

Overview / User Guide

The overall system is Python version 3.5.2 based with SQLite3 backed database usage. The system runs in a command line format where the user must enter the specific database name that they desire to use. After selecting the database the user must log-on via a username and password which must be in the database in order to get passed the login screen. Upon successfully logging on, the system will automatically detect the user type which is either an agent or officer. Depending on the user type will determine the permissions the user has on the system. An agent will be able to access certain tasks such as; Register a Birth, Register a Marriage, Renew a Vehicle Registration, Process a Bill of Sale, Process a Payment and Get Driver Abstract. An officer will be able to access certain tasks such as; Issue a Ticket and Find a Car Owner. After performing certain tasks within the python command-line, the user will begin to update the database behind the scenes simultaneously.

Brief User Guide for Functions:

Agent:

Register a Birth:

The user function Register a Birth allows an agent to register a birth by inserting as prompted the first name, last name, gender, birth date, birth place, and the names of the parents. The registration date is set automatically to today's date, there is a random registration number assigned to each birth. The function also inserts the newborn into the persons table at the same time. If the parents of the newborn are not in the database the system will automatically prompt the agent to insert their details automatically inserting them into the database as well. The newborn will inherit certain attributes from the mother such as phone number and address.

Register a Marriage:

The function register marriage should allow user to provide names of the partners and the system will assign the registration date and place and a unique registration number. If any of the partners is not found in the database, the system registers the person into the persons database using first name, last name, birth date, birth place, address and phone in which the first name and last name are mandatory.

Renew a Vehicle Registration:

Using the renew a vehicle registration the user is able to provide an existing registration number and renew the registration. If the registration expired today or earlier the new expiry date would be set to a year from today if its expiring in future the new expiry date will set to year from the existing expiry date.

Process a Bill of Sale:

Using process a bill of sale function the user is able to record a bill of sale by providing the vin of a car, the name of the current owner, the name of the new owner, and a plate number for the

new registration. If the current owner name is incorrect the function doesn't allow the user to process the bill of sale. Each registration is assigned a unique registration number.

Process a Payment:

Using process a payment function the user is able to record a payment by entering a valid ticket number and an amount. The payment date is automatically set to today's date. The function doesn't allow the user to pay more than the fine amount, and the user is allowed to pay the fine using multiple payments.

Get Driver Abstract:

The user function get driver abstract allows an agent to receive number of tickets, number of demerit notices, and the total number of demerit points in both past 2 years and lifetime. Also allows the users to view all the tickets given to the driver assorted by 5 per page, and there are more than 5 users can request to see more.

Officer:

Issue a Ticket:

Using the issue a ticket function the user is able to provide a registration number and see the person's name that is listed in the registration and the make, model, year and color of the car registered. Then the user is able to proceed and ticket the registration by providing a violation date, a violation text and a fine amount.

Find a Car Owner:

Using the find a car owner function the user should be able to look for the owner of a car by providing one or more of make, model, year, color, and plate. The system returns all the matches found. If there are more than 4 matches, it will only show the make, model, year, color, and the plate of the matching cars and let the user select one. When there are less than 4 matches or when a car is selected from a list shown earlier, for each match, the make, model, year, color, and the plate of the matching car will be shown as well as the latest registration date, the expiry date, and the name of the person listed in the latest registration record.

(b) a detailed design of your software with a focus on the components required to deliver the major functions of your application

A detailed of our system consists of one main python file which has 12 main functions and several helper functions allowing the user to achieve their end goal. The flow of data within the entirety of the main.py is very self-contained within each function. There are only 2 parameters in all the main functions which is userType and Data. The userType is carried out between all the functions with the purpose to create the login function and carry-out another task at the end of every task has been completed. The data portion is for obtaining the user name and password on the agent or officer for use in queries and logging out and in.