

Modular, Distributed Spatial Metadata Repository on the Services Principle

GIS Day 2008

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premise #1: **datasets are hard to find**

starting a project

quick access to base layers

common data across campus

Purdue-generated research and data

premise #2: **we're bad, lazy people (busy, i mean)**

uploading datasets to centralized storage a bust
providing intuitive, fast access to data stores takes effort
exposing datasets to search engines takes time
and go ahead and forget about the semantic and geo webs

premise #3: **if the thing can just be described**

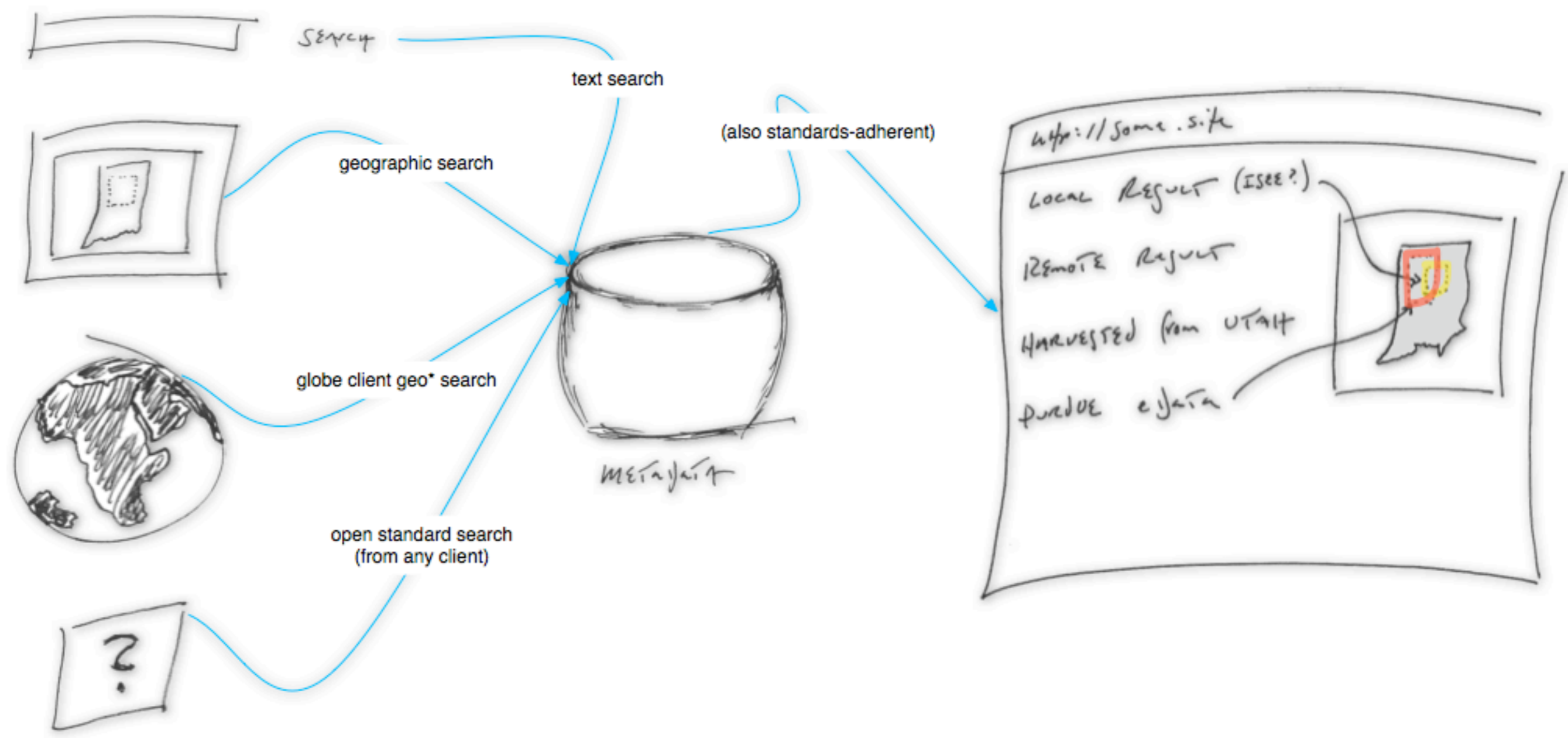
*that is, if datasets have proper metadata
the data can stay where they are
a machine (or librarian) can read their metadata
and handle the ugly details of access*

ongoing work at Purdue Libraries GIS

geometadata repository

*built on open source GeoNetwork**

*...but enhanced with GUI, custom indexing, web services
and plugged into other semantic metadata initiatives*



pre-alpha prototype

simple kw search, on customizable Lucene index

advanced users can do command-line limiting (e.g. "cat:interactive" or "type:download")

The screenshot shows a web interface for a GIS application. At the top, there is a navigation menu with links for Home, Administration, Contact us, Links, About, and Help. A search bar contains the word "food" and a "Search" button. Below the search bar, a status bar indicates "query results: 1 through 9 of 9 (page 1/1), Sort by Relevance". The main content area displays a list of search results, each with a metadata icon (a circle with an 'm'), a title, and a brief description. The first result is titled "Food Availability Map of India" and includes metadata like "schemaOrig:ISO 19115:2003/19139" and "geobox: 68.14423 97.38054 6.74583 35.50562". The second result is "World Food Summit Maps - Growth in cereal yields" and the third is "Deficit of Cereal Production Over Consumption in India". To the right of the search results is a large map viewer. The map shows a world map with a semi-transparent overlay of search results. A legend on the right side of the map viewer lists several layers, including "Some INPort", "Food Availab", "World Food", "Deficit of C", "Global most", "real_production_potenti", "currently_cereals_high_le", "currently_cereals_low_lev", and "Most suitabl". The map viewer includes navigation controls like a compass and zoom buttons.

OpenLayers dynamically renders either WMS/WFS or the spatial footprint of static layers

(WMS layers are cached/served via TileCache, significantly improving performance in OL as well as other clients, like Google Earth, WorldWind et al)

all search hits added to inline OpenLayers viewer

records are locally-produced or harvested via OAI-PMH, CSW, etc. from other metadata systems

services out/services in

catalog itself searchable from other clients

catalog can harvest other repositories

...including ArcIMS metadata services

...including domain wikis (soon)

server-side semantics will be external to source metadata

(metadata always stored safely, natively)