a productID and an amount. The "Product" has a productID, price, point value and a reference to a supplierID. The "Supplier" has a supplierID, contact information and a location.

This concludes the information about the ERD.