Database model documentation

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1. Model details

Model name:

    Traffic Violation Management System

Version:

    2.4

Database engine:

    MySQL

Description:

2. Tables

2.1. Table Vehicle

Description:

Stores Vehicle Details

2.1.1. Columns

Column name	Type	Properties	Description
VehicleId	int	PK	
LicensePlate	int		
Make	varchar(50)		
Model	varchar(50)		
Year	int		
OwnerId	int		

2.1.2. Alternate keys

Key name	Columns	Description
OwnerId	OwnerId	Foreign Key (FK) > Driver.DriverId

2.2. Table Officer

Description:

Tracks Law Enforcement Officers

2.2.1. Columns

Column name	Type	Properties	Description
OfficerId	int	PK	
BadgeNumber	int		
FirstName	varchar(50)		
LastName	varchar(50)		
Rank	varchar(20)		

2.3. Table Driver

Description:

Stores driver information

2.3.1. Columns

Column name	Type	Properties	Description
DriverId	int	PK	
FirstName	varchar(40)		
LastName	varchar(30)		
LicenseNumber	int		
Address	int		
PhoneNumber	int		
Vehicle_VehicleId	int		
Violation_ViolationId	int		
Vehicle_2_VehicleId	int		

2.4. Table Violation

Description:

Details Traffic Violations

2.4.1. Columns

Column name	Type	Properties	Description
ViolationId	int	PK	
VehicleId	int		
ViolationType	varchar(50)		
ViolationDate	DATETIME		
Location	varchar(100)		
FineAmount	decimal(10,2)		
Status	ENUM ('Pending','Paid'		
DriverId	int		
OfficerId	int		

2.4.2. Alternate keys

Key name	Columns	Description

DriverId	DriverId	Foreign Key (FK) > Driver.DriverID
VehicleId	VehicleId	Foreign Key (FK) > Vehicle.VehicleID
OfficerId	OfficerId	Foreign Key (FK) > Officer.OfficerID

2.5. Table FinePayment

Description:

Manages fine payments.

2.5.1. Columns

Column name	Type	Properties	Description
PaymentId	int	PK	
ViolationId	int		
PaymentDate	DATETIME		
PaymentMethod	ENUM('Cash', 'Card', 'Online')		
AmountPaid	decimal(10,2)		

2.5.2. Alternate keys

Key name	Columns	Description
ViolationId	ViolationId	Foreign Key (FK) > Violation.ViolationID

3. References

3.1. Reference Violation_Vehicle

Description:

Each product belongs to one product

Vehicle	1..1	Violation
VehicleId	<->	VehicleId

3.2. Reference Violation_FinePayment

Violation	1..1	FinePayment
ViolationId	<->	ViolationId

3.3. Reference Driver_Vehicle

Driver	1..1	Vehicle
DriverId	<->	OwnerId

3.4. Reference Violation_Officer

Officer	1..1	Violation
OfficerId	<->	OfficerId

3.5. Reference Violation_Driver

Driver	1..1	Violation
DriverId	<->	DriverId