

Cybercartographic Atlas Framework

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Overview of the Presentation

- Take a look at Cybercartography's vision
- Cover some of the problems in current implementations
- Present what we (and others) are doing to help
- Thank you for your assistance and hint at what else we need

Also: Work through an example of module creation



Cybercartography

"the organization, presentation, analysis and communication of spatially referenced information on a wide variety of topics of interest and use to society in an interactive, dynamic, multimedia, multisensory and multidisciplinary format."

D.R.F. Taylor (1997, 2003)



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Seven Elements of Cybercartography

1. Cybercartography is multisensory using vision, hearing, touch and eventually smell and taste;
2. Cybercartography uses multimedia formats and new telecommunications technologies such as the World Wide Web;
3. Cybercartography is highly interactive and engages the user in new ways;
4. Cybercartography is applied to a wide range of topics of interest to society, not only to location finding and the physical environment;
5. Cybercartography is not a stand alone product like the traditional map but part of an information/analytical package;
6. Cybercartography is compiled by teams of individuals from different disciplines;
7. Cybercartography involves new research partnerships among academia, government, civil society and the private sector.

D.R.F. Taylor (1997, 2003)



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Cybercartography Examples

- Tsunami Map - American Red Cross
- GeoClip Demo
- Minnesota Deer Hunting using MapServer
- Daren's Outdoor Page trying to use MapServer

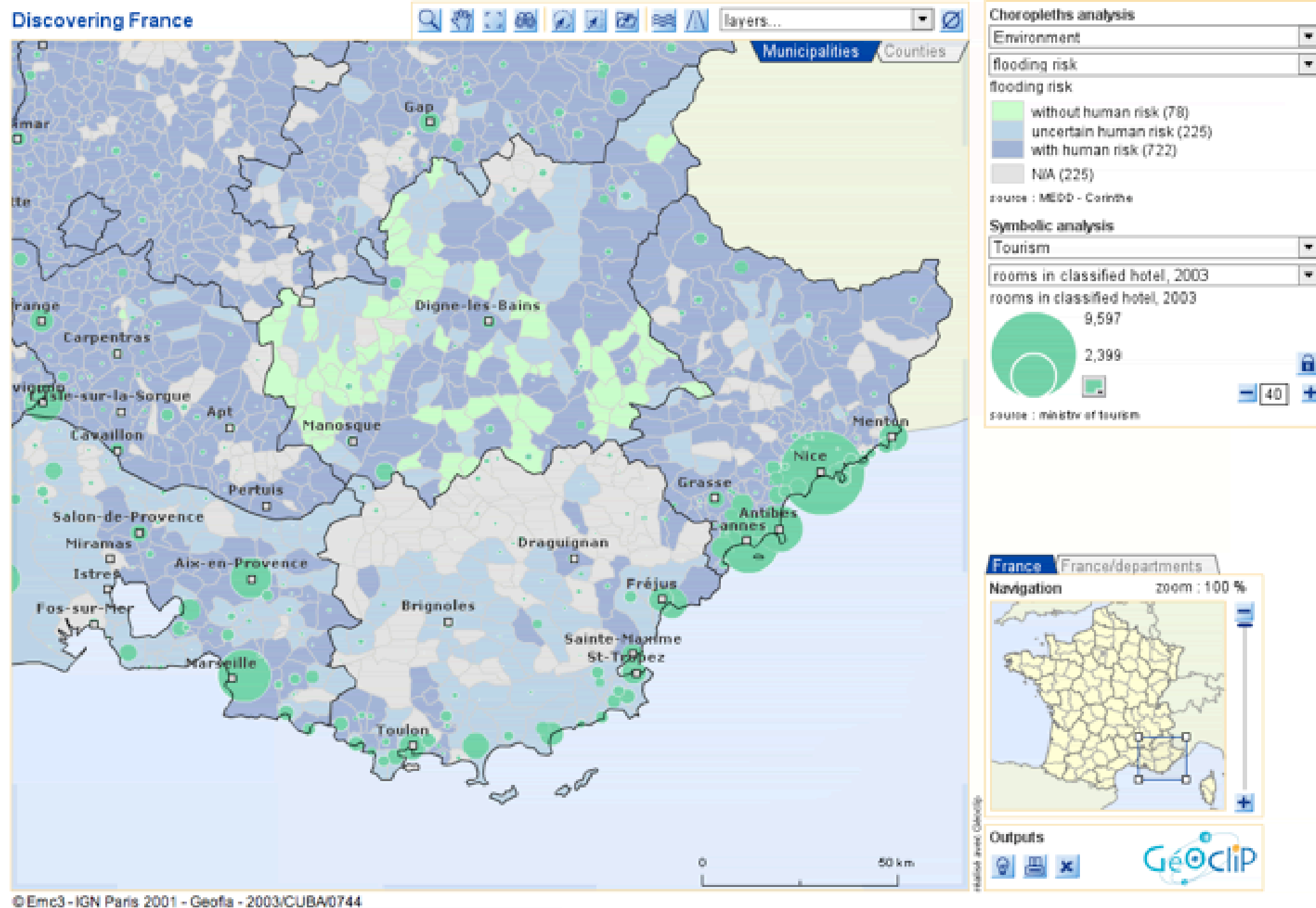


Red Cross Tsunami Map


Tsunami Relief and Recovery Efforts



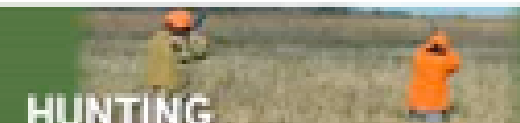
GeoClip



Minnesota Department of Natural Resources




MINNESOTA
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Deer hunting



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The white-tailed deer is Minnesota's most popular wildlife species. Each year, roughly 500,000 hunters harvest roughly 200,000.

Deer are amazing creatures. They can run at speeds of up to 40 miles per hour and leap over an 8-foot-tall fence.

Adult female white-tailed deer weigh about 145 pounds, males 170. The heaviest whitetail ever recorded in the United States was a 500-pound Minnesota buck.

[More deer biology](#)

Maps & stats

- [Minnesota's total deer harvest, 1973-2003](#) PDF
- [Deer density - spring 2004](#) PDF

2003 Deer Harvest Maps and Statistics

- [Interactive maps and harvest statistics](#)
- [2003 deer harvest report](#) PDF
- [Total deer harvest](#) PDF
- [Total muzzleloader deer harvest](#) PDF
- [Total archery deer harvest](#) PDF
- [Buck harvest](#) PDF

Deer hunting


- [Chronic wasting disease information](#)
- [Legal big game rifle & pistol cartridges & shotgun shells](#)

Deer information

[Minnesota's Growing Game](#) (Minnesota Conservation Volunteer)

[How to age your deer](#) (article from North Dakota Outdoors)

[The Sweet Taste of Success - Cooking](#)

ONLINE LICENSE SALES

[Chronic wasting disease info](#)

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Darren's Outdoor Page

Darren's Outdoor Page: MapServer

NOTE: This MapServer application is currently down. It will not likely be fixed for some time, as I'm not sure what's wrong with it, and I don't have much time right now to find out! Sorry for any inconvenience. Please check the [What's New?](#) page to see when I get everything running properly again.

Here's the second version of my MapServer application. It's much improved from v1.0, but still needs a lot of work :) If you wish to begin now, slap "Initialize" below to start. Basically, use the "Browse Mode" to pan and zoom around the map. Use "Query Mode" to gain information about an object. Right now the only queryable layers are my trips. You can click on any trip and get a link to more information about that trip. Before you start you may wish to read some of the points below...

There are a few things you may want to note before you begin:

- This application is very much in development -- there will be bugs, guaranteed!
- Everything you see is subject to change at any time, and may well change while you're looking at it, as I'm constantly changing things around. In other words, the application may suddenly throw an error at you for no reason
- Sometimes the WMS times out, so you may get a map image that is missing one or more layers. Not too much I can do about that, unfortunately, but usually if you try again it should work
- I will have metadata online eventually, but for now, suffice to say that all data shown here is, to the best of my knowledge, publically available.. so don't sue me. In fact, read the [Disclaimer](#) while you're here.
- I plan on writing a "How To" or "User Guide" for the application (eventually), but for now you'll have to figure it out yourself. Basically, use "Browse" mode to pan and zoom, and use "Query" mode to query features (duh...)
- If you wish to [email me](#) regarding this application, feel free to do so. However, I don't want to hear that you found an error (unless you also have a solution to it) as I'm likely aware of the error you found and am working on it. Constructive criticism, on the other hand, is happily accepted, especially regarding usability, layout, etc.
- Think this is pretty cool? (It is) Want to make your own? (You do) Click on the "Powered by MapServer" icon below to learn more and get started!
- Don't like the looks of my formatting or code? Too bad! I'm not a programmer, and I know that I have terrible habits when it comes to this. However, the current state is a real mess, as I'm just making it up as I go..it *should* improve as time goes on
- I realize these pages look nothing like the rest of "Darren's Outdoor Page," but I'm currently not too worried about that. I am possibly re-doing all of my pages soon, so no need to format these pages in the old style if that is going to happen...
- Thanks for reading, now click on "Initialize" above to begin



What's being done to help?

- Efforts are being made to standardize the way geomatics data is shared in a machine readable way. This is the domain of the Open Geospatial Consortium.
- Browsers are improving the way they handle dynamic content, including native support for Scalable Vector Graphics in the next major release of Mozilla.
- We're building a framework to take the hard stuff and "target specific" implementation details out of the process for content creators.



What are some difficult activities that OpenGIS Specifications will make easy?

- Geospatial information should be easy to find, without regard to its physical location.
- Once found, geospatial information should be easy to access or acquire.
- Geospatial information from different sources should be easy to integrate, combine, or use in spatial analyses, even when sources contain dissimilar types of data (raster, vector, coverage, etc.) or data with disparate feature-name schemas.
- Geospatial information from different sources should be easy to register, superimpose, and render for display.
- Special displays and visualizations, for specific audiences and purposes, should be easy to generate, even when many sources and types of data are involved.
- It should be easy, without expensive integration efforts, to incorporate into enterprise information systems geoprocessing resources from many software and content providers.

From the Open Geospatial Consortium FAQ. <http://www.opengeospatial.org/resources/?page=faq#11>



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Mozilla and Dynamic Content

Future versions of Mozilla based browsers will support SVG natively. This means that the browser will not have to relegate control to a plug-in for the section(s) of the screen where SVG is to be displayed.

This is significant because it means the entire browser window can be dynamically controlled and the contents can be freely interspersed, even where some content is SVG.

Now we can deliver our content in a very open and flexible way, render a highly interactive interface, and all without needing to lock into a technology like Flash for the whole screen.



Atlas Framework

We're asking content authors to give up some creative control over look & feel in favour of well researched design and interface decisions. (And likely a choice thereof)

We're providing:

- a mechanism for the description of relationships between their various pieces of content,
- a means to organize the content into areas of interest and link or nest where the author feels it is beneficial,
- “widgets” for specific behaviours that increase interactivity and/or understanding,

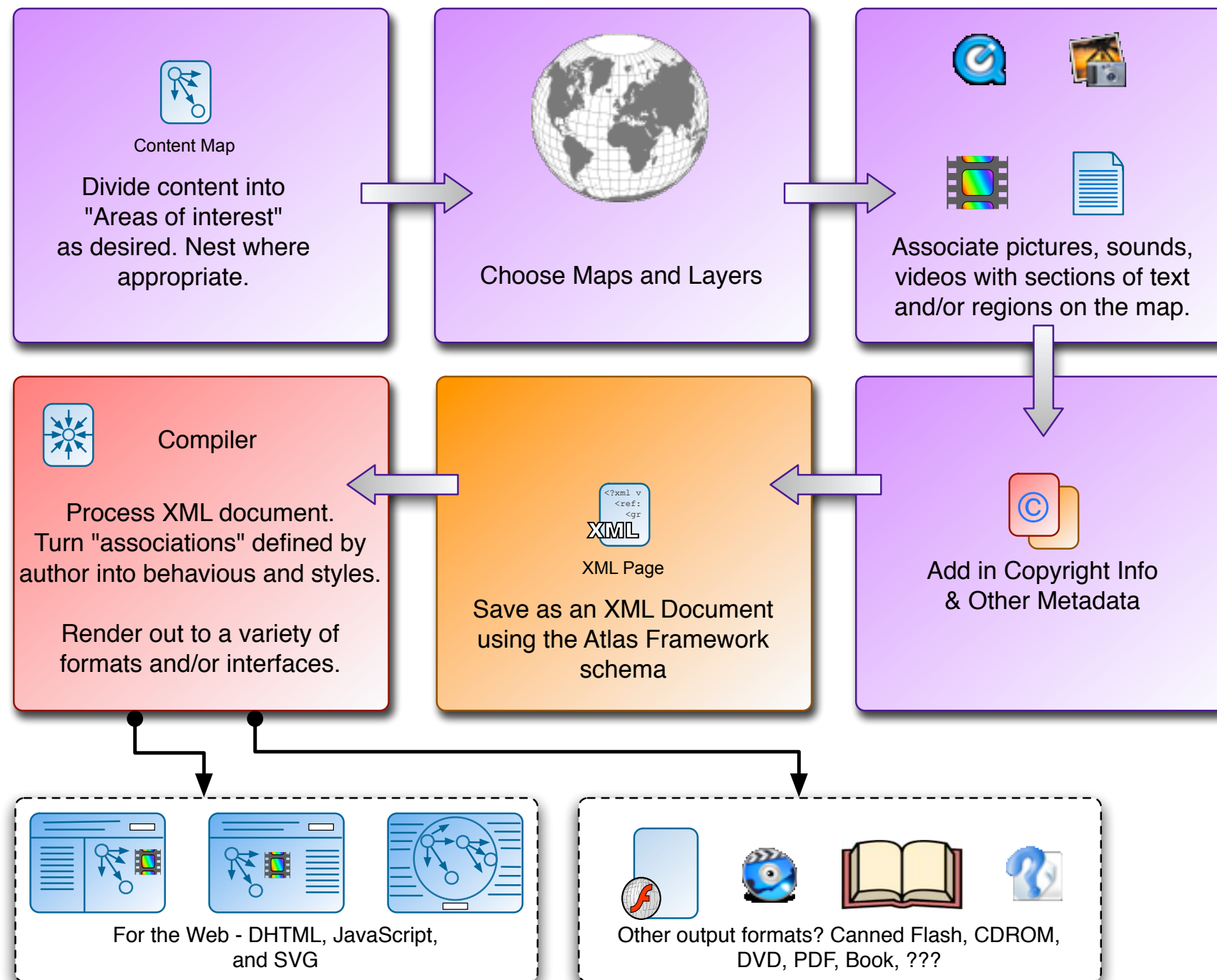


Atlas Framework

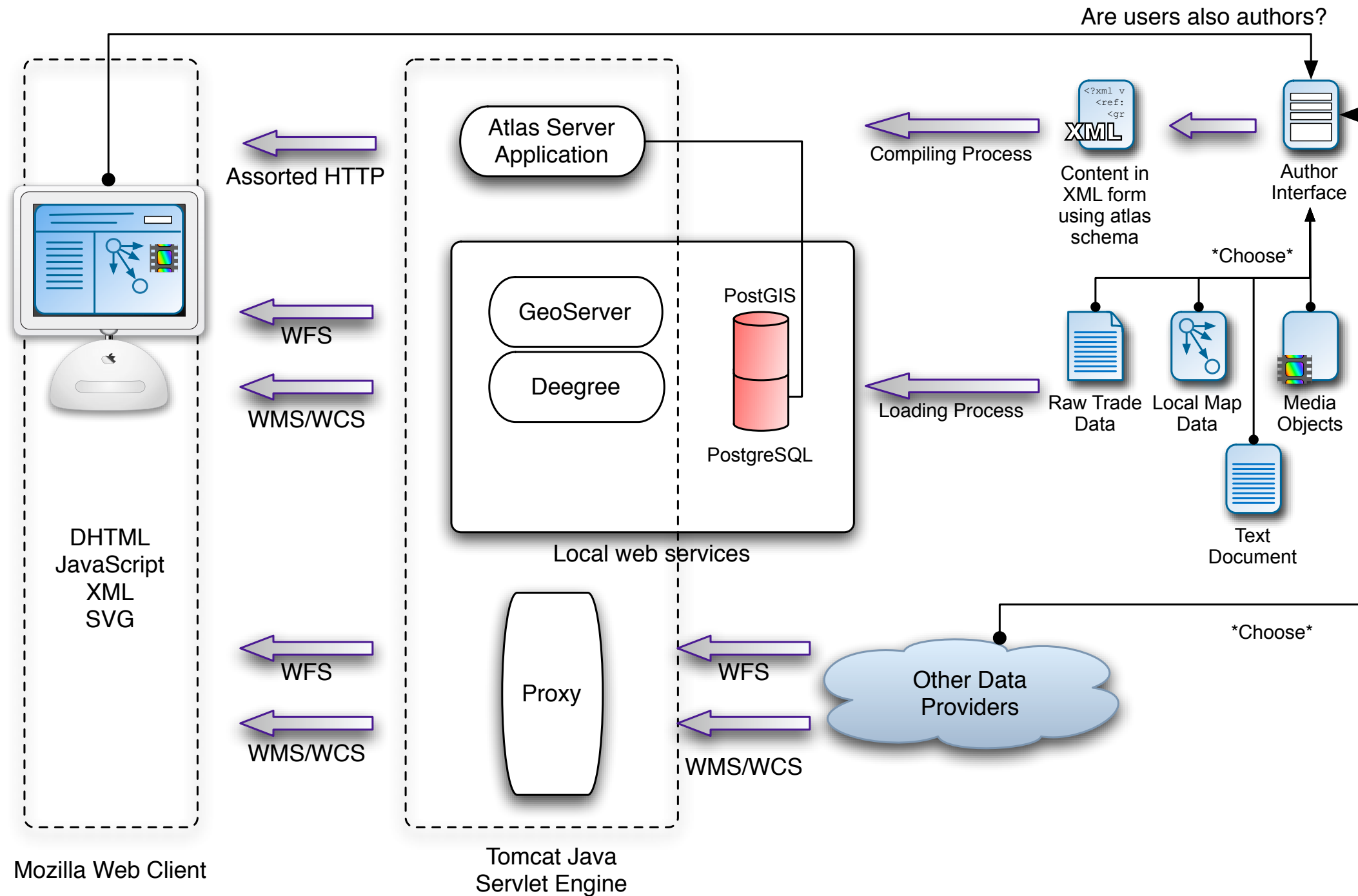
- a default “target” of an interactive website based in DHTML, JavaScript, & SVG and a “compiler” to build it from the relationships and content they have specified,
- access to a multitude of other people’s data through OGC standard web services,
- a way to geo-reference multimedia content and easily add it in; and,
- a way to include copyright and other forms of metadata during the authoring process as well as the means for a user to browse and query this data.



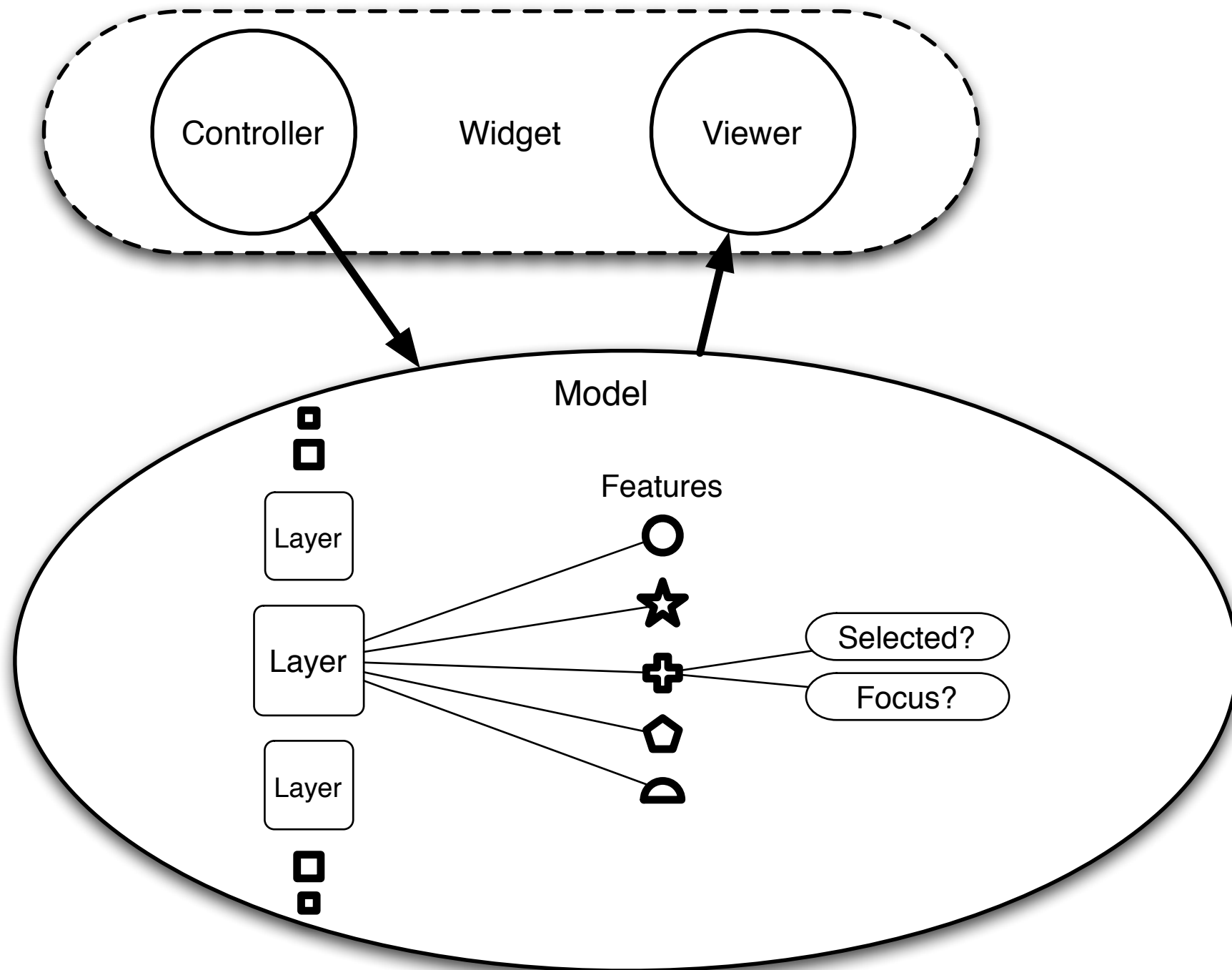
Atlas Content Flow



How the Atlas Works



Model View Controller



Thanks for your help

The inputs to this process have been numerous. We're by no means home free.

We still need clearer understandings of what authors are trying to do.

We need a better understanding of users and how they interact and learn.

We need to translate this into a system that delivers for users and authors.



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