# FuelWare 1.0

FuelWare is a small utility to maintain/track/manage fuel and other vehicle related expenditure of an organization in an effective way. It is distributed under Open Source without any licensing restriction whatsoever.

It is developed using HMG (Harbour MiniGUI) as the front end and SQLite DBMS as the back end database. HMG is a Win32 API wrapper over the Clipper like Harbour Xbase language and is open source.

FuelWare comes with a sample database with few sample entries for your understanding. You can delete the sample database file '**FuelWaredb.sqlite**' or rename it and a new file without any entries will be created on the next run by the software.

Before proceeding further we shall see how FuelWare works.
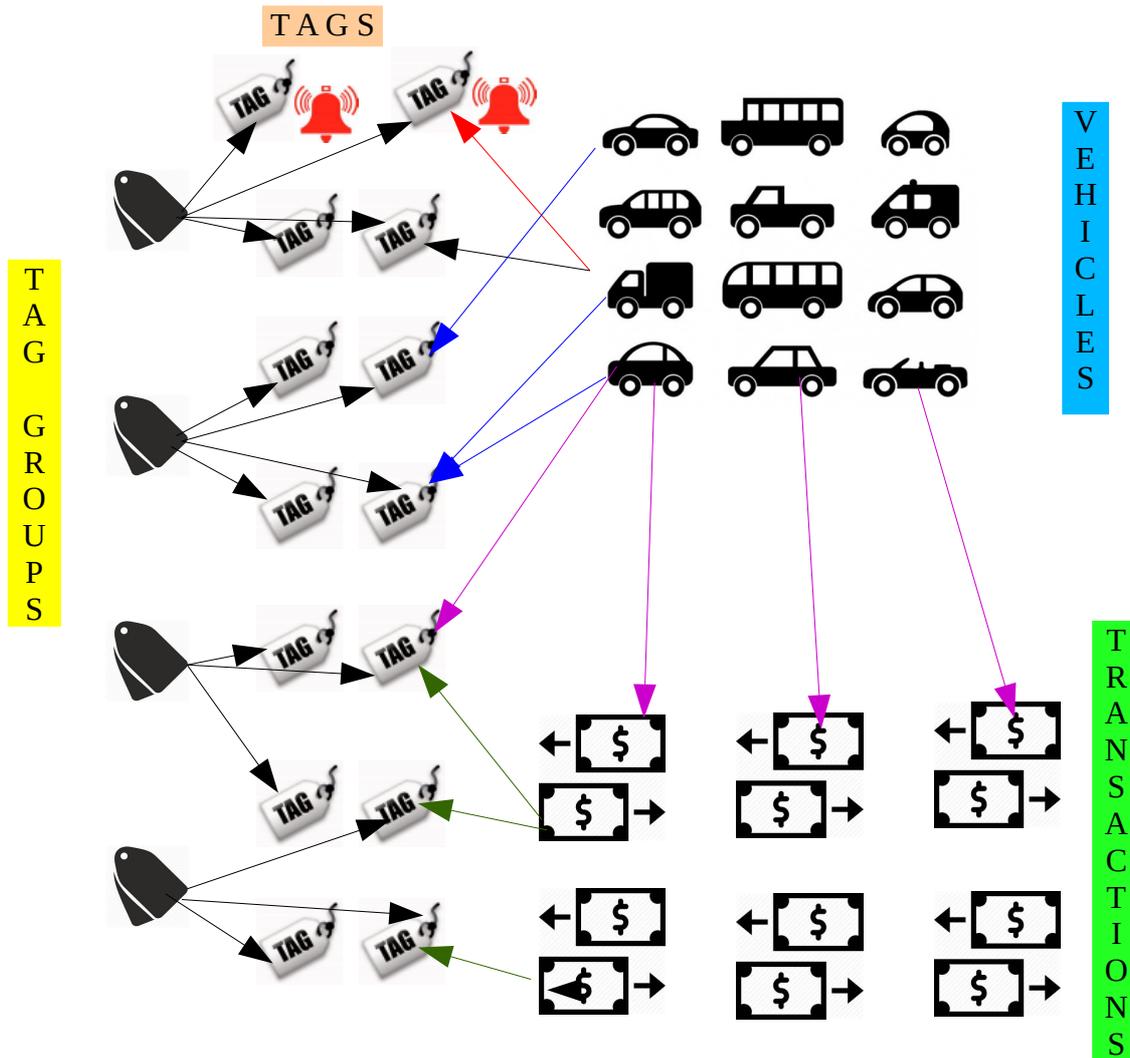
As you can see, there are vehicles, transactions and tags. Tags are grouped into tag groups.

The main idea of FuelWare is to book fuel and other vehicle related expenses (transactions) to vehicles. Then there are tags and tag groups. Tags are of three types. They are,

1. Vehicle Tags
2. Vehicle Reminder Tags
3. Transaction Tags

Tag groups and tags are used to categorize vehicles and transactions. They are also useful in filtering transactions/vehicles in the reports.

For example see the following table:

|	Tag Groups			
	Fuel	Owner	Type	Expense
Tags	Petrol	Owner1	Bus	Fuel
	Diesel	Owner2	Truck	Insurance
	CNG		Car	Permit
			Motor Cycle	

A vehicle can be tagged as Petrol, Owner1, Motor Cycle. Another vehicle can be tagged as Diesel and Owner2 so on so forth.

Same way, a transaction can also be tagged as Insurance.

Insurance might be recurring and has to be reminded. That can be added as a reminder tag with the expiry date to the concerned vehicle.

Now we shall run FuelWare and start entering data.

FuelWare's main screen with sample data looks as below:
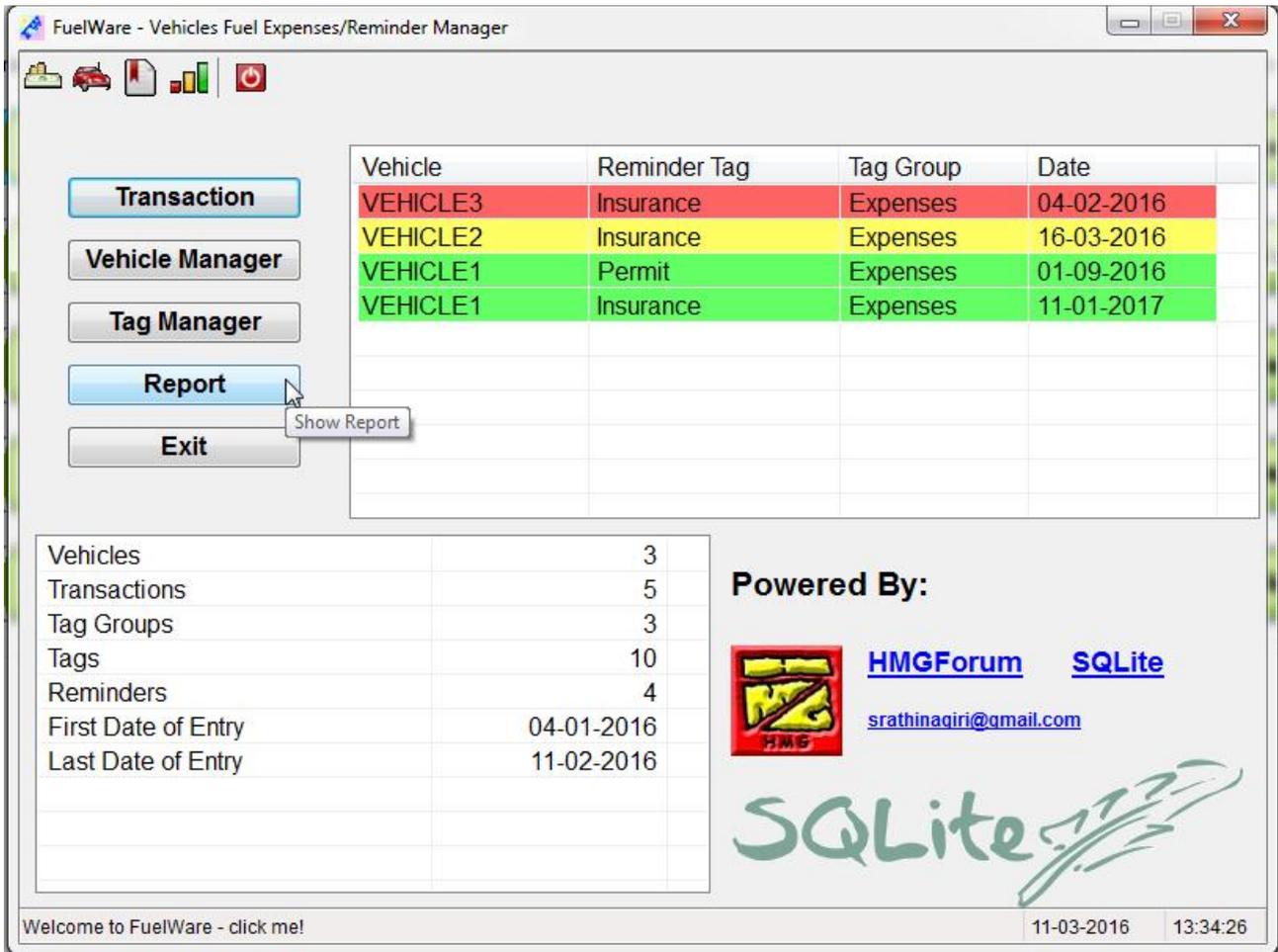
It consists of 4 main options viz.,
1. Transaction – Used for entering transactions
2. Vehicle Manager – Used for entering vehicle details
3. Tag Manager – Used to manage tags.
4. Report – Used to show reports.

You can see a tri-color reminder table on the right hand side. Red color rows represent those reminders which were timed out. Yellow color rows represent the reminders which are coming ahead in less than 30 days. Green color rows represent reminders with more than 30 days from system date.

In the bottom there is a table with current statistics about the entries in FuelWare which are self explanatory.

Now we shall see Transaction Entry Screen:
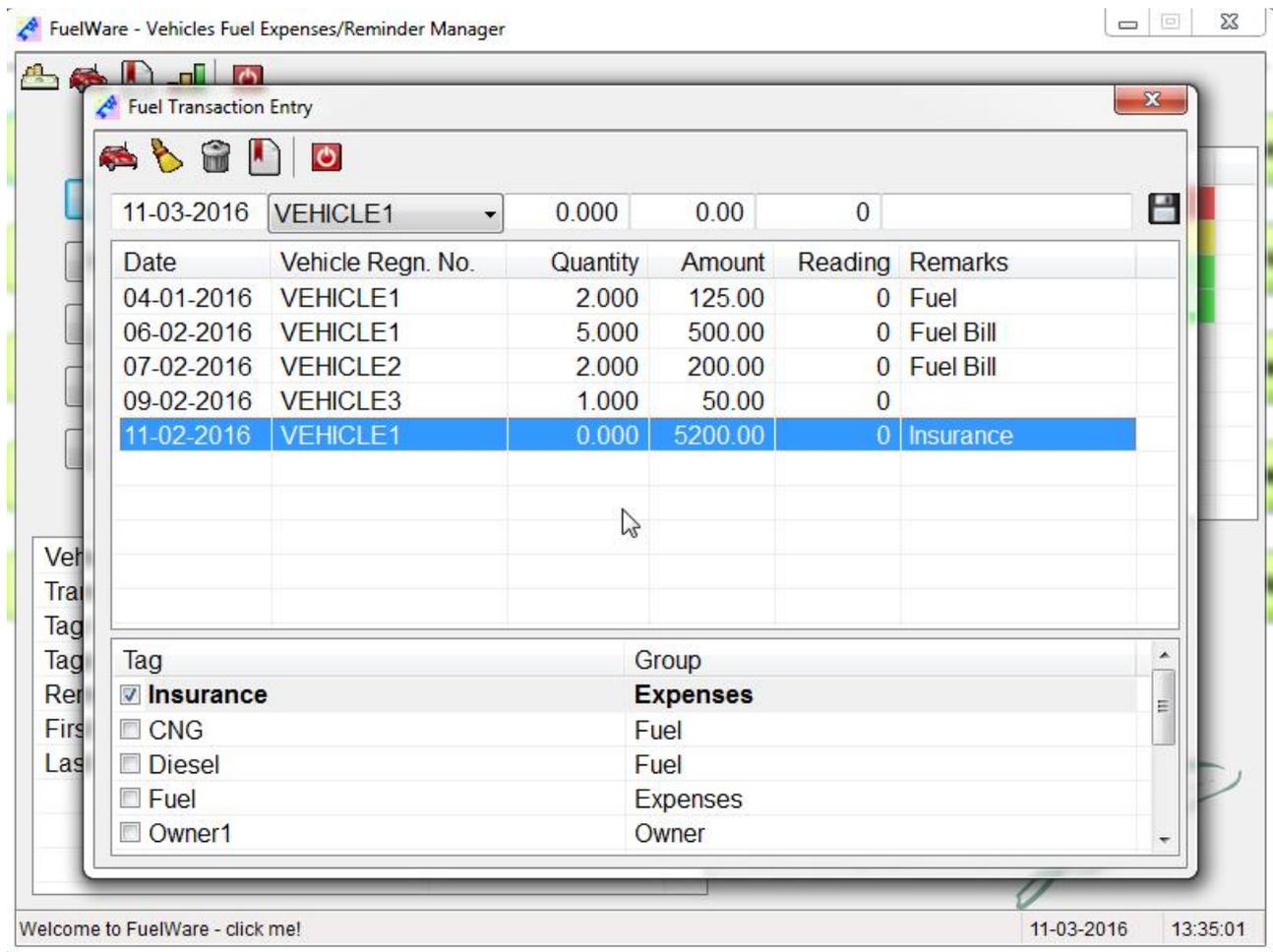
Every transaction has the following fields to be entered:
1. Date*
2. Vehicle for which the expenditure is made*
3. Quantity
4. Amount*
5. Reading
6. Remarks

Fields marked with * are mandatory fields. Other field data are optional. Let us see about the quantity and reading fields since other fields are self explanatory.

Quantity can be entered in the quantity field. It can be fuel quantity or tyres or any quantity details. Reading is nothing but the odometer reading of the vehicle when the expenditure is made. This will be helpful in finding the mileage not only for fuel but also for tyres, batteries and same kind of spare parts in the future.

You can press 'ENTER' key or 'TAB' key to move to the next field and press 'SHIFT' + 'TAB' key to move back. Once the save button is clicked or entered, the transaction will be added in the table below the field boxes.

In the bottom there is a list of tags and tag groups which are already created in Tag Manager Screen. Initially tags are ordered alphabetically. You can click on the respective headers to arrange them Groupwise. There is a check box before each tag and once checked (by pressing SPACE BAR) they

will be listed first and tagged to the transaction selected in the table.

Vehicle Manager and Tag manager screens can be reached from within Transaction Entry Screen by pressing the respective tool bar buttons.

Transactions can be at any time modified and deleted by pressing right click on the respective transaction.

There is a reset button in the tool bar to reset the entry fields or modification mode.

Now let us see the **Vehicle Manager** Screen:
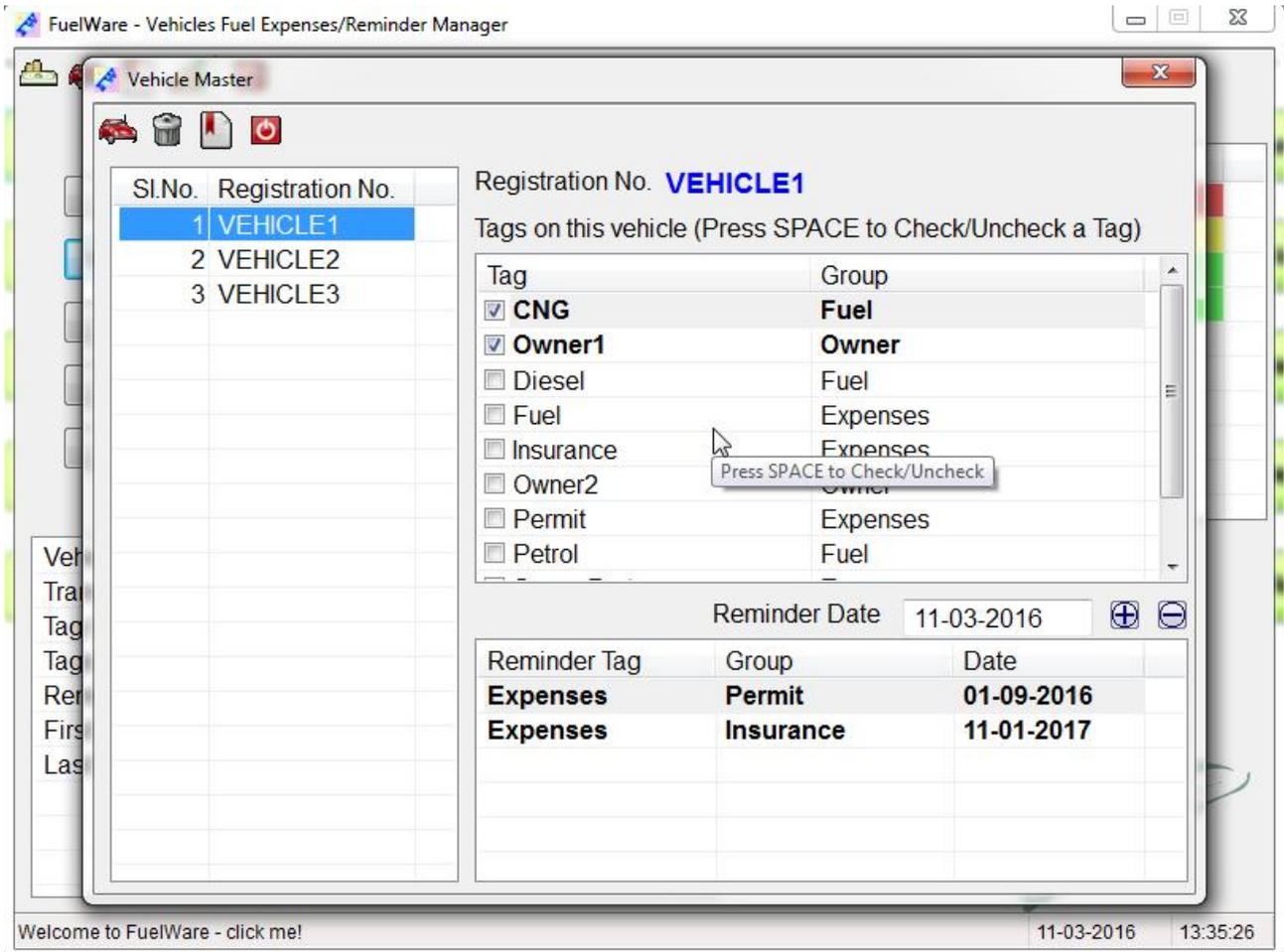
In the left hand side there is a list of vehicles which were already entered. A new vehicle can be added by pressing the 'Car' button in the toolbar. Vehicle registration number or name is unique and can be modified by right clicking on the list or double clicking the particular vehicle.

In the right hand side there are two tables with **vehicle tags** and **reminder tags**. Here too, tags are arranged alphabetically. Once checked it will be listed first.

Reminder tags are special tags with expiry date. The tag shall be selected from the upper table and a reminder date shall be entered in the reminder date field and '+' button right to the reminder date field can be clicked to add the reminder.

Reminders can be modified by double clicking the concerned reminders. They can also be deleted by pressing the '-' button.

Now we shall see the Tag Manager Screen:
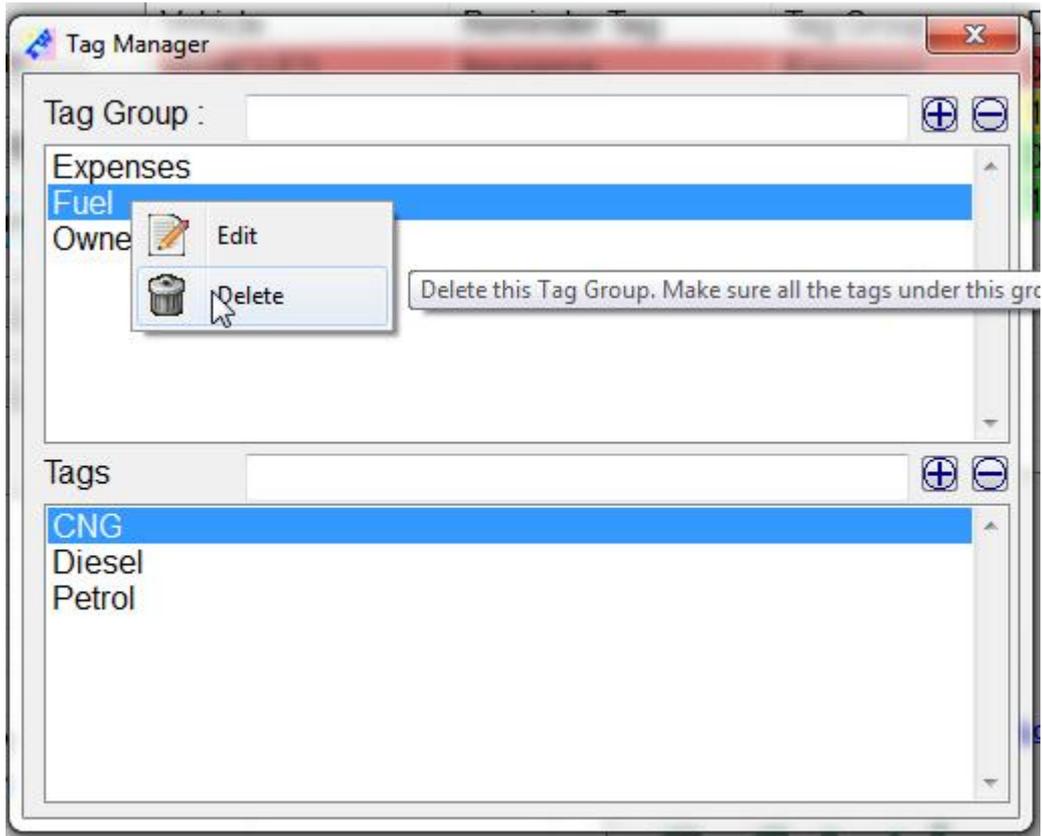
Any new tag group can be created by entering the name of the group in the Tag Group field and pressing the '+' button right to the field. Sane way any **empty** group without any tag can be deleted by pressing the '-' button after selecting it from the list of tag groups.

Tags can be entered in the tags field after selecting the tag group it belongs to. Then you have to press the '+' button right to the tags field. Tags can be modified by double clicking at any time. Tags can also be deleted by pressing the '-' button.

It is time to see the reports screen.

FuelWare's reports are very intuitive and versatile. There are many controls to play with.

All FuelWare Reports can be saved as HTML files, CSV files for further analysis in a spreadsheet or printed. You can press any toolbar button above to do so. Empty reports can not be exported or printed.

This date range field is self explanatory. You can enter any date range to filter the report. The default 'From' date would be the first entry date and the default 'To' date would be the system date.

There are four report types which can be selected from the report type field.
1. Transactions Summary – Transaction summary data summarized vehiclewise

2. Transactions – Detailed Transaction report
3. Vehicles List – List of vehicles
4. Reminder List – List of reminders.

Here we can select and restrict the vehicle(s) for which the report is to be prepared. There are three buttons in the top to select all / Unselect all / Inverse Selection. Vehicles can be individually checked or unchecked to include/exclude.
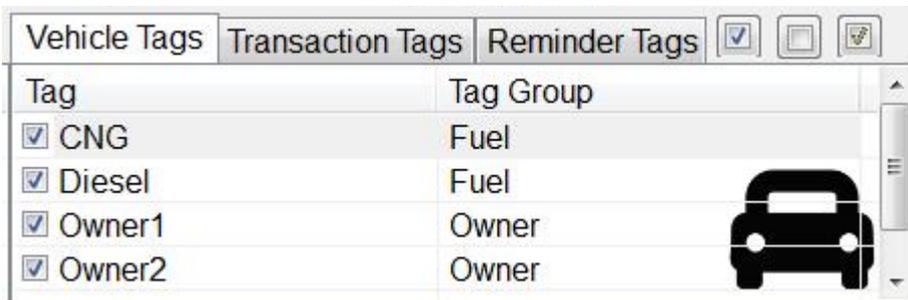
In this area we can include/exclude any vehicle tag, transaction tag or reminder tag. Only tagged tags will be listed here. Here too we can select all/unselect all/ select inverse using the buttons above or individually check/uncheck the particular tag(s).

NOTE: These tags will not be used for filtering the report if the following check box(es) are not checked!
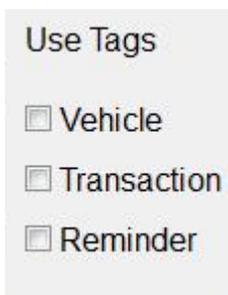
We have to check which kind of tag(s) we want to filter. For example, this helps us to exclude reminder tags altogether from filtering.

According to the report type selected, vehicles selection and tags filtering, the report will be shown as below:

Registration Number	Quantity	Rate	Amount
VEHICLE1	7.000	832.14	5825.00
VEHICLE2	2.000	100.00	200.00
VEHICLE3	1.000	50.00	50.00
Total	10.000		6075.00

By default all the tags will be used to filter the transactions/vehicles in the report.

For example if 'Petrol' Tag and 'Owner1' Tag in vehicle tags are checked, then all the transactions with vehicle(s) tagged with EITHER 'Petrol' OR 'Owner 1' will be selected. So, it is possible that a transaction of a 'Petrol' vehicle with 'Owner 2' shall also be listed since 'Petrol' tag is checked.

Suppose if we want to filter all the tags to be exclusive, then we can do so by selecting 'All the Tags' after right clicking in the tag list.

Tag	Tag Group
☑ CNG	Fuel
☑ Diesel	
☑ Owner1	
☑ Owner2	

|	
☑	Select All
☐	UnSelect All
☑	Inverse Selection
	Any Tag
✓	All Tags
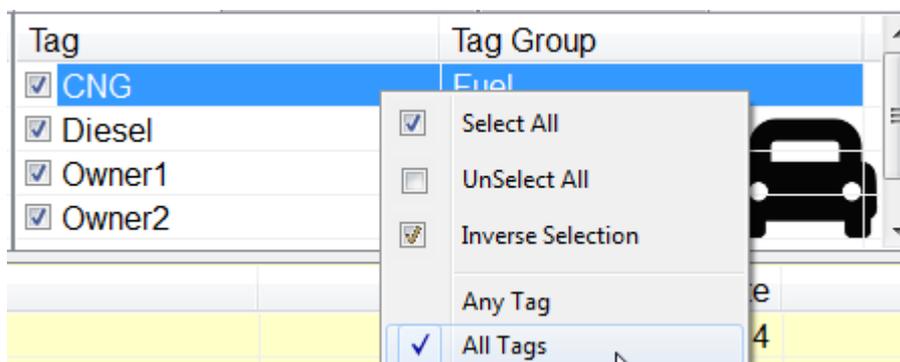
Selecting 'Any tag' option lets the transaction/vehicle to be selected if 'ANY' tag is selected.
Selecting 'All tags' option lets the transaction/vehicle to be selected if and only if 'ALL' the tags are selected.

So, in this case, only transactions with vehicle(s) tagged with both 'Petrol' and 'Owner 1' would be selected for reporting.

This feature can be explained by Venn diagrams:

<u>Without Tag Filtering:</u> (All the transactions will be selected)
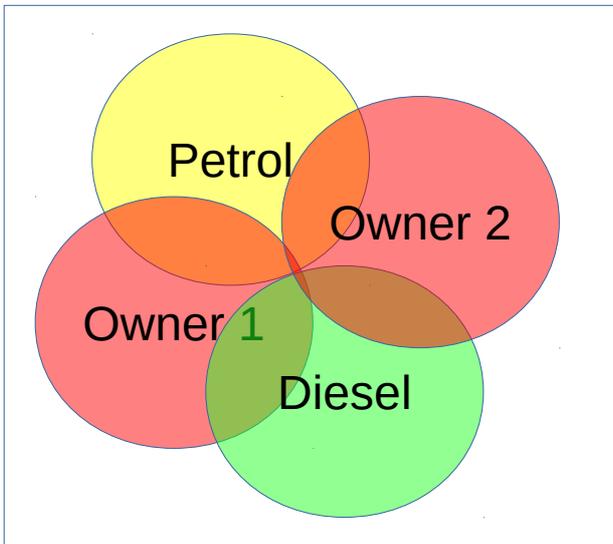
Any Tag: (Even though 'Petrol' and 'Owner 1' are selected, data related to 'Owner 2' will also be selected because some vehicles owned by 'Owner 2' can be 'Petrol')
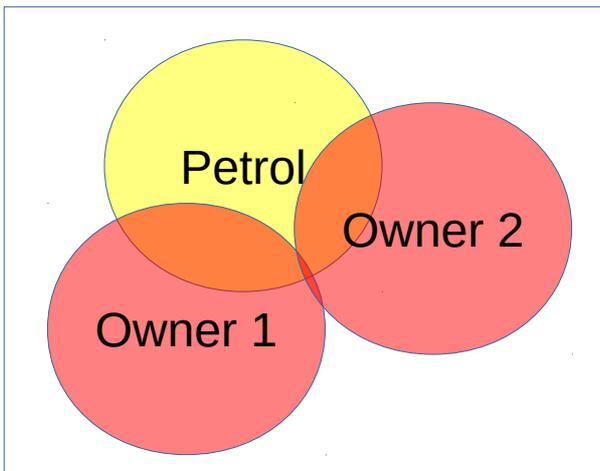
All Tags: (Only Orange color portion will be selected)
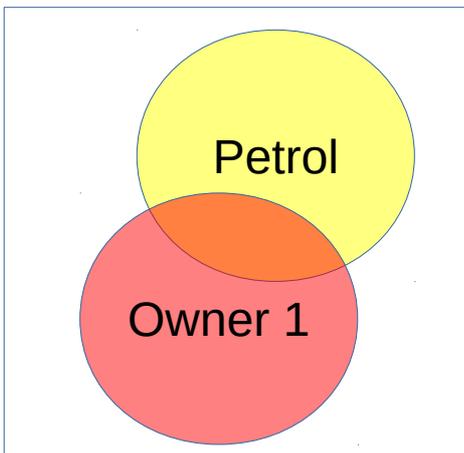
Suggestions and comments for future development of this software can be sent to srathinagiri@gmail.com