Design Document

General overview of system with a small user guide.

When the program is executed, you are first prompted to login.
The user is prompted for a username and a password respectively.
The username is then used to match the user with one of the users in the database.
The password is used to verify their identity by matching it to the user information in the database.
At this point, the user is either verified or rejected.
If the user is verified, they are given access to the interface.
The interface gives the user a list of tasks they can perform and the option to logoff.
If the user if an agent, they are given 6 options: *Register a birth, Register a marriage, Renew a vehicle registration, Process a bill of sale, Process a payment, Get a driver abstract.*
If the user is an officer, they are given 2 options: *Issue a ticket, Find a car owner.*
Once a task is chosen, the associated function is run.
The functions take in needed information from user and the database to return, insert, or update data in the database. All changes are committed to the system.
Once the function is complete, the user is brought back to the interface.
From here the user can continue to perform tasks until they choose to logoff.
When the user chooses to logoff, all data saved from the user is released and the program is ready to accept another user.

User guide: Input username, input password, choose task, follow instructions, logoff

(flowchart)

Detailed design of software

Login:

Get username
Get password and hide password at time of typing
Verify user
Login, if matching
Reject, if not matching

Interface:

If user is agent show options Register a birth, Register a marriage, Renew a vehicle registration, Process a bill of sale, Process a payment and Get a driver abstract.
If the user is an officer, show options Issue a ticket and Find a car owner.

Register a birth:

Get first and last name of newborn
Get gender of newborn
Get birth date of newborn
Get birthplace of newborn
Get first and last name of father
If father is not in person, register father

Get first and last name of mother
If mother not in person, register mother
Get today's date
Chose unique registration number
Get users city as registration place
Get address from mother
Get phone from mother
Insert newborn in person
Register the birth

Register a marriage:

Get first and last name of partner 1
If partner 1 is not in database, register partner 1
Get first and last name of partner 2
If partner 2 is not in database, register partner 2
Chose unique registration number
Get users city as registration place
Register marriage

Renew a vehicle registration:

Get registration number
If expired or expiring today, update expiry to one year from today
If not yet expired, update expiry date to one year after expiring date

Process a bill of sale:

Get vin
Get current owner
If owner matches continue
If owner does not match, cancel sale
Get new owner
Get plate number
Set current registrations expiry date to today
Create new registration

Process a payment:

Get ticket number
Grab ticket fine
Grab sum of prior payments
Find balance
Get payment amount
If amount is less than or equal to balance process payment
If amount is greater than balance, cancel payment

Get a driver abstract:

Get first and last name of driver

Return abstract on driver

Issue a ticket:

Get registration number
Get date
Get reason
Choose unique ticket id
Insert new ticket

Find a car owner:

Input search parameter name
Input search parameter value
Return car details

Testing strategy. The testing strategy discusses your general strategy for testing, with the scenarios being tested, the coverage of your test cases and (if applicable) some statistics on the number of bugs found and the nature of those bugs.

Tested two ways:

The lines below was changed slightly and run in appropriate places to test various functions. It would allow us to see the change in the table before and after the insert, or update.

```
if debugIssueTicket == True:
    print("TICKETS BEFORE:")
    cursor.execute('SELECT * FROM tickets')
    debugQuery = 0
    while debugQuery != None:
        debugQuery = cursor.fetchone()
        if debugQuery != None:
            print(debugQuery)
```

Each function was also tested with scenarios specific to that function.

Test for login: fotray, 46MuaZMf

fotray, 46muazmf

Test for interface: fotray, 46MuaZMf, rb, Trayvon fox, mika grey, ‘’, ‘’, ‘’, ‘’, lo

Boulil, Q6v9n8xn, it, 300, 2019-11-03, lo

Test for registering marriage, case sensitivity, registering person, and inserting null values:

Trayvon fox, mika grey, ‘’, ‘’, ‘’, ‘’

Test for process a sale: 300, Diane Lee, mary fox, ‘’, ‘’, ‘’, ‘’, sdf2318

Tests for processing payment: 101, 100

100, 100

Test for issue a ticket: 300, 2019-11-03

1, 300, 2019-11-03

Test for find a car owner: ‘’, make, Doge, ‘’

y, make, Doge, Plate, ‘plate2’

group work break-down strategy.

Ishara Hettiarachchige:

Register a marriage, Process a bill of sale, Process a payment. Integrating all written functions into one

Matthew Braun:

Login interface, Issue a ticket, Find a car owner. Design document

Johnson Zhao:

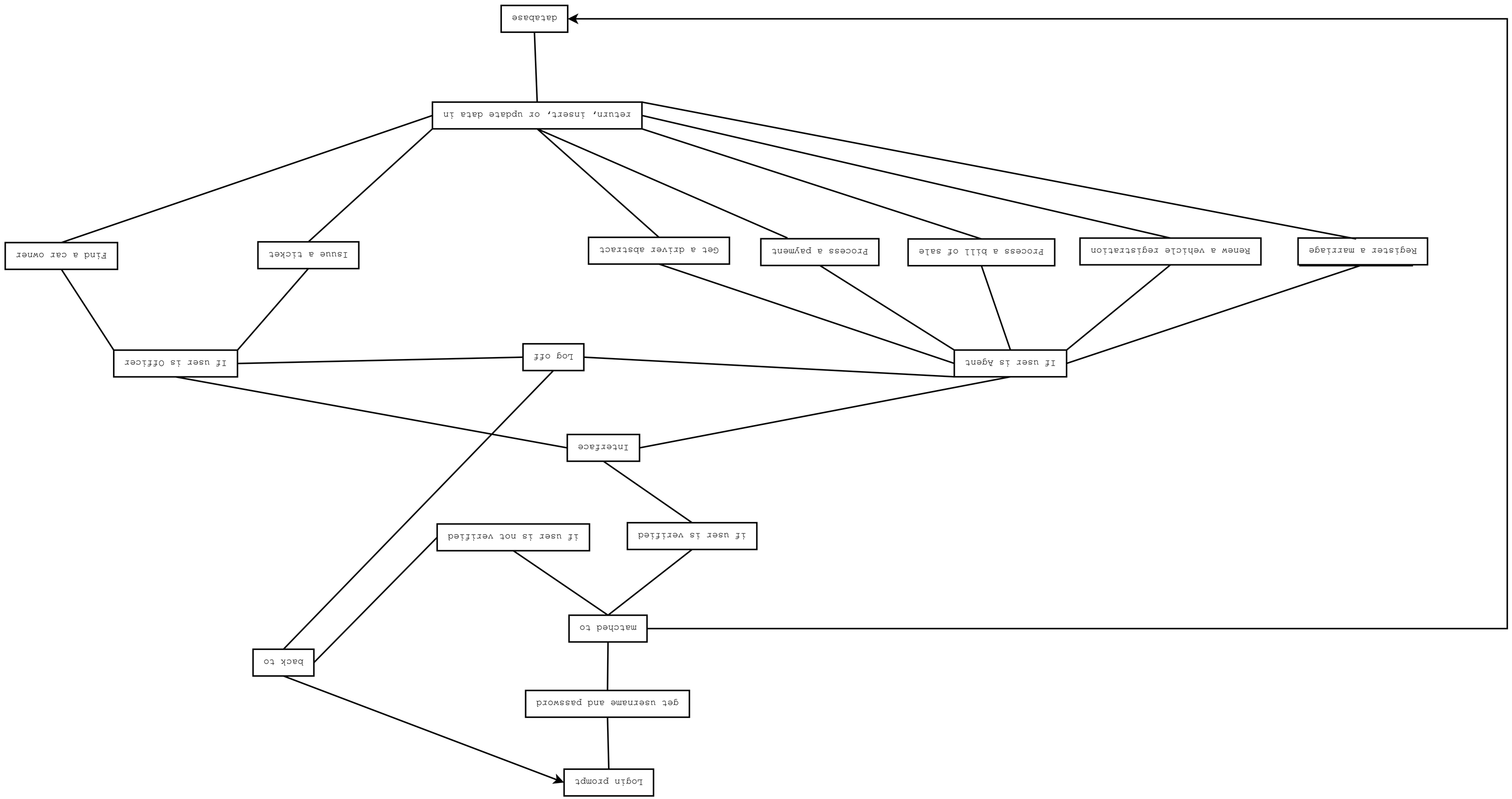
Register a birth, Renew registration, driver abstract.

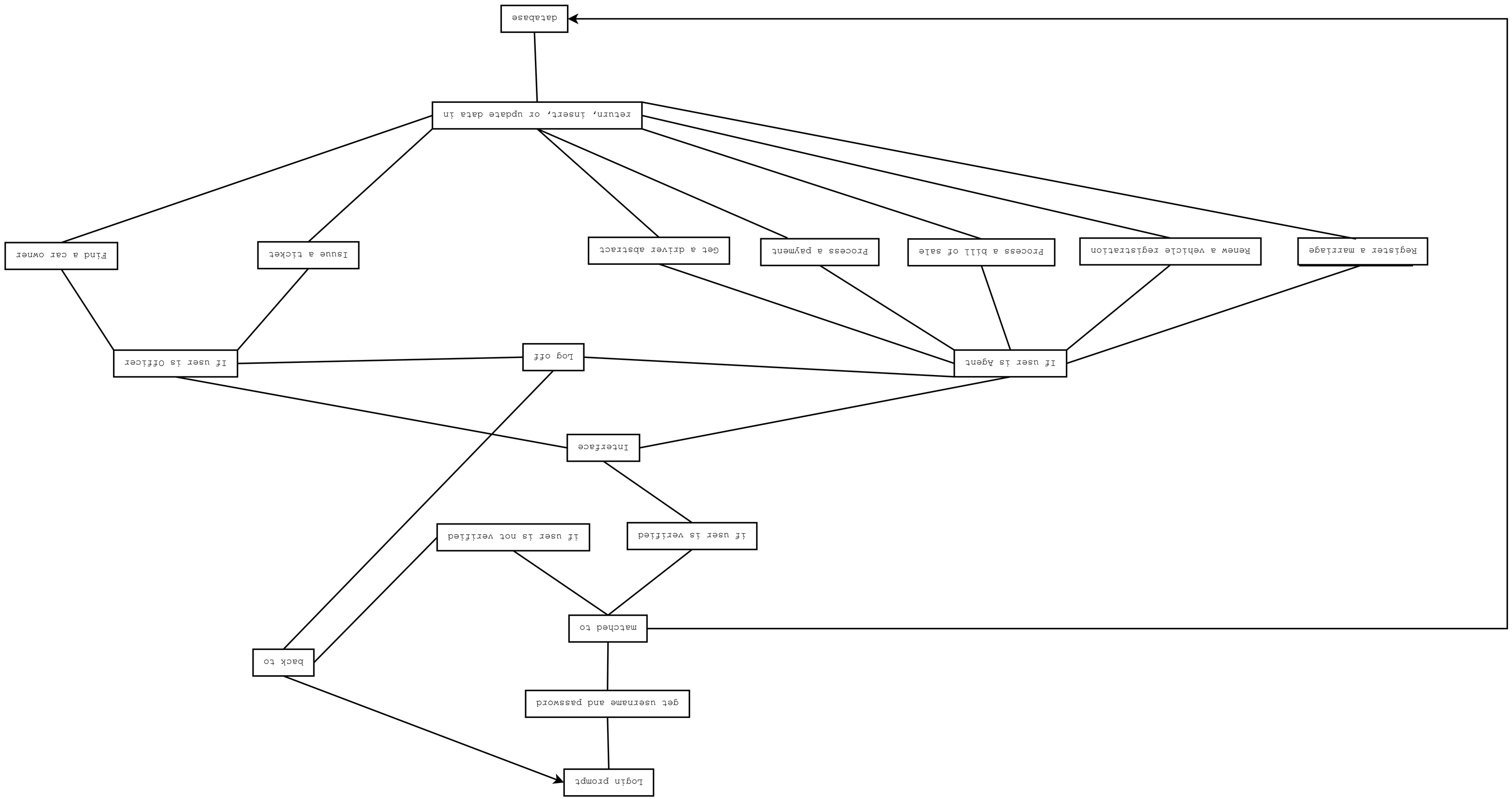
Time spent: 7 hours

Method of coordination:

Online→ git hub repository

3 In person meetups to check on progress, and submit files


database
return, insert, or update data in
Find a car owner
Issue a ticket
Get a driver abstract
Process a payment
Process a bill of sale
Renew a vehicle registration
Register a marriage
If user is Officer
Log off
If user is Agent
Interface
if user is not verified
if user is verified
matched to
back to
get username and password
Login prompt


database
return, insert, or update data in
Find a car owner
Issue a ticket
Get a driver abstract
Process a payment
Process a bill of sale
Renew a vehicle registration
Register a marriage
If user is Officer
Log off
If user is Agent
Interface
if user is not verified
if user is verified
matched to
back to
get username and password
Login prompt