



QGIS - Community-powered GIS

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anitagraser.com/about

— Free and Open Source GIS Ramblings

written by Anita Graser aka Underdark

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Search

My name is Anita Graser and I am a scientist, open source GIS advocate and data visualization geek. This blog was born in 2010 as a place to record my thoughts and experiences in using open source GIS.

I studied geographic information sciences and am now working with the Mobility department at the Austrian Institute of Technology, Vienna. I am a member of the QGIS PSC and currently serve on the OSGeo board of directors. In addition, I'm teaching QGIS classes at the University of Applied Sciences Wiener Neustadt, and at UNIGIS Salzburg as well as the Technical University of Vienna.

Since 2013, I've published several books about QGIS: "Learning QGIS" (currently 3rd edition) and "QGIS Map Design". Furthermore, I develop tools such as the Time Manager and pgRoutingLayer plugin for QGIS.

You can follow me on Twitter @underdarkGIS.



1. **QGIS Intensivkurs**
in Wien

Jetzt anmelden!

Anita Graser & Gretchen N. Palmer



AIT Austrian Institute of Technology

Austria's largest non-university research institute

50.46 %

Republic of Austria
BMVIT Federal Ministry for Transport,
Innovation and Technology

49,54 %

Federation of Austrian
Industries

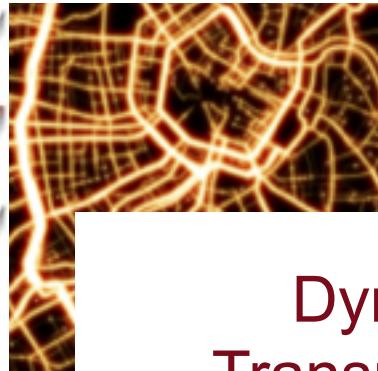
Energy
Mobility
Safety & Security
Health & Environment
Innovation Systems

900 employees
+ 170 Master/Diploma
students, PhD, Postdocs



Mobility – Dynamic Transportation Systems

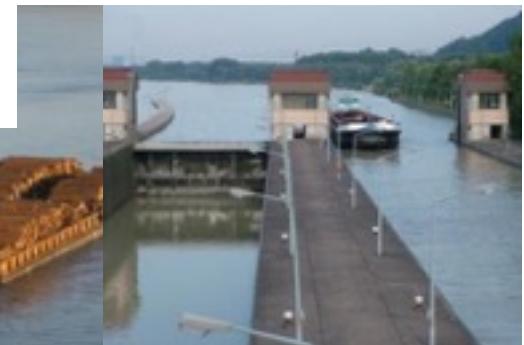
multi-modal
data acquisition and analysis



multi-modal transport networks and
traffic modelling



**Dynamic
Transportation
Systems**



crowd simulation
events, airports, train stations, stadiums, ...

dynamic route planning
transport logistics and optimization

QGIS project

Started by Gary Sherman 2002 in Alaska

Version 1.0 in 2009

Version 2.0 in 2013

Developer Meetings

since 2009, 2 per year

User conference

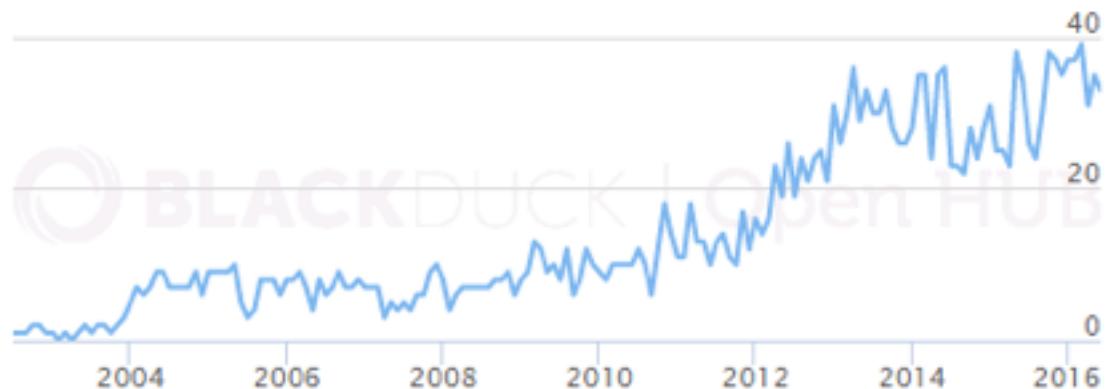
since 2015, 1 per year



Project stats

- ... 33,995 commits
- ... from 304 contributors
- ... representing 837,545 lines of code
- ... took an estimated 229 years of effort

Contributors per Month



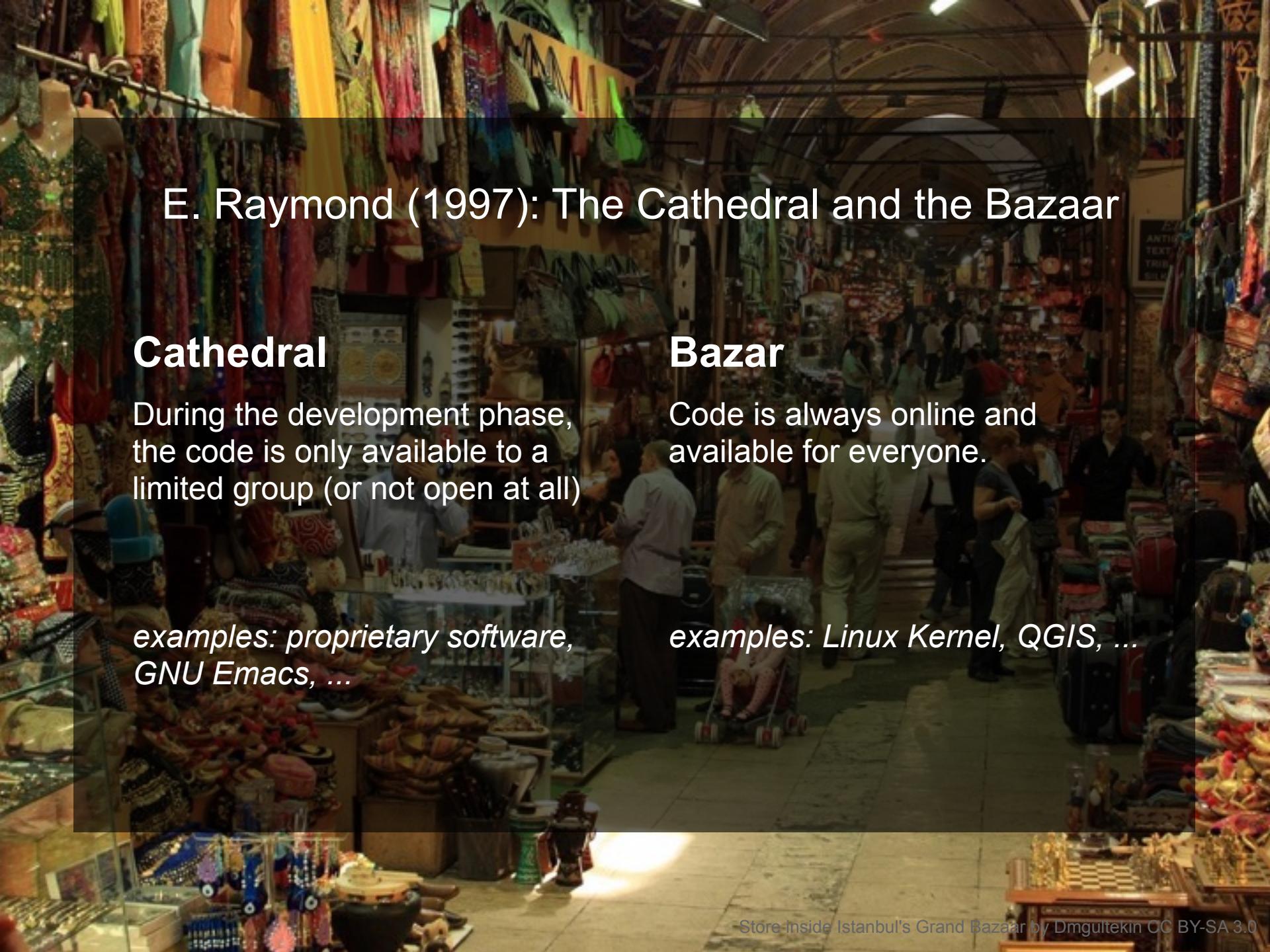
(according to <http://www.openhub.net/p/qgis>, 2016-08-03)

QGIS is an OSGeo project



Mission: Foster global adoption of **open geospatial technology** by being an **inclusive software foundation** devoted to an open philosophy and participatory **community driven development**.

Source: <http://www.osgeo.org>



E. Raymond (1997): The Cathedral and the Bazaar

Cathedral

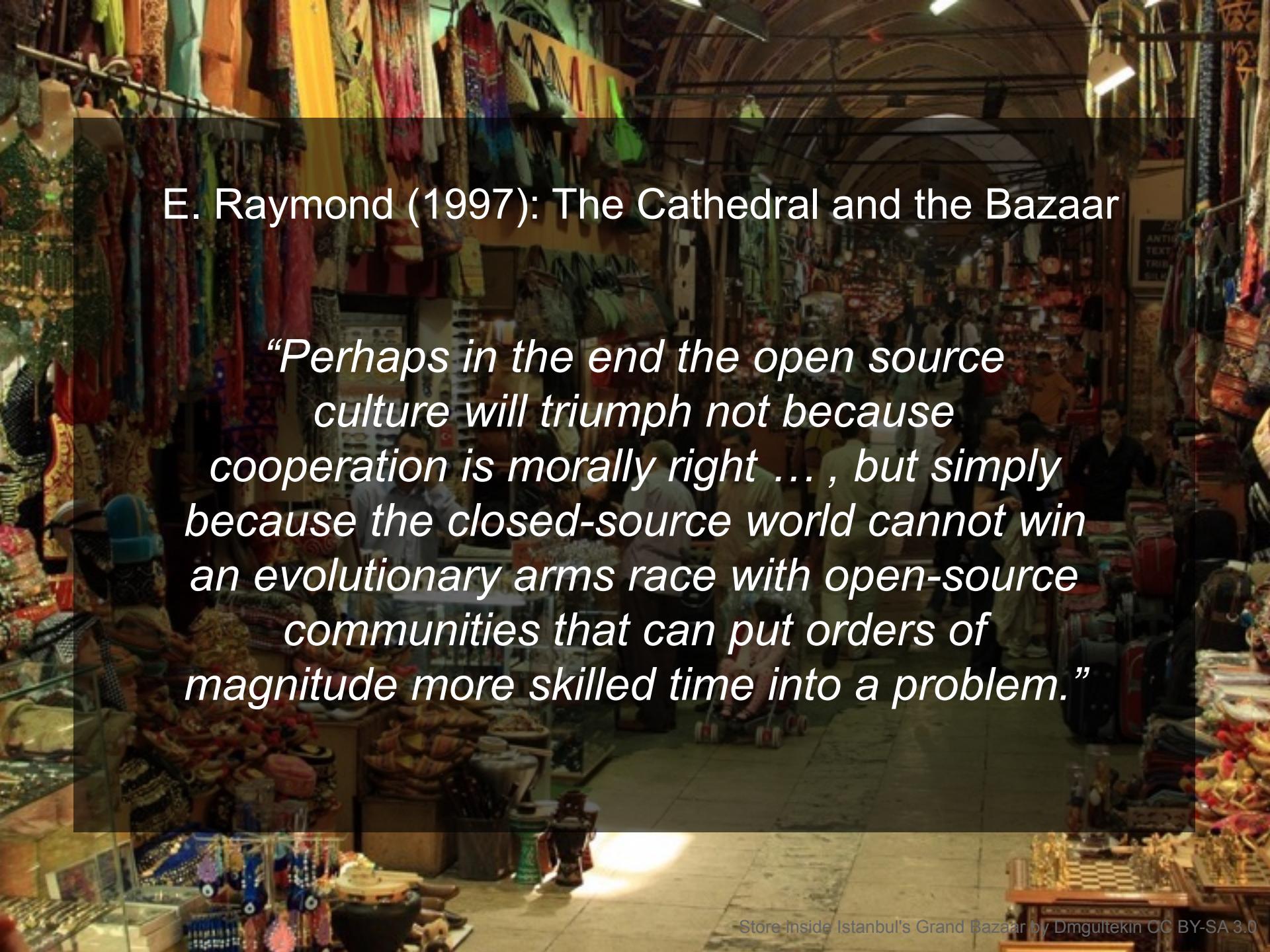
During the development phase,
the code is only available to a
limited group (or not open at all)

*examples: proprietary software,
GNU Emacs, ...*

Bazar

Code is always online and
available for everyone.

examples: Linux Kernel, QGIS, ...

A photograph of a bustling indoor bazaar, likely the Grand Bazaar in Istanbul. The scene is filled with vibrant colors from various fabrics and goods hanging from overhead and displayed on shelves. The architecture features traditional arched ceilings. In the foreground, there are displays of hats and other items. A sign on the right side reads "ANTI TEXT TRIB SILK".

E. Raymond (1997): The Cathedral and the Bazaar

“Perhaps in the end the open source culture will triumph not because cooperation is morally right . . . , but simply because the closed-source world cannot win an evolutionary arms race with open-source communities that can put orders of magnitude more skilled time into a problem.”

QGIS team

Do-ocracy



Developers

Translators

Infrastructure
Managers

Documentation
writers

Community
Managers

Designers

Users

Donors &
Sponsors

Project Steering Committee



QGIS.org - Financial Report for 2015

The reporting period starts on **January 1, 2015** and ends on **December 31, 2015**. The currency of all items is Euro (€).

Balance sheet

Account balance on January 1, 2015:	18'317.79
Account balance on December 31 2015 (incl. QGIS-IT):	37'422.06
Account balance QGIS-IT:	654.00

Income:

Direct donations to bank account (wire transfer):	1'978.42
PayPal donations (excl. sponsorships and QGIS-IT income):	21'613.84
Sponsoring:	32'301.00
Dedicated sponsorships for QGIS bug fixing:	9'781.19
Dedicated sponsorship for project QWC II:	936.00
QGIS-IT membership fees:	654.00
Other:	1'488.87
Total Income:	68'753.32

Expenses

Paid bug fixing and QA:	31'945.48
Expenses developer meeting:	10'885.52
Other expenses:	6'818.05
Total Expenses:	49'649.05

Documentation

official documentation

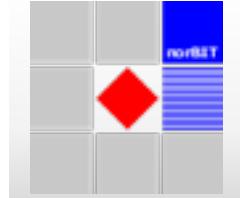
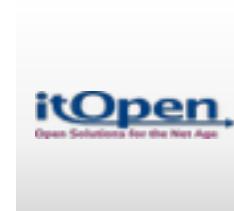
docs.qgis.org

and many books ...



Support channels

- Mailing lists
- gis.stackexchange.com
- User groups
- Commercial Support



Roadmap to QGIS 3.0

Version 1.0 in 2009

Version 2.0 in 2013

Version 3.0 started 2016 – release planned for spring 2017



QGIS 2.x →



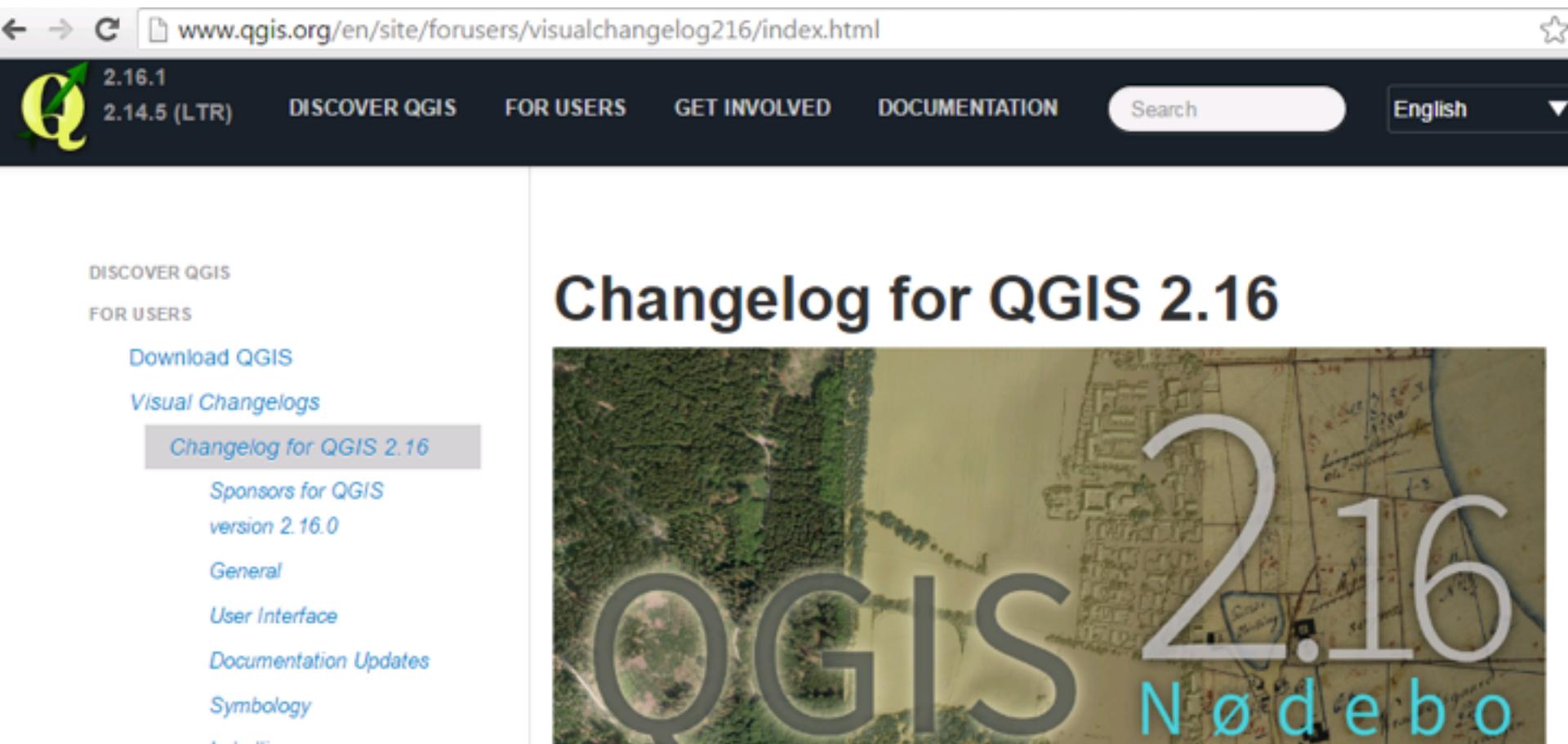
Python 2.7 (Qt4/PyQt4)

QGIS 3.x →

Python 3 (Qt5/PyQt5)

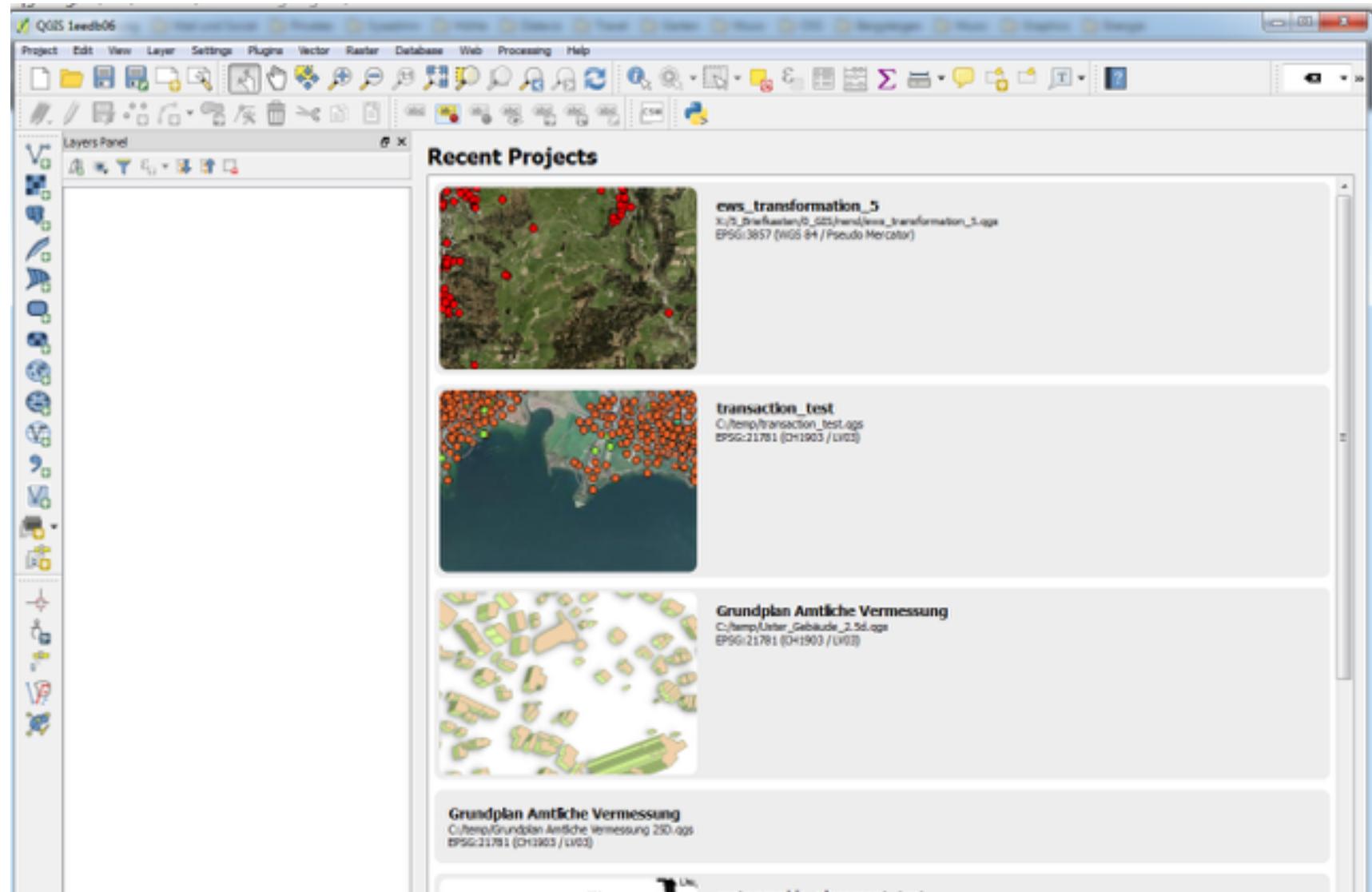
New feature highlights

<http://www.qgis.org/en/site/forusers/visualchangelogs.html>

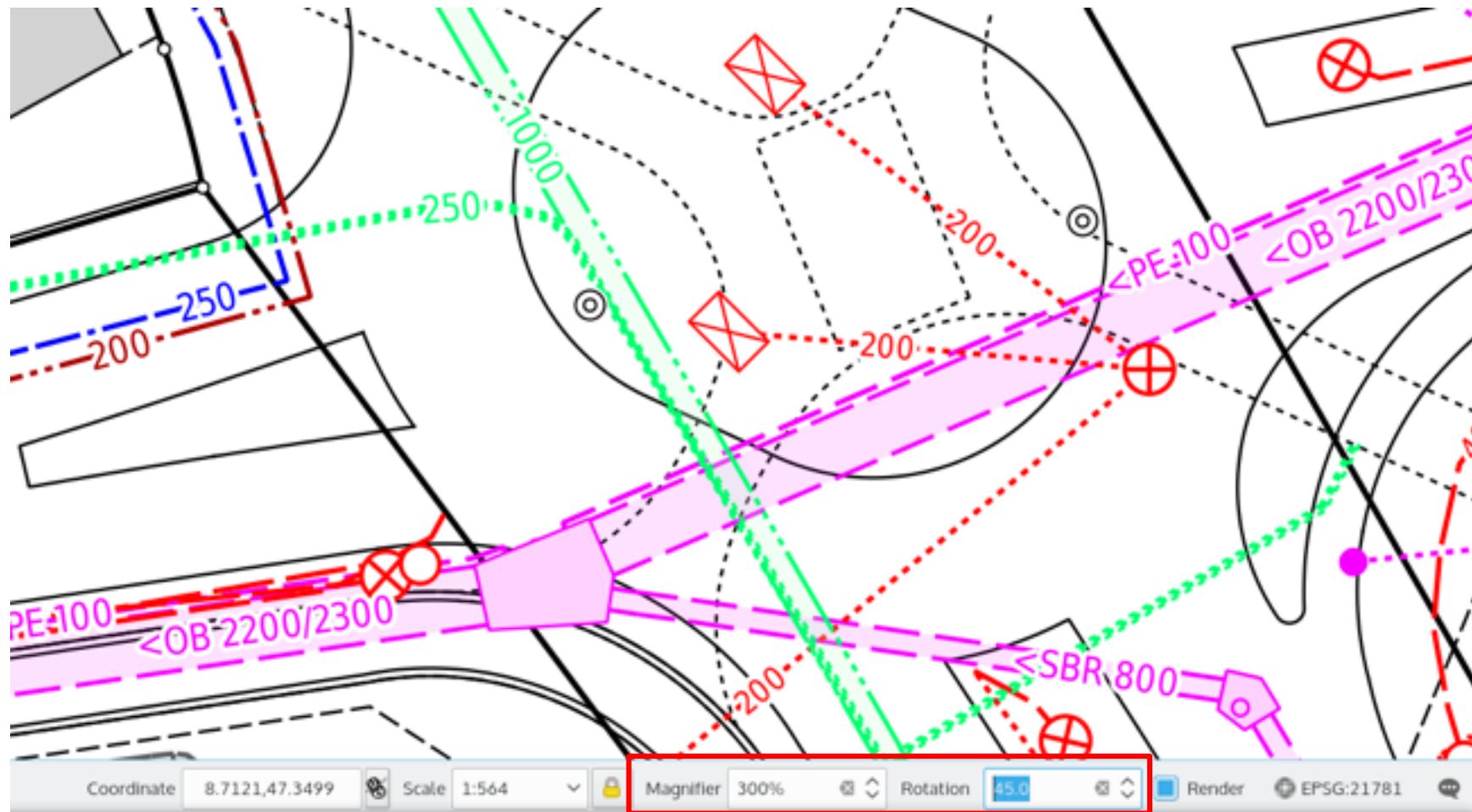


The screenshot shows the QGIS website's navigation bar at the top, featuring links for "2.16.1", "2.14.5 (LTR)", "DISCOVER QGIS", "FOR USERS", "GET INVOLVED", "DOCUMENTATION", a search bar, and a language selector set to "English". Below the navigation bar, there is a sidebar with links for "Discover QGIS", "For Users", "Download QGIS", "Visual Changelogs" (which is highlighted in blue), "Changelog for QGIS 2.16" (which is also highlighted in a grey box), "Sponsors for QGIS version 2.16.0", "General", "User Interface", "Documentation Updates", and "Symbology". The main content area features a large, stylized title "Changelog for QGIS 2.16" overlaid on a background image of a map showing satellite imagery and a cadastral map.

Start screen with recent projects

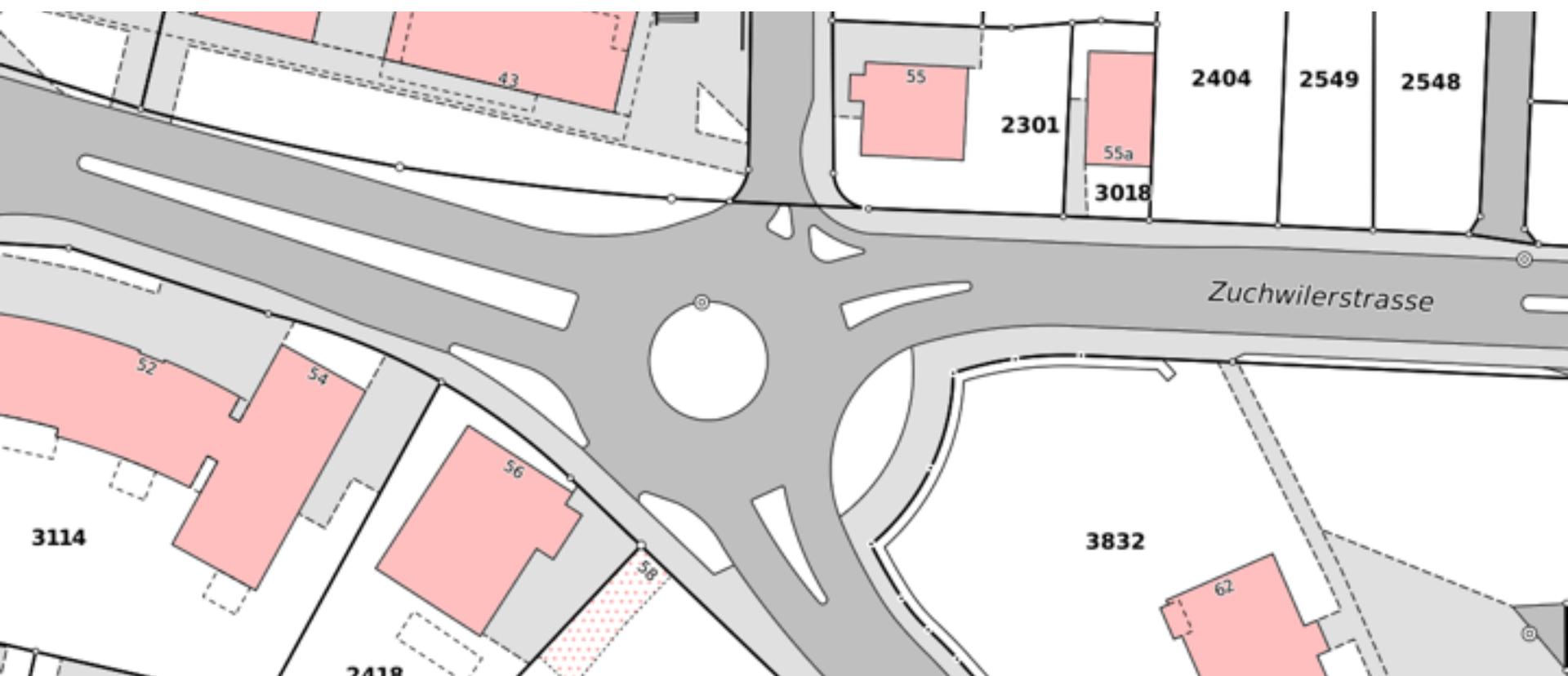


Rotation and Magnifier Controls in Status Bar



New geometry model

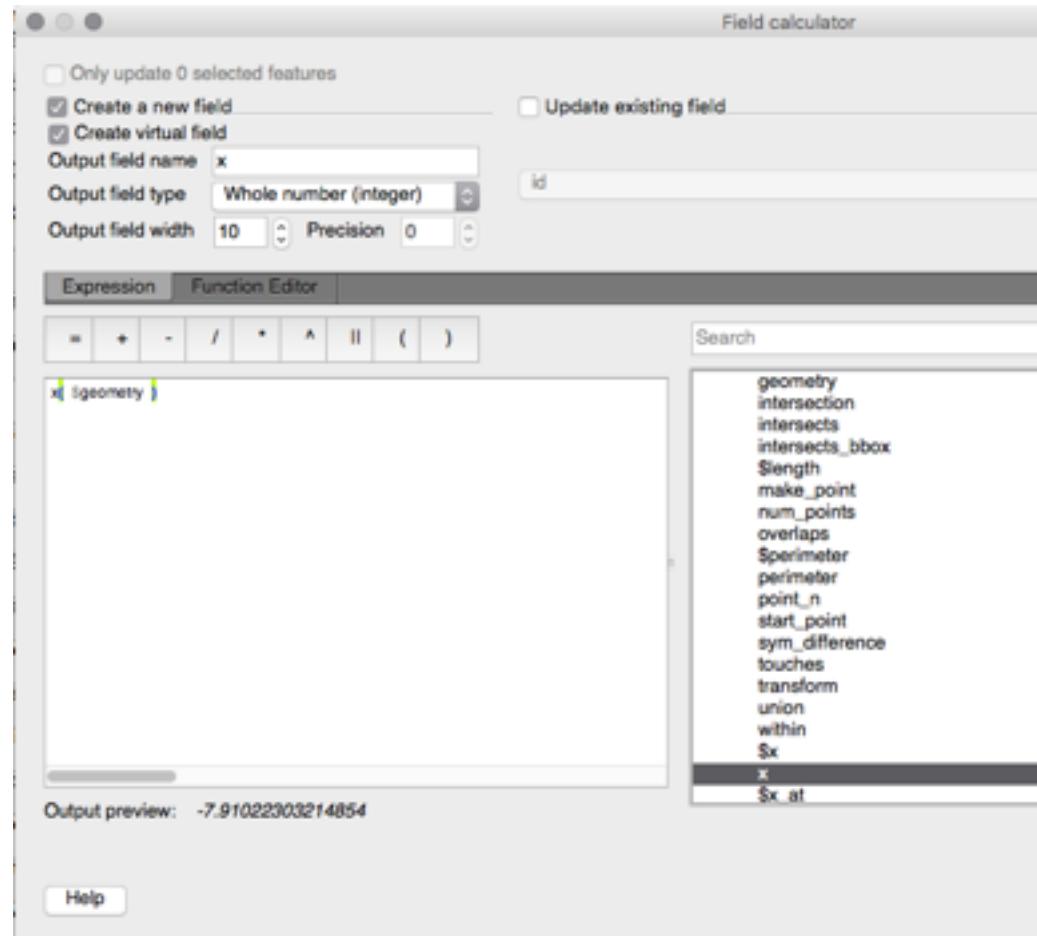
Circular Arcs, 3D, M-Values



New expression functions

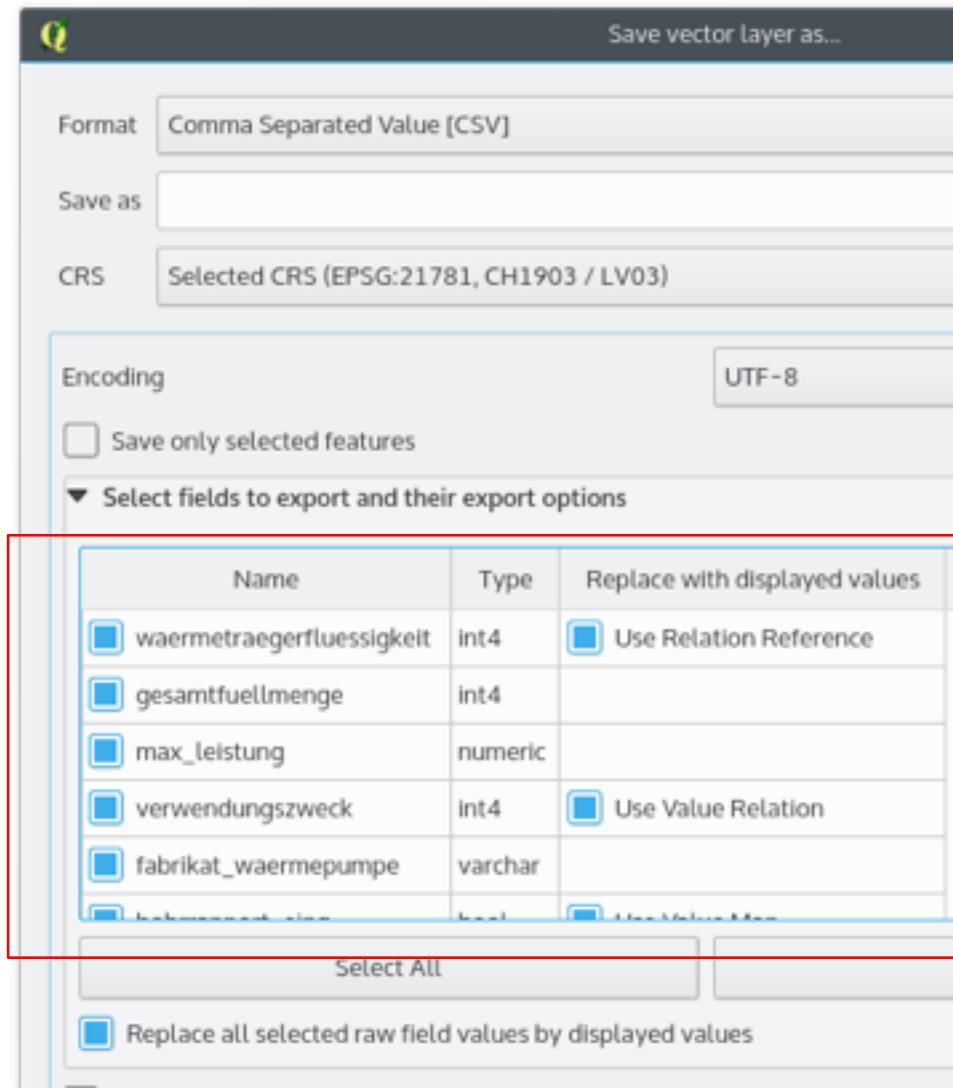
- `set_color_part`
- darker/lighter
- reverse
- closest_point
- aggregate
(with filter/group by)

... and many more



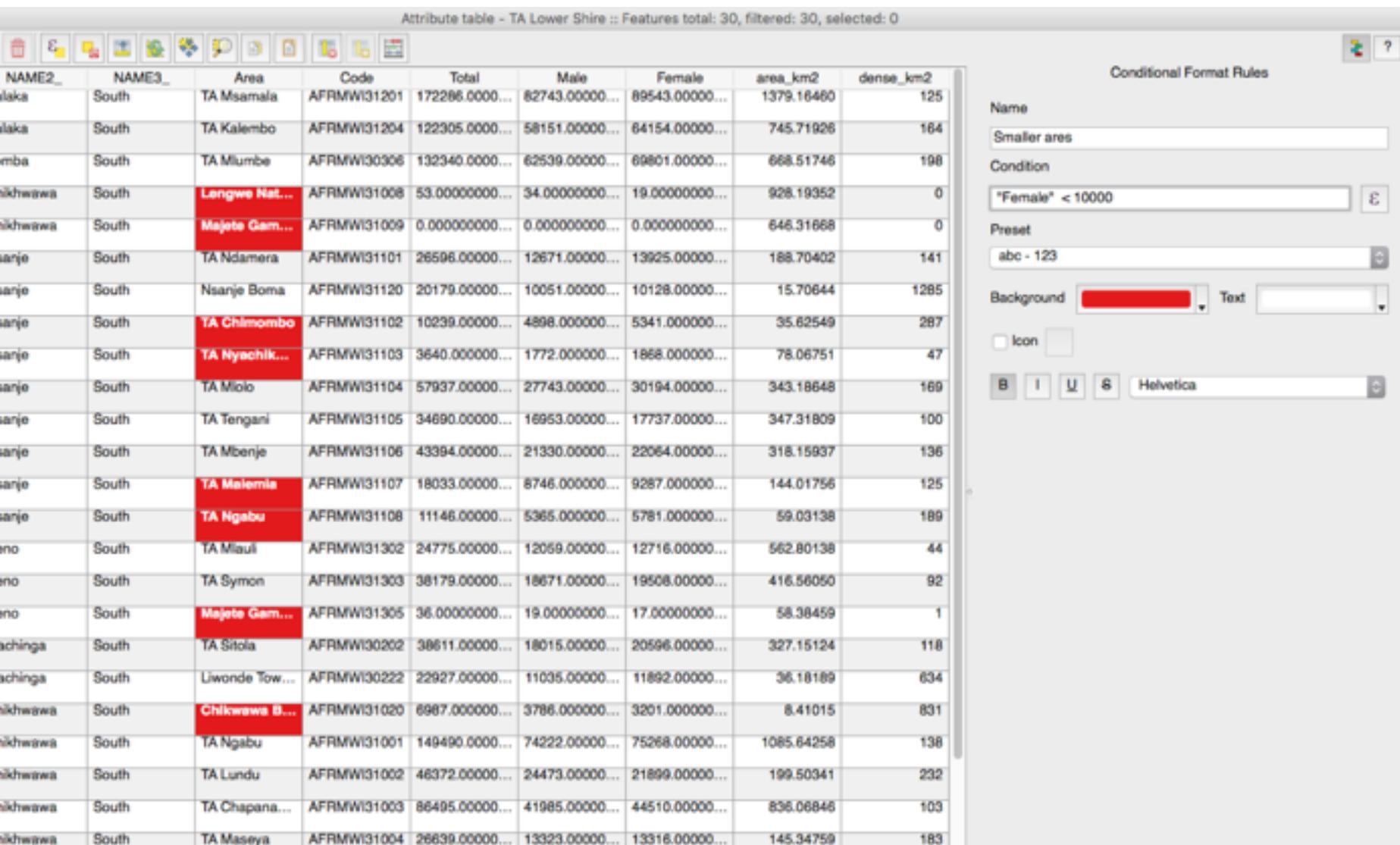
Exporting data

- Select fields to export
- Export of human-readable values instead of internal representation



Conditional formatting in attribute table

Attribute table - TA Lower Shire :: Features total: 30, filtered: 30, selected: 0

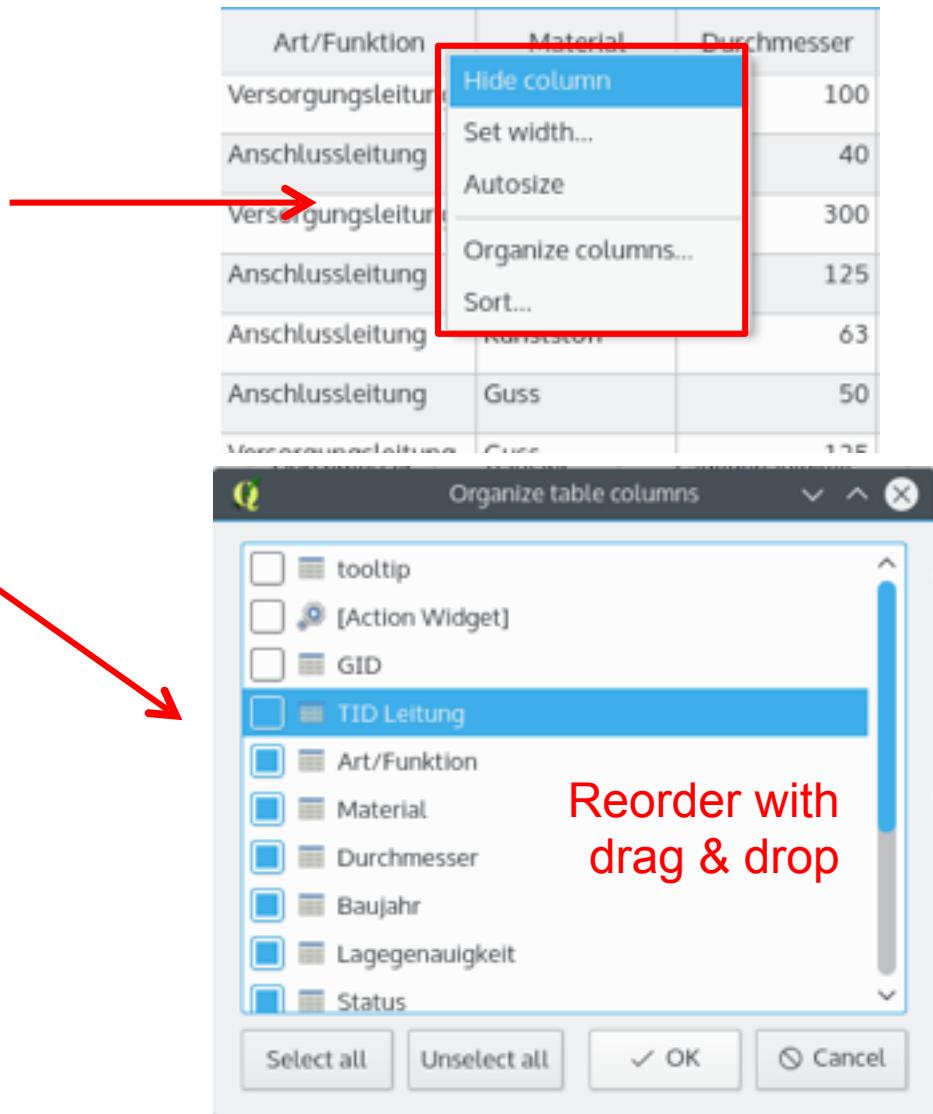


The screenshot shows a QGIS attribute table for 'TA Lower Shire' with 30 features. The table includes columns for NAME2_, NAME3_, Area, Code, Total, Male, Female, area_km2, and dense_km2. A conditional formatting rule is applied to the 'Female' column, where cells with values less than 10000 are highlighted with a red background and white text. The 'Conditional Format Rules' panel on the right shows the rule: "Female" < 10000, Preset: abc - 123, Background: red, Text: white. The rule is named 'Smaller ares'.

NAME2_	NAME3_	Area	Code	Total	Male	Female	area_km2	dense_km2
laka	South	TA Msamala	AFRMWI31201	172286.0000...	82743.000000...	89543.000000...	1379.16460	125
laka	South	TA Kalembo	AFRMWI31204	122305.0000...	58151.000000...	64154.000000...	745.71926	164
mbo	South	TA Miumbe	AFRMWI30306	132340.0000...	62539.000000...	69801.000000...	668.51746	198
nkhwawa	South	Lengwe Nat...	AFRMWI31008	53.00000000...	34.00000000...	19.00000000...	928.19352	0
nkhwawa	South	Majete Gam...	AFRMWI31009	0.0000000000...	0.0000000000...	0.0000000000...	646.31668	0
sanje	South	TA Ndamera	AFRMWI31101	26596.000000...	12671.000000...	13925.000000...	188.70402	141
sanje	South	Nsanje Boma	AFRMWI31120	20179.000000...	10051.000000...	10128.000000...	15.70644	1285
sanje	South	TA Chilombo	AFRMWI31102	10239.000000...	4898.000000...	5341.000000...	35.62549	287
sanje	South	TA Nyachik...	AFRMWI31103	3640.000000...	1772.000000...	1868.000000...	78.06751	47
sanje	South	TA Miolo	AFRMWI31104	57937.000000...	27743.000000...	30194.000000...	343.18648	169
sanje	South	TA Tengani	AFRMWI31105	34690.000000...	16953.000000...	17737.000000...	347.31809	100
sanje	South	TA Mbene	AFRMWI31106	43394.000000...	21330.000000...	22064.000000...	318.15937	136
sanje	South	TA Malemia	AFRMWI31107	18033.000000...	8746.000000...	9287.000000...	144.01756	125
sanje	South	TA Ngabu	AFRMWI31108	11146.000000...	5365.000000...	5781.000000...	59.03138	189
eno	South	TA Miaruli	AFRMWI31302	24775.000000...	12059.000000...	12716.000000...	562.80138	44
eno	South	TA Symon	AFRMWI31303	38179.000000...	18671.000000...	19508.000000...	416.56050	92
eno	South	Majete Gam...	AFRMWI31305	36.00000000...	19.00000000...	17.00000000...	58.38459	1
achinga	South	TA Sitola	AFRMWI30202	38611.000000...	18015.000000...	20596.000000...	327.15124	118
achinga	South	Liwonde Tow...	AFRMWI30222	22927.000000...	11035.000000...	11892.000000...	36.18189	634
nkhwawa	South	Chikhwawa B...	AFRMWI31020	6987.000000...	3786.000000...	3201.000000...	8.41015	831
nkhwawa	South	TA Ngabu	AFRMWI31001	149490.000000...	74222.000000...	75268.000000...	1085.64258	138
nkhwawa	South	TA Lundu	AFRMWI31002	46372.000000...	24473.000000...	21899.000000...	199.50341	232
nkhwawa	South	TA Chapana...	AFRMWI31003	86405.000000...	41985.000000...	44510.000000...	836.06846	103
nkhwawa	South	TA Maseya	AFRMWI31004	26639.000000...	13323.000000...	13316.000000...	145.34759	183

Attribute table improvements

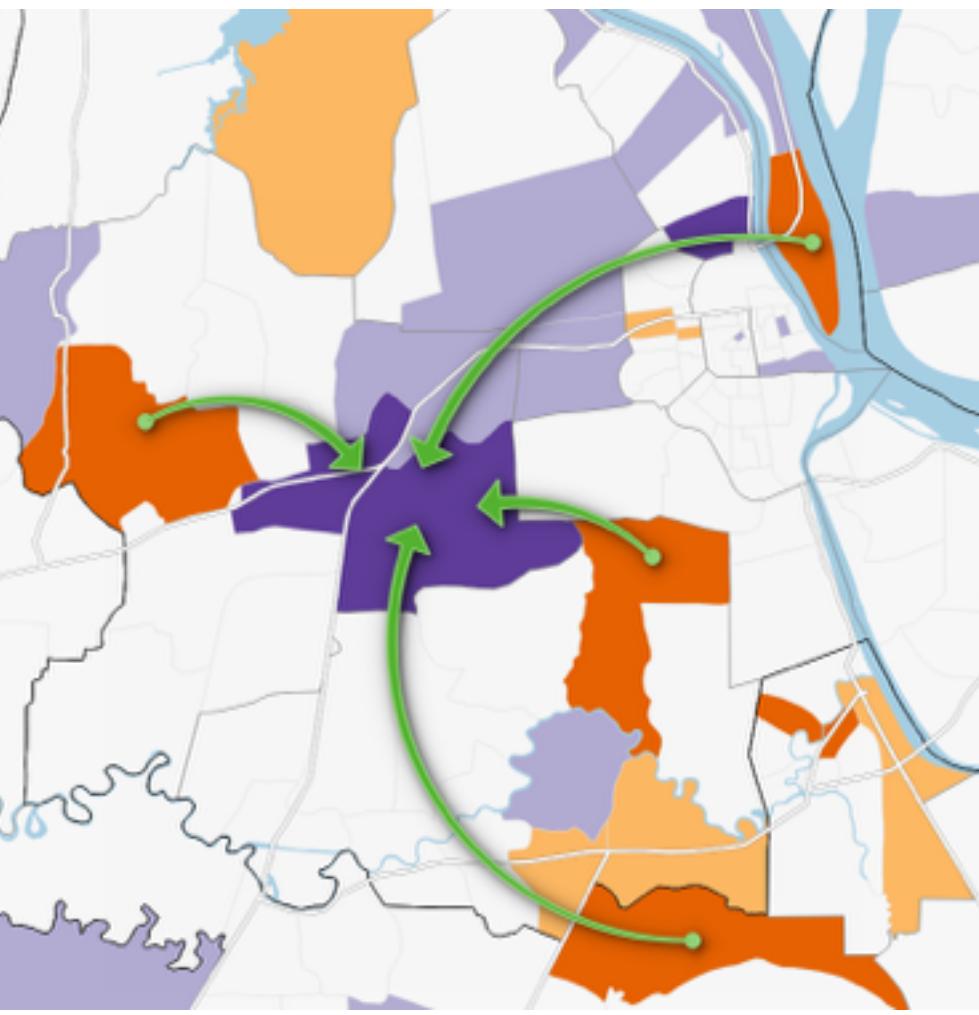
- Context menus for columns, rows and cells
- Hide specific columns
- Reorder columns
- Sort based on expressions and multiple columns
- New action columns



2.5D Rendering



Curved arrow renderer



Map Styling

Layer arrows_curve_geom

Single symbol

Symbol layer type

Head type

Arrow type

Arrow width Map unit

Arrow width at start Map unit

Head width Map unit

Head height Map unit

Offset Map unit

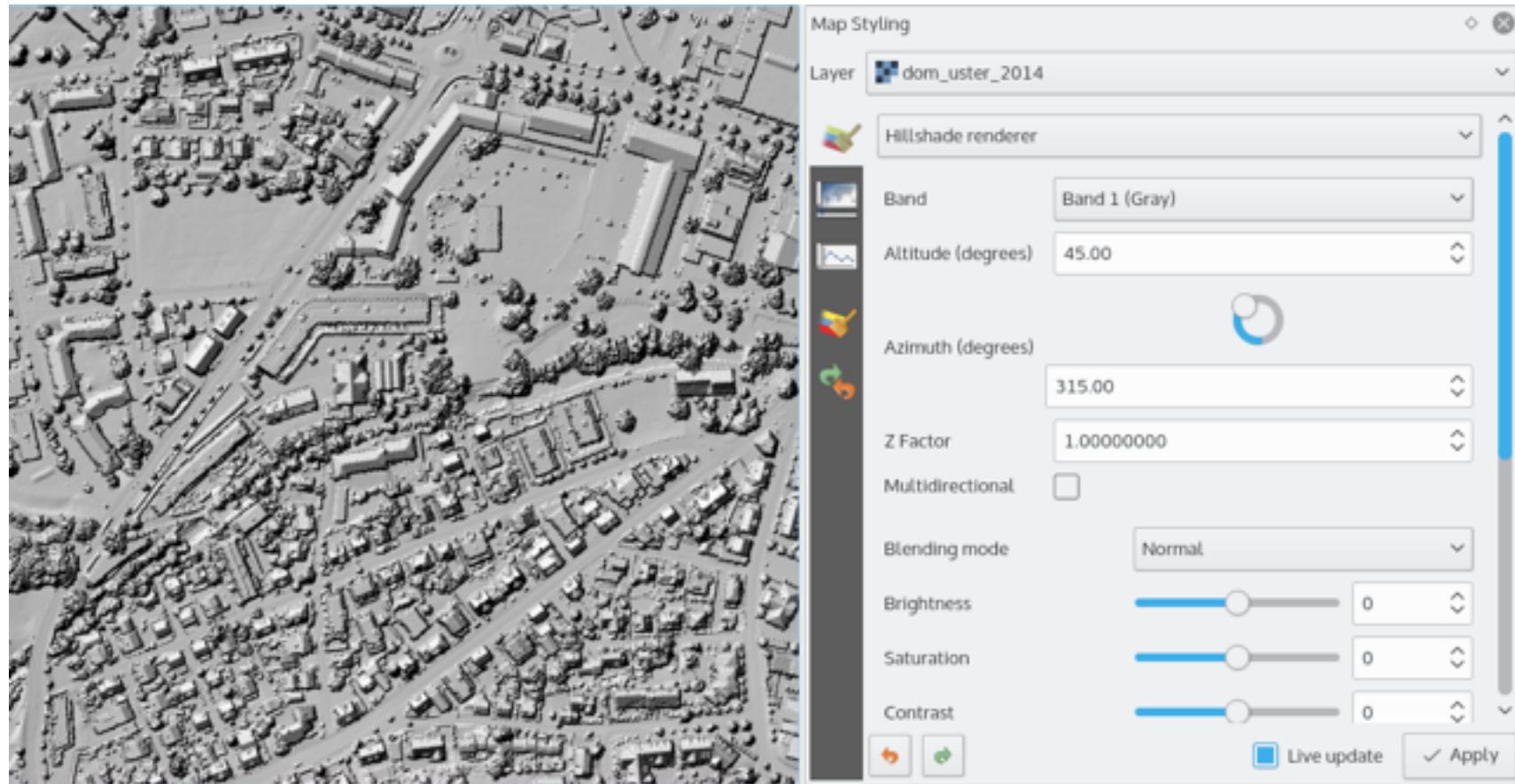
Curved arrows

Repeat arrow on each segment

Layer rendering

Live update Apply

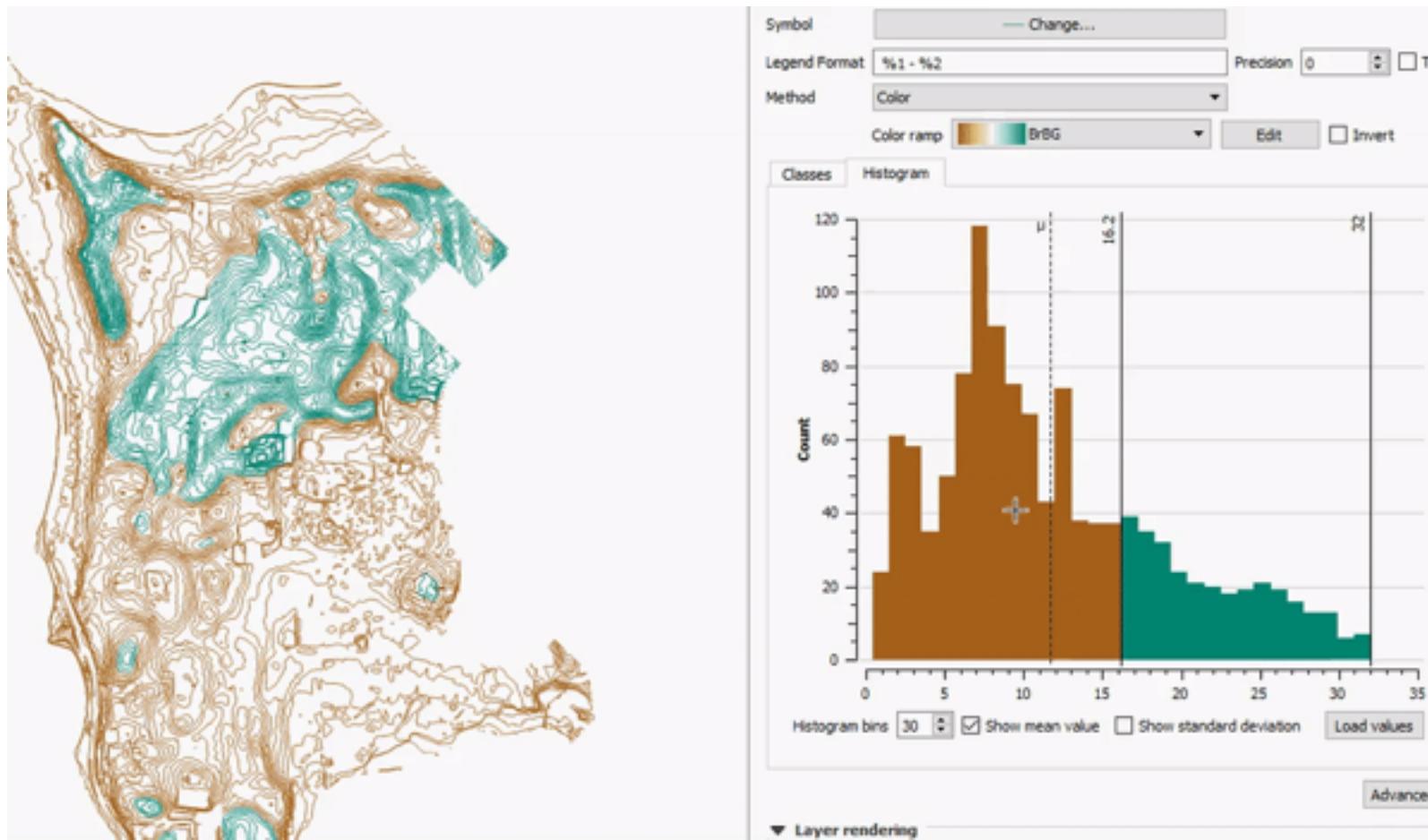
Live hillshade renderer



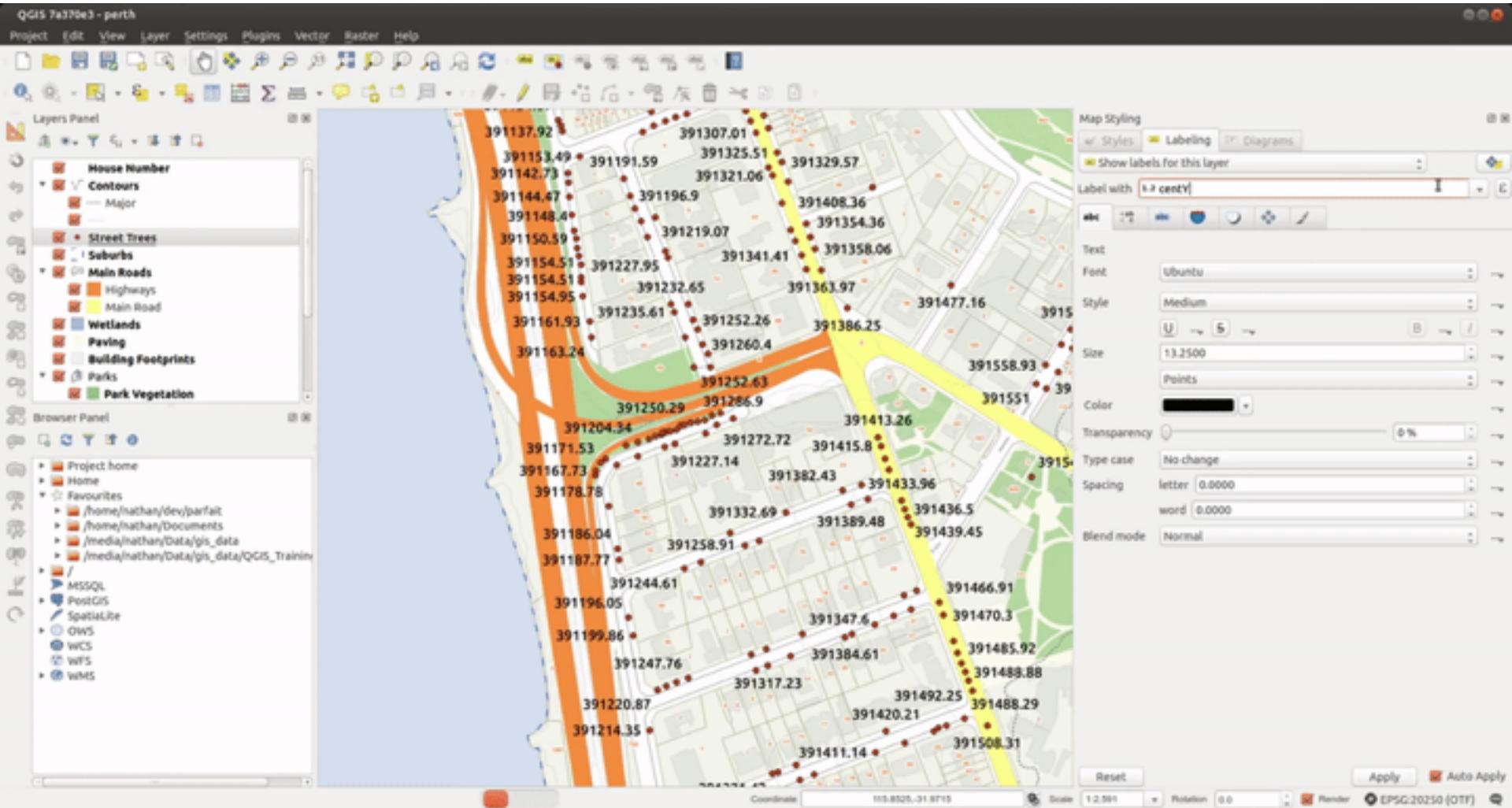
The image shows a screenshot of a geographic information system (GIS) application. On the left is a grayscale hillshade rendering of a residential area with buildings and roads. On the right is a "Map Styling" panel with the following settings:

- Layer:** dom_uster_2014
- Hillshade renderer:** Selected
- Band:** Band 1 (Gray)
- Altitude (degrees):** 45.00
- Azimuth (degrees):** 315.00
- Z Factor:** 1.00000000
- Multidirectional:**
- Blending mode:** Normal
- Brightness:** 0
- Saturation:** 0
- Contrast:** 0
- Live update:**
- Apply:**

Live styling

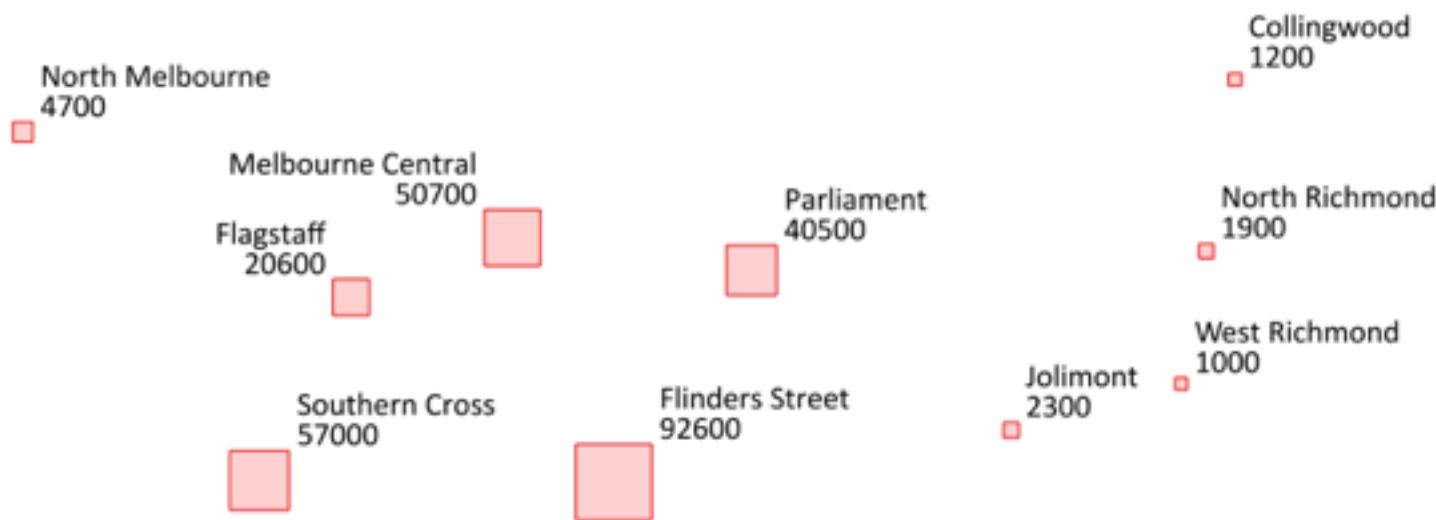


Live labeling

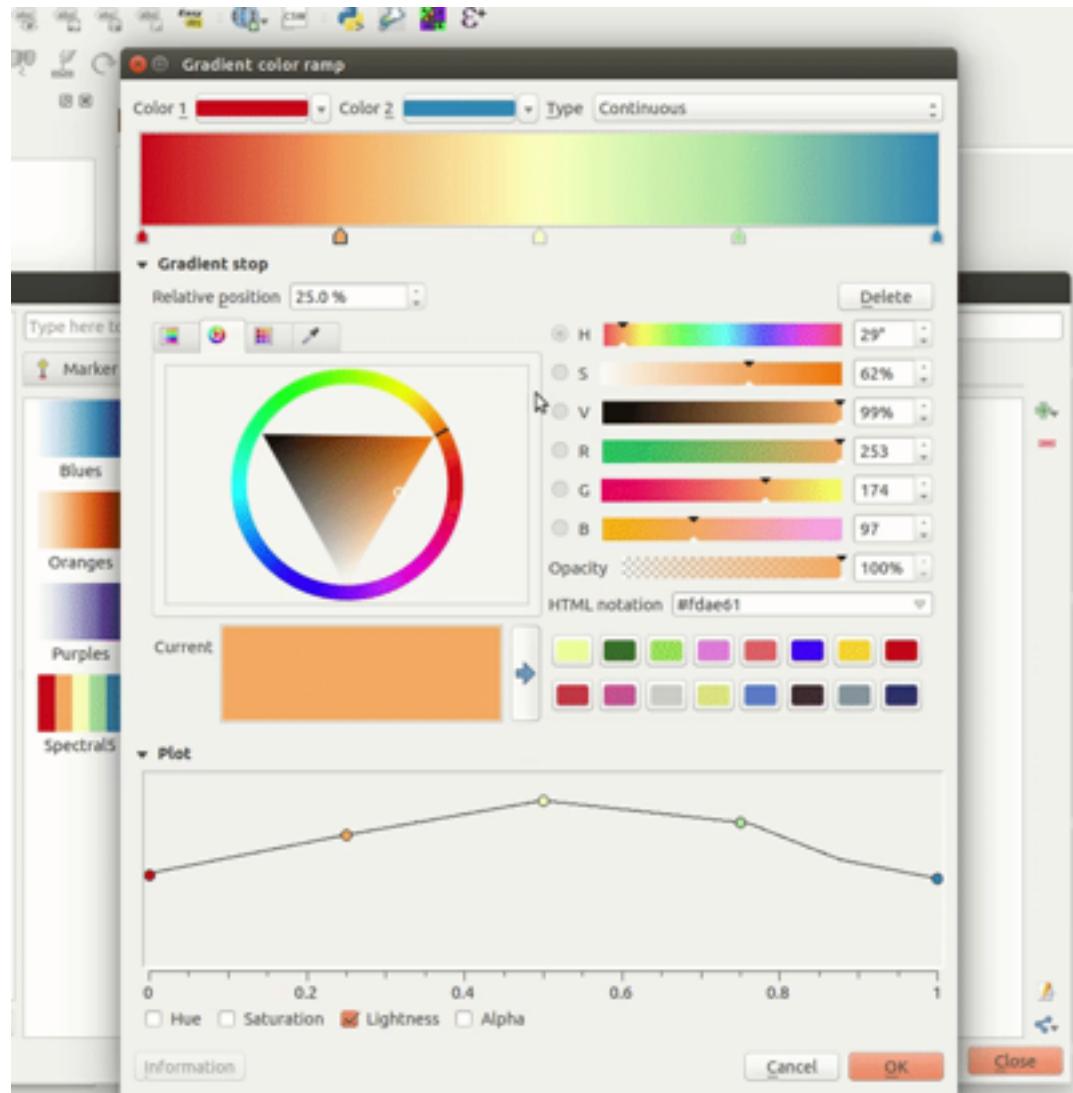


Label Improvements

- Data-defined quadrant for point labels
- “Cartographic” priorities for positioning point labels
- Control label rendering order
- Label obstacles: symbol bounding box, polygon borders, features
- Consider rendered symbol size for automatic label offsets



Improved gradient editor



How to contribute

- Report issues
- Help translating/documenting
- Raise funding
- Answer user questions
- Help fixing issues
- Help developing

Do-ocracy





Community-powered GIS

Empowering communities

Contact

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 [@underdarkGIS](https://twitter.com/underdarkGIS)