CSE 411
Assignment

Read the description carefully: -

The Roads and Highways department need a software for toll collection process. Currently, all the toll collection points are operating manually. It's a time-consuming process and creates long traffic queue. The R & H looking for a creative solution for all toll collection point. They want prepaid and postpaid based smart toll collection system where; the vehicles don't need to stop at the toll plaza for payment. They simple passed the smart gate. The smart toll collection system automatically identifies the vehicles and the amount of toll based on vehicle weight and their category. The toll will be collected electronically (by using credit card or e-wallet system).

VEHICLE	PROPOSED RATE
Trailer	Tk **1,361**
Heavy truck	Tk **1,089**
Medium truck	Tk **544**
Large bus	Tk **490**
Mini truck	Tk **408**
Minibus	Tk **272**
Microbus/ Pickup/Jeep	Tk **218**
Sedan car	Tk **136**
Motorcycle	Tk **27**

Figure 1: Sample toll collection chart but we need to include weight as well.

The R & H want three kind of solution for automatic vehicle identification, which are given in the figure below:

1. RFID (Radio frequency Identification) based vehicle Identification
2. Number plate recognition-based vehicle identification
3. Tele pass (BLE) based vehicle Identification

Users need to register their vehicle with this system before using the smart toll collection point. A simple process for generating daily or monthly or weekly reports is required by R & H department.

As a software engineer: -

		Marks
01	***Identify*** the functional and non-functional requirements of the system?	10
02	***Draw*** the UML class diagram with relationship (in details)?	20
03	***Write*** the technical feasibility (if any) of this project?	4
04	***List out*** all stakeholders (in different level)?	6

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