

# Field data collection with **QGIS** and **Mergin Maps**

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# Tomáš Mizera

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2 years in Mergin Maps

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## Lutra Consulting

**QGIS core & plugin development**

10+ years of QGIS contributions

Many QGIS plugins

QGIS 3D

Point Clouds

Meshes (MDAL), Vector Tiles

**Migration to open source**

**Support & Training**

**Mergin Maps SaaS**

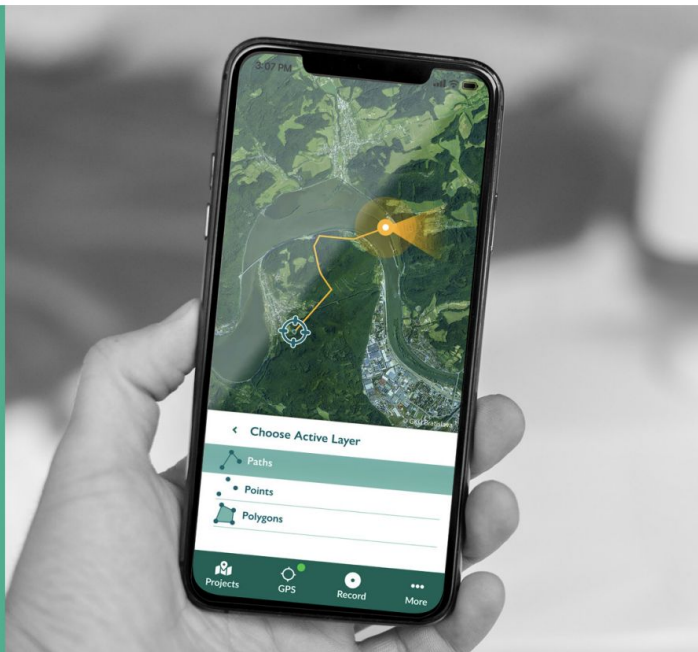
# What is Mergin **Maps**?

(formerly Input App and Mergin)



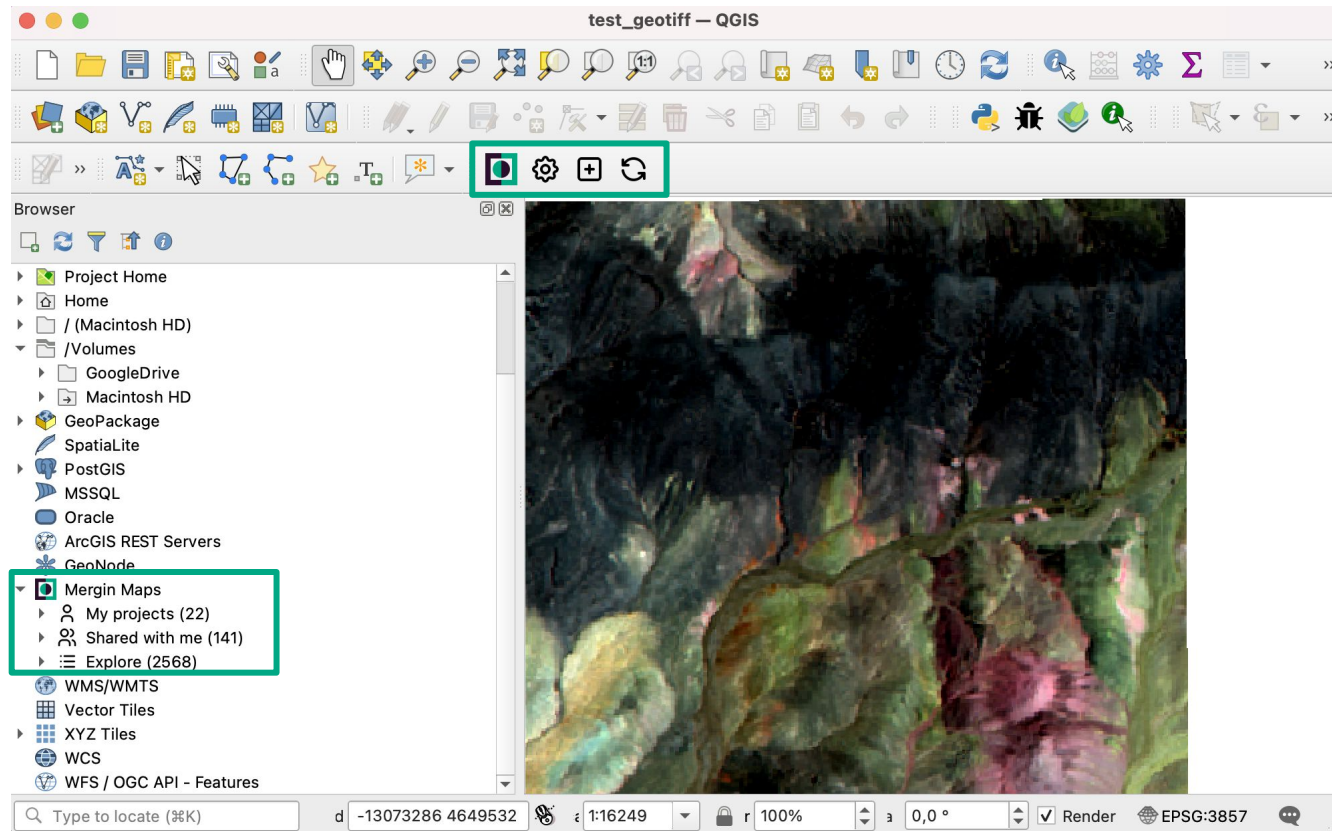
The  
**easiest way**  
to take your  
**QGIS projects**  
into the field

**Capture  
spatial data  
easily  
through your  
mobile or  
tablet**

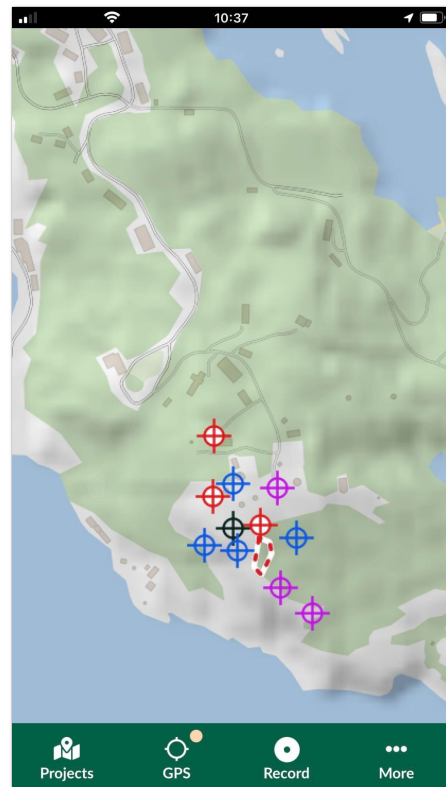
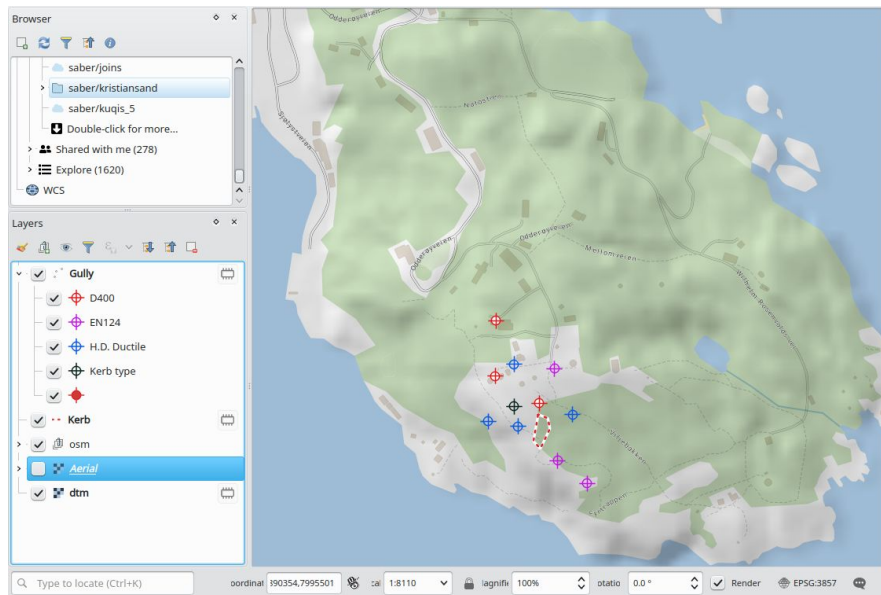


- Efficient field data collection
- Collaborative
- QGIS projects in mobile app
- Automated merging of data
- Geodata versioning

- Create project
- Setup layers
- Setup forms
- Setup symbology
- Upload it to Mergin Maps

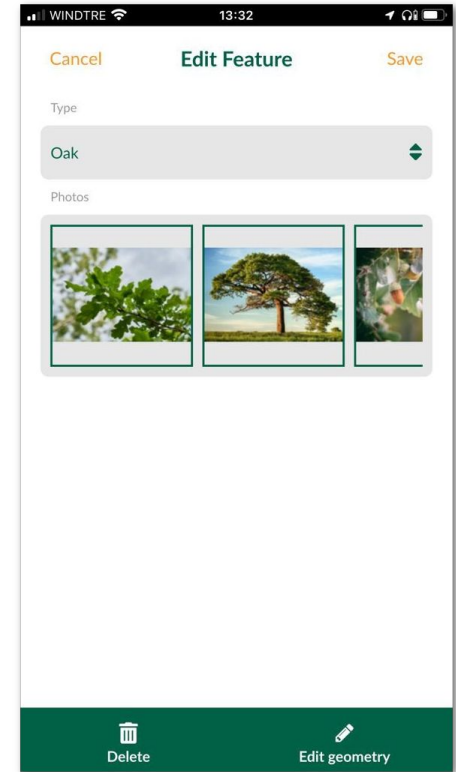
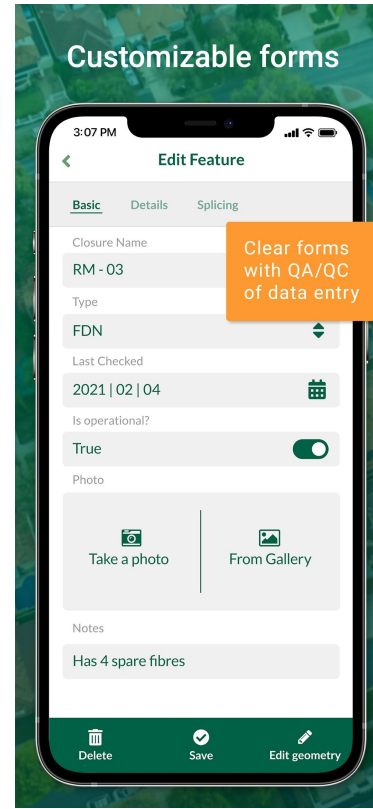


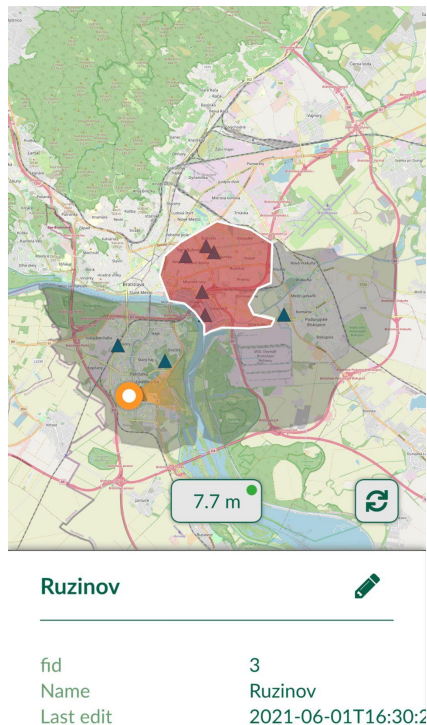
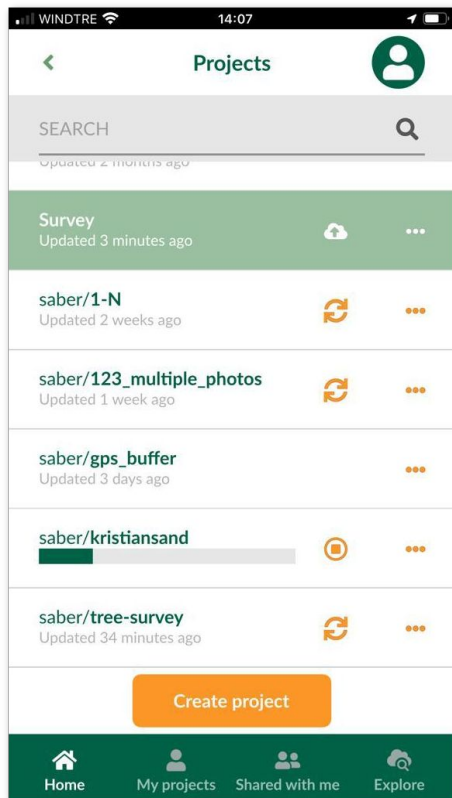
## Same QGIS renderer on desktop and mobile



- Vector Tiles,
- Raster Tiles
- (online) COG,
- Rasters
- PostgreSQL,
- **GeoPackage**,
- Shapefiles

- Forms defined in QGIS
- Texts, numbers, calendar, booleans
- Connections to other layers
- Dropdowns
- Photos, EXIF metadata
- QR & Bar codes
- Default values, constraints



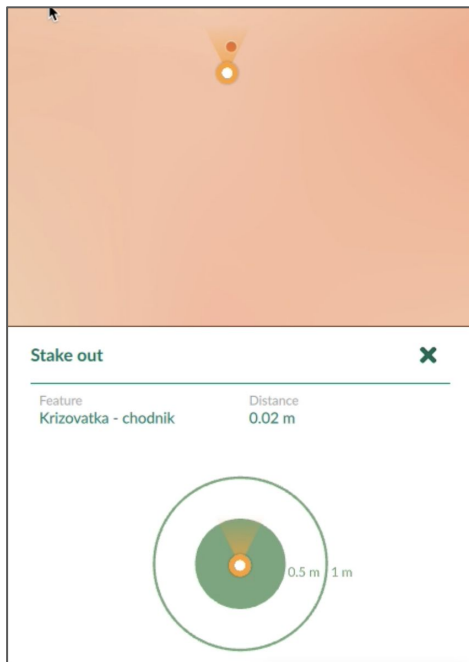


- Log in with Merjin Maps account
- Record, edit or remove points, lines and polygons
- Ease of use





# Connect external GPS



merginmaps

app.merginmaps.com/projects/saber/foss4g\_2022\_workshop/history

Tutos Input Plugin SDK Sprint GitLab Tools THE CLUB CLUB Courses Foss4G Links Alexey Izotov | Dri...

merginmaps

tomas

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Storage

219 MB of 5 GB

4%

Buy more storage

Contact support Pricing Help

saber / foss4g\_2022\_workshop

Download Clone

FILES MAP <sup>BETA</sup> HISTORY SETTINGS

< 1 2 3 >

Version	Created	Author				Size	
<a href="#">v124</a>	5 days ago	saber	0	0	1	37.71 MB	
<a href="#">v123</a>	1 week ago	tomas	0	0	2	37.71 MB	
<a href="#">v122</a>	1 week ago	tomas	1	0	2	37.71 MB	
<a href="#">v121</a>	1 week ago	saber	0	0	1	37.40 MB	
<a href="#">v120</a>	1 week ago	saber	1	0	0	37.40 MB	
<a href="#">v119</a>	1 week ago	tomas	0	0	1	37.13 MB	
<a href="#">v118</a>	1 week ago	tomas	1	0	2	37.13 MB	
<a href="#">v117</a>	1 week ago	saber	0	0	1	36.81 MB	
<a href="#">v116</a>	1 week ago	tomas	0	0	1	36.81 MB	

Version: 2022.4.4-25-g0e62aef9

List projects

See project files

History of changes

Share project with colleagues



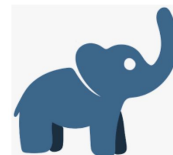
plugin

db-sync

media-sync

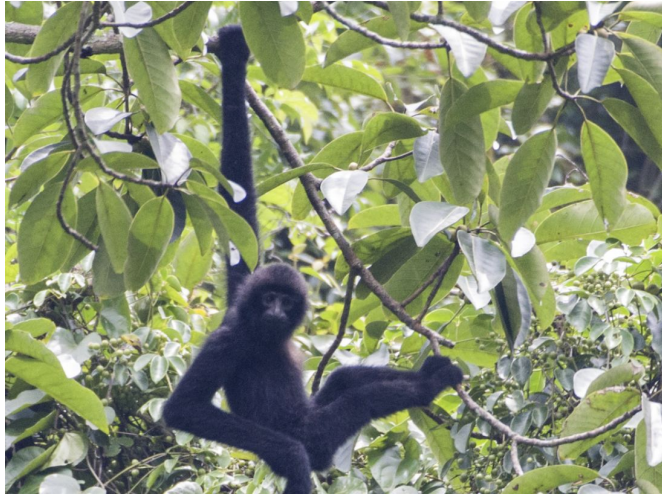
work-packages

API (c++/  
py-client)





# Saving the Cao Vit Gibbon Vietnam

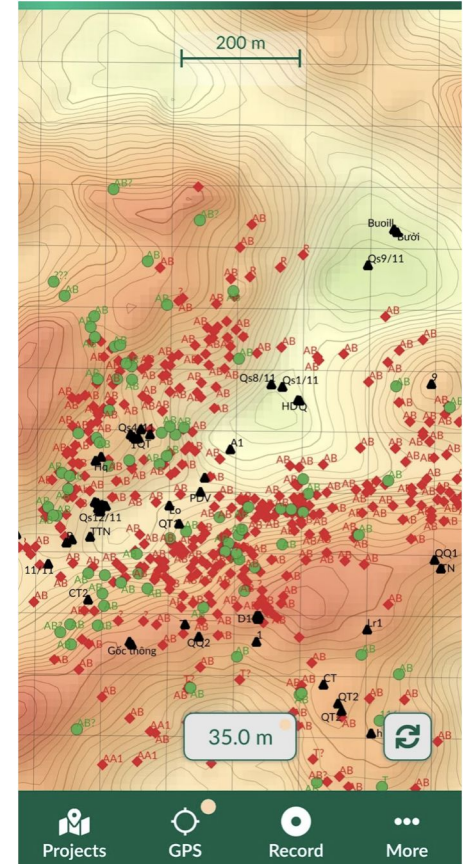


Regular population surveys to monitor changes in the population size and distribution over time.

Twice per month, two teams of 6 to 9 members monitor the gibbon locations, in jungle

Back in the office, all the data are processed in QGIS to draw up reports and analysis

[merqinmaps.com/case-studies](https://merqinmaps.com/case-studies)





# Archaeological Discoveries in the Hands of Citizens

Public archeological research  
project in Netherlands

About 6000 POIs (burial  
mounds) identified thanks to  
LiDAR scans

Citizens went to field with  
Mergin Maps and marked if the  
place has potential to be burial  
mound

[merginmaps.com/case-studies](https://merginmaps.com/case-studies)

- Open source on Github
- SaaS hosted version
- Universities
- 190 countries
- Commercial and NGO projects

# SaaS or **CE**?

[merginmaps.com/pricing](https://merginmaps.com/pricing)

## The **easiest way** to take **your QGIS** **projects** into the field

- QGIS projects in comprehensive mobile app
- Collect data even offline
- Synchronize field data with others
- Integrate it to your infrastructure
- Open source or hosted version

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Join the community  
(500+ ppl),  
chat with us!



[merginmaps.com/community/join](https://merginmaps.com/community/join)









**Store and track  
changes to your  
spatial data**



**Close integration  
with QGIS**

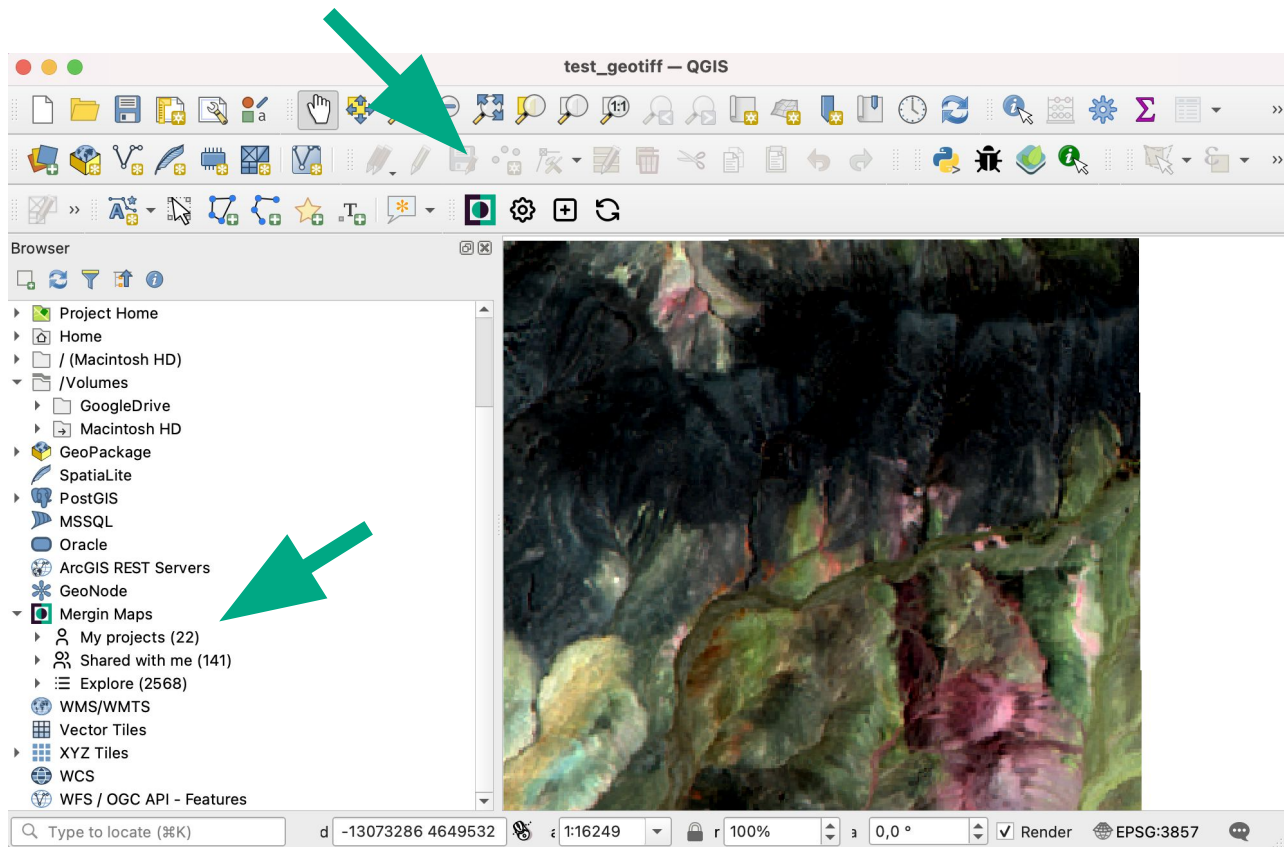


**Fully open source.  
No vendor lock-in!**



**SCAN ME**







# Mergin **Maps** Community?



[merginmaps.com/community/join](https://merginmaps.com/community/join) 507ppl



newsletter (every month) ~10k ppl



~50k QGIS projects hosted

**2 years in full production!**

**8 Input App releases (2022)**

**9 Plugin releases (2022)**

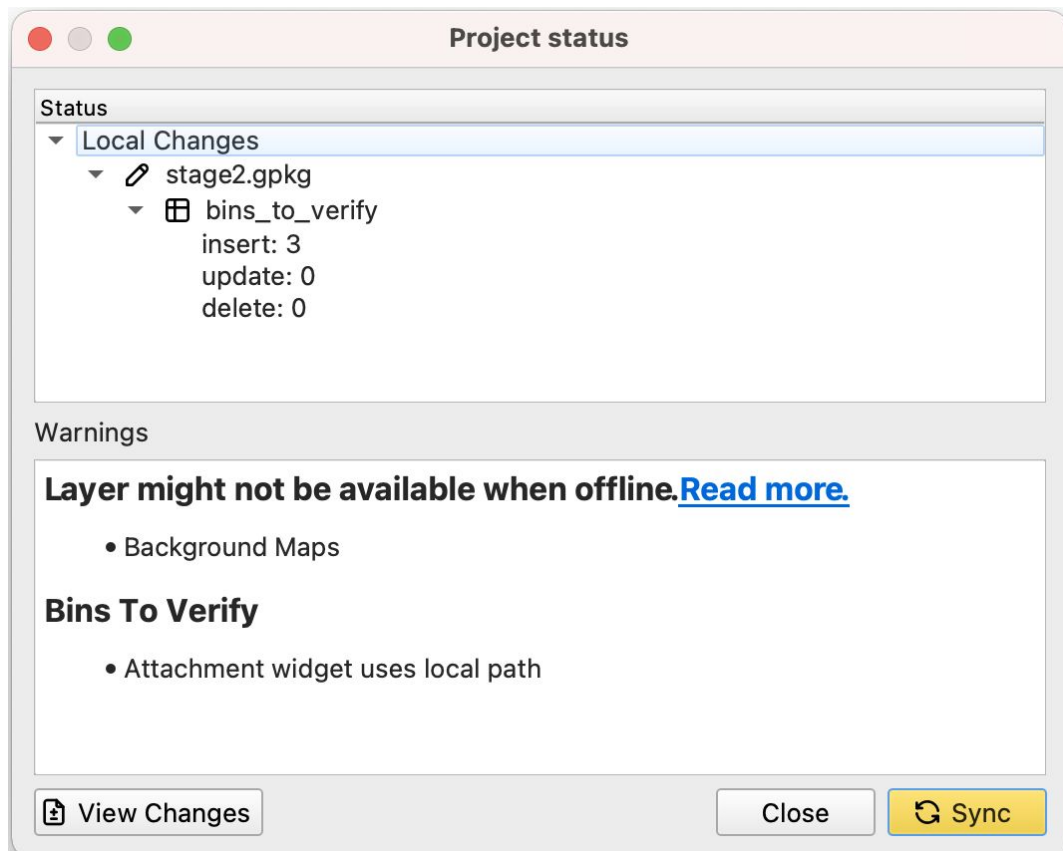
**11 Server releases (2022)**

# Latest Mergin **Maps** features?



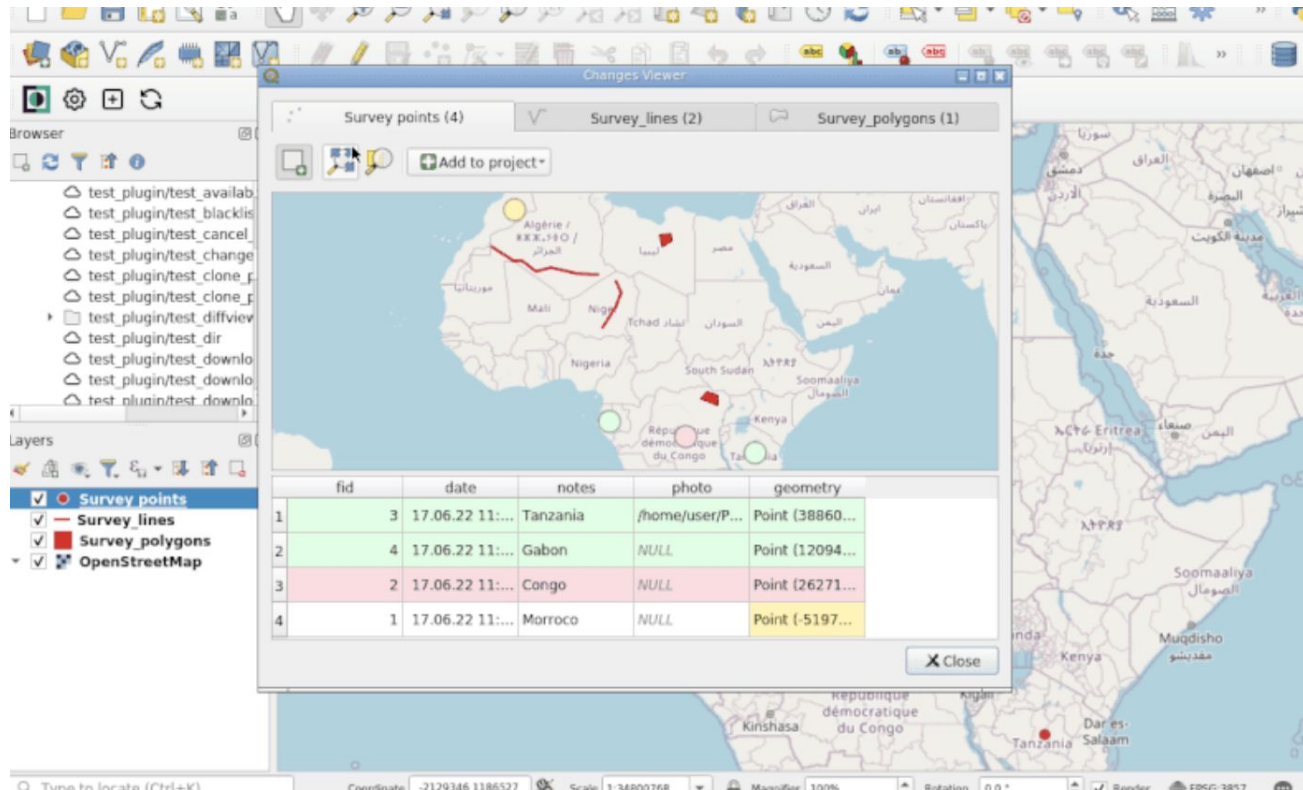
# Quality data?

Validation



# Quality data?

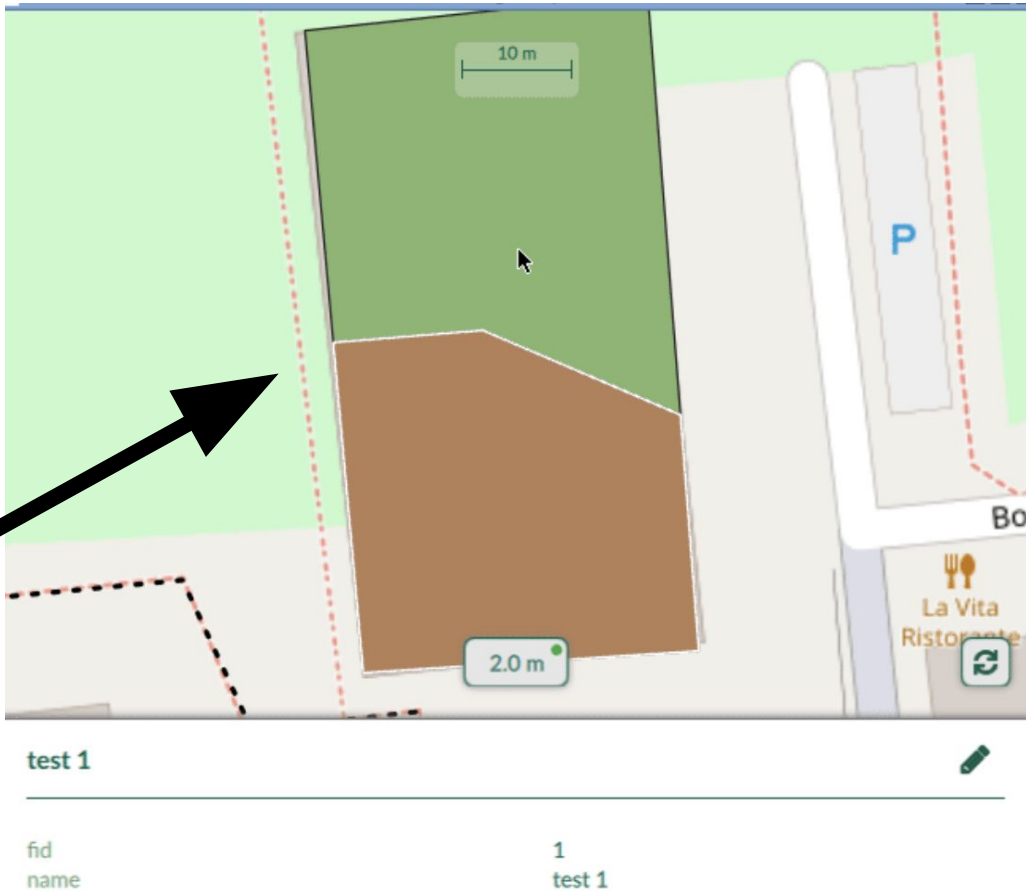
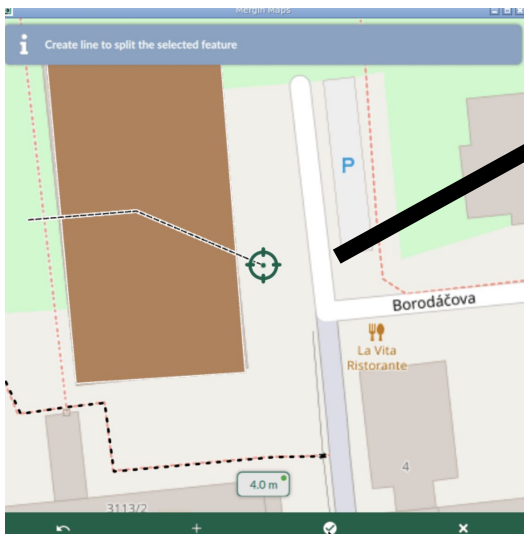
Show changes and  
Reporting tool





# Field work?

Splitting

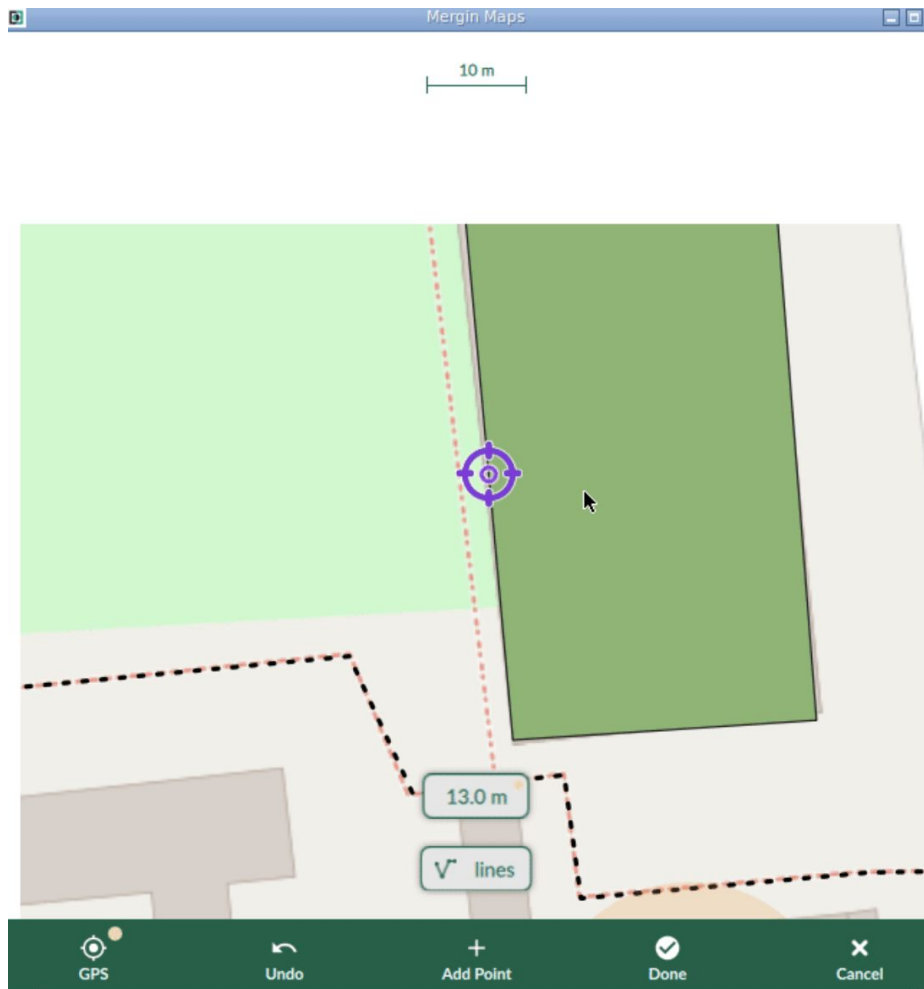






# Field work?

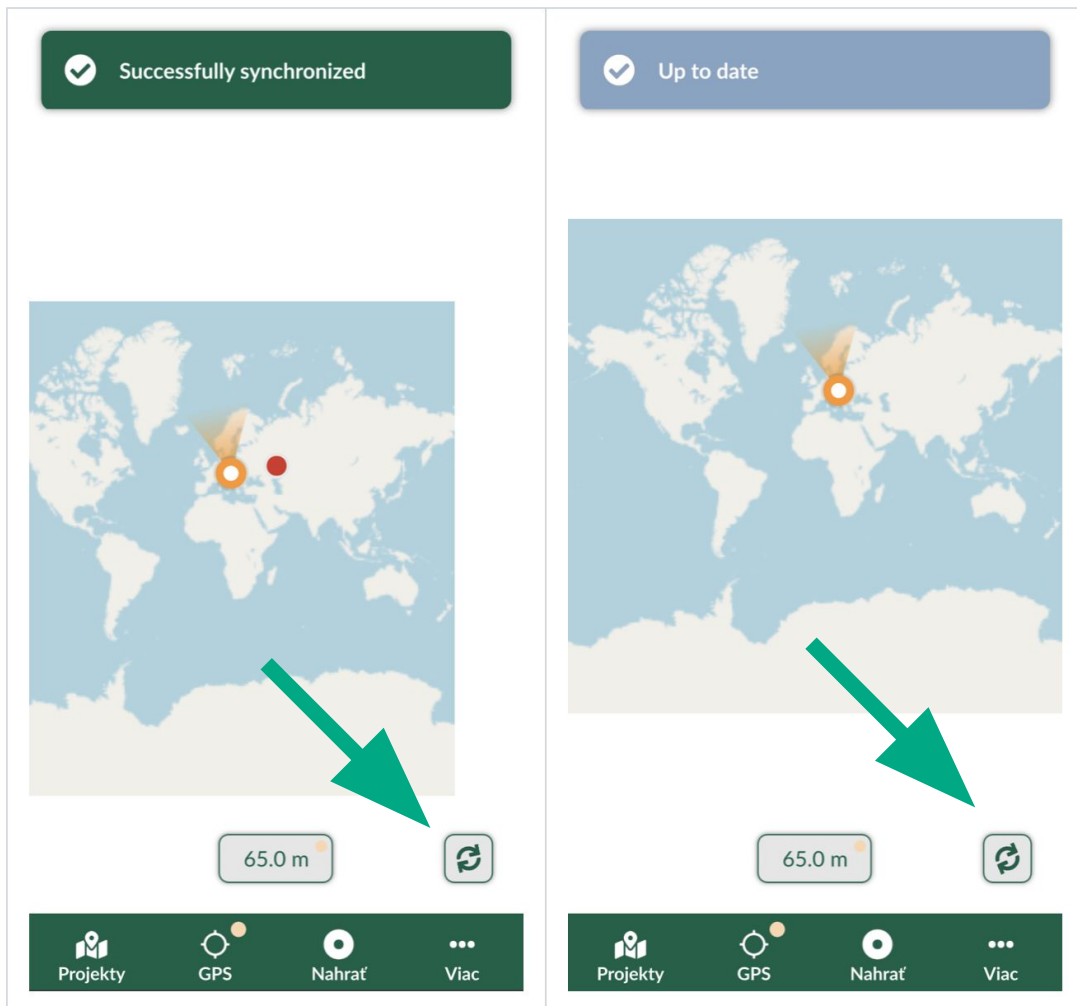
Snapping





# Field work?

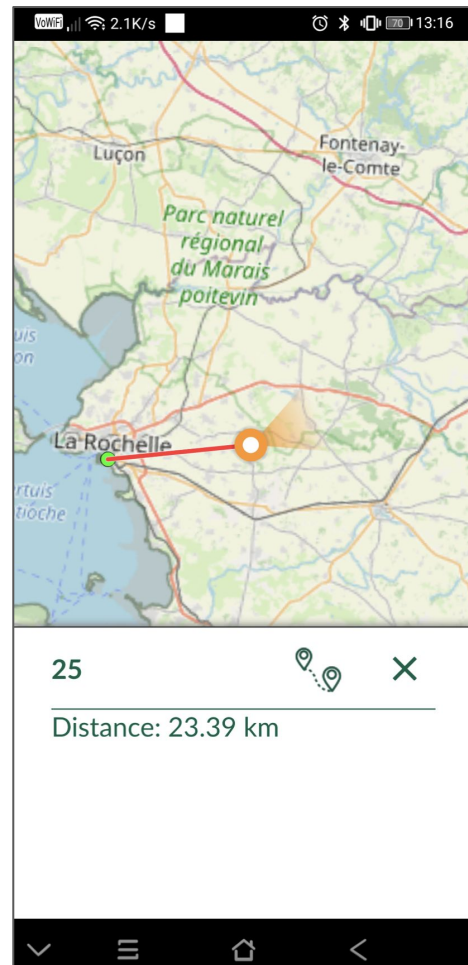
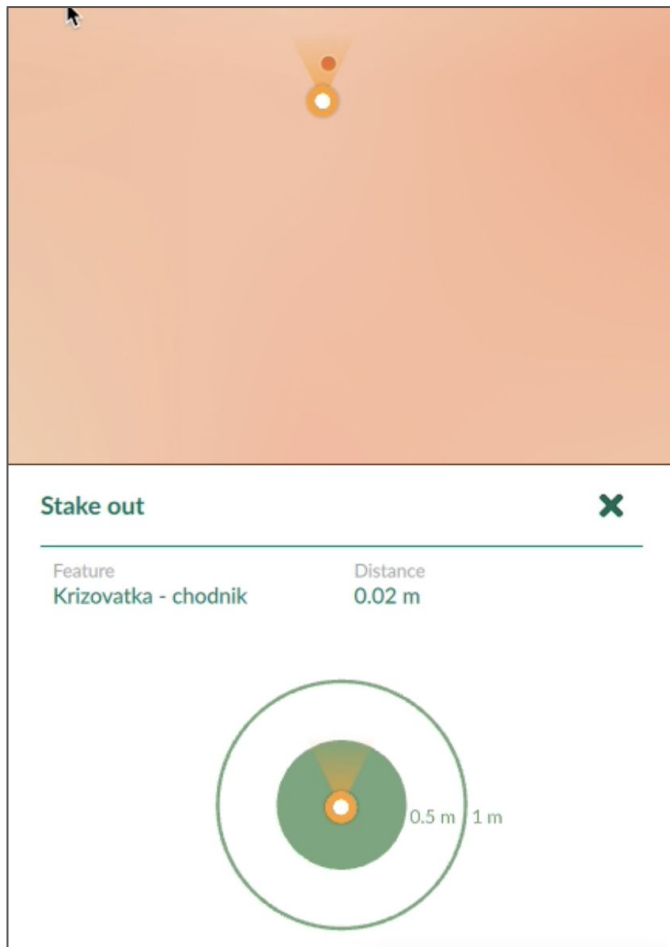
Autosync





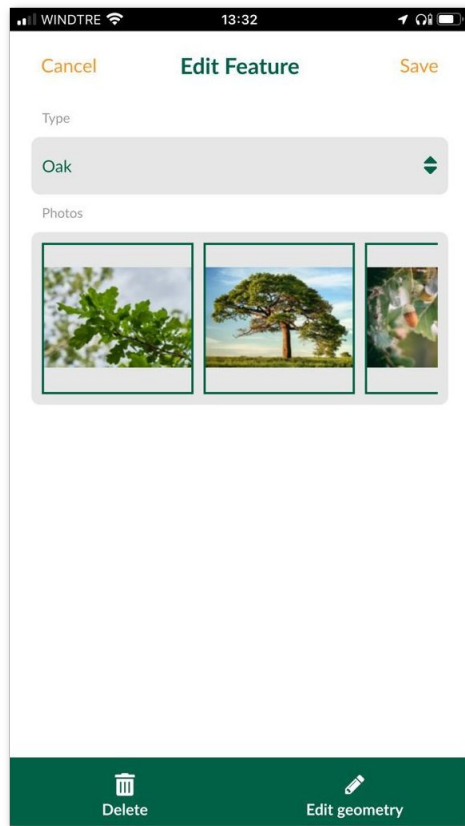
# Field work?

Stakeout



# Handling many pictures?

- Selective synchronization
- Media-sync
- Resize images
- Image Gallery
- EXIF



# Robustness and reliability?

- Support for projects with 100s files
- Sync of large files
- Support for projects with 1000s versions
- AWS deployment (RDS, QGIS servers, backups, ...)

# New Features?

- New CE/EE Release (Sept 2022)
- Line/Polygon geometry editing (Sept 2022)
- Workspaces (Oct 2022)
- Map overview (now Beta, Oct 2022)
- Background (offline) maps (2023)
- Flexible permissions (2023)
- Public web-maps (2023)
- vcpkg/Qt6 for mobile app (2023)

# Geodiff !

original

fid	species	age	geometry
1	Maple	25	POINT(...)
2	Oak	30	POINT(...)
3	Pine	18	POINT(...)

User A

fid	species	age	geometry
1	Pine	25	POINT(...)
2	Oak	30	POINT(...)
3	Pine	18	POINT(...)
4	Fir	12	POINT(...)

User B

fid	species	age	geometry
1	Maple	25	POINT(...)
2	Oak	35	POINT(...)
3	Pine	18	POINT(...)
4	Elm	22	POINT(...)

Merged

fid	species	age	geometry
1	Pine	25	POINT(...)
2	Oak	35	POINT(...)
3	Pine	18	POINT(...)
4	Elm	22	POINT(...)
5	Fir	12	POINT(...)