**Table of Contents**

**Narrative**

USF Police Department has been hired to help the University of South Florida give parking tickets, to keep track of tickets that have been issued and to give a report to the Tampa Police Department.

For the past few years, USF Police Department has noticed an increase in tickets issued to vehicles on campus. However, USF PD did not have a system to improve ticketing process. The purpose of our system is to help USF PD to keep track of tickets that they issue at all USF campuses. The system will later will be used as a starting point to create reports, which will be given to Tampa PD for evaluation of the parking issue at USF. Entities and their attributes that we will be tracking are explained below, as well as system business rules.

Each vehicle is allowed to have only one parking permit type, depending on which permit student/faculty chooses depends your cost, ID, name and type.

Each police officer has a badge number, name (first and last name), phone number and the type of officer they are. Every Officer, must only have one Supervisor officer. Each vehicle has a vin number, make,model,year,color and licence plate. Each vehicle must at least have one owner, but a person may have one or more vehicles. Each owner has a Driver license number, a name (first and last), and an association with USF.

Each ticket has a number, type, and description. An officer can issue many tickets and a ticket must be issued by an officer. Also a vehicle can be issued one or more tickets for parking without a permit.

**Entities and Attributes**

1. PERMIT
   1. Id
   2. Name
   3. Type
2. VEHICLE
   1. Vin
   2. Make
   3. Model
   4. Year
   5. Color
   6. LicensePlate
   7. State
3. OWNER
   1. DriverLicenseId
   2. Name (FirstName, LastName)
   3. AssociationsWithUSF
   4. PhoneNumber
   5. Email
4. TICKET
   1. TicketNumber
   2. Type (Warning, Citation)
   3. Description
5. POLICE\_OFFICER
   1. BadgeNumber
   2. Name (FirstName, LastName)
   3. PhoneNumber
   4. Patrol (Bike, Vehicle, Walking)

**Business Rules**

1. A vehicle must be owned by one owner; an owner can have one or more vehicles.
2. An officer must be supervised by one officer; an officer can supervise one or more officers.
3. A vehicle must have one parking permit; parking permit must be assigned to one vehicle.
4. One or more officers can issue one or more tickets to one or more vehicles; one or more tickets must be issued to one or more vehicles by one or more officers; one or more vehicles can be issued one or more tickets by one or more officers.

**Data Dictionary**

Table: **Citation**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| TicketNumber | CPK; FK To Ticket table | int |  | Y |  |  |  |  | Y |
| VIN | CPK; FKTo Vehicles table | varchar | 17 | Y |  |  |  |  | Y |
| OfficerBadgeNumber | CPK; FKTo Officer table | int |  | Y |  |  |  |  | Y |
| Date | Date of the citation | Date |  |  |  |  | >= GETDATE() |  |  |
| Time | Time of the citation | Time |  |  |  |  |  |  |  |
| Amount | Citation amount | smallint |  |  |  |  |  |  |  |
| PayDate | Citation due date | Date |  |  |  |  |  |  |  |
| Street | Citation street | varchar | 35 |  |  |  |  |  |  |
| City | Citation City | varchar | 25 |  |  |  |  |  |  |
| Zip | Citation Zip | varchar | 10 |  |  |  | LIKE '[0-9][0-9]  [0-9][0-9][0-9]' OR  LIKE ‘[0-9][0-9][0-9][0-9][0-9]-[0-9][0-9][0-9]’ |  |  |

Table: **Officer**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| BadgeNumber | PK; Unique Badge Number | int |  | Y |  |  |  |  | Y |
| FirstName | Officer First Name | varchar | 15 |  |  |  |  |  |  |
| LastName | Officer Last Name | varchar | 20 |  |  |  |  |  | Y |
| PhoneNumber | Officers Phone Number | varchar | 14 |  |  |  | LIKE ‘([0-9][0-9][0-9]) [0-9][0-9][0-9]-[0-9][0-9][0-9][0-9]’ |  |  |
| Patrol | Officers Patrol type | varchar | 1 |  |  |  | LKE ‘B’, ‘V’, ‘W’ |  |  |
| SupervisorId | FK to Officer table; Supervisor Id | int |  | Y |  |  |  |  | Y |

Table: **Owner**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| DriverLicenseID | PK; Unique Driver License ID | int |  | Y |  |  |  |  | Y |
| FirstName | Owner first name | varchar | 15 |  |  |  |  |  |  |
| LastName | Owner last name | varchar | 20 |  |  |  |  |  | Y |
| AssociationwithUSF | Student or faculty | varchar | 5 |  |  |  | “S”, “FAC”, “STAFF”, “VIS” |  |  |
| PhoneNumber | Vehicle owner phone number | varchar | 14 |  |  |  | LIKE ‘([0-9][0-9][0-9]) [0-9][0-9][0-9]-[0-9][0-9][0-9][0-9]’ |  |  |
| Email | Vehicle owner email | varchar | 40 |  |  |  |  |  |  |

Table: **Permit**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| Id | PK; Unique Permit Id | int |  | Y | Y |  |  |  | Y |
| Name | Permit Name | varchar | 10 |  |  |  |  |  |  |
| Type | Permit Type | varchar | 2 |  |  |  | “R”, “ GZ”, ”E”, “S”, “Y” or “V” |  |  |

Table: **Ticket**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| TicketNumber | PK; Unique Ticket Number | int |  | Y | Y |  |  |  | Y |
| Type | Ticket type | varchar | 8 |  |  |  | “Warning” or “Citation” |  |  |
| Description | Ticket Description | varchar | 60 |  |  |  |  |  |  |

Table: **Vehicle**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Description** | **Data Type** | **Size** | **Identity** | **Unique** | **Default** | **Check** | **Allow Nulls** | **Index** |
| VIN | PK; Unique VIN number | varchar | 17 | Y |  |  |  |  | Y |
| Make | Vehicle Made | varchar | 15 |  |  |  |  |  |  |
| Model | Vehicle Model | varchar | 19 |  |  |  |  |  |  |
| Year | Vehicle made year | int |  |  |  |  | LIKE '[1-2][0-9][0-9][0-9]' |  |  |
| Color | Vehicle Color | varchar | 10 |  |  |  |  |  |  |
| State | Vehicle State | char | 2 |  |  | ‘FL’ | LIKE ‘[A-Z][A-Z]’ |  |  |
| LicensePlate | Vehicles Licence Plate number | varchar | 8 |  |  |  |  |  |  |
| DriverLicenseId | CPK; FKTo Owners table | int |  | Y |  |  |  |  | Y |
| Permit | CPK; FKTo Permit table | int |  | Y |  |  |  |  | Y |