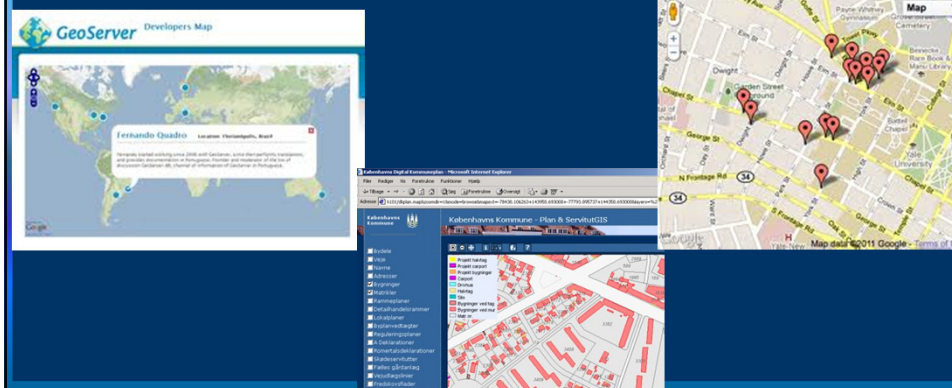


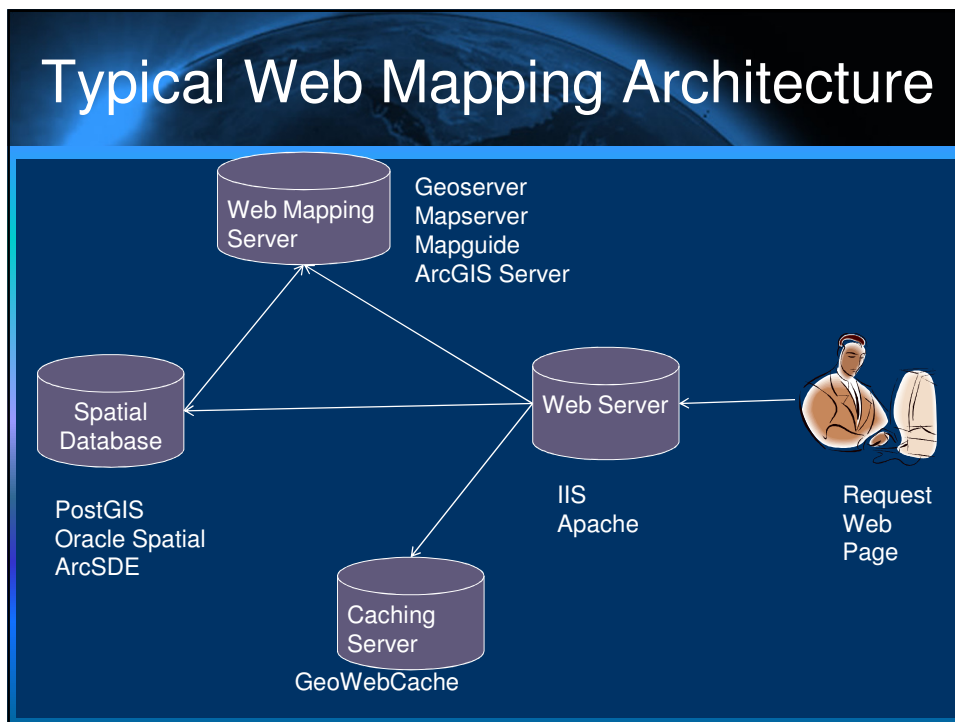
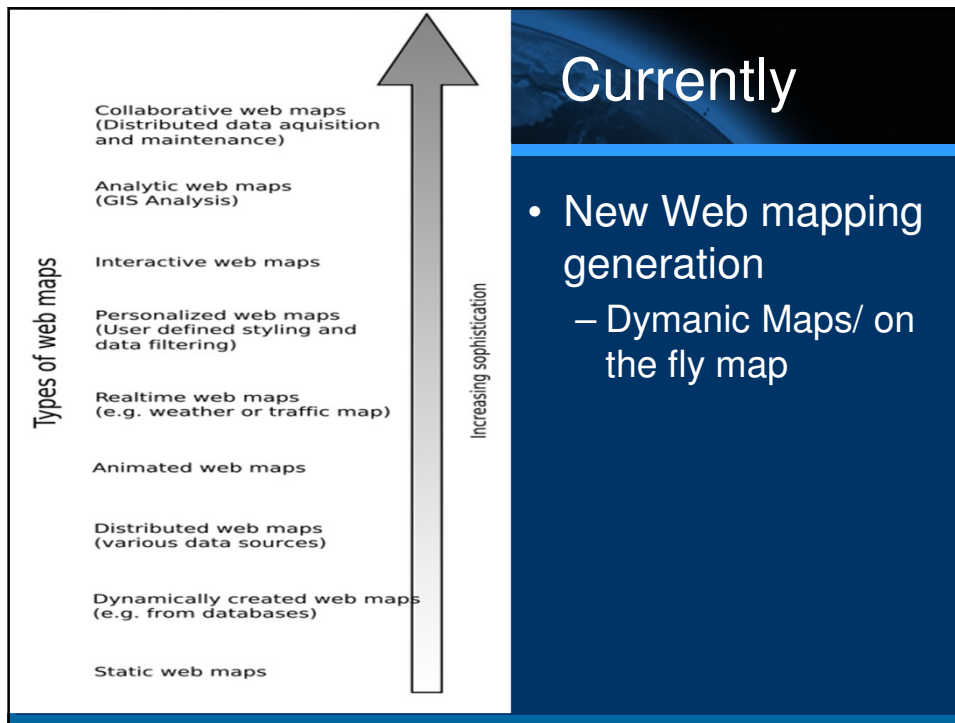
Definition

- Web mapping is the process of designing, implementing, generating and delivering maps on the World Wide Web.



History

- In the past
 - Static Maps
 - Image on HTML document





1st Constraint Data storage and management

- Geographic and non-geographic data should be **optimally stored** to ease map display and spatial query.
- Spatial database is better than CAD files
 - Indexing
 - Better storage and security for spatial data
 - Entity Relationship and topology handled
 - Advanced queries : neighborhood, proximity....
Using SQL

2nd Constraint

Styling and display management

- Users need some flexibility to create their own map on the fly , with their own symbols, styling, and scale.
 - Styling standards
 - No More plugins, all in Web standards!!!
 - The choice of a powerful label placement strategy
 - Handling Transparency: PNG as example

3rd Constraint

Is the Web Mapping solution Query-centric?

- By far, the most important advantage of web mapping is to allow users not only to display static maps, but also, to query geographic and non geographic data and then to generate instantly dynamic web maps.
 - Support of powerful query languages SQL-like
 - Adequate indexing mechanisms to speed up Queries
 - Rich user interface for querying data and building maps

4th Constraint

Performance management in Web Mapping

- Web mapping project is very costly, because of the expensive underlying infrastructure. Users in return, require a fast access to data and to generated maps.
 - Good indexing strategy for spatial and non spatial data
 - Use of caching techniques to caching mapping results and minimize the server resources.
 - Use of Ajax techniques to avoid full pages reload

5th Constraint

Security in Web Mapping

- Setting up a web mapping solution is not complete until security aspects should be handled carefully to avoid intrusion to centralized database and to confidential zoom levels for example.
 - Many researches try to formalize this aspect by proposing some standards or extensions to describe security aspects in mappings requests
 - Access control Model
 - Usage control Model

6th Constraint

From Web mapping to Geospatial Web Services

- What to deliver with web services? Maps or Data? : That question depends on what users really needs
 - Fortunately, with the current OGC standards, one can deliver map data either as :
 - vector data in GML format by using Web feature services,
 - or raster data mostly in PNG or JPEG format by using Web Mapping Services.
 - Some efforts needed to compose and chain services

7th Constraint

Is Your app will turn to be in Mobile ?

- Resolution requirement
- Performance issues