Course: ENSF 607/608 – Fall 2020

Final Project: EER Diagram Write-up

Due Date: November 18th, 2020

Student Names:

Nathan Jack – 10123758

Jordan Joorisity – 30117950

Diagram Assumptions:

- SUPPLIERS must either be local or international. The only difference being a calculation of import tax on international suppliers.
  - For the purposes of storing in the database, supplier type defines which class the supplier belongs to. Import Tax shall be null for local suppliers.
- ITEMS may be electrical or non-electrical, but shall both inherit from an ITEM superclass.
  - Similar to SUPPLIERS, electrical items shall have more information stored about their power requirements and non-electrical items shall show null for these attributes.
- It should be noted that for the case where more specializations are added to suppliers or items, these subclasses should be given their own tables to avoid a long list of nulls in the main superclass table. For now, we are using a single table with null values present to keep this iteration of the database clean.
- CUSTOMERS may be residential or commercial but have no attributes specific to each subclass. This was done to allow for extensibility of the client management system. More CUSTOMER types and attributes may be added in the future, allowing these types to be specializations cuts down on possible nulls in the database.
- ORDERS represent an aggregation of multiple order lines (i.e. string representation of each order + qty to be printed out for business use). Each order line is mapped to the individual item being ordered.
- The PURCHASES relation exists to connect the customer entity into the diagram. Otherwise, the CUSTOMER entity would sit as its own table in the database, not linking to any other entities. This would technically be acceptable since the project requirements do not specify how items are supposed to be sold or how budgets/sales are to be handled.
  - Adding this relation allows for extensibility of the ToolShop app for future point of sale operations as well as allowing customers to lookup previous orders.

RESIDENTIAL CUSTOMER   COMMERCIAL CUSTOMER

d

CustomerType

CustomerID
Address
PostalCode

CUSTOMER

CustomerType
PhoneNumber   FName
Name
LName

N

PURCHASES

M

SalesContact
Address
SupplierName
SupplierType
SupplierID

SUPPLIER

1   SUPPLIES   M

ItemQty   ItemPrice
Supplier   ItemType
ItemID   ITEM   ItemDesc

ItemType   d

ELECTRICAL ITEM   PowerType   V/Ph

NON-ELEC ITEM

SupplierType   d

INTL SUPPLIER   LOCAL SUPPLIER

ImportTax

N

OrderQty

ORDERED VIA ORDERLINE

M

OrderID
OrderDate

ORDER

ITEM

ItemID	Supplier	ItemType	ItemDesc.	ItemPrice	PowerType	V	Ph

SUPPLIER

SupplierID	SupplierType	SupplierName	Sales Contact	ImportTax	Address

ORDER

OrderID	OrderDate

ORDER_LINE

Item	OrderID	OrderQty

CUSTOMER

CustomerID	FName	LName	Address	PostalCode	PhoneNumber	ClientType

PURCHASE

CustomerID	Item