A Geographer’s role in a Google Maps World

Jeremy Bartley
ESRI
It is a good time to be a Geographer.
Microsoft, Google, Yahoo, and others are pushing geographic awareness to the general public.

**Providing Image Basemaps for the World**

*For Consumer Focused Geospatial Visualization and Mashups*

Their Vision is to Georeference All Content on the Web . . . One More Aspect of Search

. . . They are Demonstrating the Reach and Value of the Web Environment
Google and Microsoft provide good implementation examples

• Ready-to-use, useful basemaps
• An out-of-the-box application with a multi-resolution basemap
• Easy to add layers (e.g., KML)
• Supports getting answers
  – Where is it?
  – How do I get there?
  – What’s around here – “Exploration”?
  – What does my information look like in this context?
• Visualize users content
Google, Microsoft, and others make it...

• Easy to create content
  – Google MyMaps, Microsoft collections, KML

• Easy to discover content
  – Google Search, Microsoft collections.live.com

• Easy to build applications that showcase content
  – Google Map API, Google Map Mapplet, MS Virtual Earth API

• Easy to answer questions
  – Integrate data
There is more though...

As Geographers, we can learn a lot from these sites

Geographers must also reach out and teach more about what else is possible
Geographers need to

- Add professional knowledge
- Increase Geographic awareness
- Publish research to web
- Push the geographic approach to general public
- Build new basemaps
  - Multi-scale maps are the future
- Build and publish geospatial tasks
- Build Mashups!
Soon We’ll Be Fusing Everything  
*Providing New Possibilities for Sharing, Integrating and Using*

- Creating Mashups among GIS Servers
- Integrating Consumer Basemaps with GIS Data
- Publishing GIS Services into Consumer Viewers
- Integrating Georeferenced Web Content (Geo-RSS, Photos, Documents . . . )

*Integrating Professional GIS with Everything on the Web*

. . . *Extending the Geographic Approach*
How can we do all that?
ESRI ArcGIS Server 9.3

Making GIS Knowledge Available To Anyone . . .

. . . Integrates With Other Systems Via Standards
ArcGIS Server is Open & Interoperable

Using Standards to Integrate with Any System

Web
- REST, SOAP XML, JavaScript, KML, V.E.
- ...

OGC
- GML, WFS, WMS, WCS . . .

Enterprise Integration
- SOAP, XML, EJB, SQL

Application Content
- CAD, Image, PDF

Any Client/Any Application

Enhancements
- REST/JavaScript
- Stronger OGC
- Google (KML 2.1) & Microsoft
ArcGIS Server 9.3 key enhancements to support the consumer mapping world

- **REST API for ArcGIS Server**
  - Access geospatial resources using a RESTful architecture

- **Services Explorer for ArcGIS Server**
  - Browse, search, and access published geospatial resources

- **Open and Easy KML access**
  - Provide access to maps (raster and vector), query results, geoprocessing results, geocoding results, image service results

- **JavaScript APIs**
  - ArcGIS JavaScript API
  - Google Maps Extender API for ArcGIS Server
    - Traditional API and Mapplets
  - Virtual Earth Extender API for ArcGIS Server
Demos
Demos

• Services Explorer
  – View spatial footprints

• View in Google Earth
  – Super-Overlay (regionated network link)

• Google Maps
  – Mashup:
    • Serverz uc demo of Riverside (parcels only)
  – Mapplet:
    • Riverside + query
    • Service Area

• ArcGIS JavaScript API
  – Query population by Poly (Spatial Analysis) (zonal stats)

• Virtual Earth
  – Message in a bottle (particle tracker)
Skills for the Geography Student

- Geographers are well rounded
- GIS
- Spatial Statistics
- Programming…JavaScript!
- Cartography
- Physical understanding of the Earth’s system
- Cultural understanding of the Earth’s people
Thanks!

Jeremy Bartley
jbartley@esri.com