GEOPHILLY

GIS for Digital Humanities

Handout 1: GIS & Spatial Data 101

Overview

Mapping data from archives, museums and libraries can be a great way to make items in those collections more accessible to the public. GIS can be used to spatially enable this information in conjunction with civic open data. This handout describes the basic elements of GIS tools and data.

GIS 101

What is GIS?

Geographic Information Systems: a system for storing and manipulating geographic information.

Asking Spatial Questions

When framing your question, approach the problem **geographically**. Be **Specific** and **Concise**. Consider the data you have available.

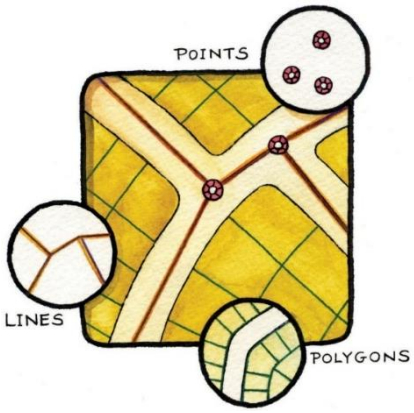
What is Spatial Data?

Definition

Data that defines a geographic location or boundary. Data is most often Points, Lines and Polygons (with associated attribute data).

Examples

Streets
Census Tract Boundaries
Store Locations
Satellite Imagery



From Spreadsheets to Map

Collecting Data

What: Clients, Donors, Incidents, Site Locations
How: Existing CRM, In-person surveys, Online forms and surveys
Include: Full Addresses, Zip Code, Client IDs

Formatting Tips

- Assign a **unique ID** to records
- **No special characters** in field names
- Don't begin a field name with a **#**
- Each address element gets **its own field**
- Zip codes saved as **text** fields
- Save a **CSV**, **Tab Delimited** or **Excel**
- **Clean Data = Better Results**

Geocoding Data

Web based: Geocode for Google Docs, BatchGeo, Geocoder.us, Google Maps, Esri API, Bing, Google Earth, MapQuest

To learn more about upcoming GeoPhilly events
Visit our Meetup page: **geophilly.com**

Desktop: Esri Address Locator, Geolytics Geocode DVD, Centrus, Juice Anayltics Excel Tool
Hybrid: Open Refine

Assembling Data

US Census

- 2010 Decennial Census
- American Community Survey
- TIGER/Line Boundary Files

Open Data Portals

- Local
  - OpenDataPhilly
- State
  - PASDA
- National
  - Data.gov

Commercial

- Esri
- Nielsen Claritas Prizm
- GeoLytics

Making Maps

Desktop Tools

- Esri ArcGIS Platform
- QGIS

Online Tools

- CartoDB
- Mapbox
- ArcGIS Online
- Google Fusion Tables

Spread your Message

Printed Maps

Use ArcGIS Desktop software (ArcGIS for Nonprofit Program offers discounted licenses), QGIS or other desktop products to create quality maps which can be printed, shared as PDF documents or included in digital reports.
Include map elements to assist your reader in interpreting your map:

- Title
- Legend
- Source Data
- Scale Bar & North Arrow (if needed)

Digital / Interactive Maps

Create interactive web maps using free tools such as CartoDB, MapBox or ArcGIS Online for Personal use. Interactive maps made using these tools can be shared via a URL or embedded in your website or blog.