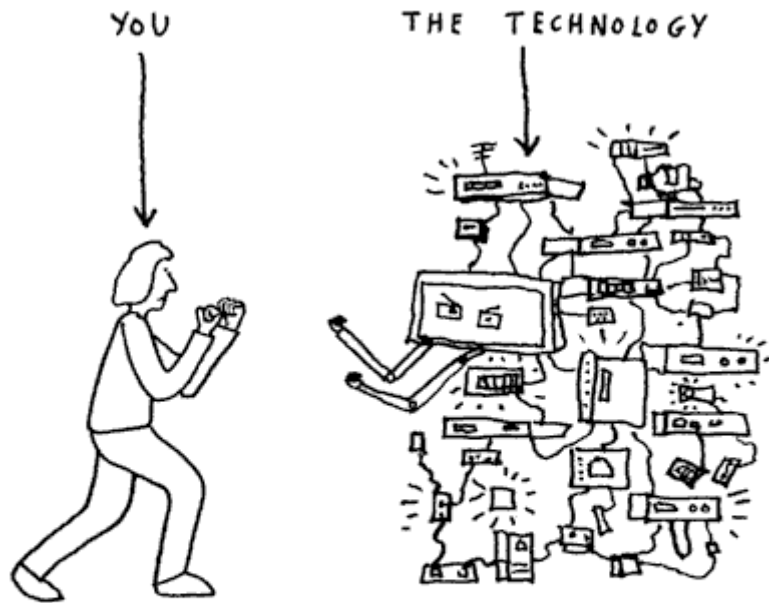


Democratising QGIS - *and handy tips*

George Corea, Data Manager, Mangoesmapping

FunGIS FOSS4G 2020, JCU Ideas Lab

20-11-2020

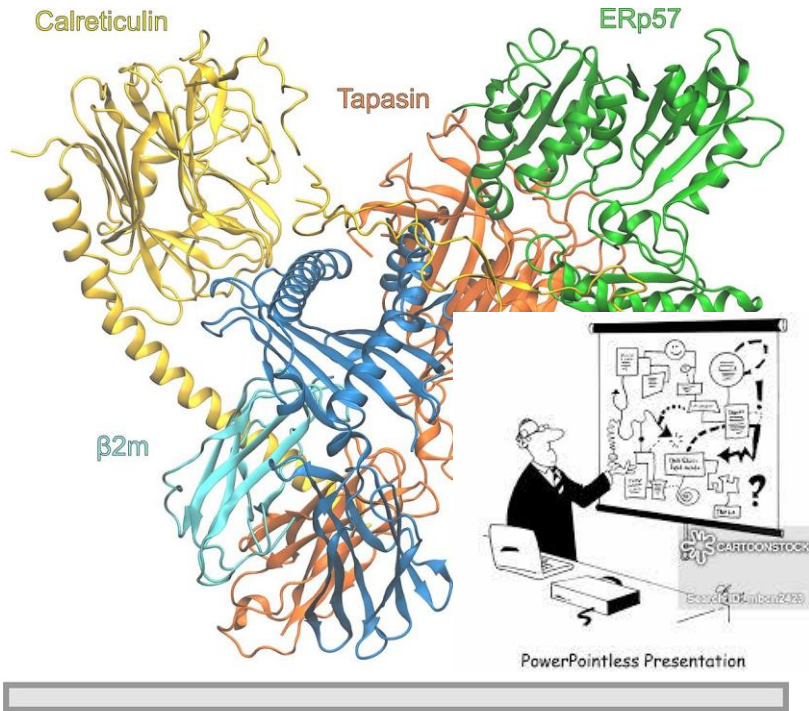


THE BATTLE WE ALL FACE

weblogcartoons.com



For End Users - non-GIS/non-technical individuals...



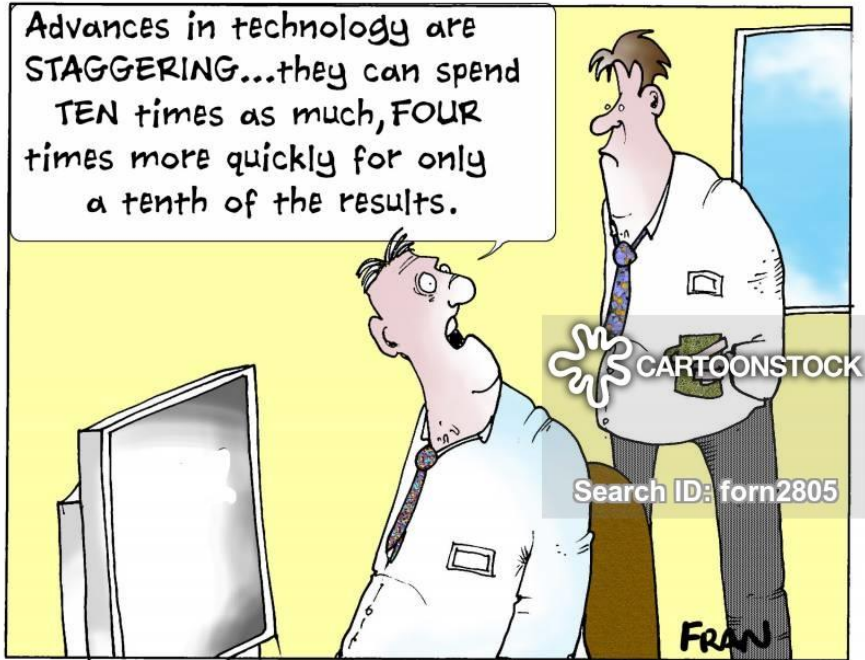
Do they find it...

- Too complicated?
- Simplified tasks?
- SQL without knowing SQL?

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Cytosol

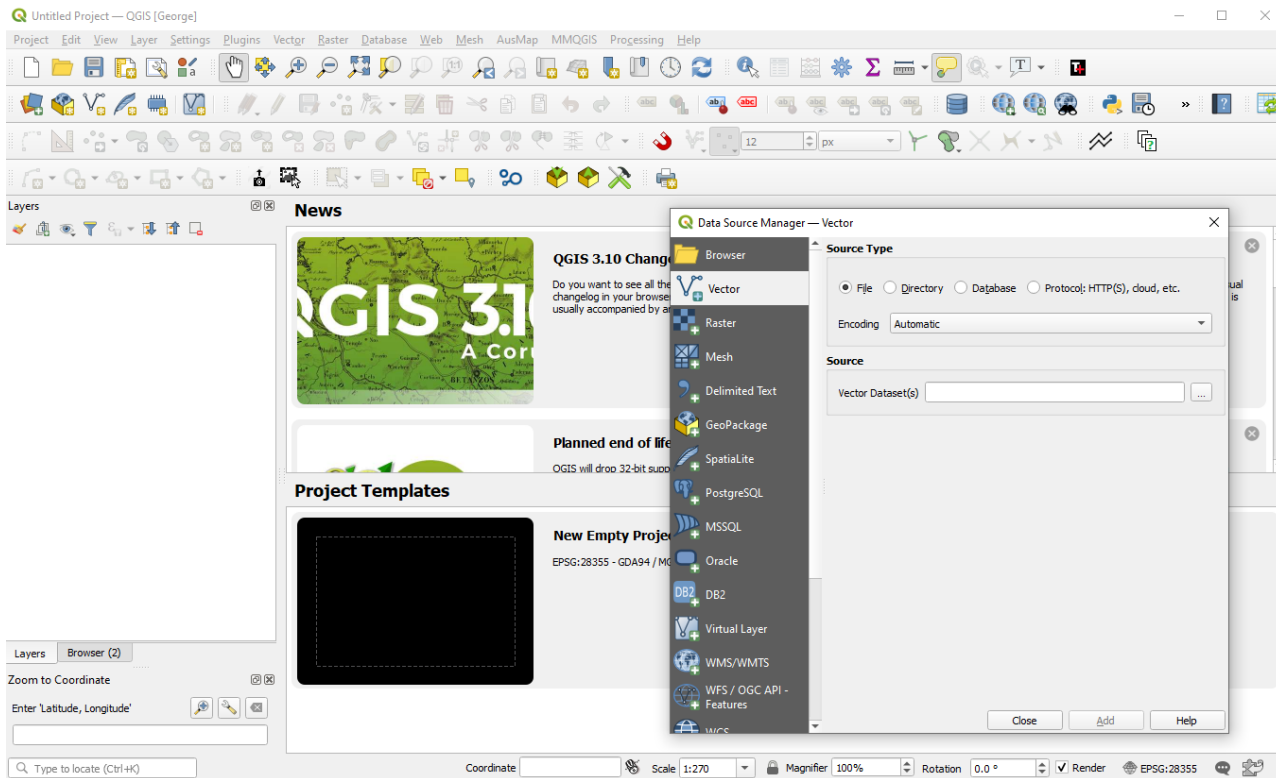
For administrators...



The questions we must ask are...

- No/Low Code?
- content management system?
- mobile devices, off-line and online?
- non-technical and technical?

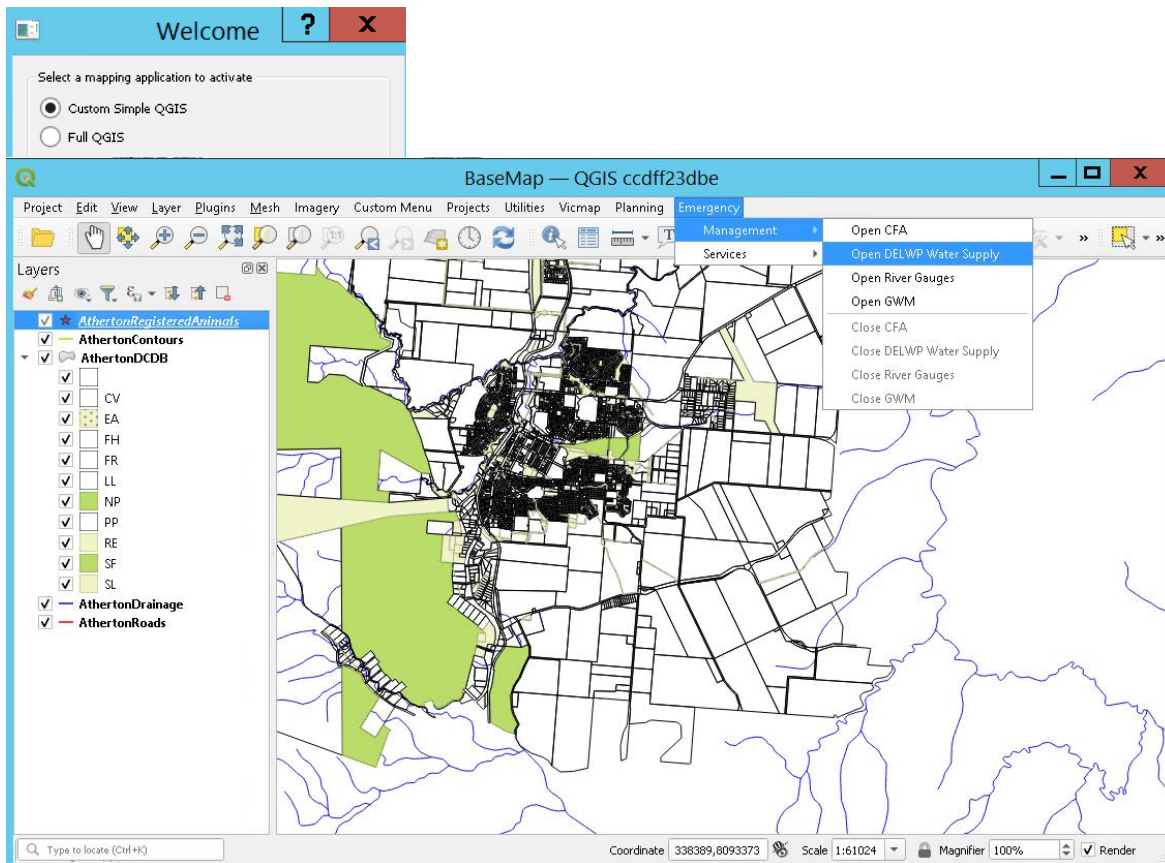
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Is it...

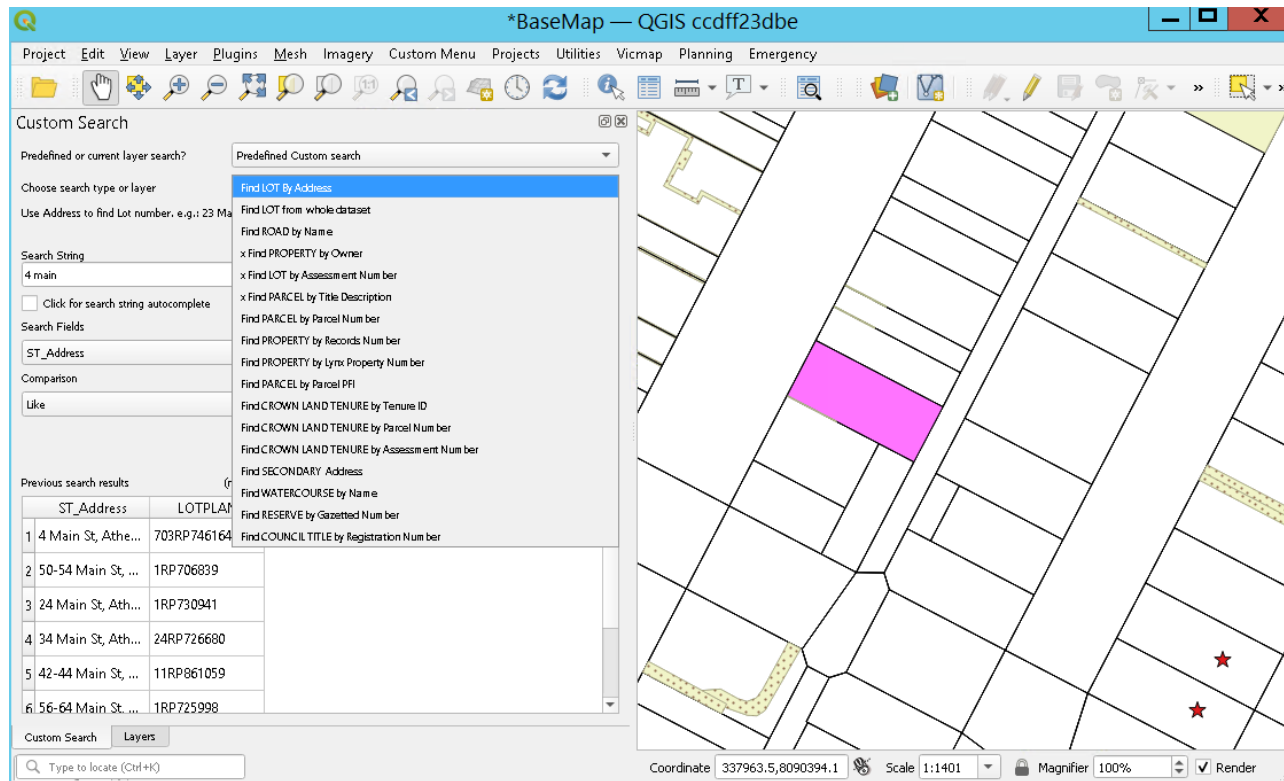
- Complex?
- Many options?
- Many steps?
- Functional and adaptive?

This is not significantly different in commercial GIS software



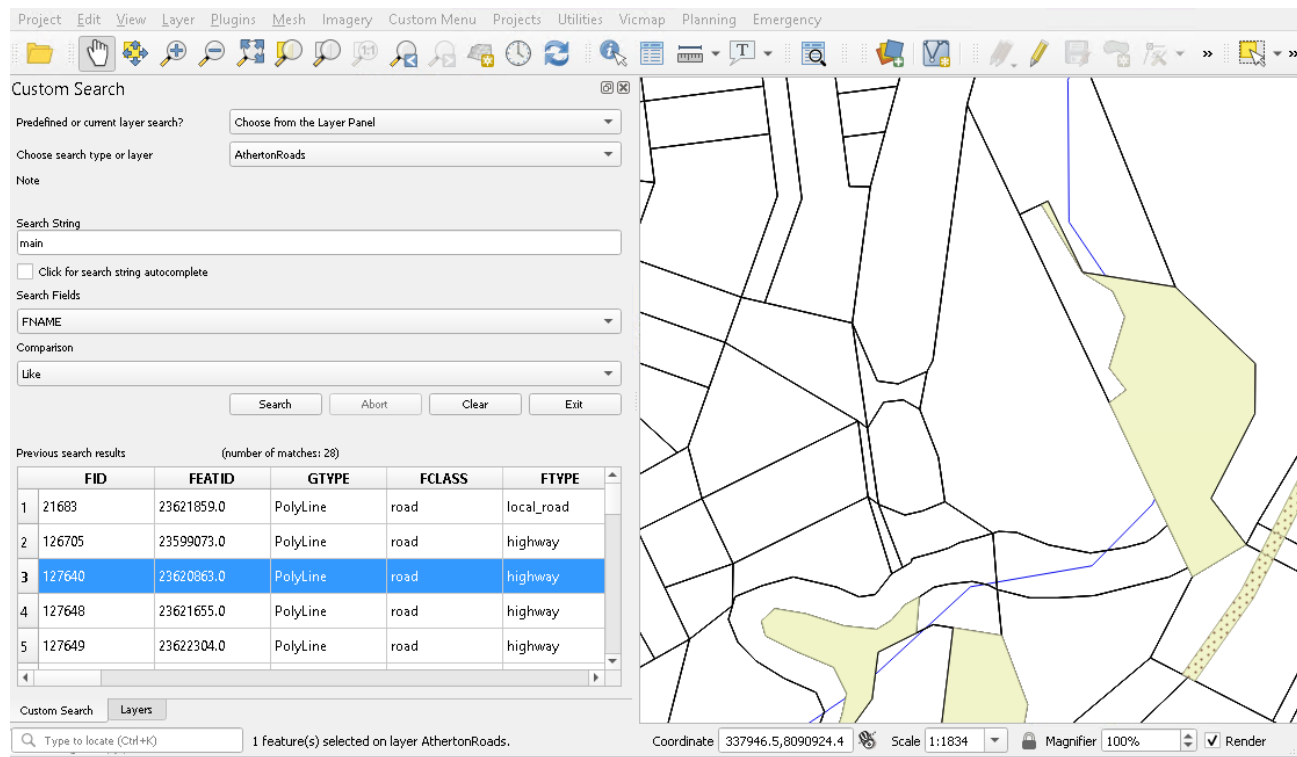
- Simple choice of experience
- Load a standard map
- Add menus for Imagery, Projects, Assets etc that load groups of layers
- Simplify closing opened layers

This is also available in MapInfo through our custom code base.



- Choose predefined searches with results tailored to your needs.
- Use autocomplete to start searching
- Customise the search further if required setting the fields to inquire in and the comparison
- Click on a result to zoom into the feature
- Spatial (within, intersect) searches are being added

Similar functionality is available in Mapinfo through our custom code base.



The screenshot shows the MangoesMapping software interface. The top menu bar includes Project, Edit, View, Layer, Plugins, Mesh, Imagery, Custom Menu, Projects, Utilities, Vicmap, Planning, and Emergency. The Custom Search panel on the left contains the following fields and controls:

- Predefined or current layer search?: Choose from the Layer Panel
- Choose search type or layer: AthertonRoads
- Note:
- Search String: main
- ☐ Click for search string autocomplete
- Search Fields: FNAME
- Comparison: Like
- Buttons: Search, Abort, Clear, Exit

Below the search panel, the Previous search results table is displayed with 28 matches. The table has the following columns: FID, FEATID, GTYPE, FCLASS, and FTYPE. The third row is highlighted in blue.

	FID	FEATID	GTYPE	FCLASS	FTYPE
1	21683	23621859.0	PolyLine	road	local_road
2	126705	23599073.0	PolyLine	road	highway
3	127640	23620863.0	PolyLine	road	highway
4	127648	23621655.0	PolyLine	road	highway
5	127649	23622304.0	PolyLine	road	highway

The map view on the right shows a network of roads and land parcels. The status bar at the bottom indicates: Coordinate 337946.5, 8090924.4, Scale 1:1834, Magnifier 100%, and Render checked. A message at the bottom left states: 1 feature(s) selected on layer AthertonRoads.

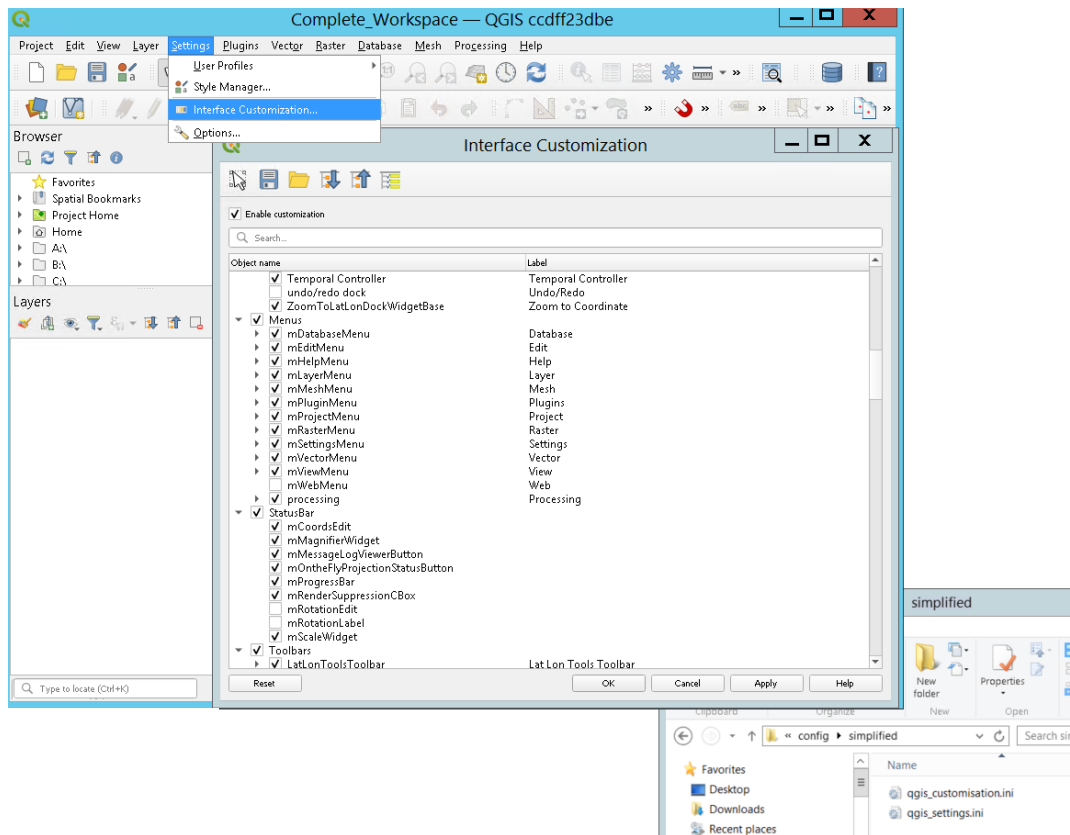
- The open source plugin allows intuitive but powerful search options

Administration

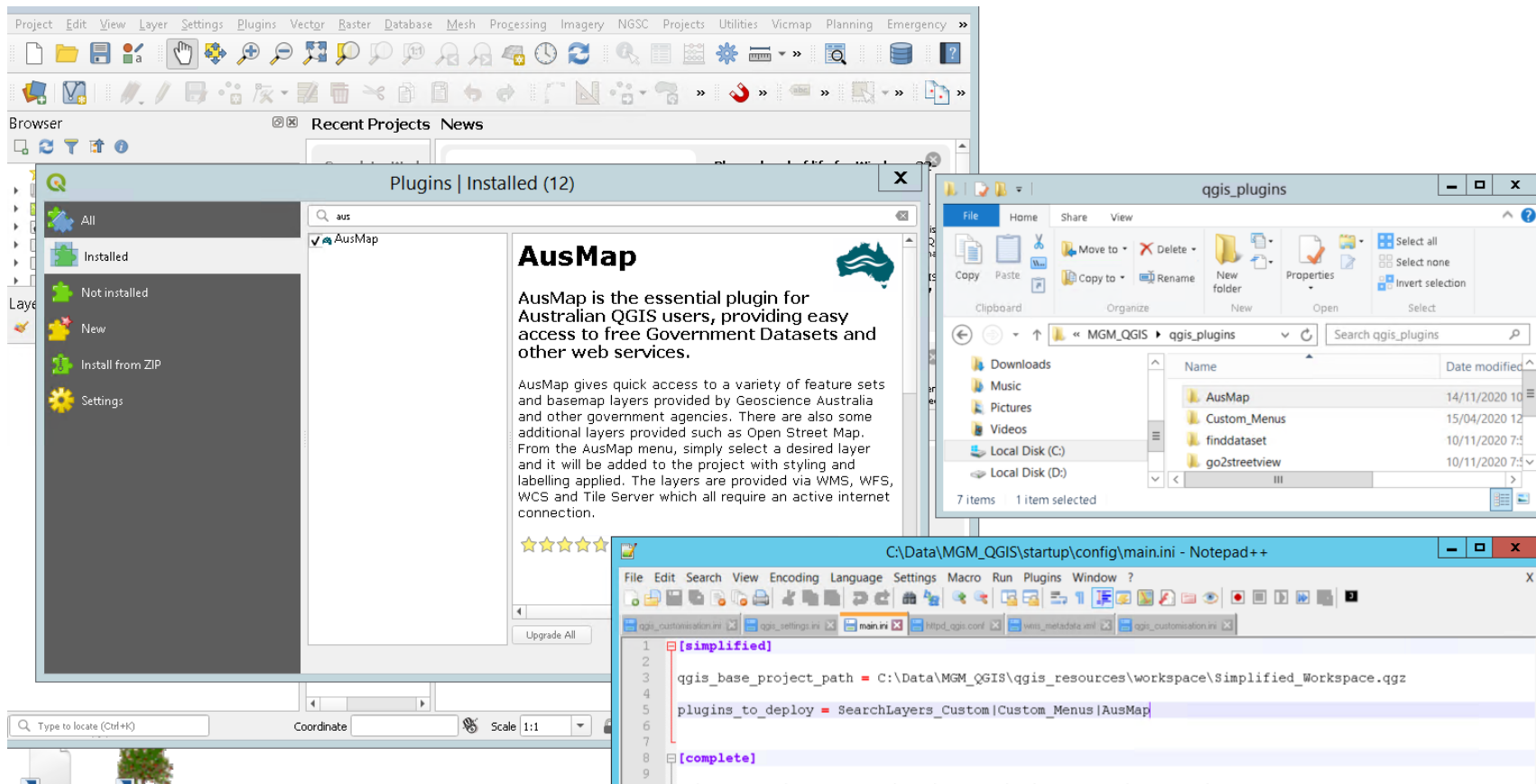


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- Admins use the QGIS interface customization tool to save the required config into a custom folder
- Our system will then use this every time a user opens the custom simplified (or full) interface.



The screenshot displays the QGIS desktop environment with several windows open to demonstrate the installation of the AusMap plugin.

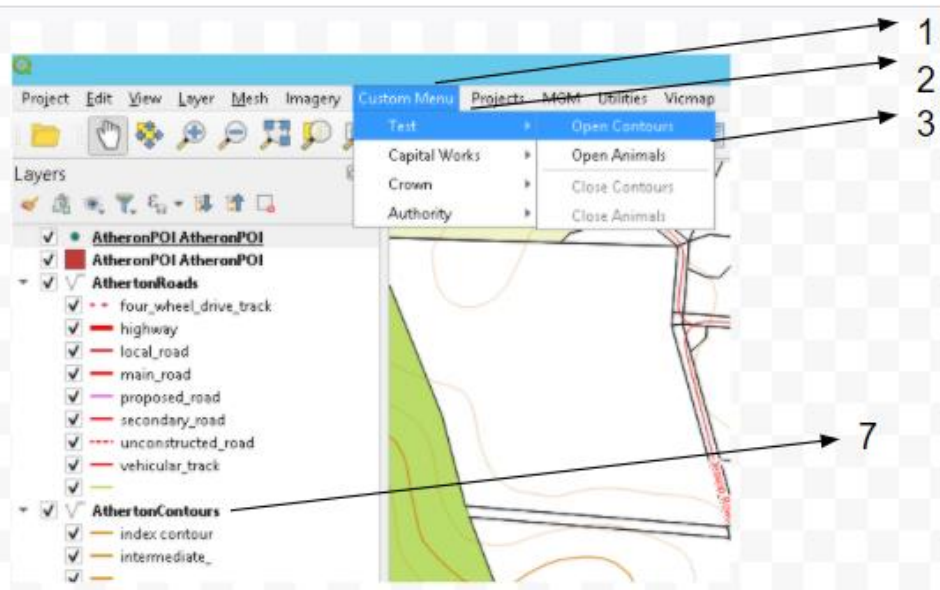
QGIS Main Window: The top menu bar includes Project, Edit, View, Layer, Settings, Plugins, Vector, Raster, Database, Mesh, Processing, Imagery, NGSC, Projects, Utilities, Vicmap, Planning, and Emergency. The toolbar contains various icons for map navigation and editing. The left sidebar shows the Browser, Recent Projects, and News panels.

Plugins | Installed (12) Window: This window shows the list of installed plugins. The 'AusMap' plugin is listed under the 'Installed' category. The description for AusMap reads: "AusMap is the essential plugin for Australian QGIS users, providing easy access to free Government Datasets and other web services. AusMap gives quick access to a variety of feature sets and basemap layers provided by Geoscience Australia and other government agencies. There are also some additional layers provided such as Open Street Map. From the AusMap menu, simply select a desired layer and it will be added to the project with styling and labelling applied. The layers are provided via WMS, WFS, WCS and Tile Server which all require an active internet connection." The plugin is rated with five stars.

qgis_plugins Folder Window: This window shows the contents of the 'qgis_plugins' folder. The files listed are: AusMap, Custom_Menus, finddataset, and go2streetview. The 'AusMap' file is selected.

Notepad++ Window: This window shows the 'main.ini' file in the 'C:\Data\MGM_QGIS\startup\config\' directory. The file contains the following configuration:

```
[simplified]
qgis_base_project_path = C:\Data\MGM_QGIS\qgis_resources\workspace\Simplified_Workspace.qgz
plugins_to_deploy = SearchLayers_Custom|Custom_Menus|AusMap
[complete]
```



Field 1 = **Custom Menu**

Field 2 = **Test**

Field 3 = **Contours**

Field 4 = [\\PROD\\GIS\\Data](#)

Field 5 = **Contours.shp**

Field 6 = **Contours.qml**

Field 7 = **Contours**

Field 8 = (blank) –for database views

Field 9 = (blank) –for Web Services

Field 10 = **ogr**

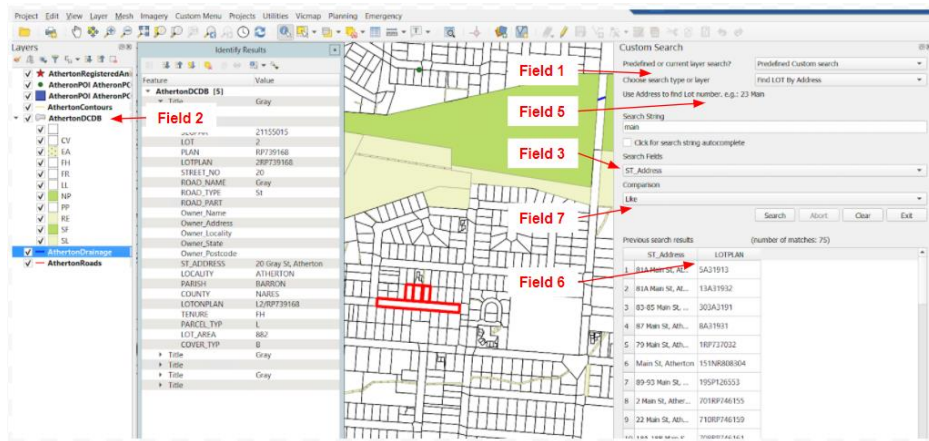
In the configuration file, each line represents a menu item, in a 10-fields comma-separated distribution, as exemplified below:

Custom Menu,Test,Contours,\\GIS\\Data,contours.shp,contours.qml,Contours,,,ogr



Field Name	Description	Mandatory Field
Field 1	Name of the first level menu item	YES
Field 2	Name of the second level menu item	YES
Field 3	Name of the third level menu item	YES
Field 4	System full path of the directory where the target GIS dataset is saved	YES
Field 5	Name of the target GIS dataset (a file name). This can be any vector dataset (ShapeFile, TAB file etc.) or any raster dataset (ERS/ECW, GeoTIFF etc.)	YES
Field 6	A QGIS styling file (QML file) to be applied to the target GIS dataset when loaded as a QGIS layer. The QML file has to exist in the same directory declared in Field 4. Leave field blank if no custom styling is required for the layer.	NO
Field 7	Name used for the layer holding the target GIS dataset	YES
Field 8	Reserved field. Leave it blank. This will hold queries and database table views	NO
Field 9	Reserved field. Leave it blank. This will hold server info for WMS/WCS layers	NO
Field 10	QGIS layer type. Use “ogr” for vector layers and “gdal” for raster layers	YES

A third level menu can be configured to load more than one GIS dataset layer in QGIS.
In that case, fields 1, 2 and 3 will repeat. Fields 4, 5, 6, 7 and 10 will hold different values.



Field 1 = Find Lot by Address

Field 2 = AthertonDCDB

Field 3 = ST_Address

Field 4 = Cadastre\AthertonDCDB.tab

Field 5 = Use any Road Name. e.g Main

Field 6 = ST_Address^^LOTPLAN

Field 7 = Like

In the configuration file, each line represents a pre-configured search option, in a 7-fields comma-separated distribution, as exemplified below:

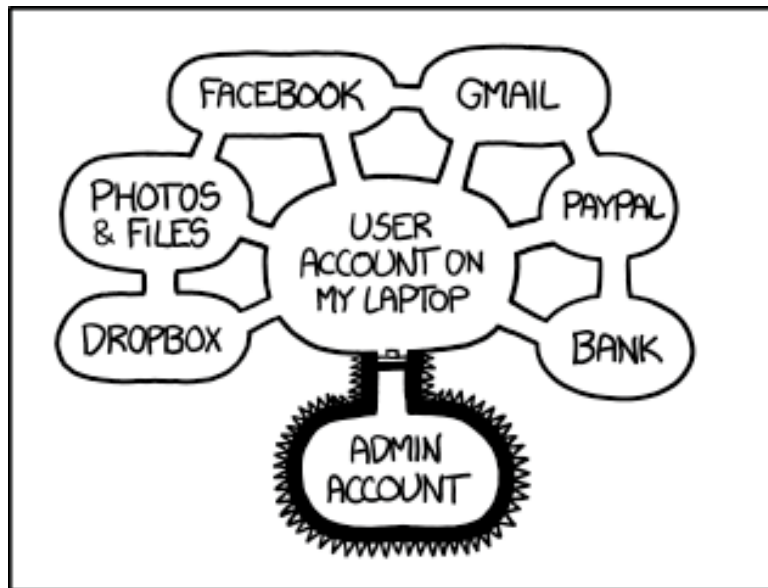
Find LOT By Address,Parcel,ST_Address, Cadastre\AthertonDCDB.TAB,Use Address to find Lot number. e.g.: 23 Main,ST_Address^^LOTPLAN,Like



Field Name	Description	Mandatory Field
Field 1	Name of the predefined search option	YES
Field 2	Name used for the layer holding the target GIS dataset	YES
Field 3	The name of the attribute in the target GIS dataset in which the search will be executed	YES
Field 4	System full path of the file representing the target GIS dataset. This dataset will also be loaded as a QGIS layer. It should reference a vector dataset (ShapeFile, TAB file etc)	YES
Field 5	Predefined search option description. Ideally, this field should contain a short note highlighting specific usage recommendations for the selected search option	YES
Field 6	List containing all attribute names from the target GIS dataset that will be displayed in the search results table. When displaying more than one attribute, please use “^^” between the names in the list. When left blank, only the attribute in field 3 will be displayed in the search results table	NO
Field 7	The default comparison operator used in the search option. Allowed values are “Like”, “Equals” and “Starts With”	YES

Additional Functionality - *Currently being tested and planned.*

- 1.Ability to set the zoom level per search result
- 2.Icon displaying timing of result especially for large datasets.
- 3.Full SQL search with geometry



IF SOMEONE STEALS MY LAPTOP WHILE I'M LOGGED IN, THEY CAN READ MY EMAIL, TAKE MY MONEY, AND IMPERSONATE ME TO MY FRIENDS, BUT AT LEAST THEY CAN'T INSTALL DRIVERS WITHOUT MY PERMISSION.

How does it work in a mobile environment?

Project Properties — QField

Q

Project Properties — QField

Q

Layers

General

Metadata

CRS

Transformations

Default Styles

Data Sources

Relations

Variables

Macros

QGIS Server

Temporal

QField

Layer	Lock Geometries	
1 AtheronPOI AtheronPOI	<input type="checkbox"/>	keep existent (copy if missing)
2 AthertonContours	<input type="checkbox"/>	keep existent (copy if missing)
3 AthertonDCDB	<input type="checkbox"/>	keep existent (copy if missing)
4 AthertonDrainage	<input type="checkbox"/>	keep existent (copy if missing)
5 AthertonRegisteredAnimals	<input type="checkbox"/>	keep existent (copy if missing)
6 AthertonRoads	<input type="checkbox"/>	keep existent (copy if missing)
7 Field_Data_Line	<input type="checkbox"/>	offline editing
8 Field_Data_Points	<input type="checkbox"/>	offline editing
9 Field_Data_Polygon	<input type="checkbox"/>	offline editing
10 Google Hybrid Satellite	<input type="checkbox"/>	no action
11 OpenStreetMap H.O.T.	<input type="checkbox"/>	no action
12 QLD Globe Imagery	<input type="checkbox"/>	no action

Base Map

Offline Editing

Photo Naming

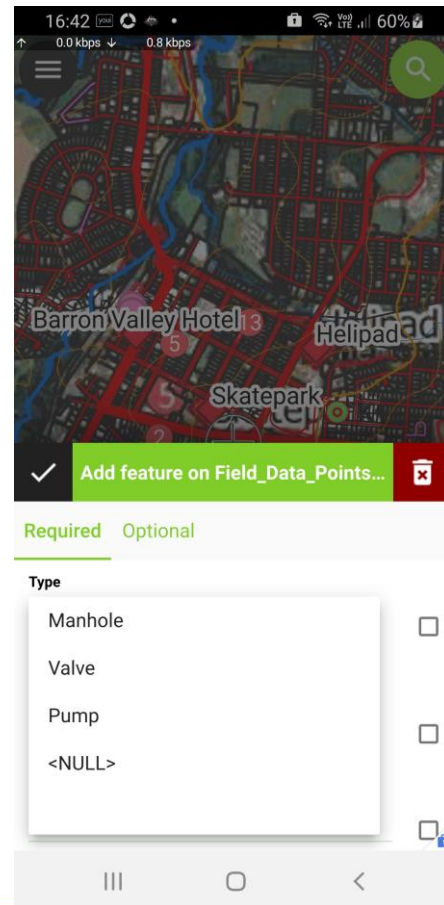
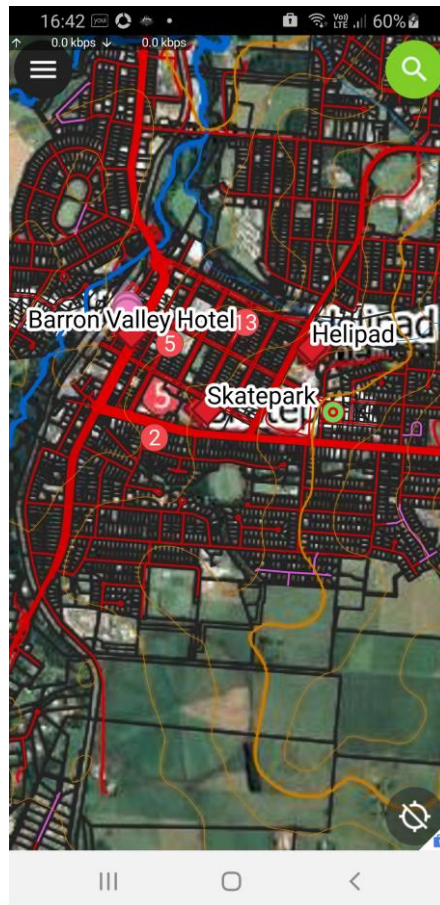
☒ Create Base Map

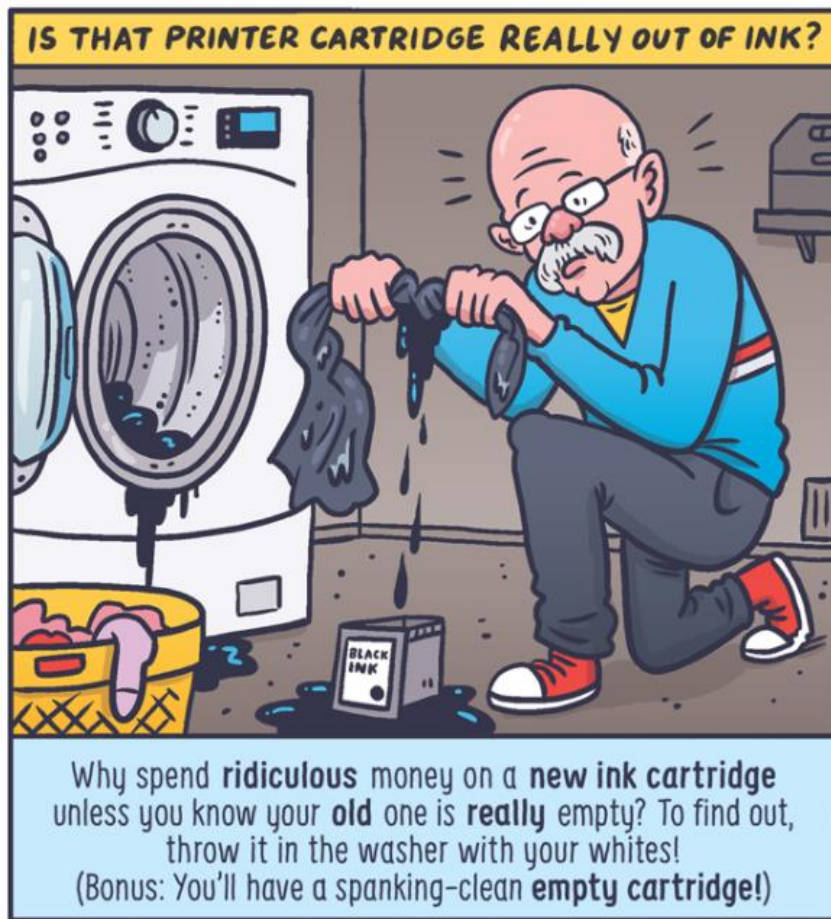
☒ Single Layer

☐ Map Theme

Layer

QLD Globe Imagery







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