1.Introduction and Context:

Renting cars is stressful. This app aims to remove that stress by giving customers the ability to select, pay and reserve their vehicle of choice from the comfort of their home. Once a car is rented, they just simply have to pick up the keys and vehicle. Customers don't even have to worry about dropping off their rental. When they're done, a retrieval specialist will pick up the rental hassle free.

This app also takes care of managing this inventory from the employee side. Employees can easily check customers in, and keep track of rentals. As well as allow employees and retrieval specialists to track the hours they've worked.

This app will also give managers of Dan's Rental car the ability to pay employees, update inventory and edit employment details all in one system. Essentially this app takes care of all aspects of payment, and tracking inventory from the customers point of view, the employees, and the managers.

2. User's and their goals:
> For information about user goals, please look through use case diagrams 1-8 in the "docs" directory of this repository.

3. Functional Requirements

1. User Authentication and Access

> 1.1. All user must login using a username and password before they are given access to the website

>> 1.1.1. Upon first visiting the cite, the system will prompt the user to create an account if they don't have one

>>> 1.1.1.1. The system must get the user's email address during account creation.

>> 1.1.2. On future visits of the site, the user will be prompted to logging with their credentials. They will only be allowed access to the site upon correct username and password.

1.2. Users can have a combination of the following access rights: Customer, Employee, retrieval specialist, and Manager

    1.2.1. Customers can view available cars, check availability, rent cars, make payments, and increase account funds

    1.2.2. Employees can check cars in and out, see who has checked out all cars, handle insurance, request cars to be towed, and log their hours worked

    1.2.3 Retrieval Specialists are given a list of vehicles that must be picked up. They will have the ability to confirm that they have retrieved the vehicle and the vehicles' keys.

    1.2.4. Managers can promote users to employee and to manager, can pay employees, view hours worked, and add/remove cars from the website

2. User Profile Features

    2.1. The system will allow any authenticated user (one who is logged in) to modify their own password.

    2.2. The system will allow any authenticated user (one who is logged in) to modify their own email address.

    2.3. The system should not allow any user that does not have Manager rights to view or modify any other user profile.

    2.4. The system should allow users to view the balance of their account

    2.5. The system should allow users to preload money into their account

        2.5.1. No real money is required, users can preload money by typing a number in

    2.6. The system should allow users to withdraw money from their account

2.7 Managers can promote users to Employee and Manager, and can pay Employees money based on their time worked

3. Customer Features

3.1. All users will be given Customer rights and will have access to all Customer features.

3.2. The system will allow users with Customer rights (hereafter referred to as "Customers") to browse, reserve, and pay for car rentals on a specific date.

3.2.1. The system will allow Customers to select a vehicle from a list. When the Customer selects a vehicle, the system will display a list of available dates this car can be rented. I

3.2.2 Cars will be listed with 3 different price points: $10, $50 and $100.

3.2.3. If a Customer decides to rent a car, the system will require the Customer to pay for the car immediately.

3.2.3.1. Customers pay for parking from their preloaded account balance

3.3. After a Customer pays for a parking space, the system must give the Customer a confirmation that they rented the car.

3.3.1. Confirmation codes can be a QR code or an access code, e.g. "ABC123".

3.4. The Customer should be able to view their car reservations from their account.

3.5. The Customer should have the ability to cancel their rental.

3.5.1. Refunds will only be given if cancellation occurs at least 24 hours before pickup of the vehicle.

4. Employee features

4.1. Employees will be given a list of cars that have been rented. From this list, they will be given the names, email addresses and customer ID of the customer who rented the car.

4.2 Upon customer arrival, they will have the ability to let the system know that the customer has picked up the car. They will then give the customer the keys to the car.

4.3 For each customer profile, the employee is given the option to add insurance.

4.3.1 Insurance is optional, however if the employee can sell the customer the insurance policy, they will receive a 10% commission of the cost of the insurance for their sale.

4.4 Employees will also be able to log the hours they've worked into the system. They can also check their pay rate.

5. Manager features

5.1. Only users with a status as manager will have access to manager features.

5.2. The only way for a user to gain manager status is if a current manager promotes a user to this role.

5.2.1. The system must provide a way for general employees to gain manager access. This change will be reflected in the database so that when a user with this access logs in, the page will reflect this status.

5.3. Managers must have the ability to add or remove inventory.
5.3.1. The system will query every vehicle stored in the database and display this information to the manager.

5.3.2. The manager can then select one of these items and remove it from the database. This will be reflected sitewide.

5.3.3. The manager can also update both price and availability for any vehicle. This will be reflected in the database and will update sitewide.

5.3.4. There will be a button that will redirect the manager to a separate page where they can input all needed information for a new rental car.

> 5.3.4.1 There will be a year, make, and model input box for them to fill out.
>
> 5.3.4.2 There will be an image input box for them to upload an image of the vehicle they will add.
>
> 5.3.4.3 There will be a price selector where the manager will be able to select whether the price is $10, $50 or $100.
>
> 5.3.4.4 Once all these input boxes are filled out, the manager can click a button that will allow them to add their specifications to the database. This will effectively add the new vehicle to the site.

5.4 Managers must have the ability to pay employees.

> 5.4.1 From the same page, the manager can pay employees by clicking a "pay all" button which pays all employees.
>
> > 5.4.1.1 This "pay all" button will calculate based on how many hours each employee has worked and their pay rate, how much they should be paid.
>
> 5.4.2 From the same page, the manager can pay an individual employee.
>
> > 5.4.2.1 The manager can search from a list of employees in the system.

5.4.2.2 They can then select the individual employee and click "pay". Similar to the "pay all" button, the button will automatically calculate the hours worked with their pay rate to pay the employee the correct amount.

5.4.3 When an employee is paid, the money will leave the managers account and will deposited into the employees account

5.4.4 Once an employee is paid, their working hours will go back to zero.

5.5 Managers must have the ability to update employee status

5.5.1 The manager will have the ability to select any employee from a list of all employees and change any number of statuses.

5.5.1.1 Of these statuses, the manager can edit the number of hours an employee has worked.

5.5.1.2 They can also edit their access level, this means they can be demoted (even fired) or promoted to another manager.

5.5.1.3 Managers can update employee pay.

5.6 Managers must have the ability to add funds to their account.

5.6.1 The manager funds increase with every sale, however they can also add additional funds with a small drop down menu. This feature is much like the customer adding additional funds to their account.

6. Retrieval specialist features

6.1 The system will give the retrieval specialist a list of vehicles that need to be picked up and these vehicles' location.

6.1.1 These are vehicles that the customer is no longer renting.

6.1.2 Upon pickup the customer will give the retrieval specialist the keys to the car.

6.1.3 The retrieval specialist will proceed with a full inspection of the vehicle. Any physical damage will result in the customer being charged the cost of the damages unless they have opted for insurance.

6.1.4 The system will allow the specialists to directly charge the customer's account for any damage. It will accomplish this by giving them a "damage report" form for the vehicle which they are required to fill out.

6.2 Once pickup and inspection is complete, the specialist will update the system that the pickup was successful. This will remove the vehicle from their list of vehicles to pick up. It will also add the vehicle to the list of available vehicles.

6.3 Retrieval specialists just like employees must enter the amount of hours they've worked. They can view their pay rate as well.

4. Non-Functional Requirements

1. The system must use a database
     1.1. The system's database must store user account information, including the following fields: Username, Password, Email Address, Account Balance, and access level.

     1.1.1 If the access level is "employee" then the hours worked will be stored.

     1.2 The system's database will also store vehicle information, which includes: year, make, model, price, if it is rented or not, and how long it is being rented for.

2. The team will use the Git version control system, with GitHub as a remote repository.

3. The system must be deployable

3.1. Can be either locally hosted or hosted by a cloud service. The local server will be managed by django.

4. The system's interface must be mobile device friendly.

5. Future Features

1. For the retrieval specialist, the location could be displayed as a map to make the retrieval process easier.

2. There could be a page that allows users to rate their experience with their rental.

3. For managers, there could be an option to upload tax information to employees.

6. Glossary

This section contains a list of important terms and their definitions.

Customer - A user that uses the system to rent vehicles

Employee - A user who is a general employee for Dan's rental car in charge of checking in customers.

Retrieval Specialist - A user who is an employee in charge of picking up rental cars.

Manager - A user that pays employees and collects profits from Dan's Rental Car.

System - Refers to the application that the project aims to build

User - refers to any of the four types of users of the system (Customers, Employee, Retrieval specialist, and Manager)