KML & GeoRSS
Technology Overview

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October 21, 2008 - ESDSWG Standards Process Group Breakout Session
Philadelphia, PA

KML

- Describes geographic views, allows for point/line/polygon/raster overlays, external links. Some temporal support.
- Developed by Google
- KML 2.2 is an OGC Standard
- Google Earth is the primary viewer for KML
- **http://www.opengeospatial.org/standards/kml/**
- **http://code.google.com/apis/kml/documentation/**

GeoRSS

- Developed via open internet participation
- Can also be used with Atom
- Three flavors - W3C (deprecated), Simple, GML
- Adds geographic (point/line/boundary) location to RSS, Atom feeds
- Supported in Google Maps, Microsoft Virtual Earth, many open source readers/generators
- **http://georss.org/**
- **http://lists.eogeo.org/mailman/listinfo/georss**

KML by Example

1. Install Google Earth

2. Download & load into Google Earth
   http://code.google.com/apis/kml/documentation/KML_Samples.kml

3. Play with each element

4. Try the same in Google Maps:

   1. Paste the KML URL into the search box at **http://maps.google.com**

      http://maps.google.com/maps?f=q&hl=en&geocode=&q=http:%2F%2Fcode.google.com%2Fapis%2Fkml%2Fdocumentation%2FKML_Samples.kml&ie=UTF8&z=3

(Use **http://tinyurl.com/5bqva2** if you're typing...)

KML Examples

Placemark

```kml
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
  <Placemark>
    <name>Simple placemark</name>
    <description>Attached to the ground. Intelligently places itself
       at the height of the underlying terrain.</description>
    <Point>
      <coordinates>-122.0822035425683,37.42228990140251,0</coordinates>
    </Point>
  </Placemark>
</kml>
```

Ground Overlay

```kml
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
  <Folder>
    <name>Ground Overlays</name>
    <description>Examples of ground overlays</description>
    <GroundOverlay>
      <name>Large-scale overlay on terrain</name>
      <description>Overlay shows Mount Etna erupting
          on July 13th, 2001.</description>
      <Icon>
        <href>http://code.google.com/apis/kml/documentation/etna.jpg</href>
      </Icon>
      <LatLonBox>
        <north>37.91904192681665</north>
        <south>37.46543388598137</south>
        <east>15.35832653742206</east>
        <west>14.60128369746704</west>
        <rotation>-0.1556640799496235</rotation>
      </LatLonBox>
    </GroundOverlay>
  </Folder>
</kml>
```

GeoRSS by Example

- Find an RSS feed with place names in it
  http://api.flickr.com/services/feeds/geo/?tags=PHL&lang=en-us&format=rss_200

- Paste it into the search box at **http://maps.google.com**

  http://maps.google.com/maps?f=q&hl=en&geocode=&q=http:%2F%2Fapi.flickr.com%2Fservices%2Ffeeds%2Fgeo%2F%3Ftags%3DPHL%26lang%3Den-us%26format%3Drss_200&ie=UTF8&z=12

  (Use **http://tinyurl.com/627non** if you're typing...)

flickr

Signed in as adoyle | Help | Sign Out

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Explore / Tags / PHL

Slideshow

Sort by:
Most recent • Most interesting

PHL clusters

Explore and refine this PHL list with our wonderful clustery goodness!

Related tags:
philadelphia, **airport**, **airplane**, philly, usairways, pennsylvania, pa, plane, international, terminal

Find similar things on Yahoo! image search

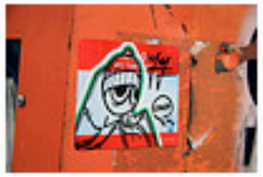
From damonabnormal

From damonabnormal

From damonabnormal

From damonabnormal

From damonabnormal


From damonabnormal

From damonabnormal

From camera_obscura

From camera_obscura

From camera_obscura

From PHLAIRLINE.COM

From PHLAIRLINE.COM

Recent Uploads tagged phl, with geodata

PHL. Kensington Kinetic naquib Oct 7, 3:30 PM

naquib posted a photo:

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PHL. Kensington Kinetic - Prom Gown and Octopus naquib Oct 7, 3:30 PM

naquib posted a photo:

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PHL. Sep 15, 2008 dstafford Sep 16, 10:56 AM

Google Maps

http://api.flickr.com/services/feeds/geo/?tags=PHL&lang=en-us&l

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Get Directions | My Maps

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Recent Uploads tagged phl, with geodata

- Before Sunrise
  SolYoung posted a photo: View from
- Before Sunrise
  SolYoung posted a photo: View from
- Doggy style
  highindustrial posted a photo:
- Doggy style
  highindustrial posted a photo:
- Don't block the box
  highindustrial posted a photo:
- Don't block the box
  highindustrial posted a photo:
- Eat him
  highindustrial posted a photo:
- Eat him
  highindustrial posted a photo:
- Gray day, graceless age
  highindustrial posted a photo:
- Gray day, graceless age
  highindustrial posted a photo:
- Lengthening
  highindustrial posted a photo:
- Lengthening
  highindustrial posted a photo:
- Liberty centered
  highindustrial posted a photo:
- Liberty centered

Street View | Traffic | More

Planespotting - May 2008

By: nobody@flickr.com (PhilaMike) - api.flickr.com

PhilaMike posted a photo:

Planespotting at PHL. US Airways Boeing 767.

©2008 Google

GeoRSS Example


```xml
<?xml version="1.0" encoding="utf-8"?>
<rss version="2.0"
     xmlns:media="http://search.yahoo.com/mrss/"
     xmlns:dc="http://purl.org/dc/elements/1.1/"
     xmlns:geo="http://www.w3.org/2003/01/geo/wgs84_pos#"
     xmlns:georss="http://www.georss.org/georss"
     xmlns:woe="http://where.yahooapis.com/v1/schema.rng"
     xmlns:flickr="urn:flickr:" >

    <channel>
        <title>Recent Uploads tagged phl, with geodata</title>
        <link>http://www.flickr.com/photos/tags/phl/</link>
        <description></description>
        <pubDate>Tue, 7 Oct 2008 11:30:51 -0800</pubDate>
        <lastBuildDate>Tue, 7 Oct 2008 11:30:51 -0800</lastBuildDate>
        <generator>http://www.flickr.com/</generator>
        <image>
            <url>http://l.yimg.com/g/images/buddyicon.jpg</url>
            <title>Recent Uploads tagged phl, with geodata</title>
            <link>http://www.flickr.com/photos/tags/phl/</link>
        </image>

        <item>
            <title>PHL. Kensington Kinetic</title>
            <link>http://www.flickr.com/photos/naq/2922510114/</link>
            <description>...omitted for brevity of presentation...
            </description>
            <pubDate>Tue, 7 Oct 2008 11:30:51 -0800</pubDate>
            <dc:date.Taken>2008-10-08T00:27:00-08:00</dc:date.Taken>
            <author flickr:profile="http://www.flickr.com/people/naq/">nobody@flickr.com (naquib)</author>
            <guid isPermaLink="false">tag:flickr.com,2004:/photo/2922510114</guid>
            <georss:point>39.982492 -75.124962</georss:point>
            <geo:lat>39.982492</geo:lat>
            <geo:long>-75.124962</geo:long>
            <woe:woeid>2431625</woe:woeid>
            <media:content url="http://farm4.static.flickr.com/3021/2922510114_c3601a4d19_o.jpg"
                           type="image/jpeg"
                           height="737"
                           width="1599"/>
            <media:title>PHL. Kensington Kinetic</media:title>
            <media:thumbnail url="http://farm4.static.flickr.com/3021/2922510114_2b6c9a4670_s.jpg" height="75" width="75" />
            <media:credit role="photographer">naquib</media:credit>
            <media:category scheme="urn:flickr:tags">philadelphia hipsters pennsylvania philly kensington
                phl fishtown kensingtonkinetic</media:category>
        </item>
    </channel>
</rss>
```

Discussion - Things to think about for later

- KML and GeoRSS are designed for extensibility - how can we converge on/ define practices that provide for greater interoperability?
- How do we reuse simple, adopted standards like KML and Atom to exchange full metadata by standardizing more and more lightweight, modular schemas like GeoRSS?
- How do we maintain interoperability between KML and other small metadata standards like Atom feeds? A goal would be round-trip conversion between KML and Atom docs.
- Which implementation approaches are promising for the Earth science community?