

GoogleMaps Web 2.0 Exercise Step-by-step Guide

Introduction

The following exercise helps provide a structured and creative mechanism to develop a collection of interest points on a map, descriptions of those locations, and images from the locations for use in a variety of online displays. The exercise also exposes students to Web 2.0 technologies, and applications that are available. The tools used in the exercise are the GoogleMaps API, an XML datasheet and a KCC developed HTML file that ties all the pieces together. The exercise will require the group to gather data about the locations; take photographs where appropriate (see the Photojournalism Guide); and determine “Geocodes”, or latitude and longitude, for the locations. Some examples might be: plotting interest points from a field excursion; plotting historical data such as civil war battles, underground railroad points and destination routes taken by explorers.

Methodology – Student Map Overview

- ❑ Each student should be assigned to research a given location point, or multiple points. This can be done either before or after an excursion, or based on historical data. A data sheet could be developed for the class indicating the basic information that is required for each site (name, dates, importance, summary, history, etc.).
- ❑ Latitude and longitude coordinates for the location (Geocodes) need to be determined. There are various online sites to gather this information; this site provides that as well (<http://pagesperso-orange.fr/universimedia/geo/loc.htm>).
- ❑ Photographs of the locations may be taken, or images might be gathered via the Internet as appropriate. This project ties in nicely with the Photojournalism project using the classroom digital cameras available through the Media Services.
- ❑ The data is then collected from the group, and a summarized version is entered into the XML file for display online. Users will be able to click on the map markers to find a location summary, with links to documents and photographs further exploring that specific location’s data.

Step-by-Step Guidelines

1) **Editing the MAP.XML file**

The MAP.XML file is a simple text file that may be edited with any text editor. The basic structure of the file is as follows:

```
<?xml version="1.0" encoding="utf-8" ?>
<maps>
  <markers latitude="" longitude="" zoom="" marker="" name=""><![CDATA[ summary/content ]]></markers>
</maps>
```

Each line identified with `<markers>...</markers>` will contain the location or point information. Each *markers* tag contains attributes and data. These are the lines that will need to be edited to contain the location point information. The first *markers* line in the XML files will be the default start location, and a window will be open displaying that summary

The *markers* tag attributes are as follows:

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- **Latitude:** Contains the numeric latitude of the specific map point.
- **Longitude:** Contains the numeric longitude of the specific map point.
- **Zoom:** Contains the opening “zoom level” for the map. Valid entries are 1 – 20, with 1 being the worldview, and 20 being the highest magnification. Only the zoom value in the first *markers* line is read to determine the zoom level. If left blank, the default will be set to 16 (recommended).
- **Marker:** Contains the map marker style “number”. Valid entries are 0 – 4. Zero is the GoogleMaps default icon; One is a “star” icon; Two is a “walking people” icon; Three is a “bullseye” icon; Four is a “pushpin” icon. A different marker can be selected for each *markers* tag line, or if left blank, the default icon will be used. The star icon is good to use for a starting point icon, or to direct attention to specific points.
- **Name:** This the content that will be used as a link from the right of the map, to the location within the map.
- The additional icons are to the right:



Here is a sample *markers* line with the attributes filled in:

```
<markers latitude="42.335360" longitude="-85.178150" zoom="17" marker="1" name="Link to Point1"></markers>
```

Also contained within the *markers* tag is the CDATA tag. The CDATA tag is defined as:

```
<![CDATA[ summary/content ]]
```

Content placed within the two inner brackets will be displayed as is when viewed in a browser or online. For example,

```
<![CDATA[ Hello World! ]]
```

 will display “Hello World!” when viewed in a browser. The CDATA tag will also accept HTML tags within the inner brackets. For example

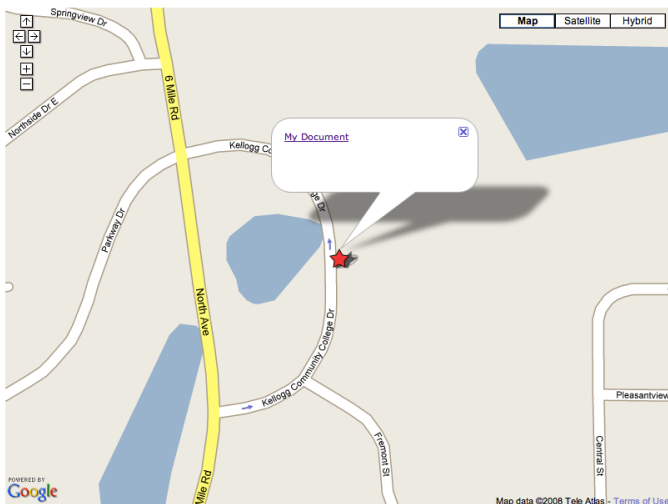
```
<![CDATA[ <a href="document.doc">My Document</a> ]]
```

 will link to a document named document.doc, while displaying “My Document” (see section 2 below).

Putting it all together, a single *markers* line might look like this:

```
<markers latitude="42.335360" longitude="-85.178150" zoom="17" marker="1" name="My Link"><![CDATA[ <a href="document.doc">My Document</a> ]]
```

The above line would display this within the GoogleMaps API:



[My Link](#)

2) Linking Images, Documents and other pages

Part of the flexibility of this exercise is the ability to add HTML code, including links to documents, images or other HTML pages through the use of the CDATA section. Some examples follow below.

- **Linking images:**
`<![CDATA[Photo of Me]]`
This would appear in the popup box and display a link, "Photo of Me", that would link to the image "myImage.jpg".
- **Displaying images**
`<![CDATA[]]`
This would display the image "myImage.jpg" right inside of the popup box.
- **Linking Documents:**
`<![CDATA[Theory of Relativity]]`
This would appear in the popup box and display a link, "Theory of Relativity", that would link to the document "myDocument.docx"
- **Linking Web Pages:**
`<![CDATA[About Me]]`
This would appear in the popup box and display a link, "About Me", that would link to the web page "myWebpage.html". Of course, "myWebpage.html" would need to be an actual existing HTML page. You could also link to external pages or sites by using the full URL address:
`<![CDATA[Apple Website]]`

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Appendix 1

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
<maps>
```

```
  <markers latitude="42.335360" longitude="-85.178150" zoom="17" marker="1"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Community College</span><br>450 North Avenue<br>Battle Creek MI 49017<br><div style="font-weight:bold;color:#039;font-style:italic;font-size:11px;padding-top:6px;">Inspiring Generations</div><br><a href="http://www.kellogg.edu" target="_blank">www.kellogg.edu</a></div> ]]></markers>
```

```
  <markers latitude="42.320957" longitude="-85.179986" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Willard Library</span><br>7 Van Buren St W<br>Battle Creek MI 49017<br><br><a href="http://www.willard.lib.mi.us/" target="_blank">www.willard.lib.mi.us</a></div> ]]></markers>
```

```
  <markers latitude="42.333057" longitude="-85.179752" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Miller College</span><br>450 North Avenue<br>Battle Creek MI 49017<br><a href="http://www.millercollege.org/" target="_blank">www.millercollege.org</a></div> ]]></markers>
```

```
  <markers latitude="42.336120" longitude="-85.177450" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Community College</span><br><strong>Roll Building</strong><br>Administration, Science, Health Technology<br></div> ]]></markers>
```

```
  <markers latitude="42.335690" longitude="-85.177750" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Community College</span><br><strong>Whitmore Administration Center</strong><br>Human Resources, Information Services<br></div> ]]></markers>
```

```
  <markers latitude="42.335620" longitude="-85.177350" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Community College</span><br><strong>A Building</strong><br>General Classrooms<br></div> ]]></markers>
```

```
  <markers latitude="42.336000" longitude="-85.176950" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Community College</span><br><strong>C Building</strong><br>General Classrooms<br></div> ]]></markers>
```

```
  <markers latitude="42.320926" longitude="-85.184133" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Kellogg Arena</span><br>1 McCamly Square<br>Battle Creek MI 49017<br><a href="http://www.kelloggarena.com" target="_blank">www.kelloggarena.com</a></div> ]]></markers>
```

```
  <markers latitude="42.330676" longitude="-85.155578" zoom="" marker="2"><![CDATA[ <div style="font-family:Verdana, Arial;font-size:11px;"><span style="color:#039;font-weight:bold;">Subway Sandwiches</span><br>799 Capital Ave NE<br>Battle Creek MI 49017</div> ]]></markers>
```

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<markers latitude="42.335500" longitude="-85.176250" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Learning Resource Center (LRC)</div>]]></markers>

<markers latitude="42.335850" longitude="-85.176500" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Spring Lake Room</div>]]></markers>

<markers latitude="42.335100" longitude="-85.177750" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Binda Performing Arts Center</div>]]></markers>

<markers latitude="42.335000" longitude="-85.176500" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Ohm Information Technology Center</div>]]></markers>

<markers latitude="42.334610" longitude="-85.176450" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Schwarz Science Building</div>]]></markers>

<markers latitude="42.335000" longitude="-85.177100" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Student Center</div>]]></markers>

<markers latitude="42.334000" longitude="-85.177300" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Lane Thomas Building</div>]]></markers>

<markers latitude="42.333000" longitude="-85.176900" zoom="" marker="2"><![CDATA[<div style="font-family:Verdana, Arial;font-size:11px;">Kellogg Community College
Davidson Visual & Performing Arts Center</div>]]></markers>

</maps>

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