

# **Geographical borders database**

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# Goal

- To provide a database of geographic boundaries for visualization of geographic data
- Convert the data in the US Census and World administrative boundary data from native format (shapefile format) to an SQL database.

# Requirements

- Must be completely automatic
- Should be able to download and parse as many year's of data that are available
- Validation of the borders can be done through creating a KML on Google Earth.

# Data

- is provided in shapefile format at US Census Bureau FTP
- shapefile is binary multifile format



- **fetch zipped shapefiles from USCB ftp server**  
(save them locally and unpack)
- **parse shapefiles**  
(generate a list of Python dicts with attributes and coordinates)
- **populate database with data**  
(save data from previous step in DB - sqlite3, MySQL, hopefully should work with other DB engines)
- **verify the DB**  
(query DB, produce kml file(-s) with borders and plot them with Google Earth)

# Our team

Christopher Tholander

fetching files from 2010 Census site

Glib Ivashkevych

parsing shapefiles

Pavel Elkind

DB operations



Tristana Sondon

generation of kml files



git repo: <https://bitbucket.org/PhtRaveller/geodb>

# Lessons learned

- communication is critical
- accurate tasks separation is important
- it's easy to underestimate time and effort necessary when using new tools
- it's easy to lose track when getting deep into specific problem
- team work is fun :)

**Thank you all:)**