SNS Vibe Data Processor

The SNS Vibe Data Processor in GPSQL determines duplicates based on the 'Selected_Point' field in an SNS table. To start, select a query which isolates the data you want to examine. This would normally include "Event_Type = 9" and perhaps criteria to isolate a particular date. For example to see all type 9 point records occurring on Jan 22, 2018, we might have this:

Select PointRecord. From PointRecord Where Event_Type=9 And Event_Time_Local>DATE('2018-01-22')
AND Event_Time_Local<DATE('2018-01-23')*

Note above that dates without times are assumed to be referenced to 00:00:00 hours.

Sel	Point	Count
	20792066	3

When the utility is launched, the duplicates will be listed at the left in a spreadsheet. Simply click on the button next to one of the duplicates which will be listed in a spreadsheet at the left of the dialog.

Sel	Point	Count	Unique	v10_1066	v2_1284	v8_1735
	20792066	3	3	1	1	1
	20792067	3	3	1	1	1
	20842063	3	3	1	1	1

Note that the utility can also display the total count of duplicates, the unique count (i.e., how many vehicles contributed to the total number of duplicates) and how many points each vehicle contributed to the duplicate group. Press to see this data. This might take a while depending on the number of duplicates you are looking at.

The utility allows the user to look at all the duplicates in a map display. Other items on the map that can are displayed include the Center Of Gravity (COG), corresponding preplot, template (TPL) locations and reference azimuth, an ellipse representing the horizontal and vertical precisions, and CMG at the time of the point recording. The utility also allows the user to create or delete points with assistance from controls that provide template node coordinates.

Tool Buttons From Left To Right

 - If you want to reload the duplicate list at any time, press this button. This might be the case if you deleted one or more duplicates and want an accurate new count.

 - If you want to load the duplicate list and see unique and individual vibe counts, press this. This could take a long time depending on the number of duplicates. If this is disabled, the utility has determined the number of duplicates is too great to extract the information in a reasonable amount of time.

 Allows the user to specify a folder where there are one or more template (TPL) files. This is persistent between sessions. The name of the TPL file appears in the log record. Each time a duplicate is clicked, the file and this path information is used to read the template file as appears in the log record and depict it. Does nothing if there is no template file specified in a log record or if there is a template file but it is not found in the specified folder.

This is used to configure the all graphical map elements:

COG Properties

| Symbol | Cross | ▼ | Size | 46 | ▼ | Color: | |

The Center Of Gravity (COG) is the average of all the points that make up the duplicate set. An average is computed by all points or by averaging each vibe first and averaging those averages. This is dictated by the use of this control:

☑ avg vibes first

Preplot Properties

| Symbol | Triangle Hollow Flipp | ▼ | Size | 46 | ▼ | Color: | |
| Preplot halo size | 15 | | Fill | Percent10 | ▼ | | |

The utility will always look for the preplot in a table called PREPLOT in the database. If found, it is depicted as you configure it here. You can also specify a halo of 'n' map units radius with the fill of your choice.

Template Properties

| Symbol | Circle Hollow | ▼ | Size | 57 | ▼ | Color: | |

If a template is found, the nodes are depicted as you configure here. The template origin by default is anchored at the COG unless a preplot is found in which case it is anchored there. However, this can be overidden by anchoring controls in the toolbar.

Row Tracker Properties

| Symbol | Square Hollow | ▼ | Size | 46 | ▼ | Color: | |

The row tracker allows you to identify the vehicle of the current row. As you change the current row (by clicking in a cell or selecting the row), this symbol falls on top of the respective vibe.

Vehicle Properties

| Symbol | Circle | ▼ | Size Pts | 1.0 | ▼ | Color: | |
| CMG arrow size | 50 | | | | | Color: | |

The vehicle is depicted as you configure it here. The IMU_Yaw or CMG when the point was shot can also be depicted as an arrow. If you don't want a CMG arrow, enter zero.

Vehicle Label Properties

Label Field	Vehicle_Na	▼		Color:	
Font	Arial	▼		Height	16 ▼
Show all points divisible by:	0		Rotation	90	▼
	Offset X	10	Offset Y	0	

Vehicle labels are displayed as you configure here.

Sets the cursor back to Normal.

Places map cursor in Pan mode. Drag and release to pan.

Places map cursor in rectangle zoom mode. Draw a stretchy box around the area of interest to zoom to it.

Places map in zoom-in mode. Click on a location to increase zoom at that point by 10%.

Places map in zoom-out mode. Click on a location to decrease zoom at that point by 10%.

Zooms to extents.

Select the 'sns_vibes point' layer and draw a stretchy box around a vibe point to see all field attributes. Note that the attribute field names are shortened because the actual map layers are constructed as shape files and the underlying attribute layer (which is a DBF file) limits names to 10 characters).

Allows you to save an edit made in the data grid.

Allows you to modify all currently selected cells. A dialog will be shown that allows you to make string or value modifications. For strings, you can change the string to what you enter, prefix the existing field contents with what you enter, or suffix the existing field contents with what you enter. For values, you can replace, add to or multiply by. Note that if the edit is not appropriate for the data type, the filed contents will not be edited.

- Attempts to get the last selection of fields to make visible. See Settings tab page for more on this.

If a template is being used, you can anchor a point to a template point by selecting the template point, selecting a row or cell in the spreadsheet and pressing the blue anchor. Pressing the red anchor returns the template origin to either the COG or preplot point is it exists. Simply clicking on the a cell in the spreadsheet also returns the template origin anchor point to the COG or preplot.

Adding A Point

You can add a point at any time using controls below. The Vehicle name, Number, Sweep, and coordinates have to be entered:

 This button adds the point.

 The TPL spreadsheet shows the current location of all template nodes (if one is being used) and can assist in entering coordinates above. Pressing the button next to any node will copy the easting and northing coordinates into the easting and northing textboxes. Note that a height is entered each time you click on a duplicate. This is the average of all heights that fall below the precision threshold levels. If none fall below the levels, then an average of all heights is entered. This height can be overridden if required.

Azimuth Controls

 When a template is being utilized, a reference azimuth is utilized along with the contents of the template file to compute the positions seen in the map. This reference azimuth exists in the log file for each record. If missing, or there are various azimuths, this user azimuth can be used as a fallback. It is possible to always override the log azimuth by checking this checkbox and entering the azimuth in DD.ddd. The slider control is for quick changes. Both controls are tied together. that is, if you move the slider, the value in the text box changes and if you change the text box value, the slider will change.

Settings

 If this is checked, the COG average is computed by first deriving averages for each vibe, then averaging those averages. Otherwise, all positions are averaged at the same time.

 Check to have the utility search for a preplot in the Preplot table each time you click a duplicate

 Used to select which time field to use for calculating the time span of the group. If the time span (in seconds) exceeds that specified, a warning is given in the form of a red light. For example, .

User entered values here dictate what color precision ellipses and rows in the spreadsheet are. Pale green if both horizontal and vertical pass, pale yellow if horizontal passes but not vertical, pale orange if horizontal fails and vertical passes, and pale red if both fail. If either horizontal or vertical fail, a simplified red light warning will be given. For example, .

 The map display will draw an ellipse around each vibe position. This control multiplies the precision values by the selection in order to display an ellipse with axes of this size. The vertical axis represents the vertical precision and the horizontal axis represents the horizontal precision.

 If survey modes are any one of the comma delimited items entered here, the row for that record is colored dark red.

Field Selection

 If you want to see only selected fields, go to the Field Selection tab page, use the Shift and Ctrl keys to click on the fields you want and press ' Display Selected'. If you 'Remember Settings' and then close and reopen the dialog, you can use 'Retrieve Last' to quickly assign the fields you selected earlier.

 Note that pressing this tool button is equivalent to pressing the 'Retrieve Last' and 'Display Last' buttons.

QC Information Summary

Preplot-COG X: 0.42
Preplot-COG Y: -6.96
Preplot-COG Z: -2778.00

Time: 6.000000		
Preplot:		
Mode:		
Precision:		

Each time you click a duplicate, the group time span is made, a preplot is searched for, the survey mode is checked, and the precision thresholds are checked. A pass fail color is displayed. Also, if a preplot is found, the difference between COG and preplot coordinates is made. All this information is available directly under the duplicate list.

Editing

You can edit any cell in the grid. Once you do, press the tool button to save the changes to the database. If it says nothing was changed, try clicking on a cell different then the one you edited.

You may select a number of cells at one time and press this button. It will display the following dialog:

For example, if you highlighted a number of 'Selected_Point' fields at one time and had configured the dialog as above, it would prefix all the 'Selected_Point" values with a negative sign. Again, press the button to save.