JAYPEE INSTITUTE OF INFORMATION AND TECHNOLOGY

DATA STRUCTURES PROJECTS

ON CAR RENTAL SYSTEM

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PROJECT SYNOPSIS

Introduction

*A*___IM:___ To provide a comprehensive solution for the **Car Rental System**

As we all know, people have been relying on the autos and private cars on rent for many years wuthout a proper system. However, this method is not so efficient since users may not get the desired results.
This calls for a better design of a system wherein people can easily book a car and gets the best affordable service without wasting much time.

___" Car Rental System"___ has been designed to overcome this problem.

A___bout the project___

This mini project is all about exploring the currently existing data structures and different algorithms. For achieving this we have created a working prototype of car rental system where cars of different brand and price range are available. Here user can easily rent a car of his/her choice and which is affordable for them.
Our project consists of different searching and sorting algorithms which are used on different users, cars, availability of cars stored in the database made by the use of single linked lists, queue.
This project will provide the user with different options to rent the car of their choice and for the time period they want. Owner can add car in the car list , User can rent the car of their choice and if

the car is not available then user have the option to choose another car or can wait for the same car etc.

Project Objectives

- To create a Car Rental system that is user friendly. The software is capable enough to allow the user to have a car on rent for a specific duration.
- The software provides the facility of storing details of hourly rent, availability of car etc.

Features of the project

"Car Rental System" has been designed to computerize the following functions that are performed by the system:

- **Add the costumer to queue** - Whenever a new customer asks for a car, he is added to the queue of the customer and car is rented on the basis of first come first serve .
- **Move user to waitlist** – When the car asked by the user is not available than the user is asked to wait or select other car if user choose to wait the user is moved to waitlist where a deadline is giving after which the car is available and rented to the user .

- **Search for a given Car** – Customer can search for their favourite car and can select the price range which he /she can afford.
- **Delete Customer from due list** – Deleting the customer details when car is returned and full payment is made from the due list.

- **Display available car** - In sorted display (by price or by name).
- **Update details:**

A) Name
B) Price
C) Model

- **Create new node:** When a new car is added.

Data Structures Used are -

- Linked lists
- Sorting
- Searching
- Queue

References:

1. Lecture Slides
2. Geeks for Geeks
3. W3 School
4. Tutorialship