GEOM 4007: Week 4b

Lab logistics, Symbology Encoding, and Filters

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Outline

- Web (HTTP) server account details and demo
- Understanding schema definitions: symbology and filters
- When XML goes bad
- Motes / Readings

Web (HTTP) server account details and demo

- Set (and remember) a password on the account (now) using
 S:\GEOM4008\Putty.exe to open a Secure Shell (ssh) session:
 - ▶ host: dges.carleton.ca
 - ▶ user name: unique part of your cmail.carleton.ca email account.
 - Example: jimbob@cmail.carleton.ca would mean the user name is jimbob
- Copy files to the web server using Secure File Transfer Protocol (sftp) to connect:
 - same host, login and password as above.
 - specify "sftp" or connect to port 22 (standard for sftp).
 - working folder is automatically set to /home/jimbob but this is not where your web files are served from.
 - navigate to your web server folder: /var/www/courses/GEOM4007/Student/jimbob
 - put your SLDs there so that remote WMS will be able to access them. Sometimes a few minutes delay is required for changes to be noticed by WMS because they have a cached versions of files.
- Public web address (for file mySLD.xml placed in above folder):

Understanding schema definitions

• Good overview of schema provided by *XML Schema Part 0: Primer Second Edition* (W3C 2004)

```
http://www.w3.org/TR/xmlschema-0/#PO
```

• See Section 2, "Basic Concepts: The Purchase Order" for an explanation, with examples, of how a schema specifies the structure and syntax for a class of XML documents.

Understanding schema definitions: symbology and filters

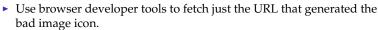
Example from OGC (2005, pp. 12–13):

Filter I've given you for selecting specific entries from GEONAMES (see geonames_ottawa_sld.xml in Assignment #1 templates):

```
<ogc:Filter>
  <ogc:PropertyIsLike wildChar="*" singleChar="." escape="!">
        <ogc:PropertyName>NAME_KEY</ogc:PropertyName>
        <ogc:Literal>OTTAWA</ogc:Literal>
        </ogc:PropertyIsLike>
</ogc:Filter>
```

When XML goes bad

- You will break your XML files.
- Sometimes they will not work for semantic reasons and you may not get any more of an indication of why than a returned empty image. Examples:
 - filter for "OTTAWE" rather than "OTTAWA".
 - ask for a layer outside it recommended scale.
- Sometimes you will get hints (like the "image not found" icon to the left) and in some of these cases, errors in your XML (Context and / or SLD) may be the cause.



- ► This will often generate a service exception (XML file) from the WMS.
- Download and open this file to see the error the WMS is sending you.



When XML goes bad: validate

- In OSGeo Live, once upgraded (hopefully tomorrow), there will be a command line tool called xmllint that you can use to validate your XML:
 - ▶ xmllint -format mySLD.xml
 - will display a formatted version of the file if it is syntactically correct.
 - will display error messages identifying syntax errors otherwise.
 - may be useful to "pipe" command to more to allow you to page the contents of the XML file:
 - ★ xmllint -format mySLD.xml | more
 - ★ <space> pages down
 - ★ b pages up
 - ★ q exits back to command line prompt
- Online validators. I haven't tried these, but there are a bunch of them if you search. For example:
 - http://validator.w3.org/

Notes / Readings

- Monday: project member lists to me or statement that you will do an individual project.
- Next lecture:
 - Intro to Mapnik: cartographic renderer.
 - Readings:
 - Discussion of a mapping tool stack, including Mapnik and specifying its role in that stack. (I would draw the tool stack differently). http://alistapart.com/article/takecontrolofyourmaps
 - * Discussion of visual processing for web maps and some of the image effects that are being played with for map compositing.
 - http://mapbox.com/blog/expanding-mapnik-carto/
 - * Mapnik XML overview.
 https://github.com/mapnik/mapnik/wiki/XMLConfigReference
 - * Mapnik XML example: http://wiki.openstreetmap.org/wiki/Mapnik_Example

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References I

OGC (2005). OpenGIS Filter Encoding Implementation Specification. Tech. rep. 04-095. Available at http://www.opengeospatial.org/standards/filter. Last accessed Jan 2013. Open Geospatial Consortium.

W3C (Oct. 2004). XML Schema Part 0: Primer Second Edition. 2nd ed. World Wide Web Consortium. Available at: http://www.w3.org/TR/xmlschema-0. Accessed January 2013.

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