CSCI262/CSCI862 System Security

Assignment 3 Report

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# Initial input.

### Data storage

Based on the example Vehicles.txt file, the program will read in the first line which contains the number of vehicle types being monitored and store it as an integer variable.

Then the program will run into a loop which reads in each line in the text file and performs string tokenization using “:” as the delimiter.Then the program stores the whole line as a record as a Vehicle class which contains following member variables: string vehicleName; int parkingFlag; string registration; float volumeWeight; float speedWeight. Besides, the class also has three additional variables: float speed; float beginningTime; bool isParked;

For the file Stats.txt, the program initially read in first line and store it into a strcut with 4 integer variables: int noOfVehicleType; int lengthOfRoad; int speedLimit; int noOfParkingSpaces.

And for the rest, each line, the program uses a loop to read in the data and split them and store the data into a Stats class with following variables: string vehicleType; float numberMean; float numberStdDev; float speedMean; float speedStdDev.

### Potential inconsistencies

Inconsistency 1: The number given at the first line of count is incorrect.

Solution: We have to read through the file to identify the number of inputs.

Inconsistency 2: Each set of inputs are not terminated by a new line character.

Solution: We have to loop in through each set of objects in order to count the values.

Inconsistency 3: One of the values is missing in the input line.

Solution: Not addressed

Inconsistency 4: An extra space in between the format of the registration number.

Solution: This is addressed by removing the extra space.

Inconsistency 5: The symbol in between each input is not a ':' but something else.

Solution: Not addressed

Inconsistency 6: A null value instead of an input between one ':' and the next ':'

Solution: If the value is a ':', it needs to treated as zero while reading.

Inconsistency 7: There is no value for count at the beginning of the file.

Solution: We have to loop through the file and identify the count. If it's not there, we should be adding the right value.

# Activity engine and the logs.

# Analysis engine.

# Alert engine.