

LIZMAP WEB CLIENT

Past, present & future

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Q GIS ecosystem

The QGIS ecosystem gathers:

-  Mobile applications > **QField & Mergin**
-  A processing engine to run algs > **QGIS Processing**
-  A GIS Server > **QGIS Server**

QGIS Server

- **Extensible** with Python plugins
- **Additional requests**: GetPrint, GetLegendGraphics as JSON, etc

Lizmap Web Client uses the power of QGIS Server to bring maps in your browser





Lizmap Web Client

Prepare your projects on QGIS desktop / publish them with
Lizmap

- **FREE:** opensource > Mozilla Public Licence (MPL 2.0)
- **SIMPLE:** Generates **web maps** for any QGIS project - **No Code** web app publication
- **SECURE:**
 - acts as a **Proxy to QGIS Server**
 - has a **Web admin panel** to manage users, rights, configurations
- **POWERFUL:**
 - **many features and tools** are available: editing, printing, attribute table, search, spatial filter, etc.
 - **extensible with JavaScript or Modules**
- **MATURE** 13 years of active development in QGIS Server & Lizmap Web Client

QGIS & Lizmap Web Client

The image shows a side-by-side comparison of QGIS and the Lizmap Web Client interface, both displaying a map of Montpellier, France.

QGIS Interface (Left):

- Layers Panel:** Shows various data layers including Edition (points_of_interest, edition_line, areas_of_interest), datalayers (Bus, Tramway, Buildings, publicbuildings), and Quartiers (CROIX D'ARGENT, HOPITAUX-FACULTES, LES CEVENNES, MONTPELLIER CENTRE, MOSSON, PORT MARIANNE, PRES D'ARENE).
- Map View:** Displays a map of Montpellier with colored regions representing different quartiers. Overlaid on the map are various features: a red line labeled "edition_line", several green and blue points labeled "points_of_interest" (e.g., Zoo Lunaret, Parc du Peyrou, Night Pharmacy, Café Bonheur), and bus stops marked with blue squares.
- Bottom Bar:** Includes a search bar ("Type to locate (Ctrl+K)"), coordinate display (43,5921°N 3,823°E), and a scale bar (1:148577).

Lizmap Web Client (Right):

- Browser Header:** Shows the URL lizmap.local:8130/index.php/view/map.
- Map View:** A smaller map view on the right shows the same geographical area and features as the QGIS map.
- Legend and Layer Control:** A sidebar titled "Couches" contains sections for "Edition layers", "Transport", and "Areas of interest".
 - Edition layers:** Points of interest (café, pharmacy, bus stop, park), bicycle rides (easy, normal, difficult), and areas of interest.
 - Transport:** Bus stops and bus lines.
 - Areas of interest:** Quartiers (CROIX D'ARGENT, HOPITAUX-FACULTES, LES CEVENNES, MONTPELLIER CENTRE, MOSSON, PORT MARIANNE, PRES D'ARENE).

Lizmap Web Client - some key features

- Manage rights on repositories, projects, layers, features, tools
- Rich editing forms for PostgreSQL layers / expressions for constraints
- Printing: QGIS print layout / Feature-based atlas PDF export
- Dataviz - show charts based on your data (pie, bar charts)
- QGIS relations: parent & child features / cascading filter

The screenshot shows the Lizmap Web Client interface. At the top, there's a header with the project name "Landuse in Narbonne, South of France", a "Features" button, and a "Download project" button. On the right, there are "Administration" and "demo" user buttons.

The left sidebar contains a "Layers" panel with a tree view of data layers:

- ✓ Limites administratives
- ✓ Limites communales
- ✓ Occupation du sol en 2021
 - ✓ Les grandes composantes du territoire
 - ✓ 1 - Surfaces artificialisées
 - ✓ 2 - Zones agricoles
 - ✓ 3 - Forêts et zones semi-naturelles
 - ✓ 4 - Zones humides et lagunes
 - ✓ 5 - Zones en eau
- Postes clés
- Évolution entre 2018 et 2021

Below the layers panel is a "Base Layer" section with a "IGN Orthophoto" option selected.

The main area is a map showing land use in the Narbonne region. A "Locating" tool is open, showing "Limites communales". The map includes place names like Coursan, Salles-d'Aude, and Fleury d'Aude.

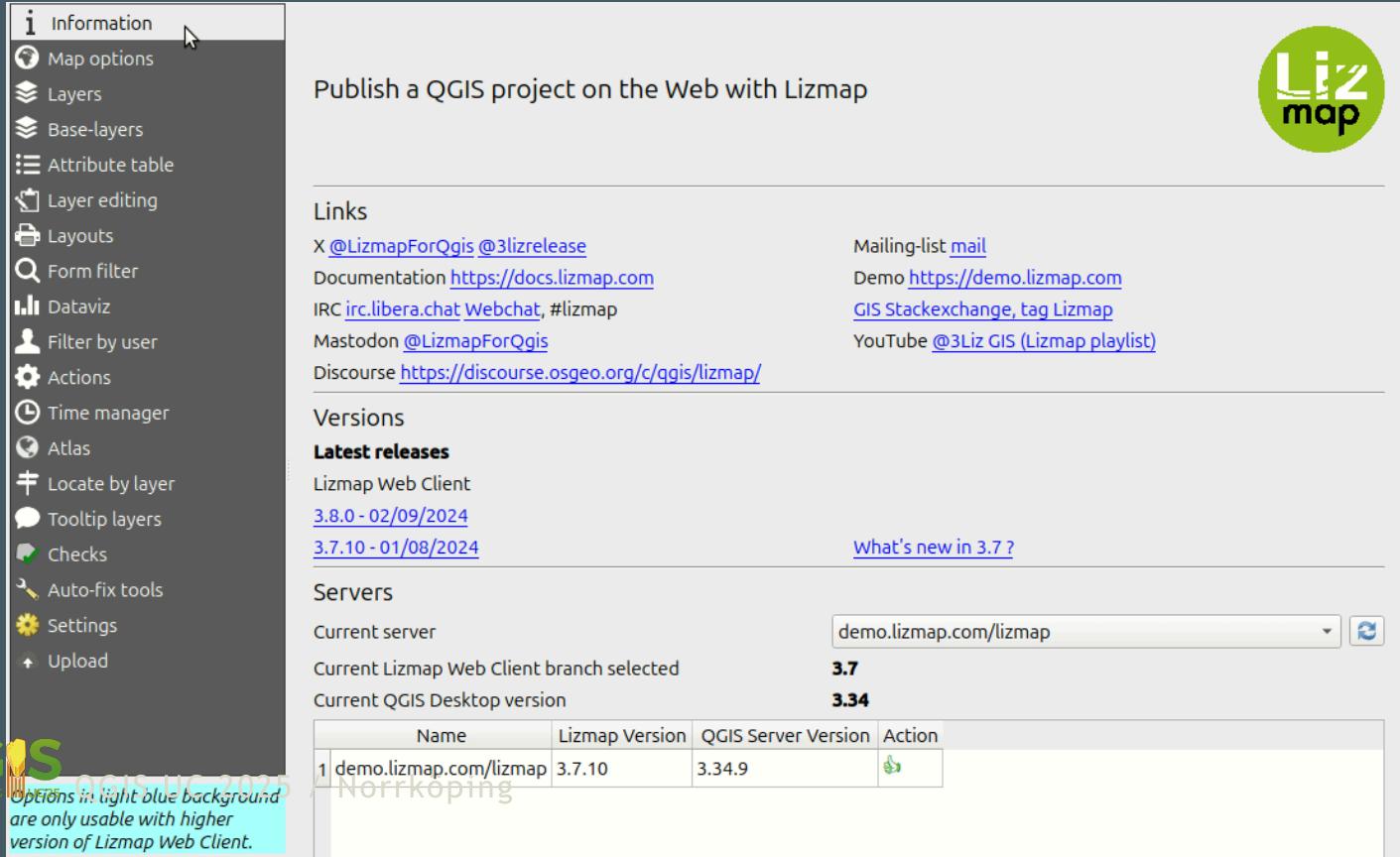
To the right of the map is a "Dataviz" panel with two sections:

- Superficie communale totale**:
Surface communale totale : 11,598.86
Population municipale 2019 : 17,134 habitants
- Les grandes composantes du territoire en 2021**:
Le territoire est composé de 5 grands postes d'occupation du sol : 1) les surfaces artificialisées, 2) les zones agricoles, 3) les forêts et zones semi-naturelles, 4) les zones humides et lagunes et 5) les zones en eau.

QGIS Lizmap extension - An overview

The Lizmap extension allows:

-  to easily configure the QGIS project to publish,
-  to choose which tools must be activated in your published map:



The screenshot shows the QGIS Lizmap extension configuration panel on the left and a preview window on the right.

Left Panel (Configuration):

- Information
- Map options
- Layers
- Base-layers
- Attribute table
- Layer editing
- Layouts
- Form filter
- Dataviz
- Filter by user
- Actions
- Time manager
- Atlas
- Locate by layer
- Tooltip layers
- Checks
- Auto-fix tools
- Settings
- Upload

Right Panel (Preview):

Publish a QGIS project on the Web with Lizmap



Links

- X [@LizmapForQgis @3lizrelease](#)
- Documentation <https://docs.lizmap.com>
- IRC [irc.libera.chat Webchat](#), #lizmap
- Mastodon [@LizmapForQgis](#)
- Discourse <https://discourse.osgeo.org/c/qgis/lizmap/>
- Mailing-list [mail](#)
- Demo <https://demo.lizmap.com>
- GIS Stackexchange, tag [Lizmap](#)
- YouTube [@3Liz GIS \(Lizmap playlist\)](#)

Versions

Latest releases

- Lizmap Web Client
[3.8.0 - 02/09/2024](#)
- [3.7.10 - 01/08/2024](#) [What's new in 3.7 ?](#)

Servers

Current server:

Current Lizmap Web Client branch selected: **3.7**

Current QGIS Desktop version: **3.34**

Name	Lizmap Version	QGIS Server Version	Action
1 demo.lizmap.com/lizmap	3.7.10	3.34.9	

QGIS Lizmap extension - project validation

A growing set of validity rules

- **security**: PostgreSQL SSL connection, services
- **performance**: trusted project, estimated metadata, provider geometry, simplification, raster pyramids
- **good practices**: primary keys, needed indexes
- **issues prevention**: duplicated layers, proprietary format (ECW)

Thanks to PyQGIS, which allow a fine control of the workflow, close to the data

The screenshot shows the Lizmap validation plugin interface. The title bar reads "Lizmap branch master, commit 4b023d, next 4.1.2-alpha". On the left is a sidebar with icons for Information, Map options, Layers, Base-layers, Attribute table, Layer editing, Layouts, and Dataviz. The main area has tabs for Checks, Help about checks, and Raw logs. The Checks tab displays a message: "The plugin is doing some checks on your project. To know how to fix these checks, either use the tooltip (by hovering your mouse pointer on the table row) in the last column 'Error', or check the documentation in the next tab 'Help about checks' for all errors which can be reported." It also says "An auto-fix is available in the 'Auto-fix tools' panel" and has buttons for "Visit the 'Auto-fix tools' panel" and "Copy results in clipboard". Below this is a table with columns: Severity, Level, Source, and Error. Two rows are listed:

Severity	Level	Source	Error
1	Blocking	Layer	SSL connections to a PostgreSQL database
2	Blocking	Layer	SSL connections to a PostgreSQL database

Current roadmap

- **Branch 3.8**
 - 3.8.0, September 2024 for QGIS UC 2024 in Bratislava
 - 3.8.10 May 2025, latest release
- **Branch 3.9**
 - 3.9.0-RC3 Feature freeze in May 2025
 - 3.9.0 June 2025 for this QGIS UC  
- **Branch 3.10**
 - 3.10.0 started for new features

Similar to **QGIS.org** release schedule, **monthly** releases with bugfix

:

- Compared to one year ago, **less overlap** between branches now
- <https://github.com/3liz/lizmap-web-client/tags>
- <https://www.qgis.org/resources/roadmap/#release-schedule>

2024 - Lizmap 3.8 key features



2024 - Lizmap 3.8 features

- Render all the checked layers as a **single image**
- New management of the **N to M relations data editor**
- Ability to display specific **layer features** at startup when set in URL
- Improvement on the **landing page** content (logged and not logged user)
- **Tooltip feature** when hovering the map: allow to build rich content with QGIS expressions
- **Popup:** add toolbar for child features in the compact table view
- **Data editing** - Improve **snapping** functionalities
- New web component `lizmap-features-table` to display a **compact list of features** as a table
- *A big thank to Faunalia for your contributions to this version*

The new compact list of features

- a **reusable component** which shows a **compact list of layer features**
- 3.8: available only for user-defined HTML popup
- will be used by default in **identify results** (popup) in 3.9



quartiers

Champ	Valeur
quartier	2
quartmno	PA
libquart	MOSSON

child sub-districts

MOSSON - Les Hauts de Massane (193 ha)
MOSSON - LA PAILLADE (262 ha)
MOSSON - Celleneuve (83 ha)



The new compact list of features

- QGIS Display expression is used by default for line heading

New in 3.9:

- QGIS Expressions can be added to create multiple "virtual" columns.
- Due to the powerness of QGIS Expressions written on the "client side", an allowed list of expressions can be set, or the **not allowed** is returned (new in 3.9)

quartiers



Champ	Valeur
quartier	7
quartmno	MC
libquart	MONTPELLIER CENTRE

child sub-districts

	Virtual code	Virtual area	Forbidden
Antigone (91 ha)	MCN	904499.9	not allowed
Boutonnet (166 ha)	MCB	1661168.42	not allowed
Centre Historique (64 ha)	MCH	641998.3	not allowed
Comédie (34 ha)	MCC	340525.84	not allowed
Figuerolles (60 ha)	MCF	598274.39	not allowed
Gambetta (68 ha)	MCG	676749.46	not allowed
Gares (56 ha)	MCS	561186.29	not allowed
Les Arceaux (58 ha)	MCA	577675.24	not allowed
Les Aubes (85 ha)	MCU	845515.52	not allowed
Les Beaux - Arts (122 ha)	MCX	1221059.49	not allowed

Lizmap 3.8 : relations management improvements

Very useful when you have a **relation between a parent layer** (ex: roads) and a **child layer** (ex: road works)

- You can now easily **create a new child feature** from the parent information panel
- The parent editing form respects the **QGIS Drag&drop form layout**

The screenshot displays two panels of the Lizmap application interface. On the left, a 'Popup' window for an 'Apartments' feature shows a table with fields like ID, Address, Municipality code, Type, Need renovation, and PRM access. A '1' is highlighted in red next to the value '180 Freedom avenue'. On the right, another 'Popup' window for 'Apartments' shows a similar table with the same fields, also featuring a '1' highlighted in red next to the value '190 Broadway avenue'. Both windows are overlaid on a map of Landuse in Narbonne, South of France. The QGIS logo and 'QGIS UC 2025 / Norrköping' text are visible at the bottom left.

Field	Value
ID	6
Address	180 Freedom avenue
Municipality code	34000
Type	House
Need renovation	No
PRM access	No

Field	Value
ID	6
Address	190 Broadway avenue
Municipality code	34000
Type	House
Need renovation	No
PRM access	No

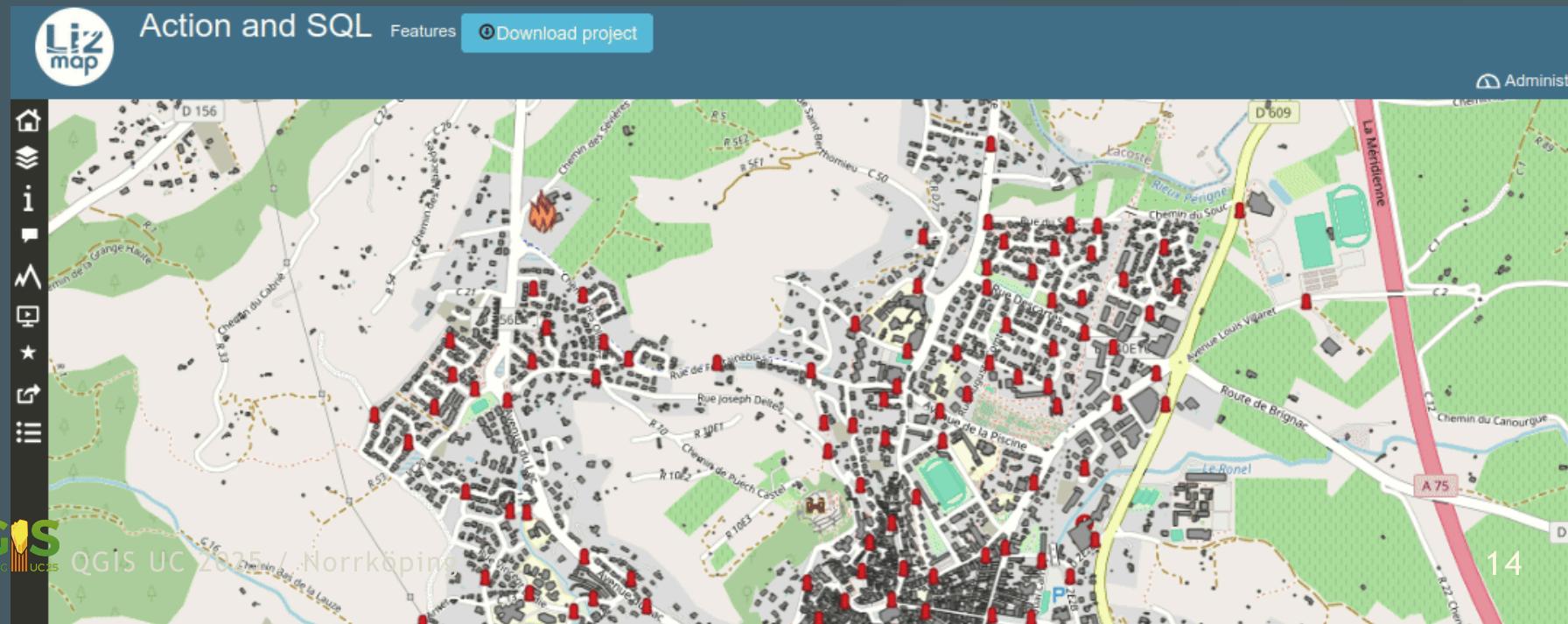
Lizmap 3.8 : Improve PostgreSQL actions

Lizmap actions: run specific PostgreSQL queries and display results

:

- new **project** and **layer** contexts / Run an action **programmatically** with JavaScript

In 3.9, an **input geometry drawn by the user** can be added



Quick overview Lizmap 3.9

- Drawing : Circular geometry measurement on draw, contribution Faunalia
- Import and export drawing with FlatGeobuf
- Under the hood
 - reading of the QGIS project under the hood
 - Eslint, Styleline, Rector : code analysis and linting tools
 - Ongoing work to improve JavaScript documentation with OpenLayers etc
 - API documentation <https://docs.3liz.org/lizmap-web-client/>

REST API

- Latest releases from May, June 2025
- Perform some HTTP GET, PUT or DELETE requests
- Manage Lizmap repositories and their rights
- Metadata information from QGIS requests
- More tight integration from the QGIS Desktop plugin to come, step by step ! 🎉

Contributions from Néo Garaix

Lizmap Admin API 3.10.0-pre OAS 3.0
[/openapi.yaml](#)

Servers Authorize

repositories Requests onto repositories located in Lizmap

GET	/admin/repositories	Get all repositories	🔒	∨
GET	/admin/repositories/{repository_key}	Get a specific repository	🔒	∨
POST	/admin/repositories/{repository_key}	Create a specific repository	🔒	∨
GET	/admin/repositories/{repository_key}/rights	Get list rights of a specific repository	🔒	∨
POST	/admin/repositories/{repository_key}/rights	Add a right to a group on a repository	🔒	∨
DELETE	/admin/repositories/{repository_key}/rights	Remove a right to a group on a repository	🔒	∨

projects Requests onto projects located in a specific repository in Lizmap

GET	/admin/repositories/{repository_key}/projects	Get all projects from a specific repository	🔒	∨
GET	/admin/repositories/{repository_key}/projects/{project_id}	Get a specific project from a specific repository	🔒	∨

A focus on Lizmap modules



Lizmap features can be extended with modules for dedicated use cases

The wish is to integrate these modules into core, to ease the maintenance and make them more discoverable.

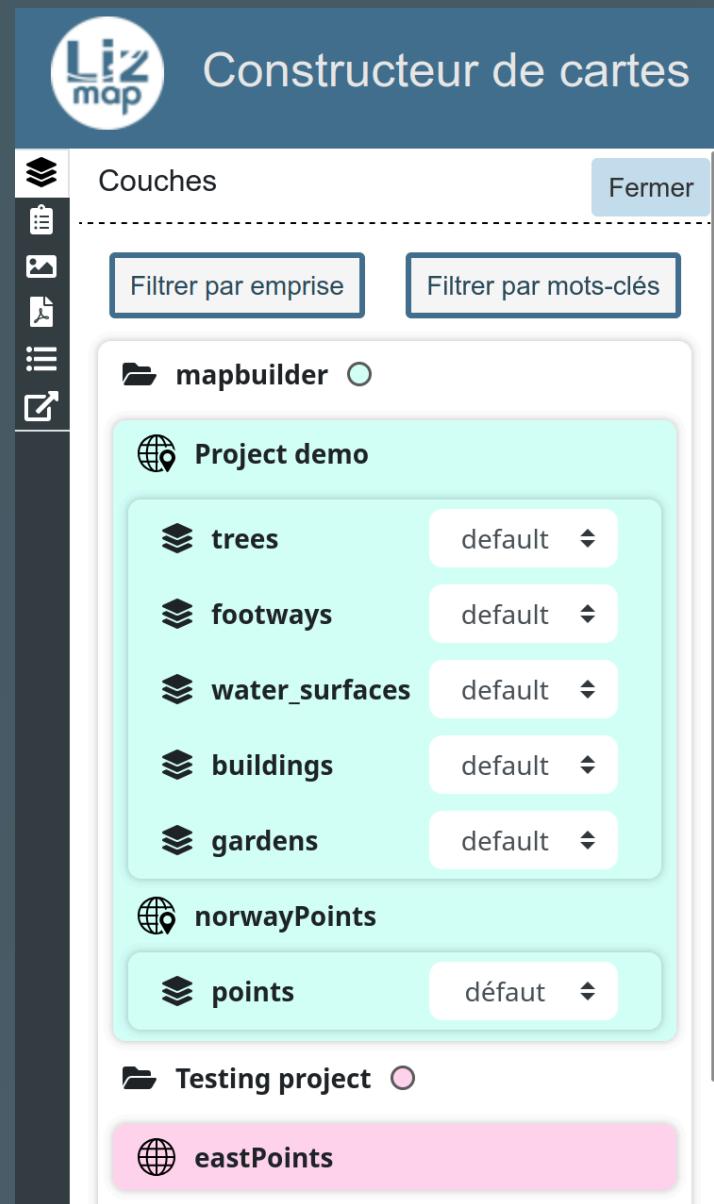
Presentation module - Tell a story with Lizmap

- Create **one or more presentation** inside your maps
- Create slides with **rich text and medias** (images or video)
- Each slide can **zoom to a specific area** with a set of **active layers**

The screenshot shows the Lizmap Presentation module interface. At the top, there's a header with the Lizmap logo, the title "Presentation module", and a "Modules" dropdown. Below the header, a sidebar on the left lists "Presentations" with one item named "test". It includes buttons for "Detail", "Delete", and "Launch". The main area is a map of a city street layout with several green and pink circular overlays representing active layers. A legend on the right side of the map shows icons for zooming, panning, and other map controls. In the bottom right corner of the map area, there's a scale bar labeled "1 : 5 000" and distance markers for 0, 100 m, and 200 m.

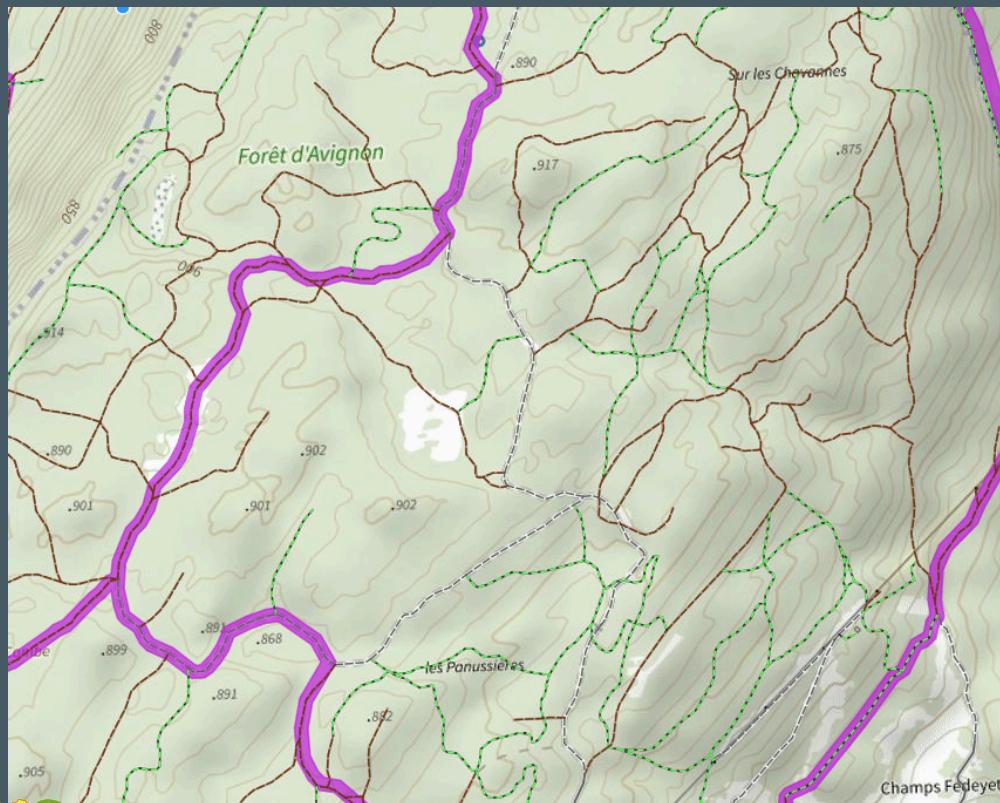
MapBuilder

- Be able to combine layers from different QGIS projects, on the web browser **only**, without being a GIS technicians with QGIS and the need to publish a "new" QGIS project
 - A lot of work done recently:
 - filter by extent
 - filter by keywords
 - icon for the geometry type...
 - CSS overhaul...



PgRouting - Find your way

- Based on the amazing PgRouting extension for PostgreSQL
 - The module adds **routing tools** which help the user to find its way
 - The routing graph is **based on your data**, not on a online API



WPS module - Run processing algorithms

- The power of QGIS processing toolbox inside Lizmap
- Each map has its set of **allowed algorithms or models**
- **Run the algorithm:** choose input values (buffer size, area code, etc.)
- **Results** are displayed whenever the algs ends (asynchronous run)
- **Download** produced outputs (layers, reports, etc.)
- A lot of work is going to be done with the coming weeks, stay tuned !
 - UI Overhaul, CSS, move to OGC Processes...



WPS

Choose a process to run
QGIS Buffer

Run Help

Please fill in the form and click the Execute button

Input:

Input layer* Province

Sélection

Distance* 10000

Segments* 30

End cap style* Round / Norrköping

QGIS NORRKÖPING UC25

The screenshot shows the Lizmap WPS module. On the left, there's a sidebar with various icons. The main panel has a title 'WPS' and a dropdown menu 'Choose a process to run' set to 'QGIS Buffer'. Below it are buttons for 'Run' and 'Help', and a note to fill in the form and click 'Execute'. There are four input fields: 'Input layer*' set to 'Province', a checkbox for 'Sélection', 'Distance*' set to '10000', and 'Segments*' set to '30'. At the bottom, there's a dropdown for 'End cap style*' with 'Round / Norrköping' selected. On the right, a map of the Channel Islands (Guernsey and Jersey) is shown with a large purple buffer polygon around Guernsey. The map also includes a green polygon labeled 'Parc naturel régional des Marais du Cotentin et du Bessin'.

Some side projects, under the hood of Lizmap

- Proj4Js will be replaced by Proj4Rs
 - Written in Rust Web Assembly
 - <https://github.com/3liz/proj4rs>
- Py-QGIS-Server
 - Better management of QGIS server processes (without Apache/Nginx)
 - <https://docs.3liz.org/py-qgis-server/>
 - It will be replaced by a total new project
 - QJazz, QGIS as a service
 - <https://docs.3liz.org/qjazz/qjazz-server/>



The Future of Lizmap



3.9 is in feature freeze, 3.10 started

- Attribute table managed on the server side
 - Better performance, the customer request is to manage millions of lines with pagination
- Point vector layer from QGIS translated to a vector point layer into OpenLayers 10, with the QGIS symbology.
New ways of interactions with the user can be foreseen : point clustering client side...
- Layouts portofolio, work funded by Mirandela city in



The future of Lizmap

- Generalize the use of the **compact list of features**
- Catch up with QGIS **editing form capabilities**
- **Copy-paste geometries** between tools (drawing, selection, identified feature)
- Always some work under the hood :
 - Bootstrap 5 migration
 - OpenLayers :
 - Remove the last part of OpenLayers 2
 - Since version 3.8, the OpenLayers 10 map is now on top
 - OpenLayers 2 : only



The future of Lizmap

- Integrate some **external modules** into **core** ?
 - Presentations
 - PGrouting
 - Altiprofil, with **COG** support
- QGIS Authentication database, or other backend



The future of Lizmap

Routing specific requests to
specific QGIS Server
backend :

- PDF print requests →
dedicated QGIS Server
processess
- Slowness of queries
- Manage cache per
processus
- Readonly
- Not loading QGIS layouts if
not needed
- Move attribute table
export of layer to a QGIS
processes API, asynchrone



Connect with our community !

- Organize **online events** to meet users and developers
- Gather user needs and maintain a **roadmap** with priorities
- **Communicate more:** transition from twitter to **Mastodon & LinkedIn**, etc.

Translations

- Quick updates about the state of translation, as of begining of May 2025
- Top 10 (with English, of course)

French 

100.0

Portuguese 

100.0

Romanian 

100.0

Czech

99.22

Italian

95.72

Polish (Poland) 

87.7

Dutch

79.37

Japanese 

73.79

German 

67.74

Ukrainian (Ukraine) 

65.69

29

Thank you for your attention !

- Demos: <https://demo.3liz.com>
- Email: info@3liz.com / Mastodon: @LizmapForQgis - Coming soon
- Source code: <https://github.com/3liz/>
- Hosting: <https://www.lizmap.com/en/plans.html>

