The State of GeoCouch

Volker Mische
Couchbase

Free and Open Source Software for Geospatial
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Denver

About me

- Loves open source (CouchDB, MapQuery, OpenLayers, Rockbox)
- Working for Couchbase
- Came in touch with free and open source for geospatial in 2008
- CouchDB fan since 2008
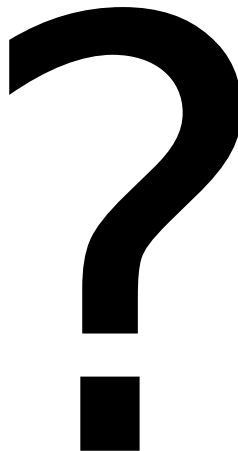- Raver

What is GeoCouch?

Images: Greg Habermann, NASA

Image: Apache Software Foundation

Document

Document

```
{
    "_id": "Station-2942_001",
    "_rev": "3-77f17a55f6ab11f7f6668e63a75f2281",

    "name": "Station-2942",
    "date": "2011-09-15",
    "loc": [-104.984722, 39.739167],
    "state": "Colorado",
    "temperature": 28,
    "rainfall": 0
}
```

How did it all start?

http://poetrybox.info/

Publish fast

Image: Derek Tam

Traditional GIS vs. Neogeography

Traditional GIS vs. Neogeography

Image: Frank Warmerdam

Traditional GIS vs. Neogeography

Image: Frank Warmerdam

Traditional GIS vs. Neogeography

VS

Images: Frank Warmerdam, Max Ogden

CouchDB is more than a database

Image: NASA

http:// + {}

Replication

No connection

There was a connection

Image: Naval Air Crewman 1st Class Jay Okonek

Replication

Replication

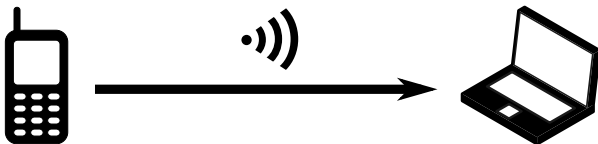# Replication

Replication
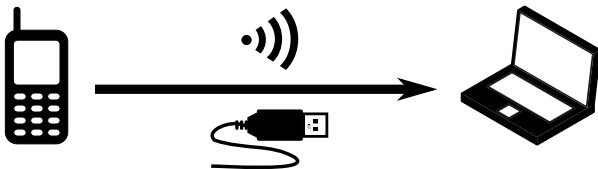
Replication
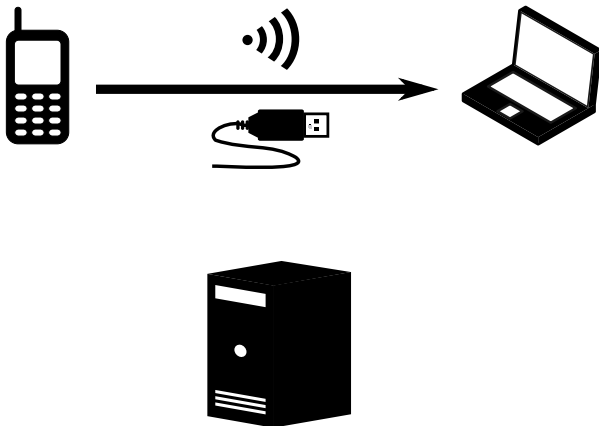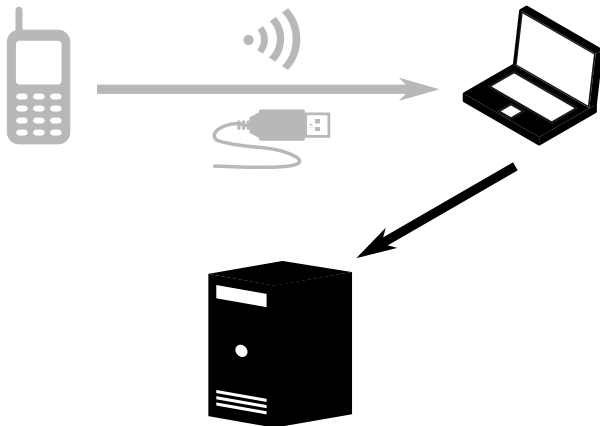
Replication
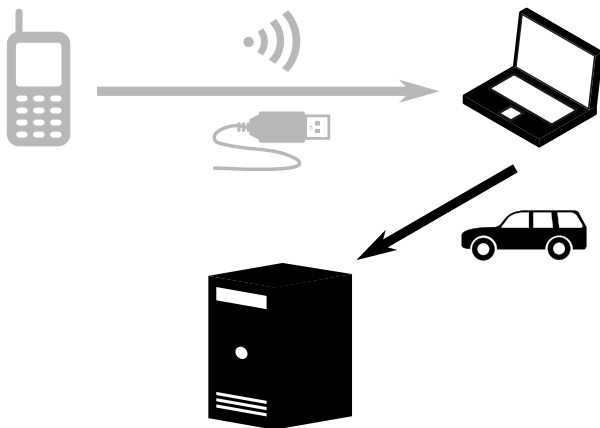
Replication

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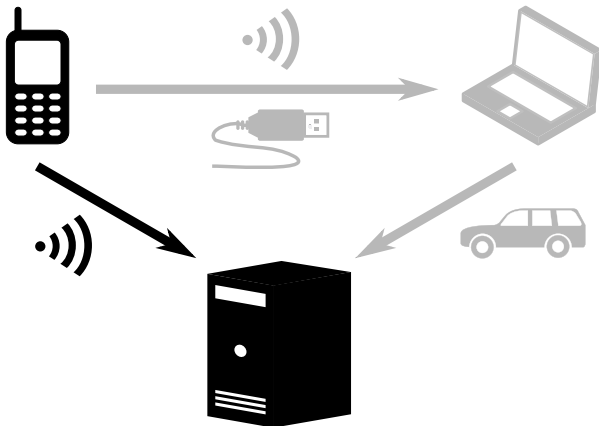
Replication
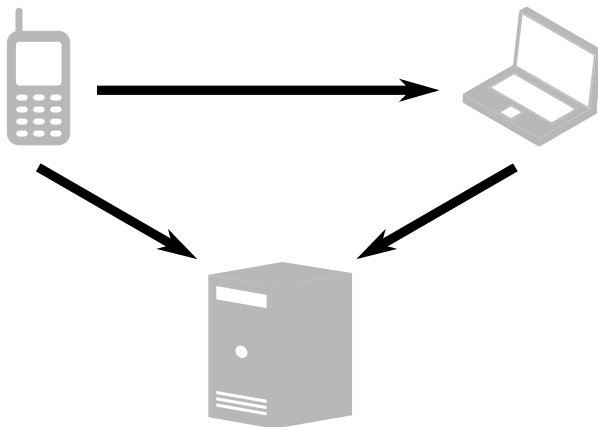
Replication

Replication
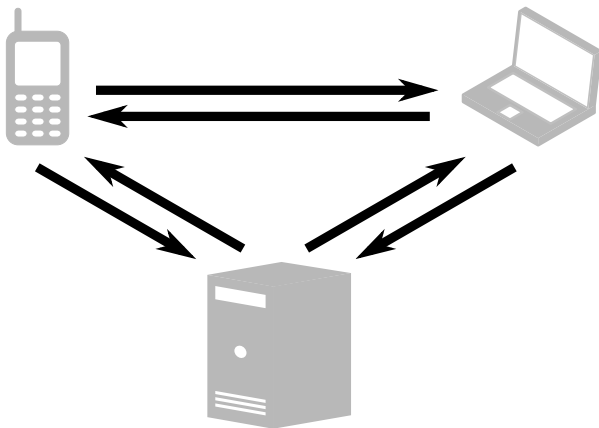
CouchApps

CouchApps

Server

CouchApps

Server

Images: W3C, Apache Software Foundation

CouchApps

Client

Server

CouchApps

Client

Server

Couch*

Couchbase

Back to GeoCouch

OpenSearch Geo

OpenSearch Geo

http://localhost:5984/

OpenSearch Geo

http://localhost:5984/

. . .

OpenSearch Geo

http://localhost:5984/

. . .

?bbox=-110,-60,-30,15

Use GeoCouch

- Tile cache (TileCache, MapProxy)

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- Backend:
  - **GDAL** ($\geq$1.9.0): http://www.gdal.org/ogr/drv_couchdb.html
  - **GeoTools**: https://github.com/ischneider/Geotools-CouchDB-DataStore
  - **Deegree**:
    https://svn.wald.intevation.org/svn/deegree/deegree3/
    trunk/deegree-datastores/deegree-featurestores/deegree-featurestore-geocouch/

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    trunk/deegree-datastores/deegree-featurestores/deegree-featurestore-geocouch/
- All projects are in early stages, I'm sure they'd love to see some funding

Future

- More complex searches (Polygon search, radius, etc)
  - ▸ GEOS vs. Boost.Geometry

- Multidimensional indexing:
  - ▸ BUB-tree, SH-tree, X-tree, DBM-tree, your index structure

Benchmarks

It's not always about performance

Image: Tabbo107

Use the right tool for the right job

Image: Tabbo107

Thanks!

Get in touch with me

- Website: http://vmx.cx/
- IRC: vmx @ freenode
- Email: volker@couchbase.com
- Jabber: volker@vmx.cx
- Twitter: @vmische
- GeoCouch:
  - Source: https://github.com/couchbase/geocouch/
  - Binaries: http://www.couchbase.org/

Demo

http://tinyurl.com/ geocouchdemo002