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CSC 330

Project #1

Requirements Specifications

The purpose of this project is to create a vehicle management system – a program able to track company vehicles by the employee using the vehicle, type of vehicle, and the purpose of the vehicle. The user will input vehicle data into the vehicle and be asked to provide details like vehicle type (cargo transportation, business trip, personal use). Depending on the purpose of the vehicle use, the user will be asked to input specific data:

1. For cargo transportation, the user will input the date and time of transportation, type of cargo, weight, list of items, mileage, and fuel cost
2. For business trip, the input date and time of vehicle use, the list of people on company business, mileage, and fuel cost
3. For personal use, the input is date and time of vehicle use, and the insurance information of the employee

In all of the above cases, user ID will be recorded.

From the user (employee) side, the following information is required:

1. First Name
2. Last Name
3. Employee ID Number

After recording the above data, the user is presented with the list of possible vehicle functions. The vehicle uses will be divided into three groups:

1. Cargo transportation
2. Business trip
3. Personal loan

All the vehicles will be based from the same template, including the following data:

1. Vehicle plate number
2. Trip mileage
3. Vehicle model
4. Driver data

In addition to that, each individual type of vehicle will have its specific data:

1. Cargo vehicle:
2. Total weight of cargo
3. List of cargo items
4. Business trip vehicle:
5. Number of passengers
6. List of passengers
7. Personal loan vehicle:
8. Insurance data of the employee

After the data input, all the data will be written into a table in the external file. The table can be printed when requested by the user. The program will operate as a system collecting history of vehicle use – it will not track what vehicles are currently used by the employees or which company vehicles are available for other users.

The above operations will be performed by a User Interface, which will handle all the input and communications with the user. Using the data from the user, it will combine the system’s capabilities (objects and their methods) to manage the vehicles of the company. The user will be able to update information stored in the program, as well as see the current state of company’s vehicles (available and un-available vehicles).

**USE CASES:**

User will interact with the system using the Windows 32-bit Console Application as UI and keyboard as input method. There are two primary functions user can perform – modification of data or data display. The first step of the program is requesting the employees ID, which is then added to the system unless already in it.

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| **User Actions** | **System Response** |
| **USE CASE: Display History of Vehicle Use** | |
| Choose “History” command | Display menu of available options |
| Choose “Complete History” command | Display table containing previous vehicle usage data including employee ID, type of vehicle, model (insurance information, fuel cost, and mileage if available for the type) |
| **USE CASE: Display History of Certain Vehicle Type Used** | |
| Choose “History” command | Display menu of available options |
| Choose the type of vehicle from:   1. “Cargo Transportations” command 2. “Business Trips” command 3. “Personal Loan” command | Display table containing the use history of chosen vehicle type (cargo, business, personal). |
| **USE CASE: Edit History of Vehicle Use** | |
| 1. Choose “Add Vehicle Use Case” command | Ask the user about the type of vehicle used |
| 1. Choose the type of vehicle | Request the user to input the data regarding the vehicle type (cargo information, business trip information, or personal use information) |