Software Engineering and Testing. BSC Year 2, 2024/2025
(Assignment 3 - 20%)

Assessment 3: Design and Draft Implementation

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Submission date

Declaration

I herby certify that this material, which I now submit for assessment on the programme of study leading to the award of Ordinary Degree in Computing in the Institute of Technology Blanchardstown, is entirely my own work except where otherwise stated.

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Title: Cars Galore

Abstract / Executive Summary (200 Words max)

1. Project Definitions

In this document we will showcase our current workload done by our team, from the beginning stages to now, highlighting all the issues we had to overcome.

The project is based on a car dealership website where we act as a middleman to provide the customer with a car of their choice.

Primary Functional Requirements

1.Home Page:

Our home page will have a sleek design, a brief explanation on who we are and what services we provide. A brief walkthrough on how to use the website will be shown, lastly our Trustpilot reports and reviews will be shown to ensure that the customer feels welcomed and gains trust

2.Search Page

The search page will have all the available cars from our trusted dealerships on display. There will be a wide variety of cars to choose from with all different specifications.

3.Trade-in Page

The trade-in page will gather customer and vehicle information and in return the customer will be given an estimate of their vehicles trade-in value.

4.Enquiry Page

This page will gather customer information, and the customer can call or enquire about a car using the cars special lot number.

5.Source Page

This page is used if a customer is not able to find the car they're looking for from the stock available. The customer will put in their personal information and then

information of the car they're looking for. Then our job will be to source the car for the customer as soon as possible.

6.Finance

This page will provide the customer with competitive finance options for any car they may choose. The good interest rates tend to bring a wide range of interested customers.

The main components of the software system are the search page where a customer can search for any available car, the finance system is useful to help a potential buyer to close the deal, trade-in function is very useful as a buyer can use the website as a one stop shop and just trade in their car instead of trying to sell it and the source page is helpful for customers who may not find the car they want available so we can provide the car they want.

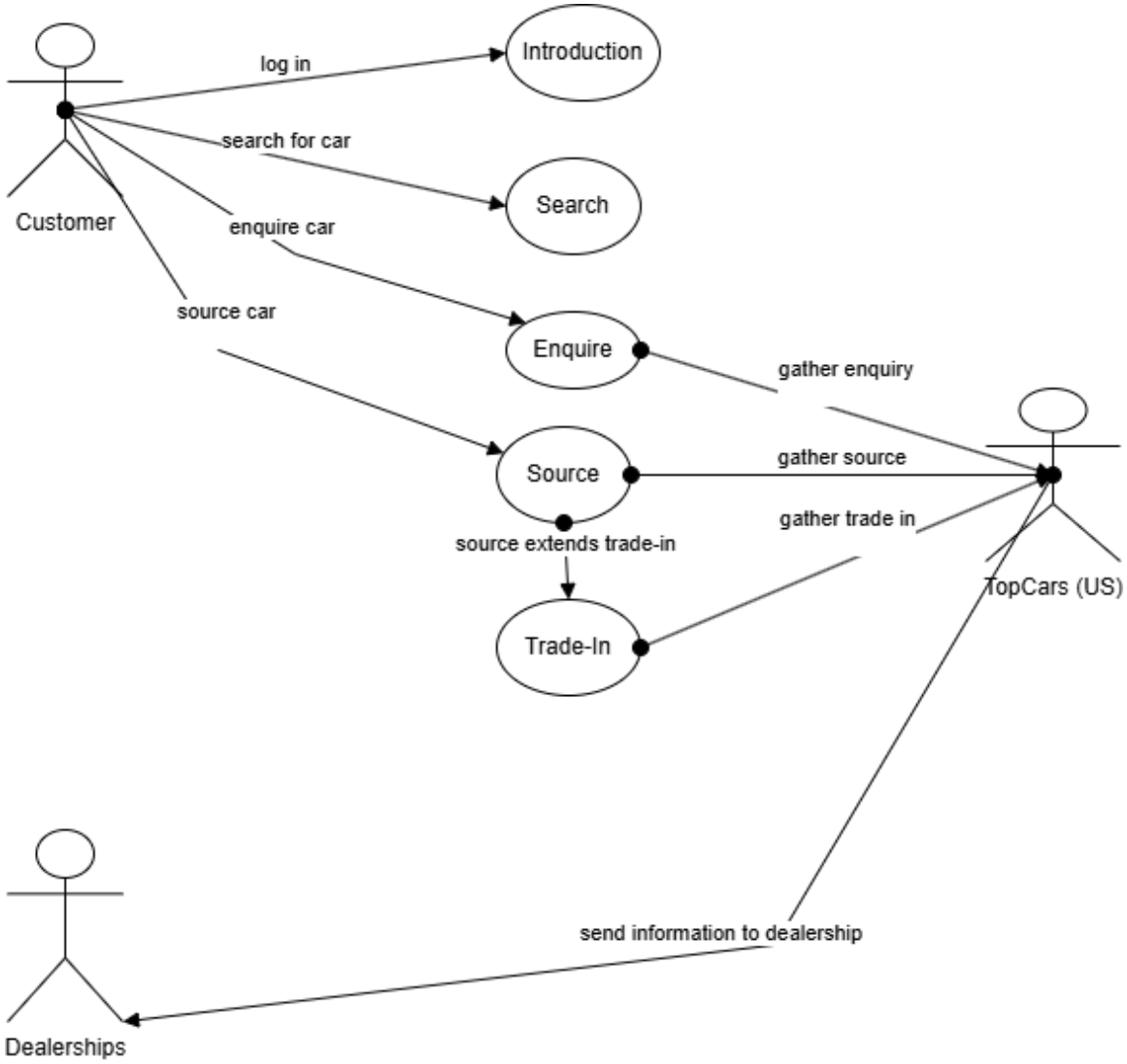
2. Document Revision

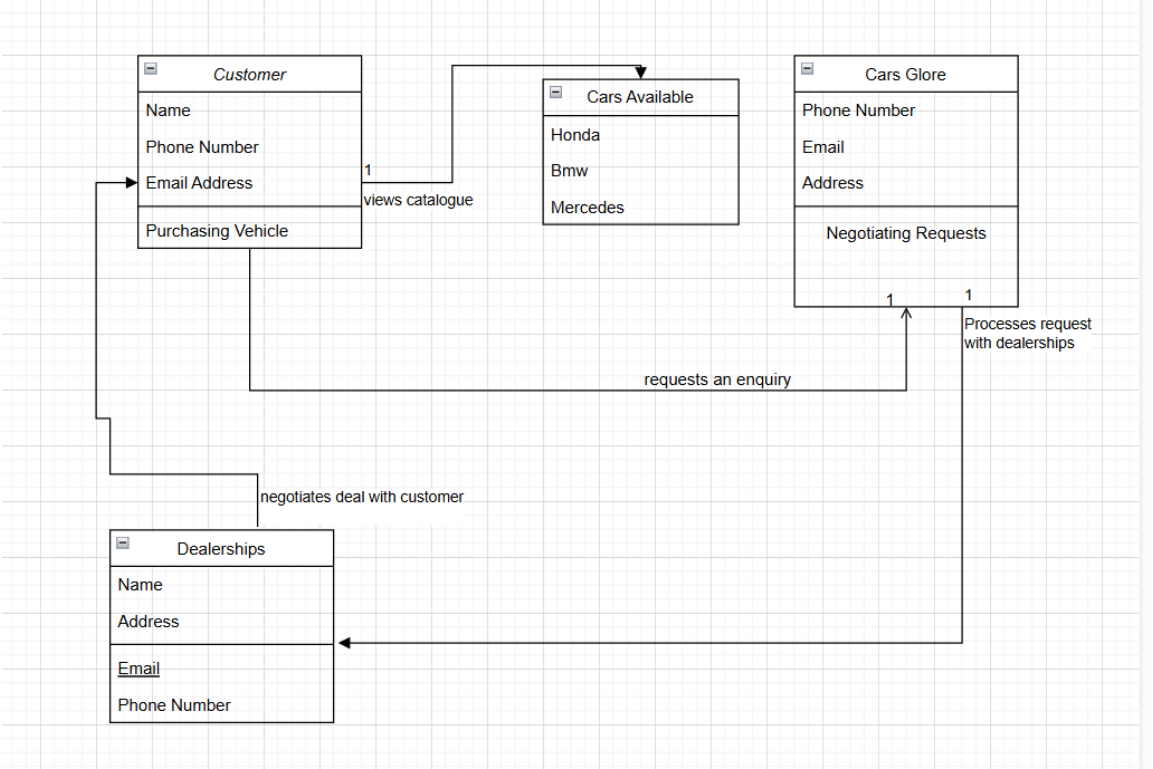
Rev. 1.0 date – initial version

On our initial version of the project we had a complicated variety of Use Case which we had to edit and reevaluate to match our project workload.

3. Methodology

Use Case


Introduction
log in
search for car
Search
Customer
enquire car
source car
Enquire
gather enquiry
Source
gather source
gather trade in
source extends trade-in
TopCars (US)
Trade-In
send information to dealership
Dealerships


Customer
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Email Address
Purchasing Vehicle
1
views catalogue
Cars Available
Honda
Bmw
Mercedes
Cars Glore
Phone Number
Email
Address
Negotiating Requests
1
1
Processes request with dealerships
requests an enquiry
negotiates deal with customer
Dealerships
Name
Address
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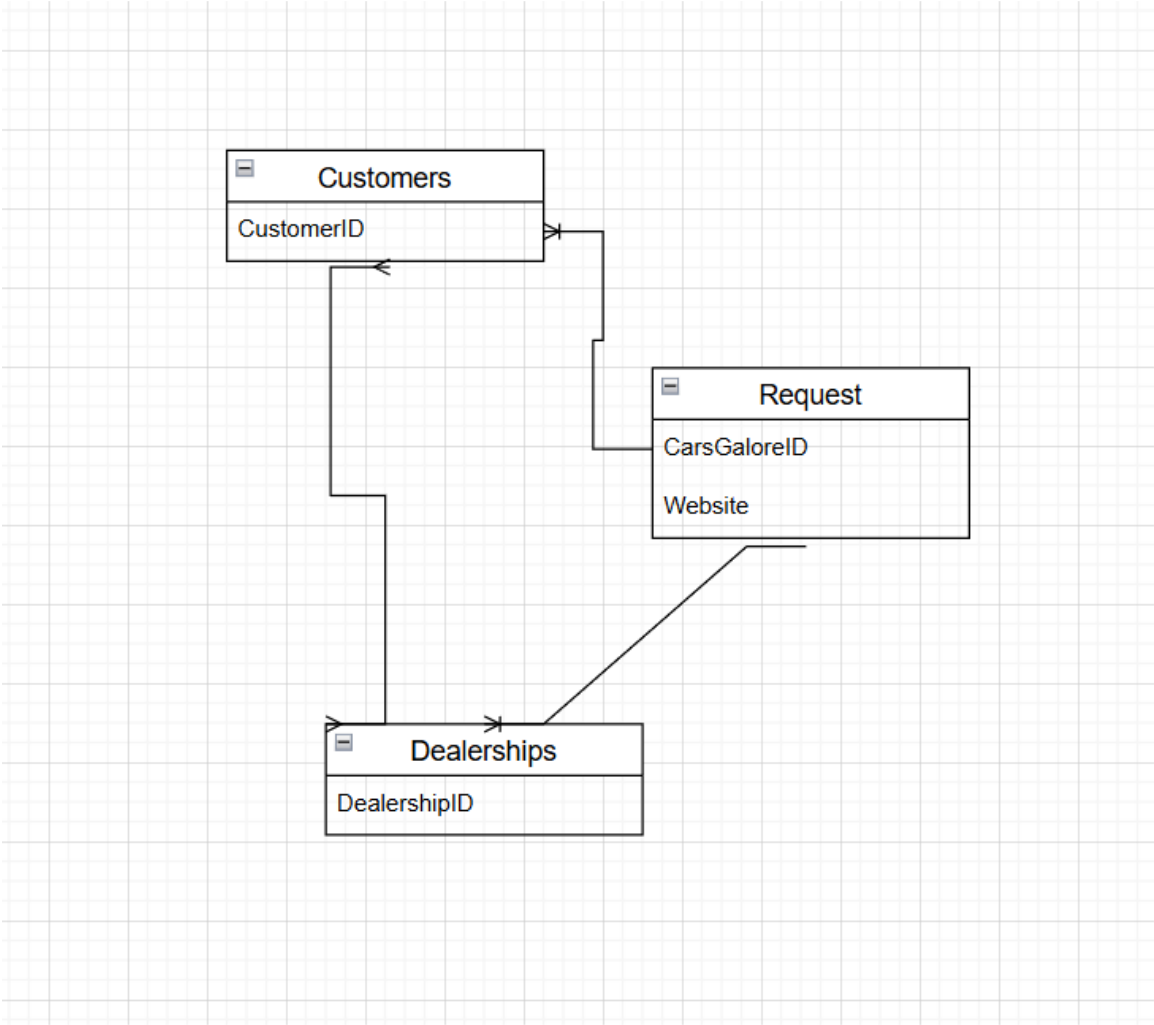
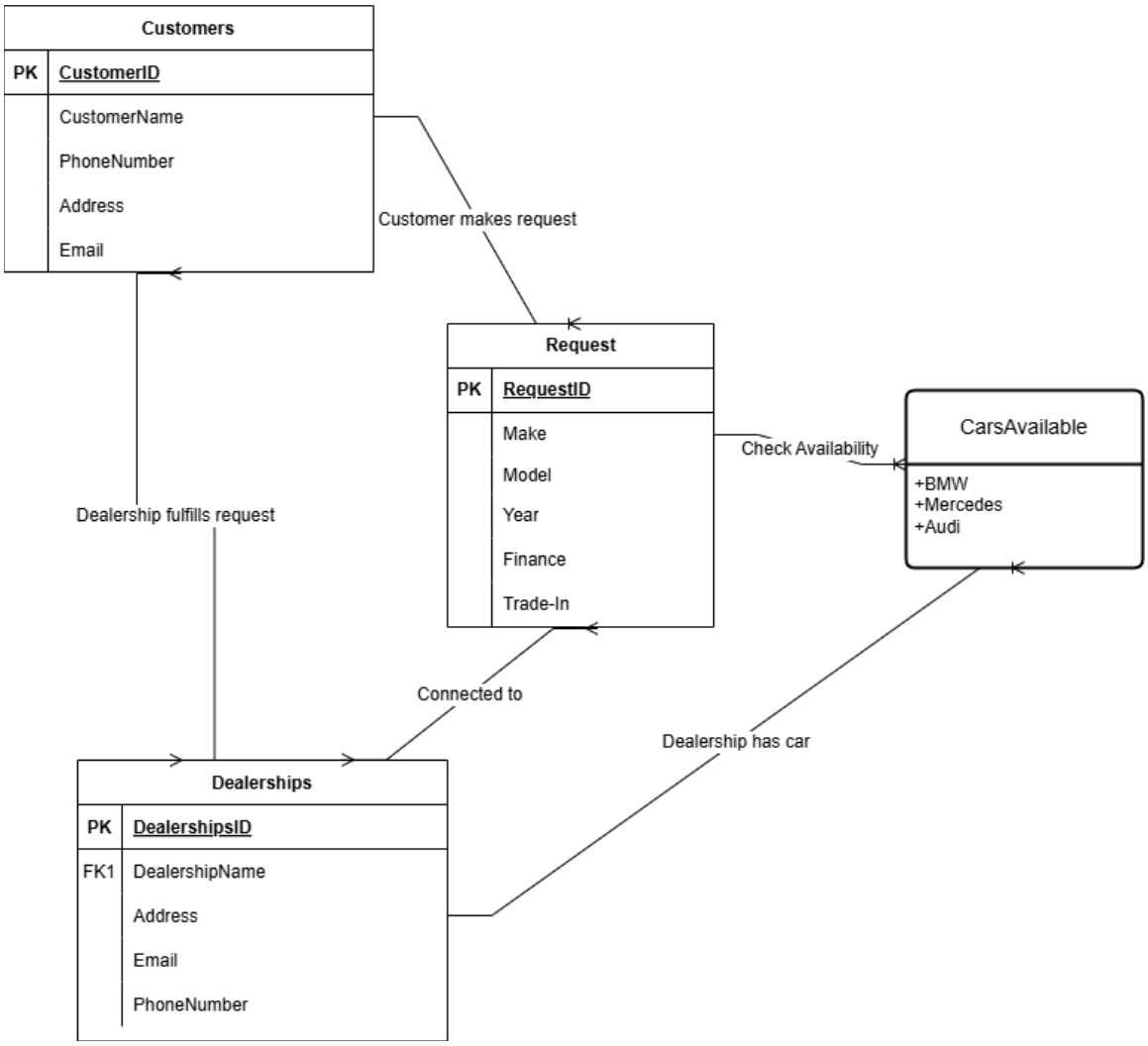
Phone Number

Conceptual ERD



Logical ERD



Use Case Spec:

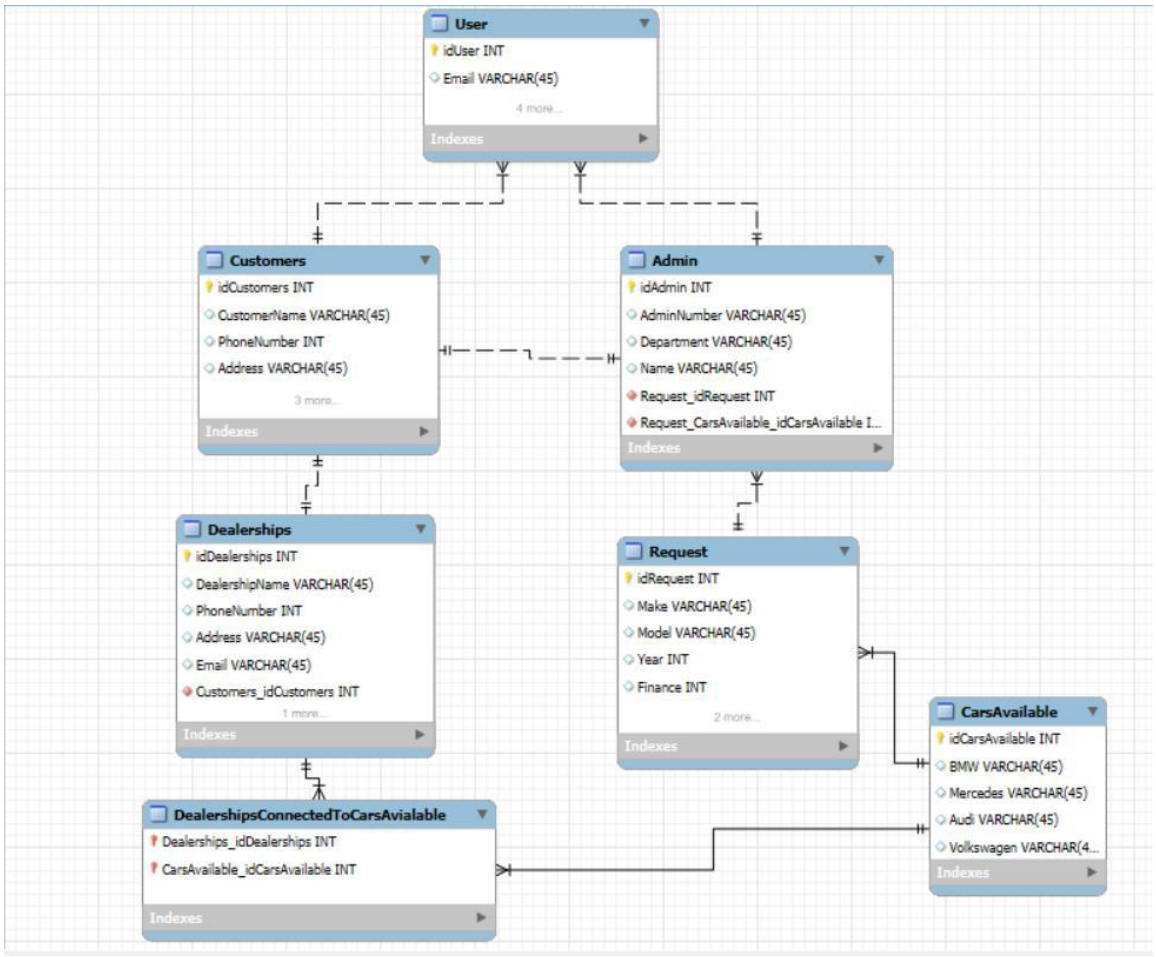
Request: Request entity consists of the all the possible attributes a customer may request for a car they're looking for. The table contributes to the whole database system and is connected to every other entity such as Dealerships and Customers.

Dealerships: Dealership entity consists of the dealerships information, they receive a request and fulfil it for the customer

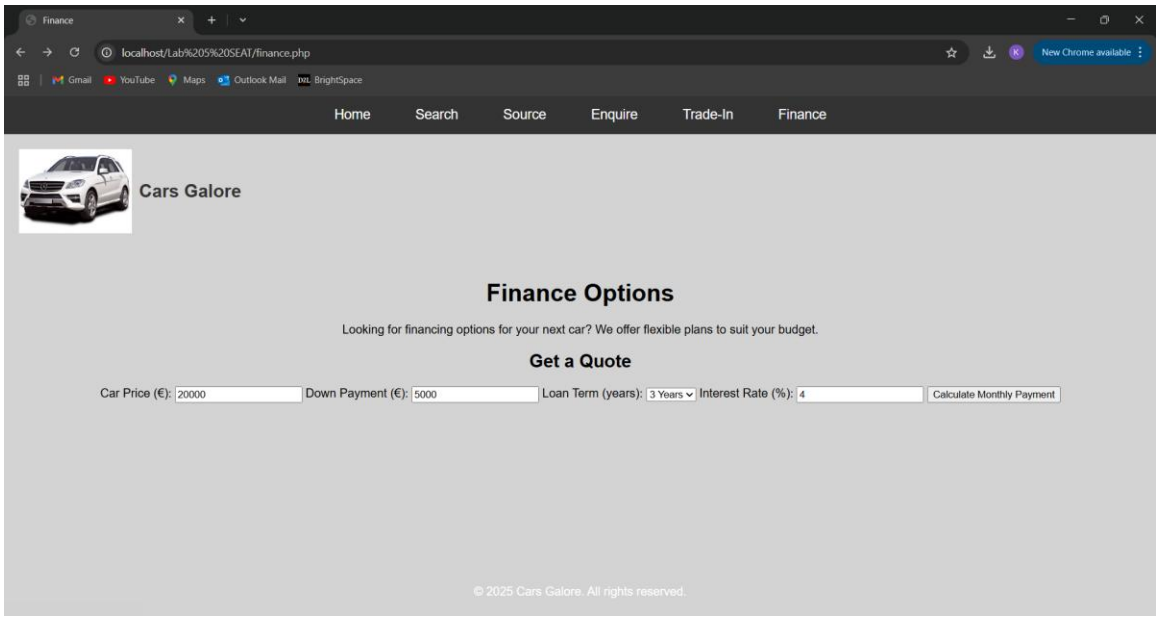
Customer: Customer entity is the most important part of our software , if there are no customers we can't operate. The customer just provides their personal information and their request.

CarsAvailable: this entity holds all the information about the stock available and checks it once a customer requests a car.

Physical ERD



How our interface looks now



4. Requirements

4.1 Use Cases

The current Use Cases are a User that logs on as either an Admin or a Customer.

The Customer makes a car request and an Admin fulfils it by checking CarsAvailable and contacting the Dealerships

4.2 Use Case Specifications

User: This class acts as a standard login for a user.

Customer: This class contains information about a customer and it makes the Project operate, no customers , no business.

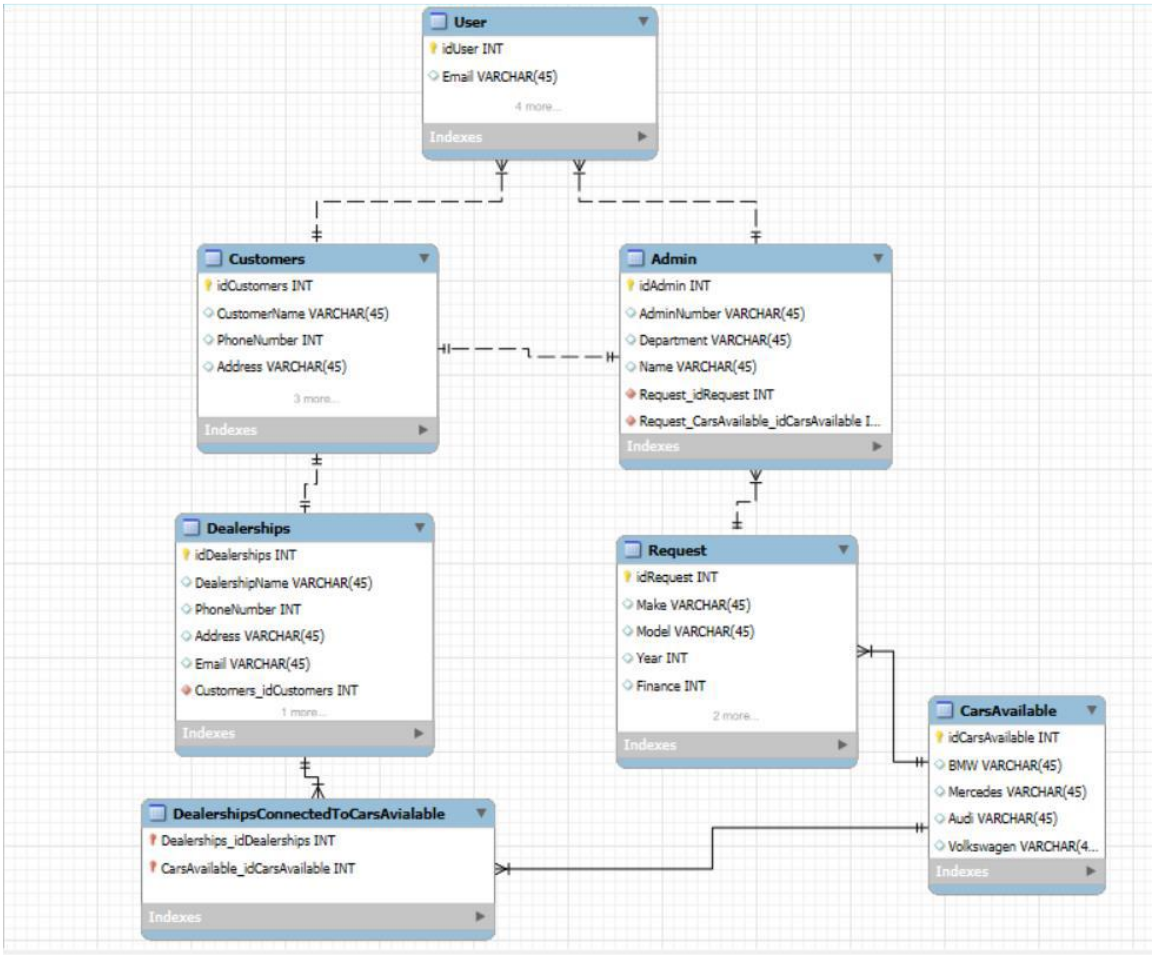
Admin: This class contains information about the admin and creates its role In fulfilling customer requests.#

CarsAvailable: This class cotains all available cars from all the partnered dealerships.

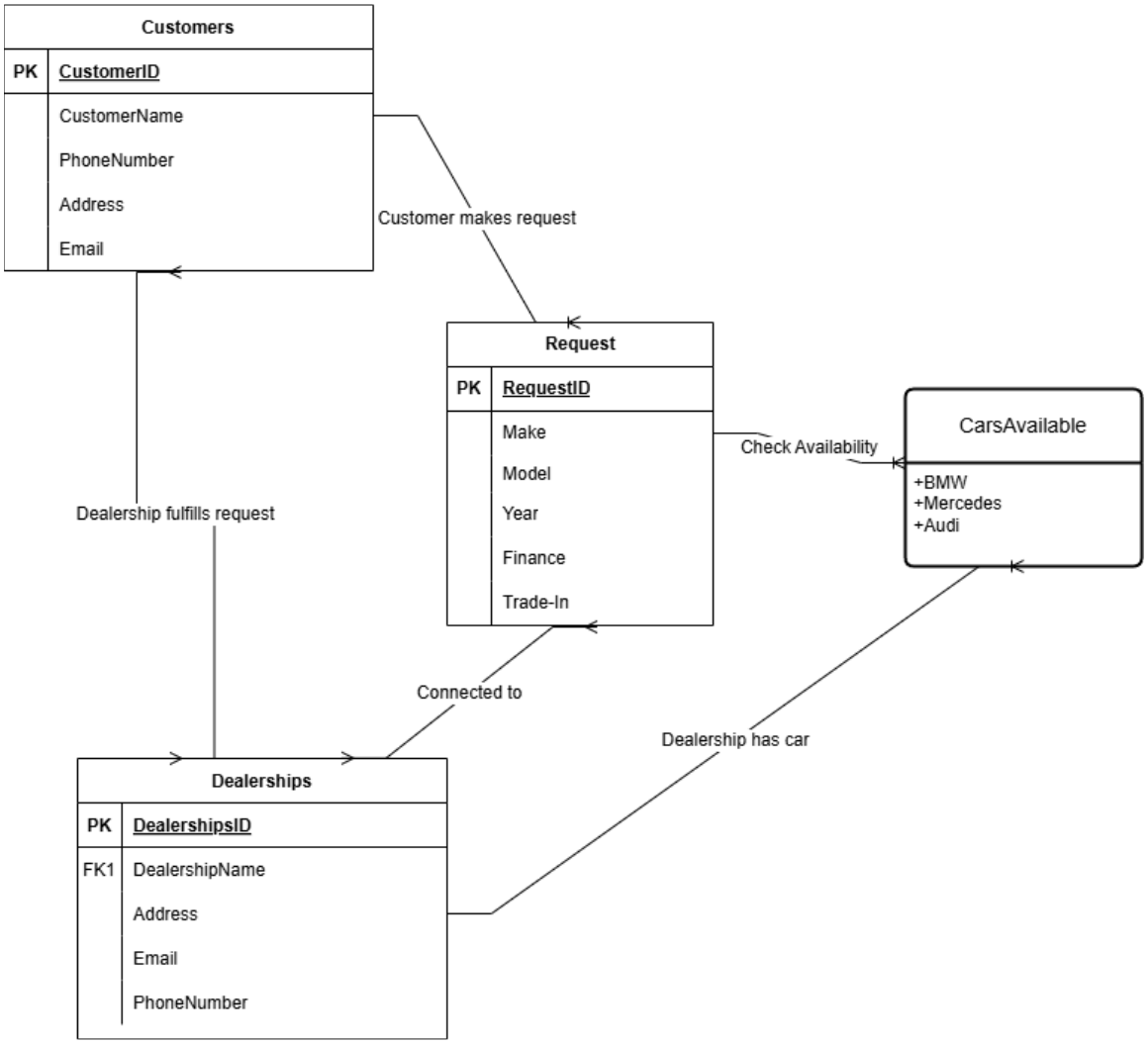
Dealership: This class contains information about dealerships and the customers get forwarded to a dealership which has the car.

5. Case Diagrams

CLASS DIAGRAM



CLASS DIAGRAM



6. Conclusions

Our project has come to a decent standpoint where we know what we are doing and where we are at. With further progress we will be delighted with our final version. We did have a lot of struggles with the database connection and PHP but we have overcome that for the most part.

Our goal is to work on making our functionality fully operational to achieve the aspect of engineering and testing to ensure we present our project to a high standard.,

Checklist: Is your document complete and correct?

Content:

- Does the design include all requirements from the customers' needs
- Are you satisfied with all parts of the document?
- Do you believe all parts have been implemented?
- Have you explained your methodology and design choices?
- Have you clearly articulated your understanding of the purpose of all diagrams created ?
- What are these diagrams? Why you need them? How were they developed?
- Is each part of the document in agreement with all other parts?
- Does the design create a solution for the initial proposal?

Completeness:

- Are all the necessary components specified?
- Are the design specifications precise enough?
- Are all sections from the document template included – if changed, why?

Clarity:

- Is the design reasonable?
- Is the level of details for each design section appropriate?
- Is the design written in a language appropriate to the intended audience of software engineering teams?
- Are all items clear and unambiguous?