# CS355 Databases

# Fall 2019

# Project Proposal

**Car Inventory Management System**

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# *Submitted to*

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**Introduction**

The project aims to create a car-inventory management system which can be utilized by local car-dealerships by maintaining their data on the type of cars they have in their inventory and their individual details e.g. mileage, insurance, features, taxes etc. The system will send them search results and will provide them with data about which car makes were searched for the most along with another set of data which contains information about what kind of cars are the most popular in demand among their customers. This can help them make changes to their business and marketing strategy with ease and efficiency. (Increased sales are not guaranteed with this design).

**Modules of the System**

Price of the car and its taxes will be dealt with using a module which deals with the cars finances(taxes, insurance, price). This module will keep track of the total price of the car, the amount which has been paid(if its on lease), its due taxes, whether the car is insured and the insurance cost if its not insured.

Search\_Results will be managing the number of times the search for each type and make has been made which will provide us with the data for business and strategy development.

The car inventory will be managed by a module which contains detailed data on each car. It will contain information of the car regarding their make, model, registration ID, registration year, model ID, engine type, transmission, seating capacity, vehicle type and special features.

Features are handled separately which includes AC, power locks, power windows, power steering, airbags, ABS brakes, sunroof, paddle-shifters, Smart infotainment, AM/FM radio etc.

A user module will be saving their personal information which includes their user id, full name, address, mobile phone number and citizen registration number.

Transaction module will keep in track of the leasing of the car, the money paid, amount remaining and the user ID from whom the amount is being paid.

Each car has a unique Registration ID and Registration Year. A car can belong to only one car category. Multiple cars from the same make and model can have different engine types, transmission and special features. Information about the Customer is uniquely identified by a unique user ID and their Citizen registration number. A customer can be in possession of multiple addresses and phone numbers. A customer can buy multiple cars at a time. Each car has a fixed price.

**Missing relationships among different possible entities in the above description.**

**Front-end Development**

Front-end Development will involve the usage of all of these specified modules.

The Front-end Development will involve the usage of the Features, Car, Search\_Results, User and Transaction modules such that the user gets suggestions about popular cars among other customers via the Search\_Results module. After searching for a car they can check the all the cars and decide on what they want by looking at the features it has or any other personal preference. After doing so they can opt to buy it which will load a lease form which will include information and questions regarding the leasing plan they want to take. The user can then keep track of their payments via a payments window which will store their transaction history and their total payment which is due along with a projected end-lease date.(Front-End Development is subject to further refinement which may involve the addition or removal of certain aspects based on the development of the database

**Should be list down clearly here with usage of each screen.**

*Note: [List the modules that will be addressed for front-end development. Front-end can be a desktop based/web-based/app based application developed in any language/platform. If your system is detailed enough, you do not have to build the front-end of complete system. You can choose some module(s) and implement them completely from front-end to back-end. Discuss this with your instructor/RA and get their approval before finalizing the scope. ]*

**Tools & Technologies**

Back-end: SQL Server Front-end: C++/C#