UNIVERSITY OF TWENTE

FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

URBAN AND REGIONAL PLANNING AND GEO-INFORMATION MANAGEMENT

Writing documentation process

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25 APRIL 2023

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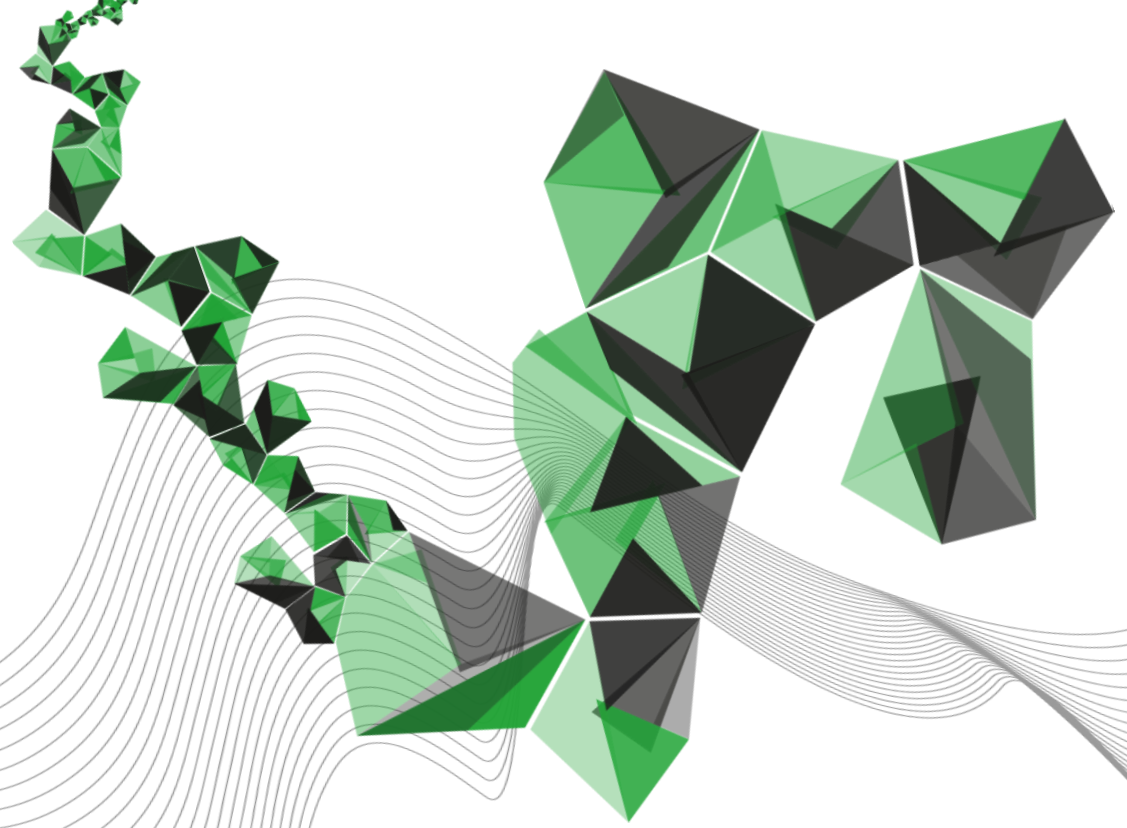
OUTLINE

- About me
- The documentation process
- Issues: what, where, how
- QA session



ABOUT ME

- ✓ Computer System Engineer
- ✓ R&D professional
- ✓ Master in Computer Science and Geoinformatics
- ✓ CTO at the Geographic Institute – Venezuela
- ✓ Researcher in Machine Learning – Crops/Cities
- ✓ PhD in Urban Planning (UTwente)
- ✓ Translator and QGIS documenter
- ✓ GEO AI Developer (UTwente)

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QGIS, A DYNAMIC AND GROWING PROJECT

- Processing
  - Feature: Additional options for XYZ Tile exports when using Leaflet html output
  - Feature: Support data defined parameter values when using qgis_process tool
  - Feature: New “load_layer” function
  - Feature: Add user interface for extent definition in GDAL Raster Calculator
- Application and Project Options
  - Feature: Add option to store selected GPS component in geometry M values
  - Feature: Make GPS track destination layer an explicit user choice, remember in project
- Profile Plots
  - Feature: New elevation profile canvas item for QGIS Quick
  - Feature: Elevation profile plots in print layouts
- Browser
  - Feature: Add dataset relationship editing and creation capabilities in browser
- Data Providers
  - Feature: Removal of Native GeoNode Provider
  - Feature: In data source manager, allow users to directly add an XYZ tile layer without having to create a connection first
  - Feature: SQL Logging for OGR Provider
  - Feature: S3 Cloud Storage Support
  - Feature: Resolution aware WMTS layers with automatic upscaling
  - Feature: Drop unmaintained SAGA provider from QGIS installations
  - Feature: Improve support of layers with unknown geometry type for WFS provider
- QGIS Server
  - Feature: QGIS_APPLICATION_FULL_NAME environment variable
  - Feature: GeoJSON support for WFS DescribeFeatureType
- Plugins
  - Feature: Topology checker rules enabling/disabling and filtering
- Programmability
  - Feature: QgsExifTools Improvements
  - Feature: Smart bracket autocomplete updates for Code Editors
  - Feature: Add “toggle comment” action to the integrated python console
- Breaking Changes
  - Feature: Drop project backward compatibility for symbology with QGIS 3.16 and older
- Map Tools
  - Feature: Raster MapTips
  - Feature: Identify on mouse move, no mouse click
- User Interface
  - Feature: Constraint based functionality for attribute tables
  - Feature: Additional GPS information panel and toolbar fields
  - Feature: GPS Information Panel UX and Refactoring
- Symbology
  - Feature: Improved SLD Export Options
- Rendering
  - Feature: Global map terrain shading
  - Feature: Add super and subscript support for text renderer
- 3D Features
  - Feature: Limit 2D extent of 3D scene
  - Feature: Improved camera control
- Print Layouts
  - Feature: Shortcuts manager in print layouts
  - Feature: Use text renderer in layout legends
- Expressions
  - Feature: Add feature_id() function
  - Feature: New is_feature_valid() and is_attribute_v
  - Feature: Add x_at, y_at, z_at, m_at expression fun

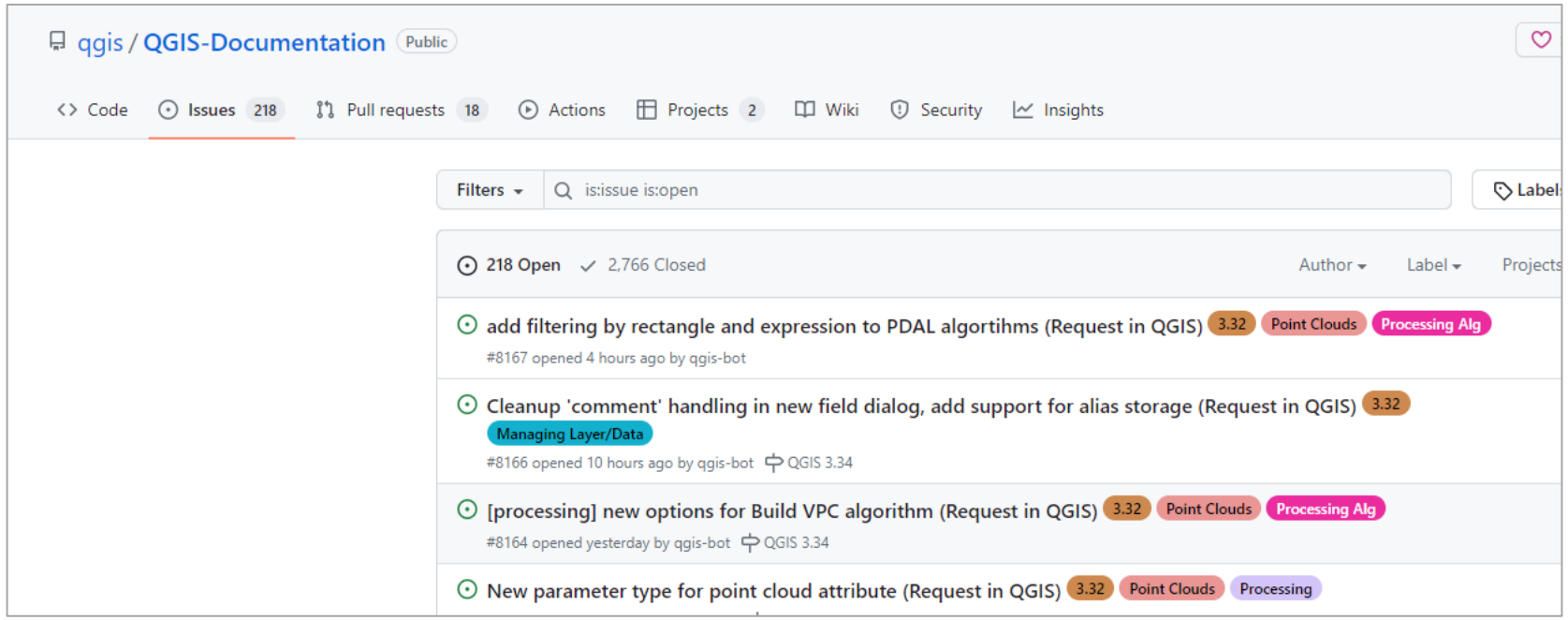
- Data Management
  - Feature: DateTime Field editing: segregation of display format and field value format
  - Feature: Add option to directly log GPS points and tracks to a Geopackage or Spatialite db
  - Feature: Add an explicit “Offset from UTC” option for storing GPS feature timestamps
  - Feature: Raster Attribute Tables (RAT) Suppport
- Metadata and Metasearch
  - Feature: Add key dates to layer and project metadata
- Forms and Widgets
  - Feature: Audiovisual multimedia attribute attachments support
  - Feature: Data defined editable state for form widgets
  - Feature: Spacer widget for drag & drop attribute forms
  - Feature: Dynamic text widgets with current_value support
  - Feature: Dynamic HTML widgets with current_value support
  - Feature: Multiple selections with filtering in value relation widget
- Layer Legend
  - Feature: New layer ordering improvements

QGIS, TONS OF FEATURES

- ✓ Developers produce tons of features
- ✓ Users need to know ***how to use*** QGIS features
- ✓ Documenters bridge developers and users
- ✓ QGIS route map → Documenters play a crucial role in the software cycle

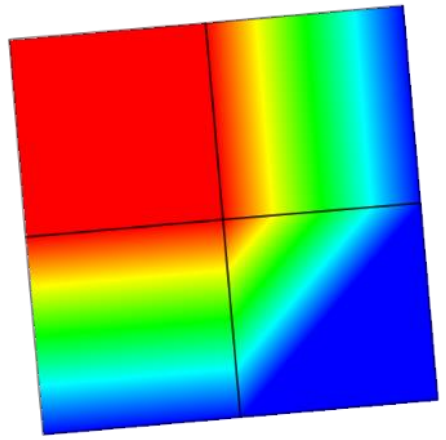
WHAT TO DOCUMENT

- ✓ QGIS Documentation source files: https://github.com/qgis/QGIS-Documentation
- ✓ reStructuredText (reST) - .rst files
- ✓ 218 open issues → https://github.com/qgis/QGIS-Documentation/issues

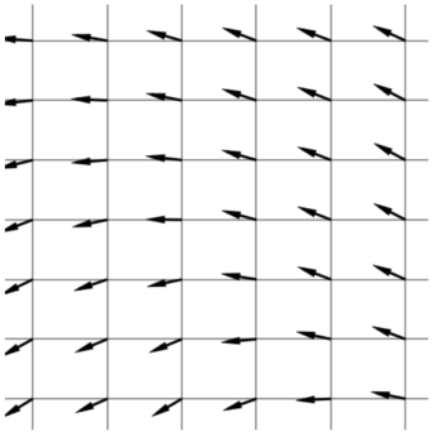


WHAT TO DOCUMENT

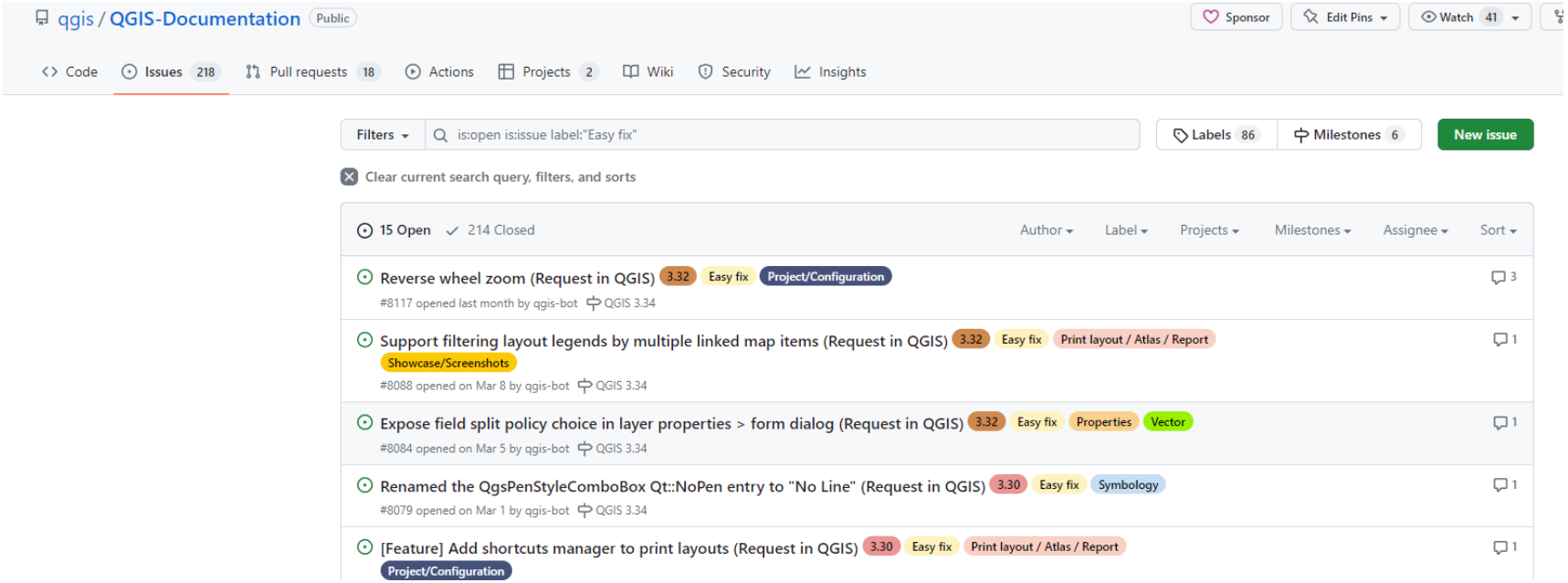
- ✓ New features – early adopters
- ✓ Personal interest
- ✓ ***Easy fix*** issues: https://github.com/qgis/QGIS-Documentation/labels/Easy%20fix



Contours



Vectors



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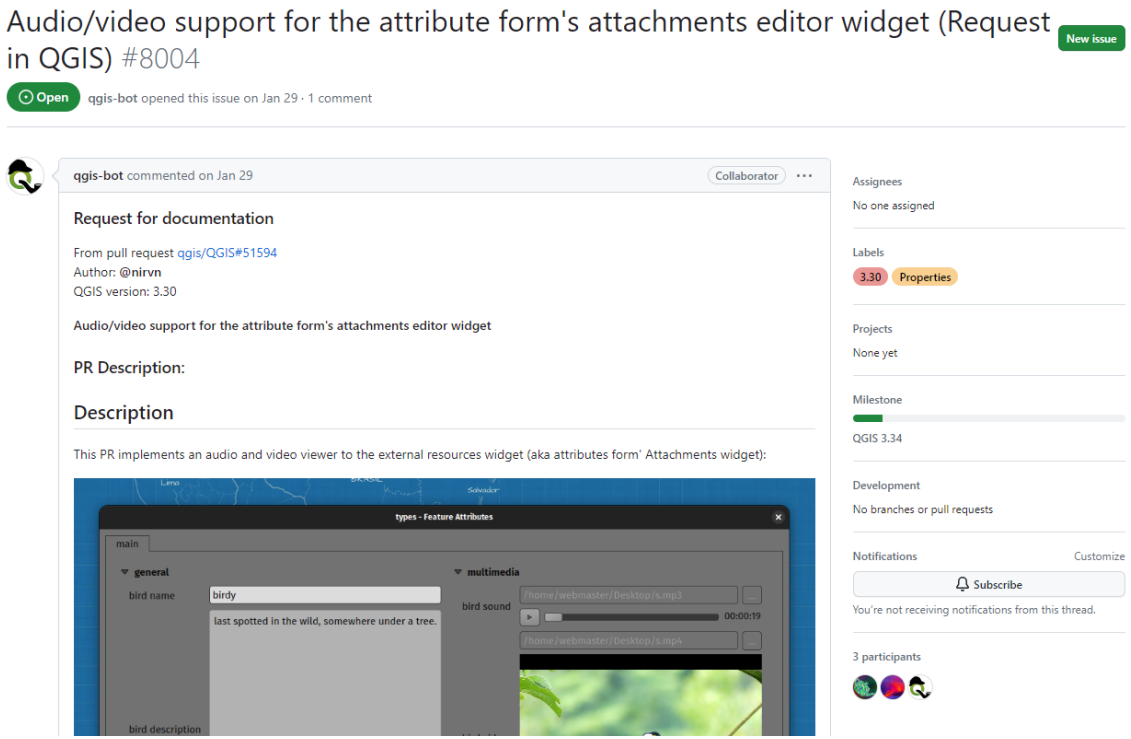
WHERE TO GET INFO FOR YOUR CONTRIBUTIONS

- ✓ Visual Changelog
- ✓ Try yourself → early adopter
- ✓ Information in the issue description → ask developers



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HOW TO MAKE YOUR CONTRIBUTIONS

Using the Github web interface.. Three simple steps

1. Fork the QGIS/Documentation
2. Add your edits (reStructuredText - .rst files)
3. Create a pull request

https://docs.qgis.org/3.28/en/docs/documentation_guidelines/first_contribution.html

Step-by-step video:

https://www.youtube.com/watch?v=qh-6AnBcy-g

HOW TO MAKE YOUR CONTRIBUTIONS

Using your local environment and git tools

Setting your local environment

Including images

How to build locally: https://github.com/qgis/QGIS-Documentation

upstream

https://github.com/qgis/QGIS-Documentation

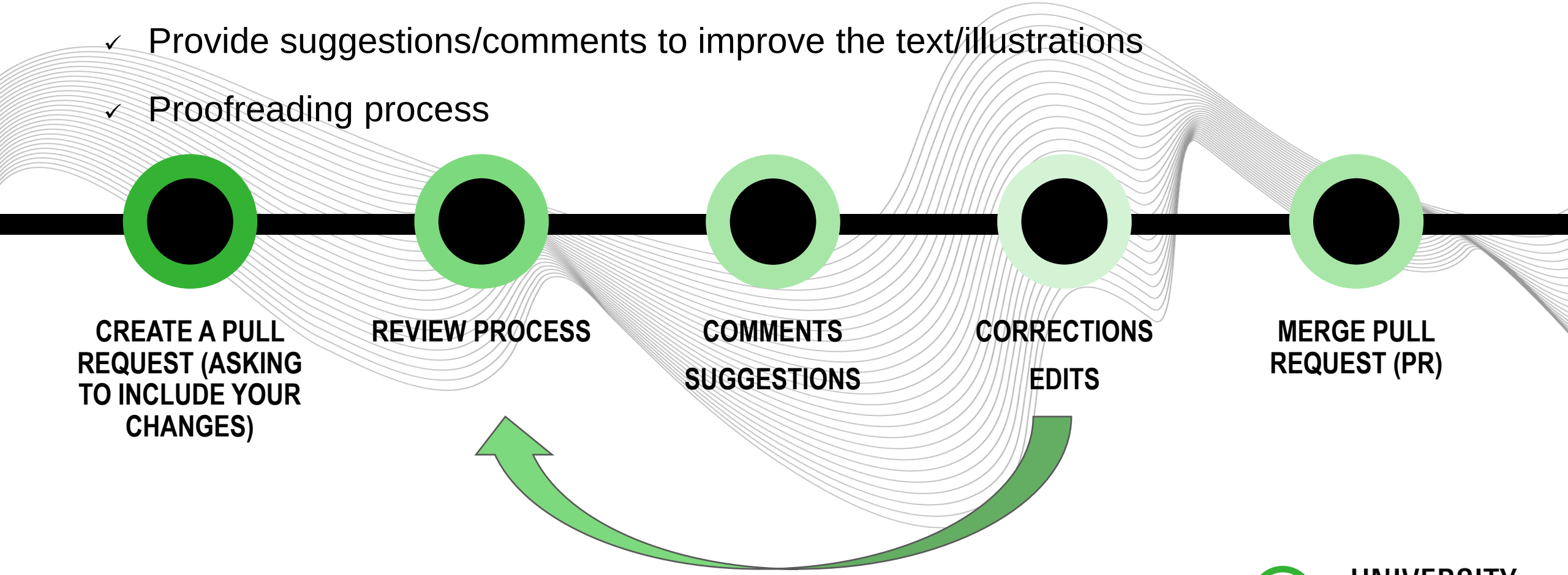
origin

https://github.com/<your name>/QGIS-Documentation

Locally

REVIEW PROCESS

- ✓ Reviewers ensure guidelines and style of QGIS documentation
- ✓ Provide suggestions/comments to improve the text/illustrations
- ✓ Proofreading process



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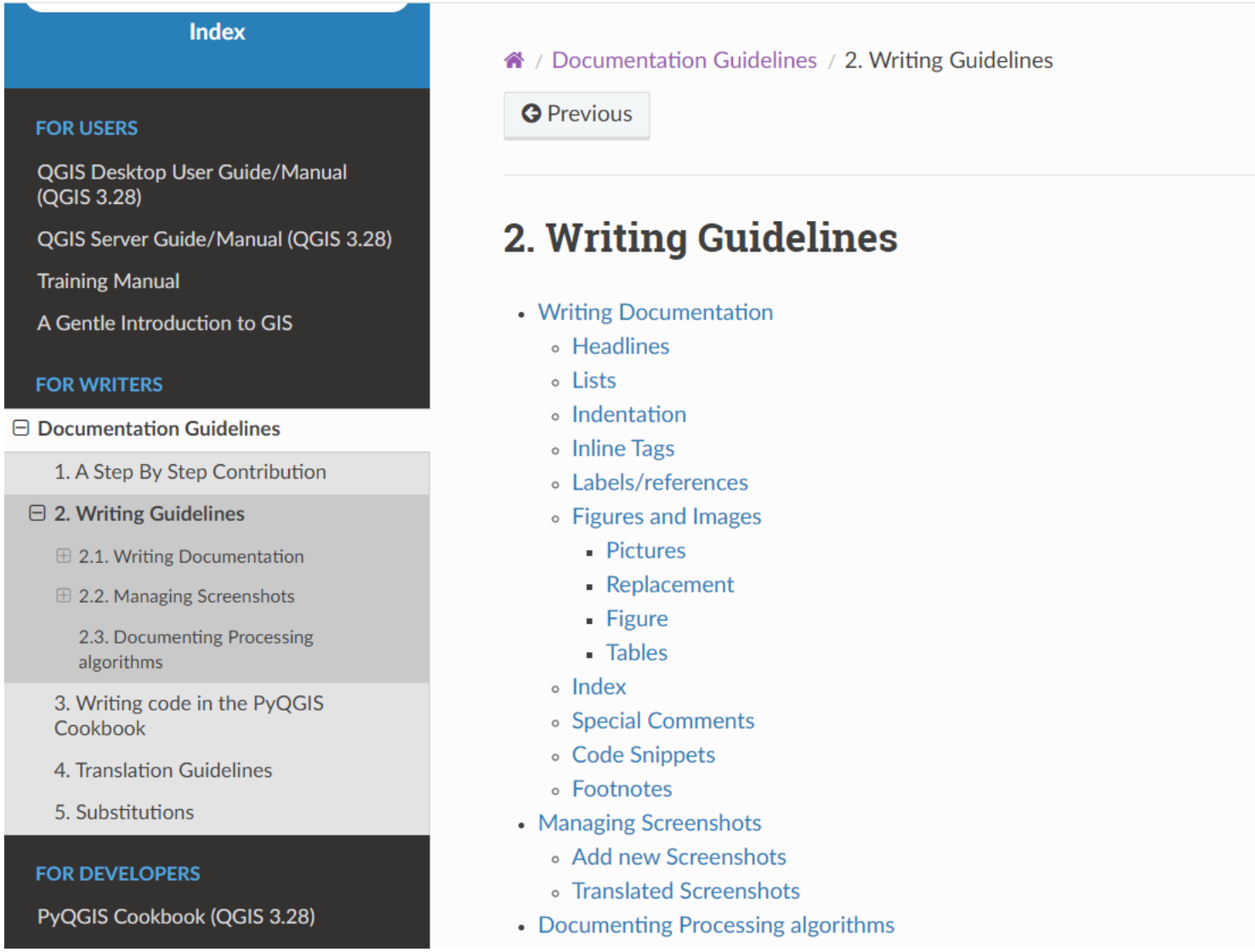
DOCUMENTATION GUIDELINES

https://docs.qgis.org/3.28/en/docs/documentation_guidelines/writing.html



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DOCUMENTATION GUIDELINES

2.1. Writing Documentation

2.1.1. Headlines

To each webpage of the documentation corresponds a `.rst` file.

Sections used to structure the text are identified through their title which is underlined (and overlined for the first level). Same level titles must use same character for underline adornment. In QGIS Documentation, you should use following styles for chapter, section, subsection and minisec.

```
********
Chapter
********

Section
=======

Subsection
----------

Minisec
.......

Subminisec
^^^^^^^^^^
```

https://docs.qgis.org/3.28/en/docs/documentation_guidelines

DOCUMENTATION GUIDELINES

2.1.2. Lists

Lists are useful for structuring the text. Here are some simple rules common to all lists:

- Start all list items with a capital letter
- Do not use punctuation after list items that only contain a single simple sentence
- Use period (`.`) as punctuation for list items that consist of several sentences or a single compound sentence

2.1.3. Indentation

Indentation in ReStructuredText should be aligned with the list or markup *marker*. It is also possible to create block quotes with indentation. See the Specification

```
#. In a numbered list, there should be
   three spaces when you break lines
#. And next items directly follow

   * Nested lists
   * Are also possible
   * And when they also have
     a line that is too long,
     the text should be naturally
     aligned
   * and be in their own paragraph

However, if there is an unindented paragraph, this will reset the numbering:

#. This item starts at 1 again
```

https://docs.qgis.org/3.28/en/docs/documentation_guidelines

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DOCUMENTATION GUIDELINES

2.1.4. Inline Tags

You can use tags to emphasize items.

- **Menu GUI**: to mark a complete sequence of menu selections, including selecting submenus and choosing a specific operation, or any subsequence of such a sequence.

```
:menuselection:`menu --> submenu`
```

- **Dialogs and Tab titles**: Labels presented as part of an interactive user interface including window titles, tab titles, button and option labels.

```
:guilabel:`title`
```

- **Filenames and directories**

```
:file:`README.rst`
```

- **Icons with popup text**

```
|icon| :sup:`popup_text`
```

(see image below).

- **Keyboard shortcuts**

```
:kbd:`Ctrl+B`
```

https://docs.qgis.org/3.28/en/docs/documentation_guidelines

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DOCUMENTATION GUIDELINES - IMAGES

2.1.6. Figures and Images

Pictures

To insert an image, use

```
.. figure:: /static/common/logo.png
   :width: 10 em
```

which returns

Replacement

You can put an image inside text or add an alias to use everywhere. To use an image inside a paragraph, first create an alias in the `source/substitutions.txt` file:

```
.. |nice_logo| image:: /static/common/logo.png
               :width: 1 em
```

and then call it in your paragraph:

```
My paragraph begins here with a nice logo |nice_logo|.
```

https://docs.qgis.org/3.28/en/docs/documentation_guidelines

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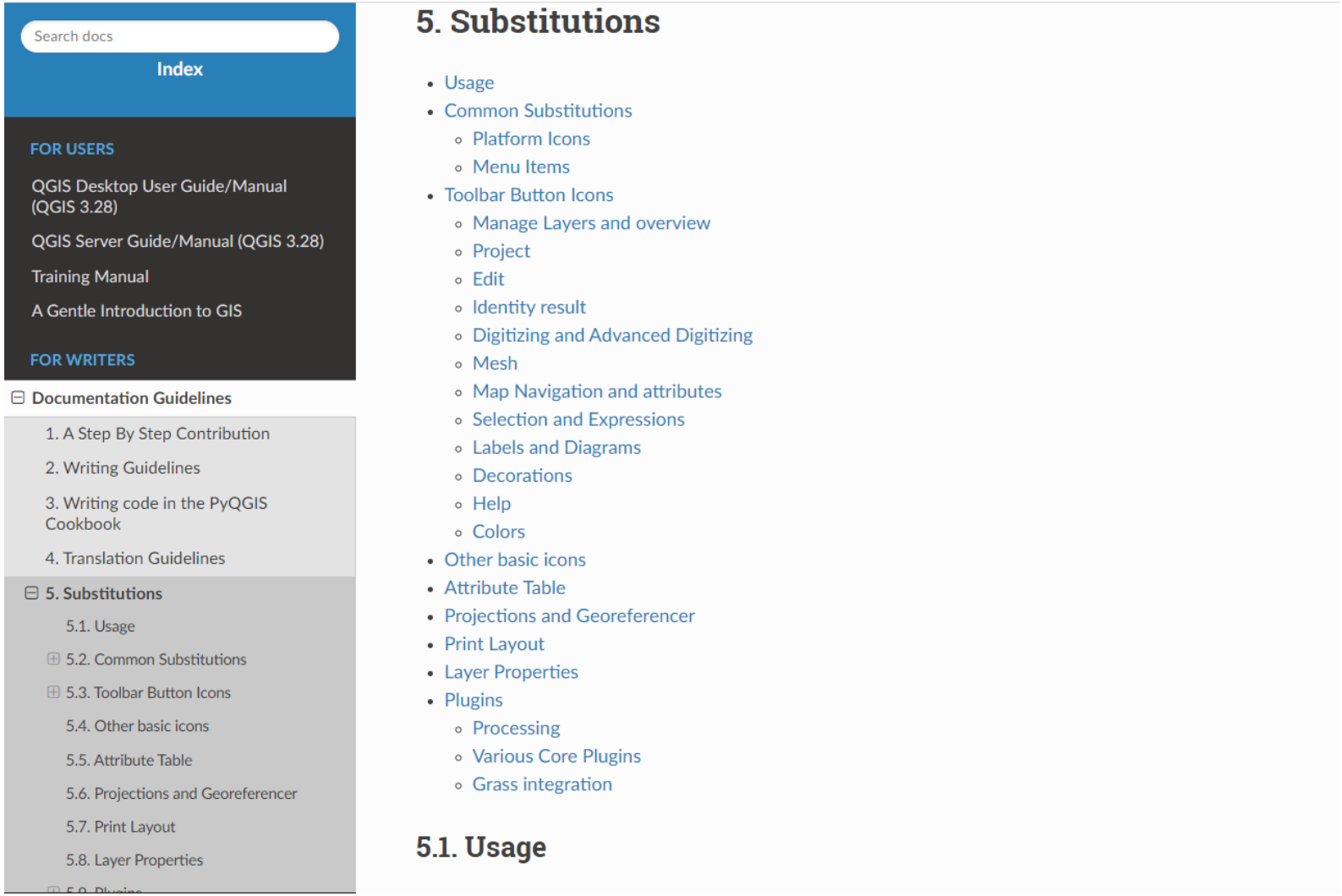
SUBSTITUTIONS

https://docs.qgis.org/3.28/en/docs/documentation_guidelines/substitutions.html



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SUBSTITUTIONS

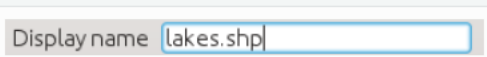
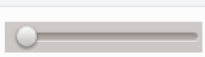
5.2. Common Substitutions

Below are given some icons and their substitution to use when writing documentation. Can be used/found in many places in manuals.

5.2.1. Platform Icons

Icon	Substitution	Icon	Substitution
	|logo|		
	|kde|		|nix|
	|osx|		|win|

5.2.2. Menu Items

Icon	Substitution	Icon	Substitution
	|checkbox|		|unchecked|
	|radioButtonOn|		|radioButtonOff|
	|selectNumber|		|selectString|
	|selectColor|		|selectColorRamp|
	|tab|	°	|degrees|
	|inputText|		|slider|
☰	|hamburgerMenu|		

SUBSTITUTIONS

5.3.1. Manage Layers and overview

Icon	Substitution	Icon	Substitution
	|dataSourceManager|		
	|addOgrLayer|		
	|addRasterLayer|		|addMssqlLayer|
	|addDelimitedTextLayer|		|addSpatiaLiteLayer|
	|addPostgisLayer|		|addOracleLayer|
	|addAfsLayer|		|addAmsLayer|
	|addMeshLayer|		
	|addVectorTileLayer|		|addXyzLayer|
	|addVirtualLayer|		|addWmsLayer|
	|addWcsLayer|		|addWfsLayer|
	|addPointCloudLayer|		|addGpsLayer|
	|newVectorLayer|		|newSpatiaLiteLayer|
	|newGeoPackageLayer|		|createMemory|
	|newVirtualLayer|		|newMeshLayer|
	|dbManager|		|gdal|
	|geoPackage|		|spatialite|
	|virtualLayer|		|wms|

5.9.1. Processing

Icon	Substitution	Icon	Substitution
	|processingAlgorithm|		|processingModel|
	|processingHistory|		|processingResult|
	|processSelected|		|editHelpContent|
	|saveAsPython|		|modelOutput|
	|qgsProjectFile|		|addToProject|
	|fieldInteger|		
	|meanCoordinates|		|extractLayerExtent|
	|selectRandom|		|vectorGrid|
	|convexHull|		|buffer|
	|intersect|		|union|
	|symmetricalDifference|		|clip|
	|difference|		|dissolve|
	|checkGeometry|		|exportGeometry|
	|delaunay|		|centroids|
	|polygonToLine|		|extractVertices|
	|lineToPolygon|		|nearestNeighbour|
	|splitLayer|		|heatmap|

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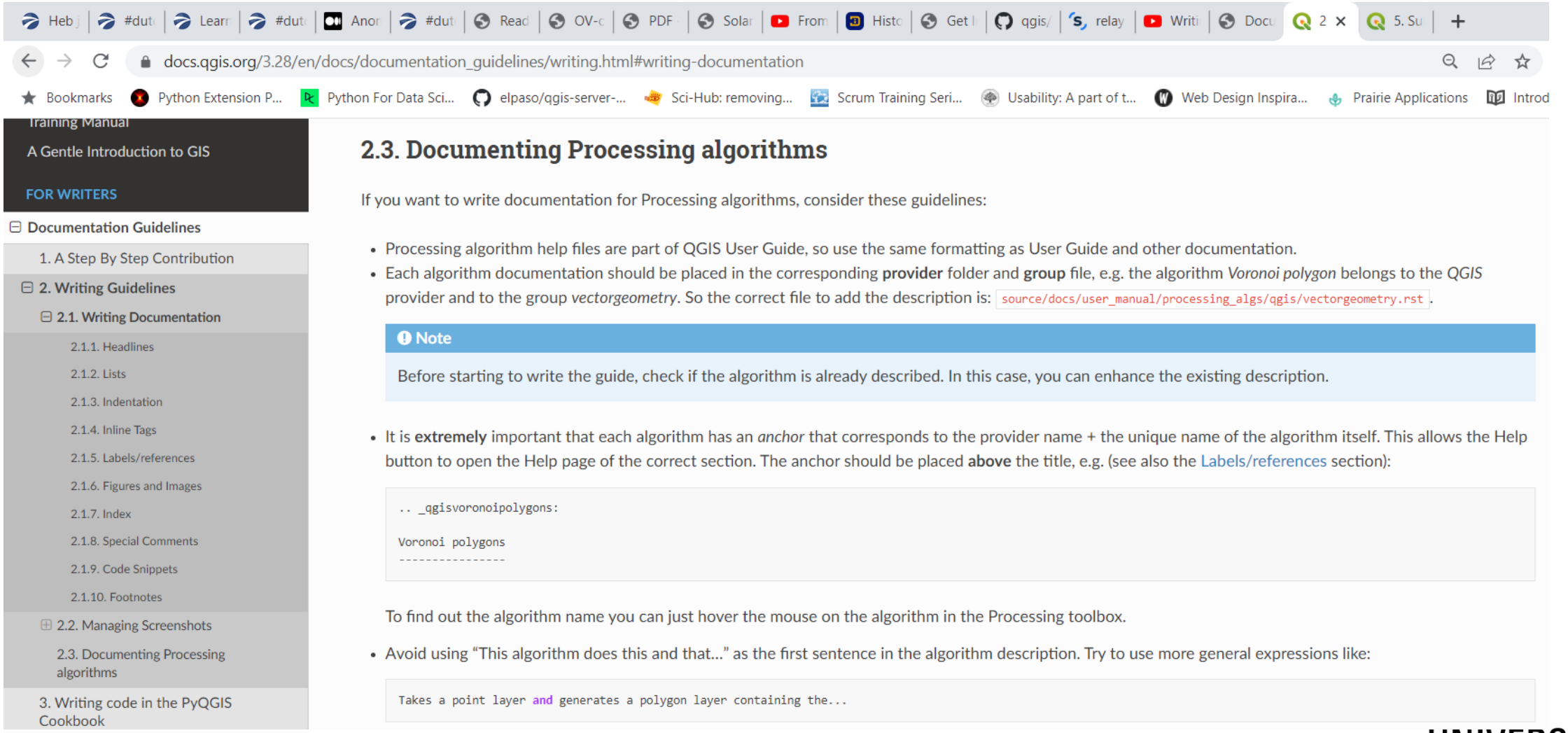
PROCESSING ALGORITHMS



Check if the algorithm is already described → **enhance** the existing description.

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PROCESSING ALGORITHMS

Here is an example of an existing algorithm to help you with the layout and the description:

```
.. _qgiscountpointsinpolygon:

Count points in polygon
-----------------------
Takes a point and a polygon layer and counts the number of points from the
point layer in each of the polygons of the polygon layer.
A new polygon layer is generated, with the exact same content as the input
polygon layer, but containing an additional field with the points count
corresponding to each polygon.

.. figure:: img/count_points_polygon.png
  :align: center

  The labels in the polygons show the point count

An optional weight field can be used to assign weights to each point.
Alternatively, a unique class field can be specified. If both options
are used, the weight field will take precedence and the unique class field
will be ignored.

``Default menu``: :menuselection:`Vector --> Analysis Tools`

Parameters
..........

.. list-table::
   :header-rows: 1
   :widths: 20 20 20 40

   * - Label
     - Name
     - Type
     - Description
   * - **Polygons**
     - ``POLYGONS``
     - [vector: polygon]
     - Polygon layer whose features are associated with the count of
       points they contain
   * - **Points**
     - ``POINTS``
     - [vector: point]
     - Point layer with features to count
   * - **Weight field**
       Optional
     - ``WEIGHT``
     - [tablefield: numeric]
     - A field from the point layer.
       The count generated will be the sum of the weight field of the
       points contained by the polygon.
   * - **Class field**

       Optional
     - ``CLASSFIELD``
     - [tablefield: any]
     - Points are classified based on the selected attribute and if
       several points with the same attribute value are within the
       polygon, only one of them is counted.
       The final count of the points in a polygon is, therefore, the
       count of different classes that are found in it.
   * - **Count field name**
     - ``FIELD``
     - [string]

       Default: 'NUMPOINTS'
     - The name of the field to store the count of points
   * - **Count**
     - ``OUTPUT``
     - [vector: polygon]

       Default: [Create temporary layer]
     - Specification of the output layer type (temporary, file,
       GeoPackage or PostGIS table).
       Encoding can also be specified.

Outputs
.......

.. list-table::
   :header-rows: 1
   :widths: 20 20 20 40

   * - Label
     - Name
     - Type
     - Description
   * - **Count**
     - ``OUTPUT``
     - [vector: polygon]
     - Resulting layer with the attribute table containing the
       new column with the points count
```

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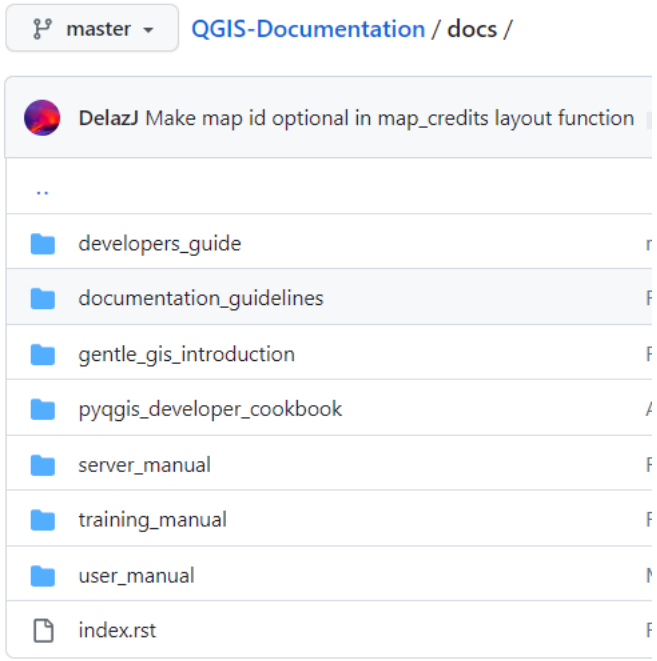
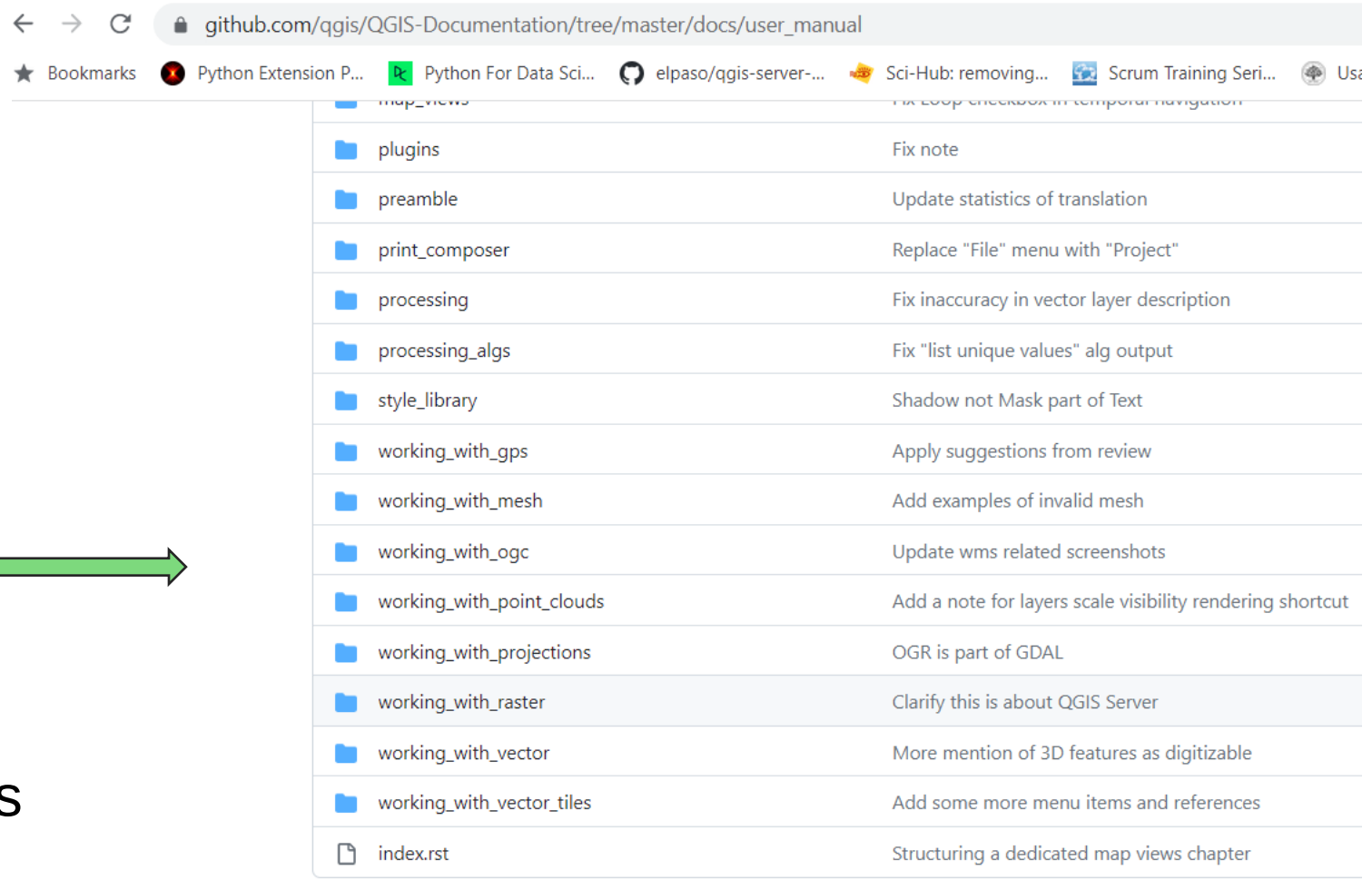
FINDING THE SOURCE FILES

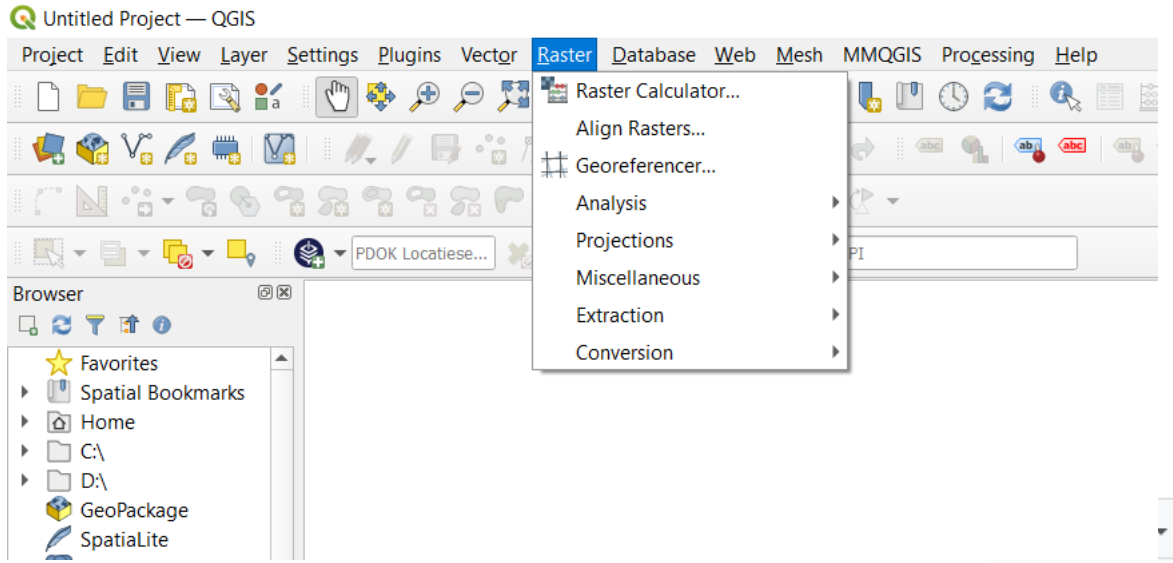


https://github.com/qgis/QGIS-Documentation/tree/master/docs



https://github.com/qgis/QGIS-Documentation/tree/master/docs/user_manual

FINDING THE SOURCE FILES



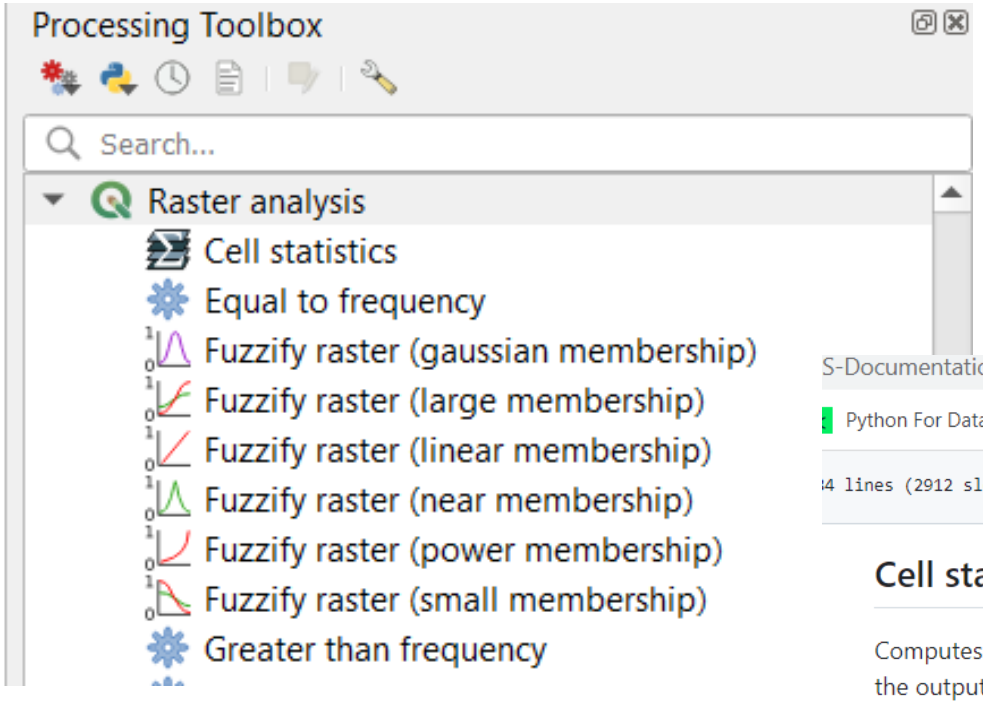
https://github.com/qgis/QGIS-Documentation/tree/master/docs/user_manual/working_with_raster

QGIS-Documentation / docs / user_manual / working_with_raster /

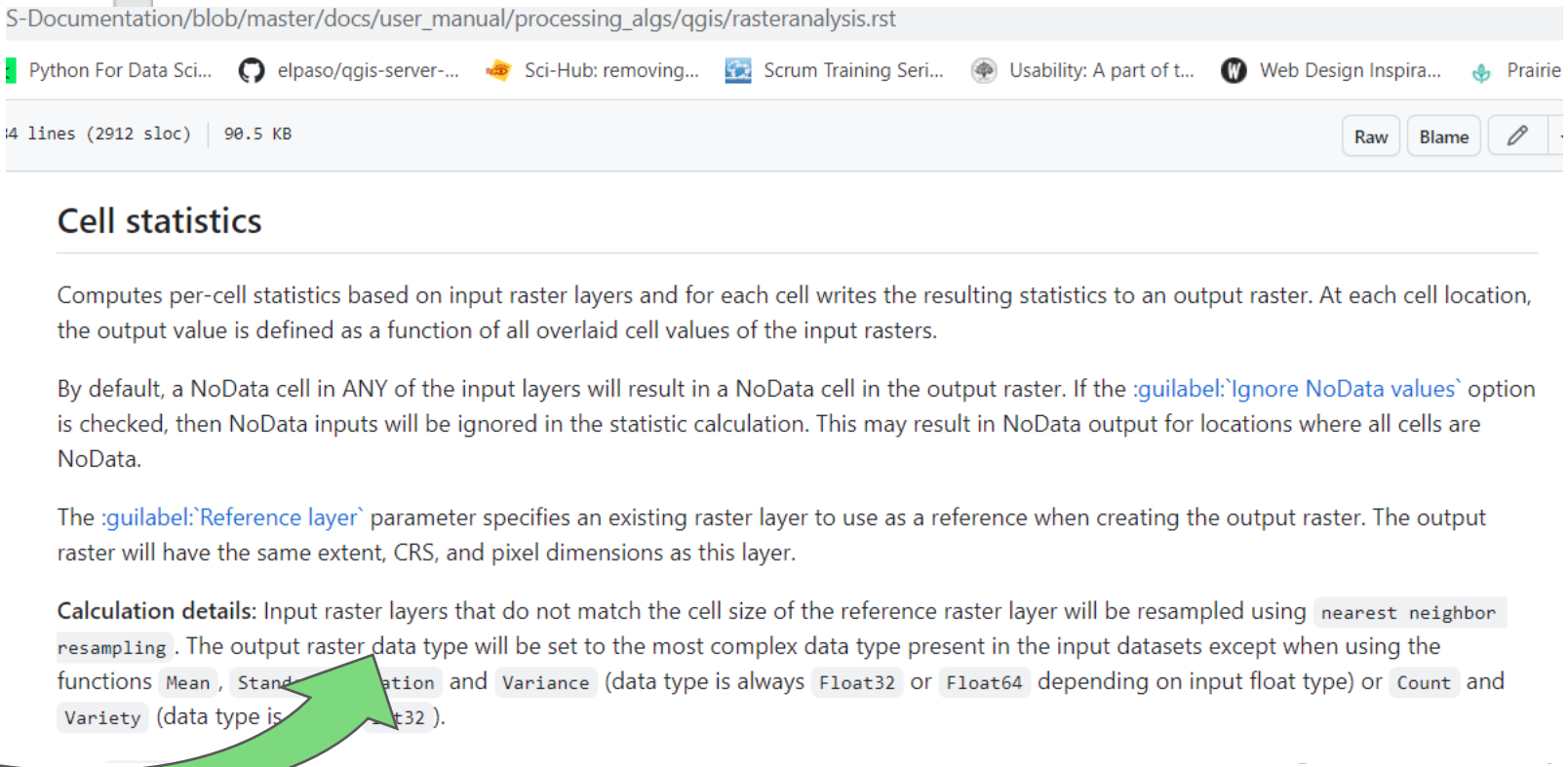
DelazJ Clarify this is about QGIS Server

..	
img	Add elevation properties for raster layers
georeferencer.rst	Place an anchor and reorder substitutions item
index.rst	Move georeferencer docs (#5551)
raster_analysis.rst	More consistency between substitution and file naming,
raster_properties.rst	Clarify this is about QGIS Server

FINDING THE SOURCE FILES



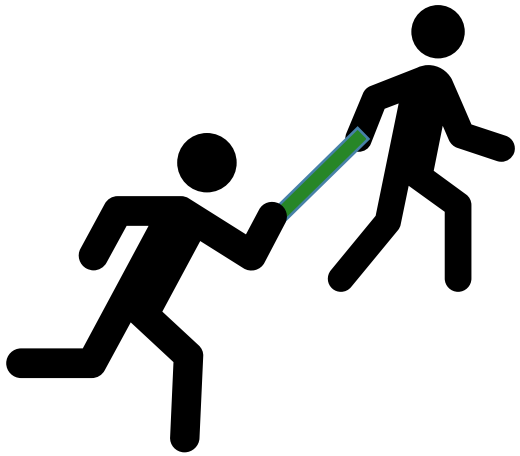
https://github.com/qgis/QGIS-Documentation/blob/master/docs/user_manual/processing_algs/qgis/rasteranalysis.rst



QGIS, A COMMUNITY EFFORT

- ✓ Developers, documenters, users
- ✓ Get yourself involved and ***write the doc***

  https://www.qgis.org/en/site/getinvolved/index.html



QUESTIONS/ ITS ABOUT PRACTICE

- ✓ Two more doc sessions:
  - ✓ Writing from the github interface (follows)
  - ✓ Building the environment in your local machine (afternoon)

GET IN CONTACT

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@rosaaguilar

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