What You Type Is What You See

Comparing two web-based open source approaches to display the results of spatial SQL queries

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Outline

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  - What You Type Is What You See (WYTIWYS)
  - postgisonline.org (PGO)
- Limitations
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About us

• Marc Jansen
  • application developer for terrestris
  • mainly frontend
  • In love with PostGIS since ~ 2006

• Nicklas Avén
  • Working in the forestry business
  • PostGIS-trunk committer
  • postgisonline.org
What are we talking about?

- WebGIS...
- ... with a simple form ...
- ... in which one can enter spatial SQL ...
- ... which gets evaluated on the server ...
- ... that server sends a response ...
- ... which is being displayed on the map ...
- ... or:
What are we talking about?

```
SELECT ST_Intersection(
    ST_Buffer(
        ST_GeometryFromText(
            'POINT(40 30)', 4326
        ), 10
    ),
    ST_Buffer(
        ST_GeometryFromText(
            'POINT(30 40)', 4326
        ), 10
    )
)
```
Why Nicklas and me?

- December 2009: Nicklas describes his idea about postgisonline

- December 2009: Marc has a minimal version of WYTIWYS ready...

- ...but cannot publish it until THE BOOK is done

- We had some discussions about different approaches and different motivations
Motivation – WYTIWYS

• OpenLayers book
• About the complete OpenSource GIS stack
• How to visualize PostGIS database functionality?

• In a book about OpenLayers? => with an interactive OL-Map
Motivation – PGO

Many people are GIS-people or DB-people. How to make them see the possibilities in using the DB to analyze and process spatial data?

- Trying
  - An easy way to see what spatial sql is all about
- Training
  - When there is more tutorials out there it might be a platform for learning and training
- Showing
  - Shall be an easy way for anyone to show solutions to GIS problems and show cool ways of doing things.
Implementation – WYTIWYS

• Simple: focused on education and comprehensibility
• Proof-of-concept
• Asynchronous requests through OpenLayers
• Data exchange format is Well-Known-Text
• Display SQL-results
  • as vector geometries
  • or as info-alerts
Implementation – PGO

- Just adding “Create table” in front of users query.
- Mapserver produces a transparent gif from the created table
Multiuser handling - PGO

• The table gets named “Map1” plus the session string like: map1f180021ebe27c62bfc91163c9e7290f1

• This makes it possible to reference “my” Map1 when creating Map2

• On every access of the site all tables belonging to sessions unused for half an hour gets erased
Mapserver - PGO

```
LAYER
  NAME 'pointMap1'
  TYPE point
  CONNECTIONTYPE postgis
  CONNECTION "host=127.0.0.1 user=webuser password=XXXXXX
dbname=%db % port=5432"

DATA "the_geom FROM
(SELECT ST_CollectionExtract(ST_Force_Collection(the_geom),1) as the_geom, idmap1 FROM
userdata.%relation%)
as a USING UNIQUE idmap1 USING SRID=%srid%"

STATUS ON
  OPACITY 100
CLASS
  STYLE
    SYMBOL 'circle'
    size 8
    COLOR 0 0 255
  END
END
```
Limitations – WYTIWYS

- Only lon/lat (4326)
- One row and one field
- Not persistent
- Performance of vectors in OpenLayers
- Neither management functions nor geography of PostGIS
- Not a real console
- SQL injection :-)

2010-09-08 | FOSS4G 2010 | M. Jansen, N. Avén: „What You Type...“
Limitations – PGO

- You can only use SELECT-queries, not update, insert or delete
- The geometry to be shown must be named the_geom
- You can not use ; inside a query, problem with WKT and SRID.
- Not yet supporting new types in PostGIS 2.0
• http://openlayers-buch.de/beispiele/chapter-09/postgis-terminal.html

• PostGISonline
Future

- Remove limitations
- Maybe join forces
- Become a real OS project
- Integration into PostGIS Manual?
- Others see some potential in the idea

P. Ramsey:

http://blog.cleverelephant.ca/2010/02/nyc-sprint-day-3.html
talking about a solution by T. Schaub using GeoScript
References

• Firefox logo:
  http://upload.wikimedia.org/wikipedia/en/d/d8/Firefox_3.5_logo.png

• Talk about WYTIWYS at FOSSGIS 2010:
  http://www.fossgis.de/konferenz/2010/events/30.en.html

• GeoScript
  http://geoscript.org/

• OpenLayers
  http://openlayers.org

• PostGIS
  http://postgis.org
Nicklas is here as a private person and has had financial support to participate in FOSS4G in Barcelona from:

Avinet, the best represented Scandinavian company here at FOSS4G, in other words the company best updated in FOSS4G technologies ...

SB SKOG, a progressive Norwegian Forest management company, and also my employer. Will probably (hopefully) adapt the open source GIS stack soon ...
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  http://creativecommons.org/licenses/by/3.0/
  http://openlayers-buch.de/beispiele/chapter-09/postgis-terminal.html
  http://postgisonline.org/