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Database Modeling

Final Project

* 1. Business Rules
     1. Customer Generates History (1:1)
     2. Customer Owns Vehicles (1:M)
     3. Customer Provides Contact Information (1:1)
     4. Customer Pays Invoice (1:M)
     5. Customer Generates Maintenance Order (1:M)
     6. Maintenance Order Creates Invoice (1:1)
     7. Invoice Details Determines Invoice (1:1)
     8. Inventory Provides Invoice Parts (1:1)
     9. Inventory Lists Vendors (1:M)
     10. Vendors Provide Parts (1:M)
     11. Invoice Details Use Inventory (1:M)
     12. Employee Completes Maintenance Order (1:M)
     13. Employee Provides Employee Information (1:1)
     14. Department Employs Employee (1:M)
     15. Manager Manages Department (1:1)
     16. Manager Provides Manager Information (1:1)
     17. Training Helps Managers (1:M)
     18. Training Helps Employees (1:M)

1. Entities and Attributes
   1. Customer ID

PK Customer ID Number (Cust\_Num)

Customer First Name (Cust\_FName)

Customer Last Name (Cust\_LName)

* 1. Customer History

PK FK Customer ID Number (Cust\_Num)

Last Visit (LVisit)

Last Mail Update (LUpdate)

* 1. Vehicles

PK Vehicle Serial Number (Veh\_Ser)

FK Customer ID Number (Cust\_Num)

Vehicle Year (Veh\_Year)

Vehicle Model (Veh\_Model)

Vehicle Mileage (Veh\_Mile)

* 1. Customer Contact Information

PK FK Customer ID Number (Cust\_Num)

Customer Address (Cust\_Address)

Customer City (Cust\_City)

Customer State (Cust\_State)

Customer Zip Code (Cust\_Zip)

Customer’s Home Phone (Cust\_Home\_Phone)

Customer’s Mobile Phone (Cust\_Mobile\_Phone)

Customer’s Work Phone (Cust\_Work\_Phone)

* 1. Maintenance Order

PK Maintenance Number (Main\_Num)

FK Employee Number (Emp\_Num)

FK Customer ID Number (Cust\_Num)

Service Requested (Serv\_Req)

* 1. Invoice

PK Invoice Number (Inv\_Num)

FK Customer ID Number (Cust\_Num)

FK Part Number (Prt\_Num)

FK Maintenance Order Number (Main\_Num)

Invoice Date (Inv\_Date)

Total Cost (Tot\_Cost)

* 1. Inventory

PK Part Number (Prt\_Num)

FK Vendor Number (Ven\_Num)

Stock (Prt\_Stock)

Restock Level (RStock)

Part Cost (Prt\_Cost)

* 1. Vendors

PK Vendor ID Number (Ven\_Num)

Vendor Name (Ven\_Name)

Vendor Phone (Ven\_Phone)

Vendor Address (Ven\_Address)

Vendor Zip Code (Ven\_Zip)

Vendor City (Ven\_City)

Vendor State (Ven\_State)

* 1. Employee

PK Employee ID Number (Emp\_Num)

FK Department Number (Dep\_Num)

Employee First Name (Emp\_FName)

Employee Last Name (Emp\_LName)

* 1. Employee Information

PK FK Employee ID Number (Emp\_Num)

Employee Hire Date (Emp\_Hire)

Employee Home Phone (Emp\_Home\_Phone)

Employee Mobile Phone (Emp\_Mobile\_Phone)

Employee Street Adress (Emp\_Address)

Employee City (Emp\_City)

Employee State (Emp\_State)

Employee Zip Code (Emp\_Zip)

Employee Pay Rate (Emp\_Pay)

Employee Last Raise Date (Emp\_Raise)

FK Training Code (Training)

* 1. Department

PK Department ID Number (Dep\_Num)

Department Name (Dep\_Name)

* 1. Manager

PK FK Manager ID Number (Man\_Num)

FK Department ID Number (Dep\_Num)

Manager First Name (Man\_FName)

Manager Last Name (Man\_LName)

* 1. Manager Information

PK Manager ID Number (Man\_Num)

Manager Hire Date (Man\_Hire)

Manager Home Phone (Man\_Home\_Phone)

Manager Mobile Phone (Man\_Mobile\_Phone)

Manager Street Address (Man\_Address)

Manager City (Man\_City)

Manager State (Man\_State)

Manager Zip Code (Man\_Zip)

Manager Pay Rate (Man\_Pay)

Manager Last Raise Date (Man\_Raise)

FK Training Code (Training)

* 1. Training

PK Training Code (Training)

Certificates (Cert)

1. Initial ERD - See Visio
2. Final List of Normalized Tables

Customer ID (**Cust\_Num**, Cust\_FName, Cust\_LName)

Customer History (**Cust\_Num**, LVisit, LUpdate)

Vehicles (**Veh\_Ser**, Cust\_Num, Veh\_Year, Veh\_Model, Veh\_Mile)

Customer Contact Information (**Cust\_Num**, Cust\_Address, Cust\_City, Cust\_state, Cust\_Zip, Cust\_Home\_Phone, Cust\_Mobile\_Phone, Cust\_Work\_Phone)

Maintenance Order (**Main\_Num**, Emp\_Num, Cust\_Num, Serv\_Req)

Invoice (**Inv\_Num**, Cust\_Num, Prt\_Num, Main\_Num, Inv\_Date, Prt\_Cost)

Vendors (**Ven\_Num**, Ven\_Name, Ven\_Phone, Ven\_Address, Ven\_Zip, Ven\_City, Ven\_State)

Employee (**Emp\_Num**, Dep\_Num, Emp\_FName, Emp\_LName)

Employee Information (**Emp\_Num**, Emp\_Hire, Emp\_Mobile\_Phone, Emp\_Home\_Phone, Emp\_Address, Emp\_City, Emp\_State, Emp\_Pay, Emp\_Raised, Training)

Department (**Dep\_Num**, Dep\_Name)

Manager (**Man\_Num**, Dep\_Num, Man\_FName, Man\_LName)

Manager Information (**Man\_Num**, Man\_Hire, Man\_Home\_Phone, Man\_Mobile\_Phone, Man\_Address, Man\_City, Man\_State, Man\_Zip, Man\_Pay, Man\_Raise, Training)

Training (**Training**, Cert)

1. Revised ERD – See Visio
2. Logical Design Document – See Word Document
3. Physical Design Document – See Word Document
4. Addendum Section

I realize I’m not the best at databasing and when I showed a version of the final ERD that more entities on it, you said it looked good other than I needed to reduce a bit. I did my best, and really hoping I get a decent score on this project.