**Team 2 Description - Jason Meng, Mohammed Alanazi, Sean Monahan, Lou Dignam**

Our database is for a car repair shop with multiple garages. Clerks can use the database to set an appointment at a particular date and times with a particular customer and mechanic or to see what times are free. It also records payment for parts and labor. Mechanics can use the database to look up suppliers and prices for parts, order parts, and update the inventory when parts are used or delivered and to see what appointments are scheduled for them. Managers can use the database to create financial reports of revenue/expenses from shop in a given time frame as well as see employee records. Referential integrity constraints include making sure an employee corresponds to an existing garage; an appointment to an existing garage, mechanic, customer, and car; inventory to an existing part number and garage; and orders to an existing part\_no, supplier, garage, and mechanic.

The tables needed are Employee(id, role, name, phone\_no, address, wage), Appointment(id, garage, date, time, task\_id, mechanic, customer, car, notes), AptStatus(apt\_id, timeInShop, estimatedCompletion, payment), MaintenanceTask(id, name, description, length, price), Car(license, make, model, year, owner), Inventory(part\_no, quantity), Orders(id, part\_no, supplier, quantity, date, time, cost, fulfilled, mechanic), Customer(id, name, phone\_no, address), Part(part\_no, name, description, supplier, price), Supplier(id, name, address, phone\_no)

Employee needs an index on id, role, and garage for reports. Appointment needs indexes on date and time, mechanic, and garage to search for appointments. Orders needs indexes on id, part\_no, supplier, fulfilled, garage, and mechanic for expense reports. Customer needs index on id. Part needs indexes on part\_no, make, model, and year to search for parts. Garage needs an index on id. Supplier needs an index on id.

The database will help by making sure no more parts will be ordered than necessary and make it easy to see what parts of inventory are running low. It will also make it easy for executives to generate financial reports and see which garages are making or losing the most money and analyze which parts are most commonly used. Customers will be able to call and make appointments and the employees will be able to look and assign a mechanic in an empty garage. Customers will be able to call in and add additional repairs and services to the appointment. By seeing the most common makes, models, and years repaired in a given area mechanics specializing in those types can be hired and the inventory can always be kept at an adequate level or parts can be bought in bulk prices if the quantity is known ahead of time. It can also be used to help customers find a garage near them.