

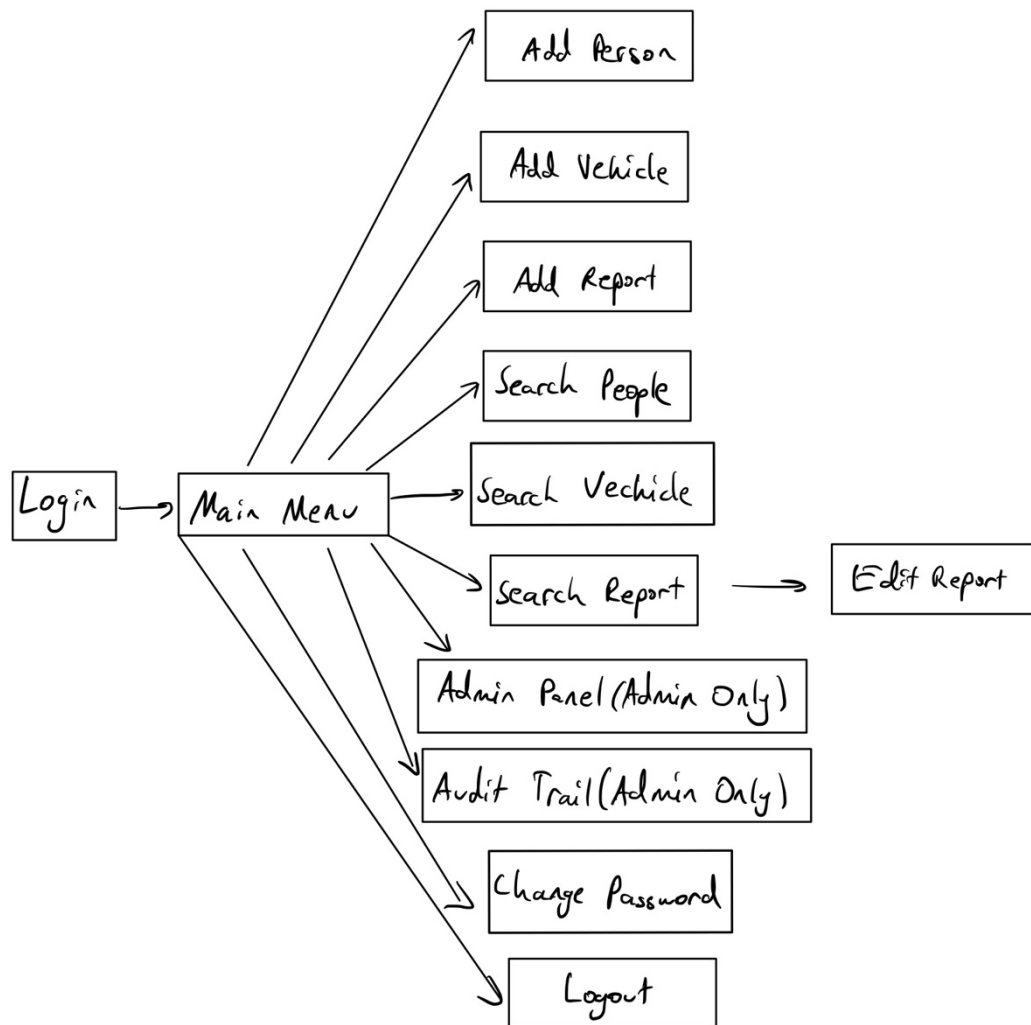
Technical Manual

How to install and run:

Install docker, and using command line tools, go to the directory where the docker folder is. Then, run “docker compose up”. After it is done, go to docker->images and run all the images.

Now, go to <http://localhost/coursework2/index.html>

Structural Diagram of each page:



Logic of Pages (We use prepared SQL statements in PHP to manipulate the database):

1) Login – Checks username and password combinations with the database, redirects to main page if match is found.

2) Main Menu – Has links to Add Person, Add Vehicle, Add Report, Search People, Search Vehicle, Search Report, Admin Panel (admin only), Audit Trail (admin only), Change Password, Logout.

3) Add Person – Name, Licence and Address are entered. Compares Licence to entries in the database. If it exists, person is not added.

Note: Since most tables don't allow autoincrement, we use the COALESCE(MAX()) method to autoincrement the ID columns (this applies to any SQL query where there is COALESCE, no COALESCE means the table has autoincrement).

4) Add Vehicle – Similar query to Add Person. If the Owner is not in the People table, user is prompted to add them first. Vehicle details are added to Vehicle table, and then Vehicle and Owner are added to the Ownership table.

5) Add Report – First checks if the person and vehicle are in the database. If not, user is prompted to add them first.

6) Search People – Search using names or driving licence number (allows partial entries). Shows People_name, People_address, People_licence.

7) Search Vehicle – Search using licence plate number (allows partial entries). Shows Vehicle.Vehicle_type, Vehicle.Vehicle_colour, Vehicle.Vehicle_licence, People.People_name, People.People_licence.

8) Search Report – Search using driving licence number or licence plate number (must be exact match). Shows Incident_Date, People_licence, Vehicle_licence, Incident_report, Offence_description. Click edit button to edit each of these.

9) Edit Report – Allows editing of each of the Search Report fields mentioned above.

10) Admin Panel – Admin can create new users but usernames must be unique. Created username-password combinations are added to the users table in the DB.

Admin can also associate fines to incidents by entering Incident_ID, Fine_Amount and Fine_Points. Fine_Amount and Fine_Points mustn't be less than 0 or exceed Offence_maxFine and Offence_maxPoints for the Offence_ID linked to that Incident_ID. If the Incident_ID has no fines on the Fines table, fines are added. Else, the previous fines are changed with the newly entered ones.

11) Audit Trail – Events are logged automatically to the Audit table in the database as log_id, event, details, username and timestamp.

Events are: Login, Add People, Add Vehicle, Add Report, Search People, Search Vehicle, Search Report, Edit Report.

These are shown with pagination on the web app.

12) Change Password – Existing password is swapped with the new one for that username on the DB.

13) Logout – Destroys session and logs the user out.

IMPORTANT INFORMATION: The Audit table comes empty after the initial setup. The more the users interact with the app and create events, the more populated the Audit table will become.