

Google™



Mapping in 3D

Tips and tricks for Google Earth API and KML

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Session Overview

- Earth API
- KML
- Q & A

Questions and Notes

View live notes and ask questions about
this session on Google Wave

<http://bit.ly/crfOXH>

Earth API: Overview

- Earth API - What is it?
- Since last year:
 - Over 100M installs
 - Bundled w/Google Earth
 - Recently integrated with Google Maps
 - Browser compatibility
 - More stable, faster load
- Focus today on a few of the new features

Earth API: Get the pre-release

Now available: Developer Channel

http://code.google.com/apis/earth/documentation/developer_channel.html

Demo Code

<http://earth-api-dev.appspot.com>

Earth API: Now with Time!

The Time Primitive

- For Feature or AbstractView

```
ts = ge.createTimeStamp("");  
ts.getWhen().set('1987');
```

```
placemark.setTimePrimitive(ts);  
lookat.setTimePrimitive(ts);  
ge.getTime().setTimePrimitive(ts);
```

```
ts_now = ge.getTime().getSystemTime();
```

Earth API: Now with Time!

Historical Imagery / Time Machine

```
ge.getTime().setHistoricalImageryEnabled(true);
```

```
ge.getTime().setHistoricalImageryEnabled(false);
```

Time User Interface

```
ge.getTime().getControl().setVisibility(ge.VISIBILITY_SHOW);
```

```
ge.getTime().getControl().setVisibility(ge.VISIBILITY_HIDE);
```


Earth API: Now with Time!

Set the virtual clock speed

```
default_rate = 1; //1 'virtual' second for each 'real' second
```

```
speedy_rate = 60*60*24*365; //1 virtual year for each real second
```

```
ui_rate = ge.getTime().getControl().getCalculatedRate();
```

```
ui_extent = get.getTime().getControl().getExtents();
```

```
ge.getTime().setRate(speedy_rate);
```

```
ge.getTime().setRate(0); //stop the virtual clock
```

Earth API: Robust Balloons!

Rendering active content in balloons

- Usually, the active content (eg JS) gets stripped out

The standard solution:

```
//set a click listener on the placemark
google.earth.addListener(
  placemark, 'click', function(event) {
    placemark = event.getTarget();
    event.preventDefault();
    desc = placemark.getDescription();
    //create new balloon with rendered content
  });
```

... but what if you have Extended Data?

Earth API: Robust Balloons!

Rendering balloons with Extended Data

//set a click listener on the placemark

```
google.earth.addListener(  
  placemark, 'click', function(event) {
```

```
    event.preventDefault();
```

```
    placemark = event.getTarget();
```

```
    stripped_desc = placemark.getBalloonHtml();
```

```
    active_desc = placemark.getBalloonHtmlUnsafe();
```

```
    //create new balloon with rendered content
```

```
  });
```

```
});
```

... but what if you need to override balloons w/o a click event?

Earth API: Robust Balloons!

Overriding the default balloon opening event

```
//set a click listener for the balloon open event
google.earth.addEventListener(
  ge, 'balloonopening', function(event) {
    event.preventDefault();
    placemark = event.getBalloon.getFeature();
    desc = placemark.getBalloonHtml();
    //create new balloon with rendered content
  });
```

Earth API: Even more useful new features

- `getElementById //ge.getElementById('my_feature_id')`
- `getElementByUrl //ge.getElementByUrl('http://foo.com/test.kmz#bar')`
- `getElementsByType //ge.getElementsByType('KmlTour');`
 - These also apply to `KmlNetworkLinks` which now inherit from `KmlContainer`

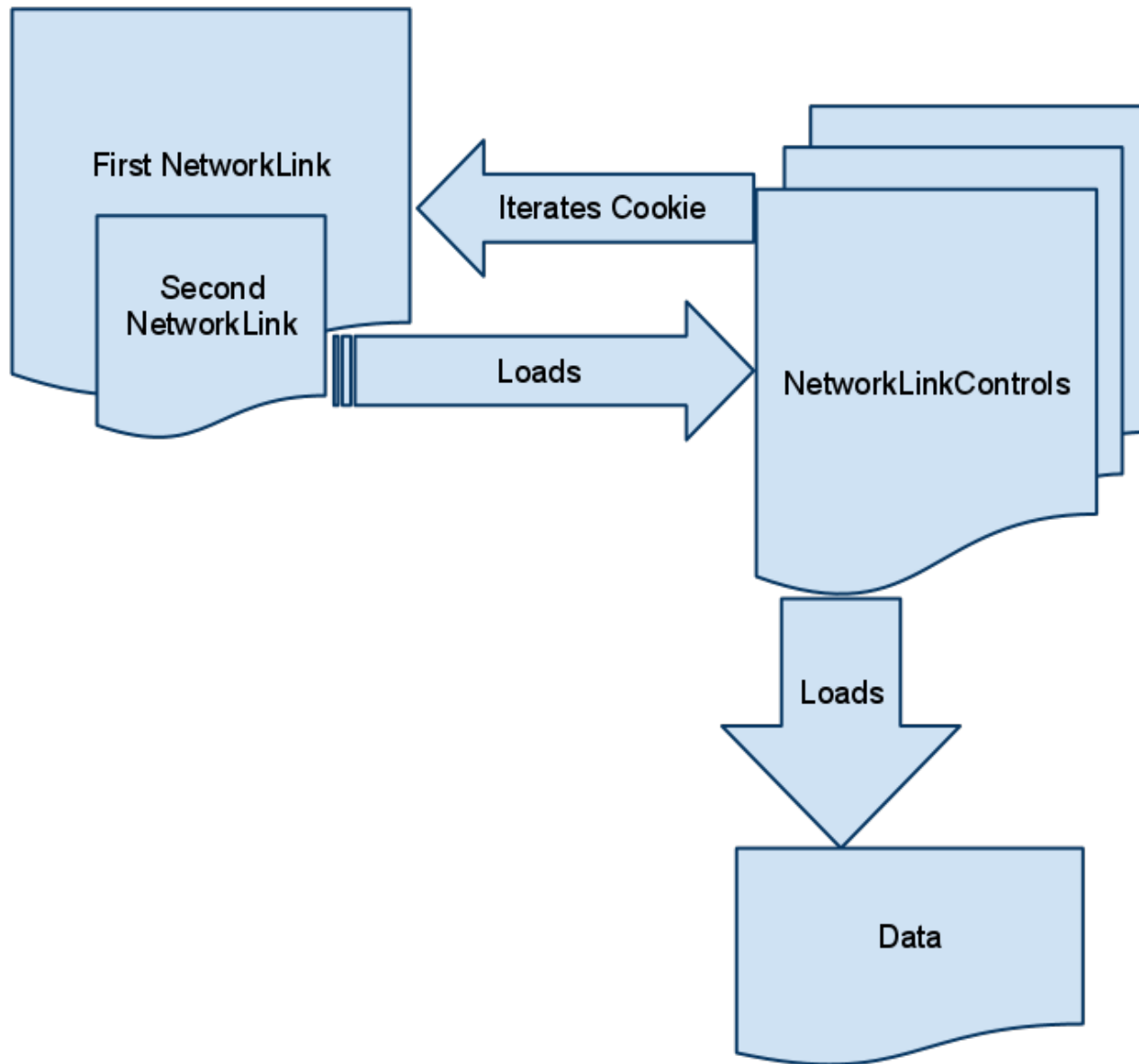
PS: Don't forget to check out the Sandbox Partners!

And now, some KML

KML Tip: Update to Scale

- NetworkLinks can download large files
- Incremental download using Update
- Use cookies to track what's been downloaded
- Stop jamming up your servers and the clients

KML Tip: Update to Scale



KML Tip: Update to Scale

- Demo

KML: Time Animation

- Demo

KML: Time Animation

```
<Placemark>
  <TimeStamp>
    <when>1997-07-16T07:00</when>
  </TimeStamp>
  <MultiGeometry>
    <Point>
      ...
    <LineString>
      ...
  </Placemark>
  <Placemark>
    <TimeStamp>
      <when>1997-07-16T08:20</when>
    </TimeStamp>
    <MultiGeometry>
      <Point>
        ...
      <LineString>
        ...
    </Placemark>
```

KML: New Extension: Track

```
<gx:Track>
  <when>1997-07-16T07:00</when>
  <when>1997-07-16T0:10</when>
  <when>1997-07-16T08:20</when>
  ...
  <gx:coord>-122.39038 37.7896 0</gx:coord>
  <gx:coord>-122.38944 37.78885 0</gx:coord>
  <gx:coord>-122.38859 37.78952 0</gx:coord>
  ...
</gx:Track>
```

KML: New Extension: Track

- Moving a single point rather than creating multiple
- Easy conversion from GPX files
- Retain metadata
- Easy animations
- High performance

Google Developer Qualification



Chrome Extensions



Gadgets



Search



App Engine



JS Maps API



KML



3D

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