Dustyne Brown

Database Modeling

Final Project

1. Business Rules
2. Customer Buys Oil Changes (1:M)
3. Customers approve Wear And Tear Items (1:M)
4. Customer Generates Maintenance Order (1:M)
5. Work Order Generates Invoice (1:1)
6. Customer Pays Off Invoice (1:M)
7. Employee completes Maintenance Order (1:M)
8. Inventory Details Parts (1:M)
9. Parts Generates Orders (M:M)
10. Vendor List Includes Past Vendors (1:M)
11. Vendor List records Potential Vendors (1:M)
12. Customer Receives Customer Updates (1:M)
13. Employee Works Department (1:M)
14. Manager Runs Department (1:M)
15. Manager Helps Employees (1:M)
16. Employee Learned Expertise (M:M)
17. Initial Entities and Attributes
18. Invoice

PK Invoice Number (Inv\_Num)

FK Customer ID Number (Cust\_Num)

FK Maintenance Order Number (Main\_Num)

FK Vehicle Number (Veh\_Num)

FK Employee ID Number (Emp\_Num)

FK Invoice Code Number (Inv\_Code)

Final Parts Cost (FPrt\_Cost)

Final Labor Cost (FLbr\_Cost)

Date (Date)

Total Cost (Tot\_Cost)

1. Maintenance Order

PK Maintenance Order Number (Main\_Num)

FK Invoice Number (Inv\_Num)

FK Customer ID Number (Cust\_Num)

Service Request (Serv\_Req)

Labor Cost (Lbr\_Cost)

Parts Cost(Prt\_Cost)

Sub Class – Additional Work

Additional Labor Cost (ALbr\_Cost)

Additional Parts Cost (APrt\_Cost)

1. Inventory

PK Part ID Number (Prt\_Num)

FK Vendor ID Number (Ven\_Num)

Current Part Stock (Prt\_Stock)

Part Cost (Prt\_Cost)

Part Restock Level (Prt\_RStock)

1. Vendor List

PK Vendor ID Number (Ven\_Num)

FK Part ID Number (Prt\_Num)

Number of Parts Bought to Date (Prt\_Bought)

1. Customer

PK Customer ID Number (Cust\_Num)

FK Vehicles Owned Code (Veh\_Own)

Phone Number (Phone\_Num)

Street Address (Address)

City (City)

State (State)

Zip Code (Zip)

Last Visit Date (LVisit)

Last Update Mailed (LUpdate)

1. Vehicles

PK Vehicle Number (Veh\_Num)

FK Customer ID Number (Cust\_Num)

FK Invoice Code Number (Inv\_Code)

Vehicles Owned Code (Veh\_Own)

Vehicle Serial Number (Veh\_Ser)

Year (Year)

Model (Model)

Brand (Brand)

Mileage (Mil)

Last Mileage (LMil)

1. Employee

PK Employee ID Number (Emp\_Num)

FK Department ID Number (Dep\_Num)

Hire Date (Hire)

Phone (Phone)

Address (Address)

City (City)

Zip Code (Zip)

State (State)

Pay Rate (Pay)

Last Raise Date (Raise)

Social Security Number (SSN)

Sub Class – Service Tech

Training Code (Training)

1. Manager

PK Manager ID Number (Man\_Num)

FK Department Id Number (Dep\_Num)

Hire Date (Hire)

Phone (Phone)

Address (Address)

City (City)

Zip Code (Zip)

State (State)

Pay Rate (Pay)

Last Raise Date (Raise)

Social Security Number (SSN)

Sub Class – Service Tech

Training Code (Training)

1. Training

PK Training Code (Training)

Certification Name

Includes Training Code (ITraining)

1. Department

PK Department ID Number (Dep\_Num)

Department Name (Dep\_Name)

4. Final List of Normalized Tables

Maintenance Order (**Main\_Num**, Inv\_Num)

Service (**Main\_Num**, Serv\_Req)

Inventory (**Prt\_Num**, Stock, RStock)

Inventory Cost (**Prt\_Num**, Prt\_Cost)

Department (**Dep\_Num**, Dep\_Name) (Technically in 2NF, because the number will always represent the name, however it’s necessary for the Database.)

Invoice (**Inv\_Num**, Inv\_Code, Cust\_Num, Date, Emp\_Num, Tot\_Cost)

Invoice Cost (**Inv\_Num**, Prt\_Cost, Lbr\_Cost, Tot\_Cost)

Employee (**Emp\_Num**, Dep\_Num, FName, LName)

Employee Information (**Emp\_Num**, Hire, Phone, Address, City, State, Zip, Training)

Employee Pay (**Emp\_Num**, Pay, Raise)

Vendors (**Ven\_Num, Prt\_Num**, Prt\_Bought)

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

Customer Phone (**Cust\_Num**, Home\_Phone, Work\_Phone, Mobile\_Phone)

Customer Address (**Cust\_Num**, Address, City, State, Zip)

Customer Business Information (**Cust\_Num**, LVisit, LUpdate)

Customer Vehicles (**Cust\_Num**, Veh\_Own)

Vehicle History (**Veh\_Ser**, Veh\_Own, Inv\_Code, Mile, LMile)

Vehicle Make (**Veh\_Ser**, Year, Model)

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

Manager Information (**Man\_Num**, Hire, Home\_Phone, Mobile\_Phone, Address, City, State, Zip, Training)

Manager Pay (**Man\_Num**, Pay, Raise)

Training (**Training**, Cert, Training2, Training3)