Week 1 - Module 1 - Introduction and Outline

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Overview

- Introductions
- Review of the Syllabus
- Topics to be Covered
- Basics/Definitions

Introductions

- Who am I?
- Who are you?
- What brought you here?

Syllabus Review (link)

Class Topics

- Internet Mapping Clients: Basic HTML, Javascript, CSS; Google Maps API; OpenLayers javascript library
- Geospatial Services Oriented Architectures (SOA)
- Open Standards: Open Geospatial Consortium (OGC - WMS, WFS, WCS, KML); Extensible Markup Language (XML)
- Desktop client use of Open Standards
- Data sharing/publication using Open Standards

Basics

Outline

- What is Internet Mapping?
- Definitions
- Tools

What is Internet Mapping

Extended Desktop Mapping Use of open standards based remote data and map services in desktop applications

Geospatial Data Sharing Establishing open standards based services to share geospatial data and mapping capabilities over the Internet

Web-client Mapping The delivery of mapping and geospatial data tools through web browsers, again based upon open standards

Definitions

Internet The global computer network of computers that typically connect with each other over TCP/IP

World Wide Web The subset of applications that are run over the Internet, typically using the HTTP protocol in combination with data (HTML, XML, XHTML), presentation (CSS), and behavior (JavaScript) components

Mapping The generation of cartographic products that include map images (pictures of geospatial data) and other elements (e.g. legends, tools, scale information, north-arrow)

Analysis The development of models (statistical and otherwise) that enable the exploration of geospatial data and testing of hypotheses using those data

Open Standards While the definition varies from one organization to the next, Open Standards are often characterized by the following:

- Developed through a public process by a national or international standards group
- May be implemented royalty-free

Interoperability Ability of systems to share data and information with each other

COTS Commercial Off-the-Shelf Software. Applications that are "purchased" from vendors, often with license terms that restrict the use the software to the specific platform for which it is licensed. Often comes with implicit or explicit technical support

Open Source Software licensed under terms that are consistent with the Open Source definition, which includes access to source code, and freedom to modify and redistribute

Data Actual values associated with geographic locations. For example - numeric elevation values associated with locations within a Digital Elevation Model.

Metadata Data about a particular data product or service. Metadata provide critical documentation that supports the discovery and use of data products and data and mapping services

Tools

Computer Hardware Requirements

- At least 2 GB RAM
- At least 20 GB of available disk space
- Internet Connection (broadband [>728 Kb/sec] recommended)

Software Requirements

- Supported Operating System
- Geographic Information System (GIS)
- Text Editor
- Secure File Transfer Protocol Client
- Secure Shell (SSH) Client
- Web Browser (at least one of the following)
- A desktop Git/GitHub client for your operating system of choice

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