

Toll Management System Design Document

Mohammad Khalid Udayagiri- IMT2017028

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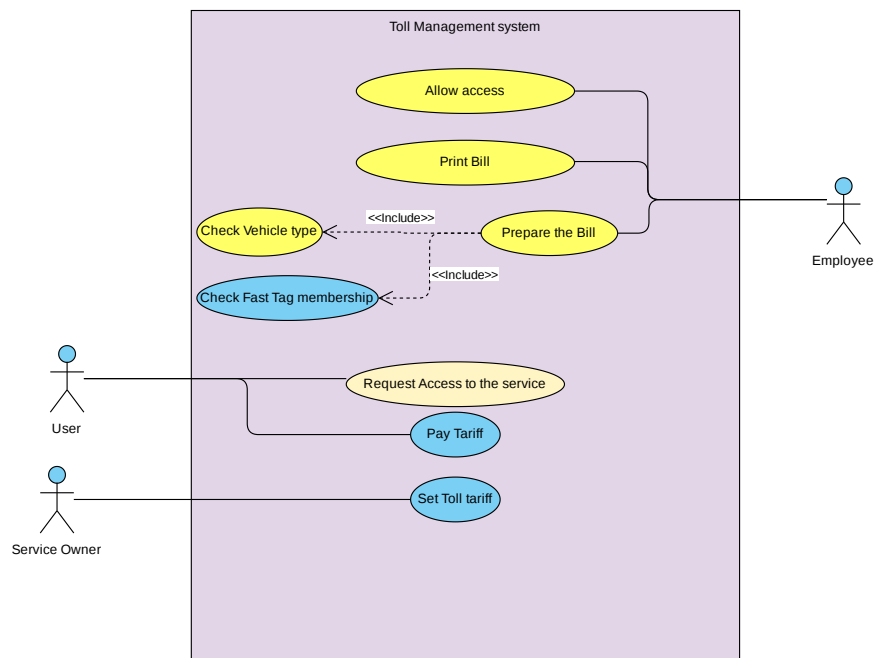


Figure 1: Use Case Diagram

Use Case Description Document

Use case Id: admin1

Use case name: Prepare Bill

Use case Description: create bill for the transaction including details such as transaction amount, transaction time, payment method.

Actors: Admin

Flow:

Normal: Feed in the required details into the software and print the bill.

Exception Flow 1 : If the payment fails, then ask the customer for other mode of payment.

Use case Id: admin 1-1

Use case name: Check Vehicle type

Use case Description: Admin checks the vehicle type and charges accordingly.

Actors: Admin

Flow:

Normal: If the vehicle type is in the database then the admin uses the same type for charging tariff.

Exception 1: If the vehicle type is not in the database then the admin charges tariff based on the weight of the vehicle.

Use case Id: owner-1

Use case name: Set Toll tariff.

Use case Description: The service owner set the toll tariff to be collected for each type of vehicle.

Actors: Service Owner.

Flow:

Normal: The service owner updates the new tariff by entering the required details this will automatically reflect in the toll booth.

Exception Flow: If the service owner cannot update the tariff then the latest updated tariff is used by toll booth.

RELATIONAL DATA MODEL
EMPLOYEE

NAME OF COLUMN	DATA TYPE	CONSTRAINTS
EMLOYEE_ID	Integer	PK, Surroger, NOT NULL
Salary	Integer	
TOLL_BOOTH_ID	Integer	FK references (TOLL_BOOTH_ID)TOLL_B OOTH.

TOLL_BOOTH

NAME OF COLUMN	DATA TYPE	CONSTRAINTS
TOLL_BOOTH_ID	Integer	NOT NULL, PK
SERVICE_OWNER_ID	Integer	FK references (SERVICE_OWNER_ID) SERVICE_OWNER
EMPLOYEE_ID	Integer	FK references (EMPLOYEE_ID)EMPLOYEE .
LOCATION	String	
COST_BY_VEHICLE	String	

SERVICE_OWNER

NAME OF COLUMN	DATA TYPE	CONSTRAINTS
SERVICE_OWNER_ID	Integer	PK, Surrogate, NOT NULL
SERVICES	String	
TOLLBOOTH_ID	Integer	FK references (TOLLbOOTH_ID) TOLLBOOTH.

BILL

NAME OF COLUMN	DATA TYPE	CONSTRAINTS
BILLID	Integer	PK, Surrogate, NOT NULL
TIME OF TRANSACTION	Time	
PAYMENT METHOD	String	
PAYMENT AMOUNT	Integer	
CUSTOMER_ID	Integer	FK references (CUSTOMER_ID)CUSTOMER.
TOLLBOOTH ID	Integer	FK references (TOLLBOOTH_ID)TOLLBOOTH.

CUSTOMER

NAME OF COLUMN	DATA TYPE	CONSTRAINTS
CUSTOMER_ID	Integer	PK, Surrogate, NOT NULL
IS_FASTTAG	Integer	
VEHICLE_REGISTRATION_NUMBER	String	
VEHICLE_TYPE	String	
Proof of Identity	String	

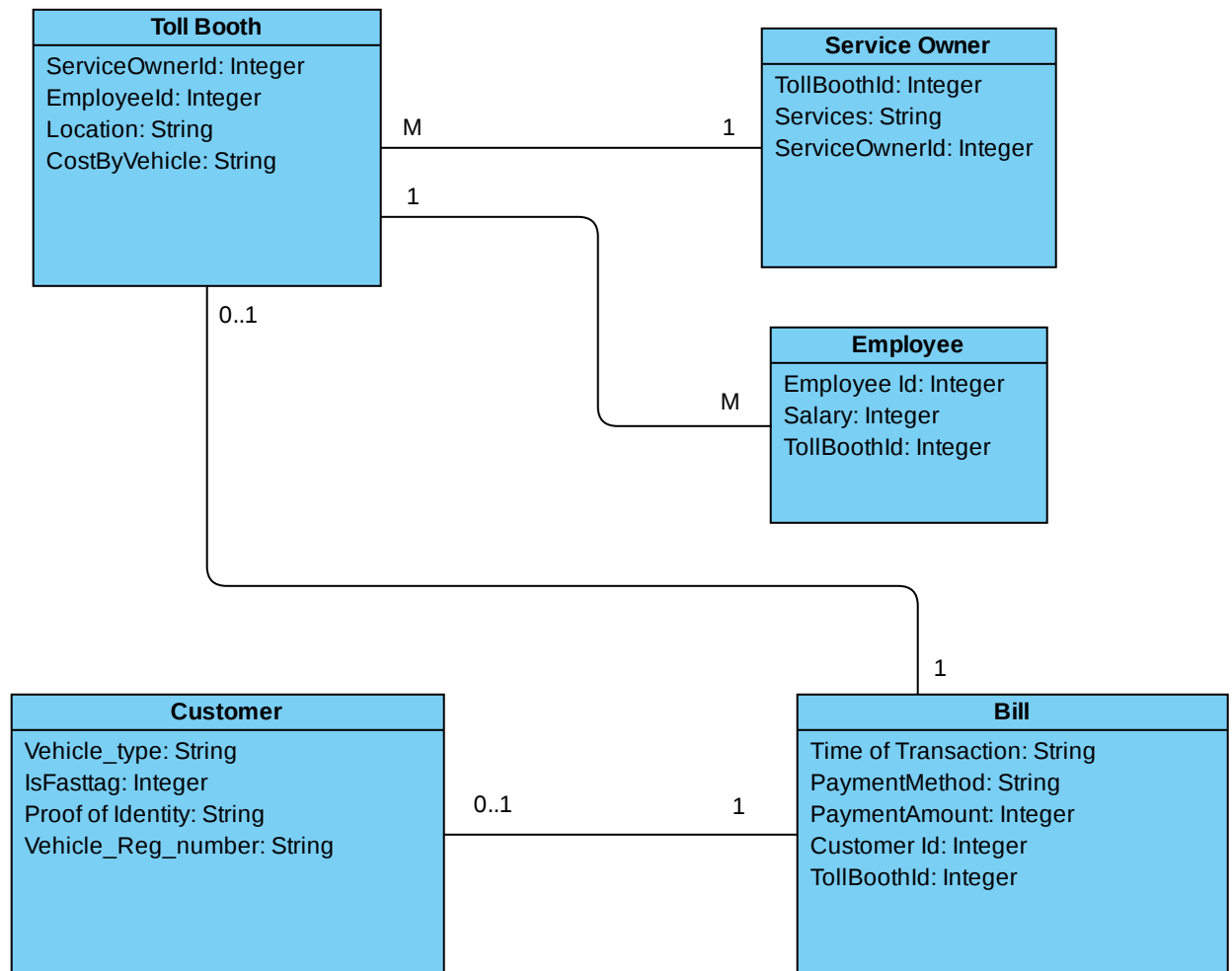


Figure 2: UML Class Diagram