

# Quantum GIS on Android



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# In this talk...

- What is QGIS
- QGIS on Android
- Demo, discussion & questions



# What is QGIS

- Quantum GIS (QGIS) is a user friendly Open Source GIS. QGIS is an official project of the Open Source Geospatial Foundation (OSGeo). It runs on Linux, Unix, Mac OSX, Windows and Android and supports numerous vector, raster, and database formats and functionalities.
- QGIS Desktop
- QGIS Server
- QGIS Web Client
- QGIS on Android



# Why go mobile? Because sometimes civilisation is far away...



# Why go mobile?

- Work on the terrain
- Lightweight and portable
- Automatic georeferencing and bearing
- Possibility of custom calculations at input time depending on position, bearing, ...
- So we can get off our offices :)



# Why go mobile?

- Finally widespread of (almost) adequate hardware at “normal” prices
  - Good performance
  - Good battery life
  - Integrated GPS and compass
  - Finger and pen input
  - In near future rugged tablets
- Strong development of software
- It's modern ;)



# How to go mobile? By getting our hands dirty...



# Strategy

- Two different version
  - First a 1-to-1 port of the FULL desktop application with the same GUI and some touch-specific additions
    - targeting Tablets (10.1")
    - Started as a Google Summer of Code project
    - Continued as freelance and in my free time
  - Later, a new application using an ad-hoc minimalistic GUI optimized for smaller screens like smart-phones
    - Development not started yet
  - Application installer



# Technologies

- QGIS: Qt (C++) + cmake + external libs (GDAL, GEOS, Proj4, expat, GSL, Iconv, QWT, sqlite, libpq, open-ssl)
- ANDROID: Java + Android ant build system
- NDK (android native development kit): Java + C++ + JNI + Android ant build system
- NECESSITAS (Qt-android port): Qt + qmake

= complex !!!



# Application workflow

- Install apk (using the installer)
- On first run, the assets (svg, translations, ...) are extracted to the filesystem
- The ministro II Qt library manager is installed
- A service call is issued to Ministro II to deliver the required Qt libs. If the libs are not installed, Ministro asks to download them
- After all dependencies are load the qgis.so is loaded and its main gets executed



# Current limitations

- No Python (Looking for sponsors)
- No SSL for PostGIS
- Debug version with no armV7 optimization
- Few minor problems



# Current limitations: Bug Tracker

QGIS for Android - Issues - QGIS Issue Tracking - Chromium

QGIS for Android - Issues - x

hub.qgis.org/projects/android-qgis/issues

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## Issues

Filters

Status open

Add filter:

Options

Apply Clear

#	Tracker	Status	Priority	Subject	Assigned to	Updated
5170	Bug	New	Normal	qgsrendererv2propsdialogbase.ui		03/12/2012 03:21 pm
5116	Feature	New	Normal	Back Button		03/05/2012 07:17 am
4968	Bug	New	Normal	Multiple selection using ctrl modifier	Marco Bernasocchi	02/08/2012 02:40 am
4967	Bug	New	Normal	measure tool opens fullscreen widget	Marco Bernasocchi	02/08/2012 02:37 am
4966	Bug	New	Normal	Gps dialog icons dont resize	Marco Bernasocchi	02/08/2012 02:34 am
4961	Feature	New	Low	take georeferenced picture	Marco Bernasocchi	02/07/2012 01:33 pm
4935	Bug	New	Low	smaller widget and gui issues		02/01/2012 01:16 pm
4934	Bug	New	Normal	crash on WMS-C layer		02/01/2012 12:33 pm
4817	Bug	New	Low	refactor FirtstRun	Marco Bernasocchi	02/15/2012 09:44 am
4627	Bug	New	Low	Installation fails on Olipad Smart 7" android 2.2		03/05/2012 11:51 pm
4512	Feature	New	Low	Python support		11/11/2011 08:47 am
4231	Bug	In Progress	Normal	SSL support for libpb	Marco Bernasocchi	11/29/2011 07:47 am
4225	Bug	New	Low	cannot Load libgsi.so	Marco Bernasocchi	08/26/2011 03:44 am

(1-13/13) | Per page: 25, 50, 100

Also available in: Atom | CSV | PDF

Issues

View all Issues

Summary

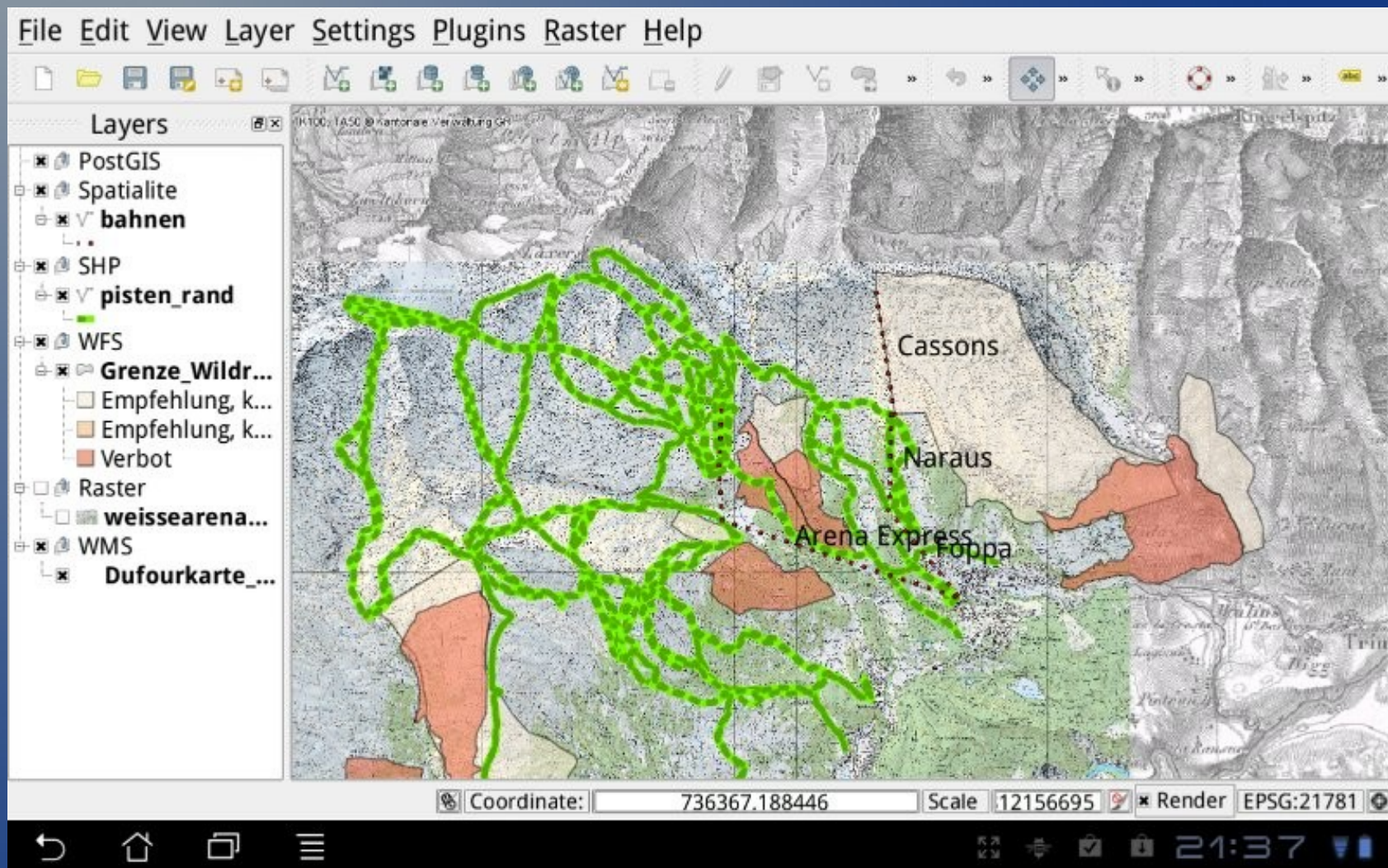
Custom queries

Active Tickets assigned to me

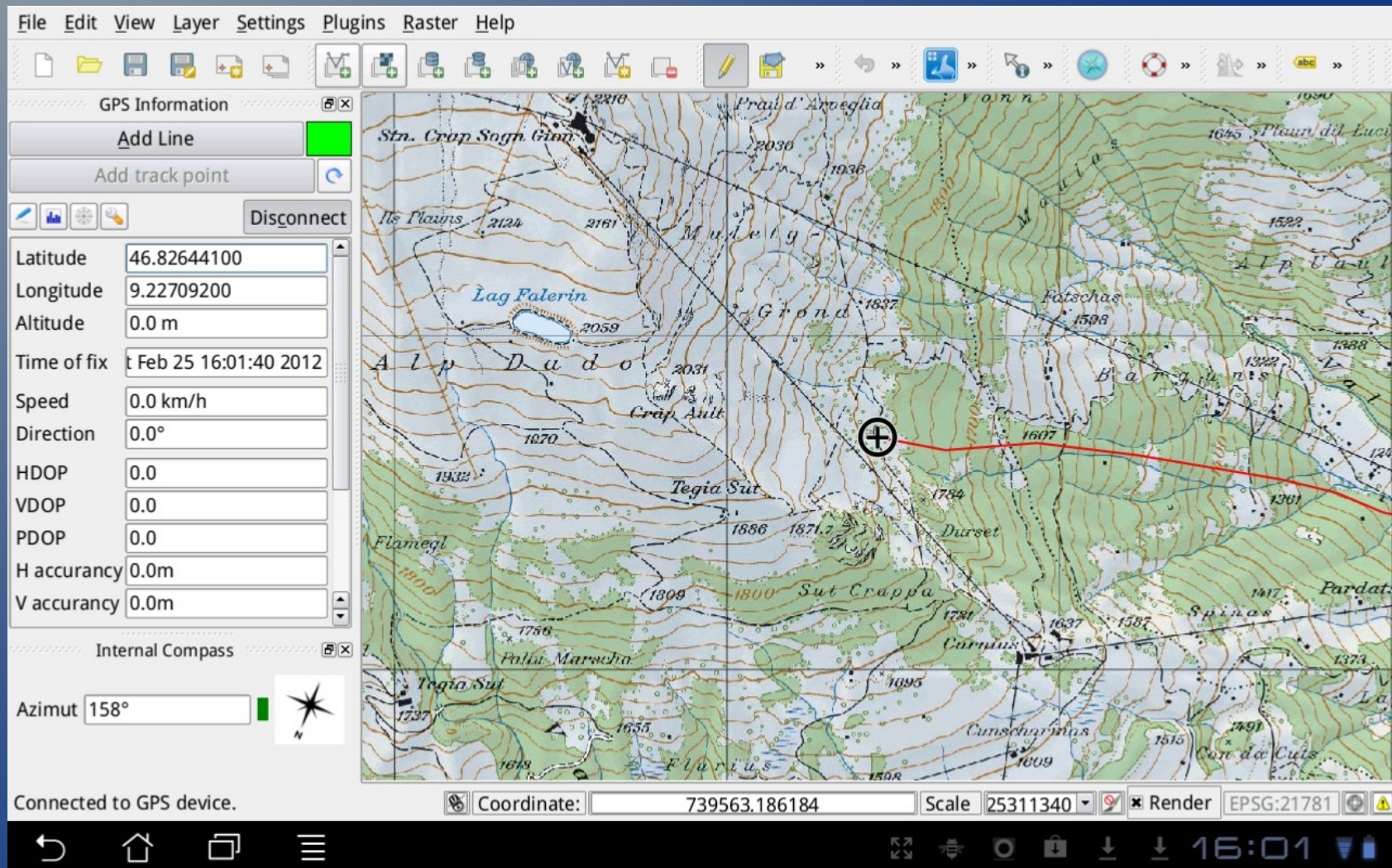
Active Tickets reported by me



# Current features: Data-sources



# Current features: GPS + Compass



# Current features: Touch controls



# Use cases: on terrain digitizing

- Central DB (Postgress) connected via 3G
- Go on the field and get your hands dirty
- Back in the office, keep on working on the Postgress DB



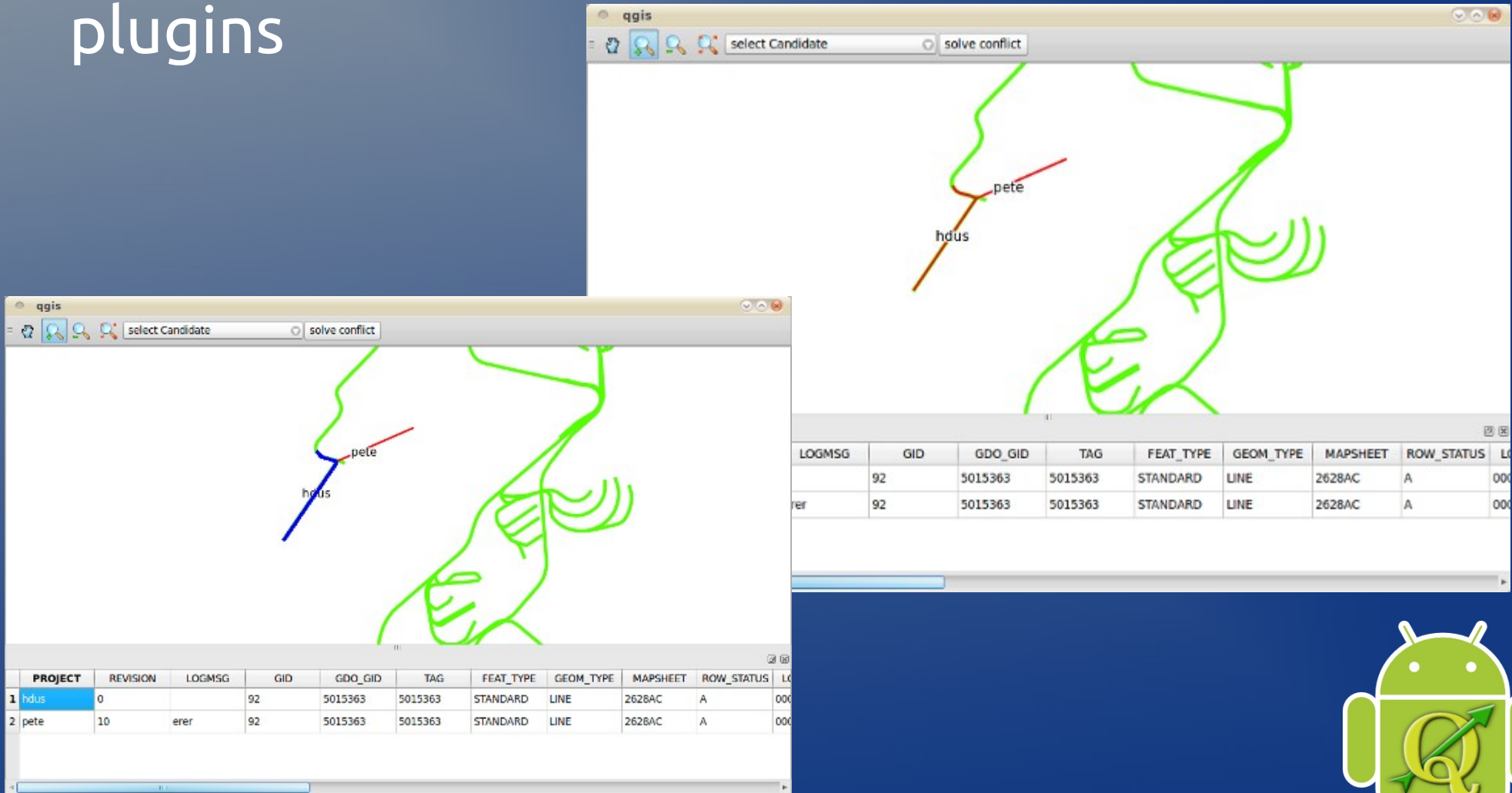
# Use cases: on terrain digitizing no 3G

- Central DB (Postgress)
- Save to spatiallite locally
- Go on the field and get your hands dirty
- Back in the office, sync it back to the Postgress DB



# Multiple users on terrain digitizing

- As soon as Android QGIS will support Python plugins



The image displays two screenshots of the QGIS desktop application, illustrating a digitizing project. The top screenshot shows a map with green lines and a red line labeled 'pete' and a blue line labeled 'hdus'. The bottom screenshot shows the same map with a blue line labeled 'hdus' and a red line labeled 'pete'. Below the map is a table with project data.

PROJECT	REVISION	LOGMSG	GID	GDO_GID	TAG	FEAT_TYPE	GEOM_TYPE	MAPSHEET	ROW_STATUS	LOGMSG
1	hdus	0	92	5015363	5015363	STANDARD	LINE	2628AC	A	000
2	pete	10	92	5015363	5015363	STANDARD	LINE	2628AC	A	000



# Future Plans

- Add ssl
- Fix “all” bugs at <http://hub.qgis.org/projects/android-qgis/issues>
- Add Python support
- Create a new UI for the mobile version



# What next?

You can get your copy at:

<http://android.qgis.org>

Visit my blog to get the latest news, contact details or make a donation :)

<http://opengis.ch>



# Demo



# Questions & Discussion

Thank you for the attention

<http://opengis.ch>

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