

Lose Yourself in Map Services

(Google, Microsoft, Yahoo, MapQuest)



Luke

Sankey

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Expected Features of a Map

(from basic to advanced)

- Programmatically move, zoom, slide, annotate
- Toggle map/hybrid/satellite views
- Plan routes, get directions
- Overlay paths, pictures, icons
- Custom controls
- Underlay custom “satellite photos”

Google Maps

<http://maps.google.com>

- <http://www.google.com/apis/maps/documentation>
- Developer key is good for one domain (or even just a directory)
- No routing (just geocoding)
- http://mapki.com/wiki/Main_Page
- Overlays can be zoom-specific (don't draw street-level detail at continent-level zoom)

Google Code

```
var mapGOOG;
function createGoogle()
{
  // Create map and add some standard
  // controls
  mapGOOG = new GMap2(e("mapGoogle"));
  mapGOOG.addControl(new
    GLargeMapControl());
  mapGOOG.addControl(new
    GMapTypeControl());
  mapGOOG.addControl(new GScaleControl());
  mapGOOG.addControl(new
    GOverviewMapControl());
  var myPoint = new GLatLng(DEFAULT_LAT,
    DEFAULT_LNG);
  mapGOOG.setCenter(myPoint, 17);

  // Place a marker at my house's
  // latitude/longitude
  var marker = new GMarker(myPoint);
  GEvent.addListener(marker, "click",
    function()
    {
      marker.openInfoWindowHtml("This is my
        house (LAT/LNG)");
    });
  mapGOOG.addOverlay(marker);
}
```

```
// See how well Google's geocoder works,
// place a marker based on address
var geocoder = new GClientGeocoder();
var address = "2307 Steele St, Longmont,
  CO";
geocoder.getLatLng(address,
  function(point)
  {
    if (!point)
      alert(address + " not found");
    else
      {
        var marker = new GMarker(point);
        GEvent.addListener(marker, "click",
          function()
          {
            marker.openInfoWindowHtml("This is my
              house (geoCoder)");
          });
        mapGOOG.addOverlay(marker);
      }
  });
} // createGoogle
```

Quick Demos

- http://www.google.com/apis/maps/documentation/google_northamerica_offices.html
- <http://www.sankeydesigns.com/map/test>
- <http://moon.google.com>

Microsoft Virtual Earth

<http://local.live.com>

- <http://dev.live.com/virtualearth/sdk>
- Good documentation
- No developer key necessary
- Web-based “Google Earth” – type 3-D maps
- As far as I can tell, has everything except smart-overlays (google’s is new – expect MS to copy soon)

Microsoft Code

```
var mapMSFT;
function createMicrosoft()
{
  try
  {
    // Create map
    mapMSFT = new VEMap('mapMicrosoft');
    mapMSFT.LoadMap(new VELatLong(DEFAULT_LAT,
      DEFAULT_LNG), 17);

    // Mark my house by LAT/LNG
    var pinID = 1;
    var pin = new VEPushpin(pinID, new
      VELatLong(DEFAULT_LAT, DEFAULT_LNG), null,
      'This is my house (LAT/LNG)');
    mapMSFT.AddPushpin(pin);

    // Mark my house by geoCoder
```

```
mapMSFT.FindLocation('2307 Steele St, Longmont, CO
  80501', function (findResults)
{
  // assume there is only one result for this location search
  (index 0)
  var pin2 = new VEPushpin(++pinID,
    findResults[0].LatLong, null, 'This is my house
    (geoCoder)');
  mapMSFT.AddPushpin(pin2);

  mapMSFT.SetZoomLevel(17); // FindLocation screws
    the zoom level, so we must reset it
});

} // end try
catch(exception) // MS throws exception in FF2, but not
  FF1.5
{}

} // createMicrosoft
```

Yahoo Maps

<http://maps.yahoo.com>

- <http://developer.yahoo.com/maps/>
- Developer key required, no domain limitation
- API for embedding Map in Flash app

Yahoo Code

```
var mapYHOO;  
function createYahoo()  
{  
    var myPoint = new YGeoPoint(DEFAULT_LAT,  
    DEFAULT_LNG);  
    // Create map  
    mapYHOO = new YMap(e('mapYahoo'));  
    mapYHOO.drawZoomAndCenter(myPoint, 1);  
    mapYHOO.addTypeControl();  
    mapYHOO.setMapType(YAHOO_MAP_REG);  
    mapYHOO.addPanControl();  
    mapYHOO.addZoomLong();
```

```
    // Mark my house by LAT/LNG
```

```
    var pinID = 1;  
    var marker = new YMarker(myPoint, pinID);  
    marker.addAutoExpand("This is my house  
(LAT/LNG)");  
    mapYHOO.addOverlay(marker);
```

```
    // Mark my house by geoCoder
```

```
    marker = new YMarker("2307 Steele St, Longmont,  
    CO 80501", ++pinID);  
    marker.addAutoExpand("This is my house  
(geoCoder)");  
    mapYHOO.addOverlay(marker);
```

```
} // createYahoo
```

MapQuest (AOL)

<http://www.mapquest.com>

- <http://www.mapquest.com/openapi>
- Developer key can be registered to multiple domains
- Everything is a zip file (bummer)
- Implementation is sufficient, but gets confused easily with stylesheets.

MapQuest Code

```
var mapQWST;  
function createMapquest()  
{  
    mapQWST = new MQMap("mapMapquest");  
  
    var loc1 = new MQLocation();  
    loc1.setName("This is my house (geoCoder)");  
    loc1.setAddress("2307 Steele St");  
    loc1.setCity("Longmont");  
    loc1.setStateProvince("CO");  
    loc1.setPostalCode("80501");  
    mapQWST.locations.add(loc1);  
  
    var loc2 = new MQLocation();  
    loc2.setName("This is my house (LAT/LNG)");  
    loc2.setLatitude(DEFAULT_LAT);  
    loc2.setLongitude(DEFAULT_LNG);  
    mapQWST.locations.add(loc2);  
  
    mapQWST.getMap();  
} // createMapquest
```

MapQuest AdvantageAPI

- We have a non-disclosure agreement
- <http://company.mapquest.com/b2bbeta/>
- New TileServer commercial API is beta. Open API version coming soon (trying to catch up with the big dogs, I assume)
- Commercial API supports non-browser clients by providing libraries
- <https://trc.mapquest.com>
- GeoCoder returns XML from the server

Demos

- <http://www.sankeydesigns.com/map/csci7818/MapQuestExamples>
- <http://www.sankeydesigns.com/paul/bigmap.php>
- <http://www.sankeydesigns.com/map/csci7818>
- <http://www.sankeydesigns.com/map/csci7818/mapMapquest.php>
- <http://www.sankeydesigns.com/map/csci7818/TestXML.html>
- <http://www.mqdemo.com/aapi5>

Conclusion

- Google: de-facto standard (of course)
- Microsoft: copy and improve, just like in the good old days
- Yahoo: supporting Flash seems to be their claim to fame
- MapQuest: Maybe the original (1996), but

<proverb type="classic business quote">

innovate or die

</proverb>