From GIS Data to Interactive Maps

Certificate of Advanced Studies in Spatial Information Systems
2015/2016

General Workflow in Web Cartography

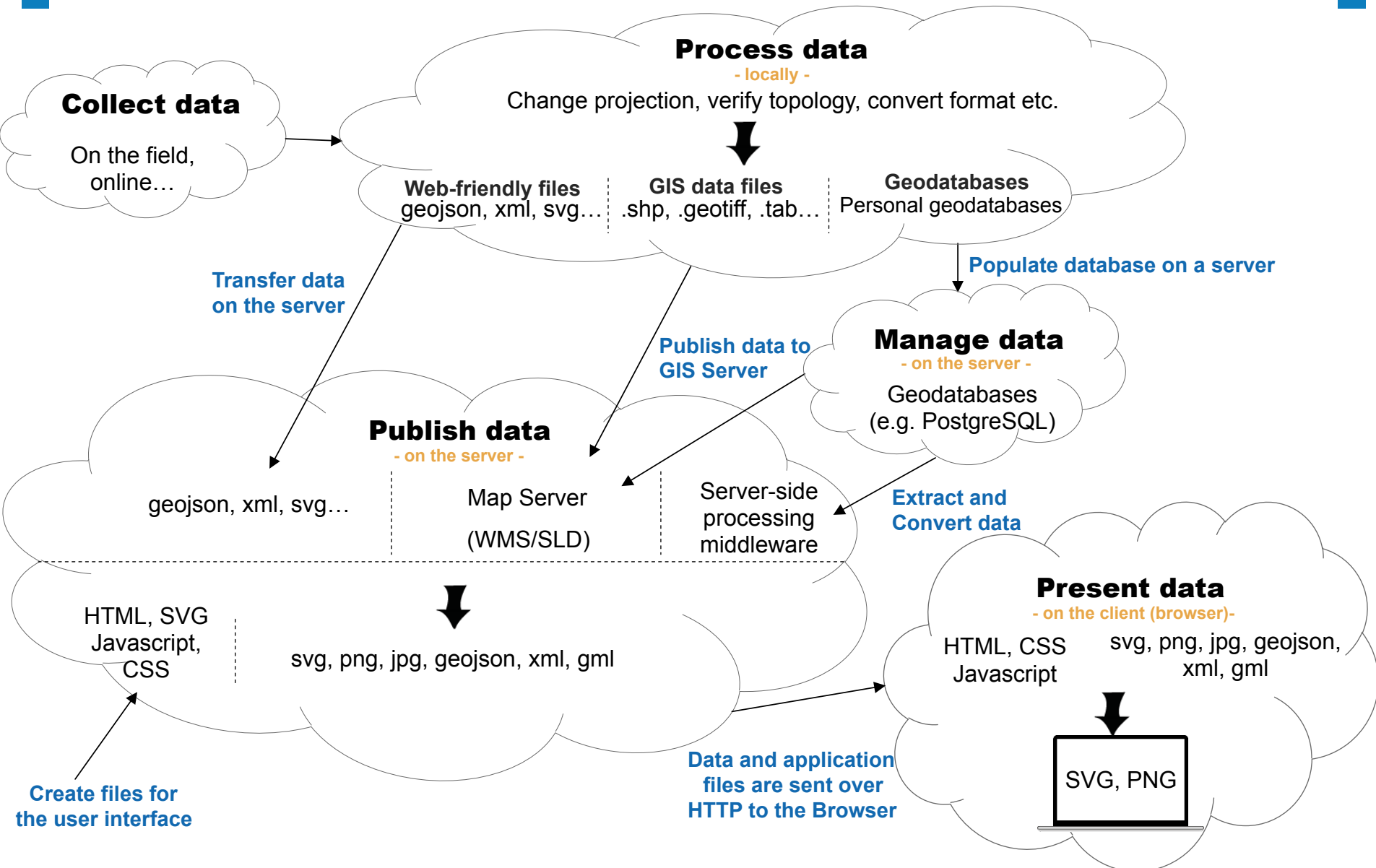Ionuț Iosifescu

Overview

- General workflow in Web Cartography
  - Design the application (including Content and User requirements)
    - Define the purpose, message, audience
    - Design and specify the map content and its corresponding visualization
    - Design and specify the user interface and functionality
  - Collect and Process data (GIS and Generalization know-how)
  - Structure and Manage data depending on the project's complexity (e.g. with Database technologies)
  - Publish and Present data (including adaptation of the technologies to the map's needs and implementation of interactive functions)

Our Focus in this Module

- ## General workflow in Web Cartography
  - Design the application (including Content and User requirements)
    - Define the purpose, message, audience
    - Design and specify the map content and its corresponding visualization
    - Design and specify the user interface and functionality
  - Collect and Process data (GIS and Generalization know-how)
  - Structure and Manage data depending on the project's complexity (e.g. with Database technologies)
  - Publish and Present data (including adaptation of the technologies to the map's needs and implementation of interactive functions)

What Will You Learn?

- Fundamental concepts for the implementation of Web maps & geodata visualization for online GIS

- Technologies and frameworks for Web Cartography

- You will:
  - understand the workflow to create a web map application
  - know how to design a web map application from the technical point of view (**cartographic design is not covered**)
  - know how to understand and use existing web mapping frameworks
  - Know how to produce tiled maps
  - know how to create and use Web Map Services in Spatial Data Infrastructures

Process data
- locally -

Change projection, verify topology, convert format etc.

Collect data

On the field,
online…

Web-friendly files
geojson, xml, svg…

GIS data files
.shp, .geotiff, .tab…

Geodatabases
Personal geodatabases

Populate database on a server

**Transfer data
on the server**

**Publish data to
GIS Server**

Manage data
- on the server -

Geodatabases
(e.g. PostgreSQL)

Publish data
- on the server -

geojson, xml, svg…

Map Server

(WMS/SLD)

Server-side
processing
middleware

**Extract and
Convert data**

HTML, SVG
Javascript,
CSS

svg, png, jpg, geojson, xml, gml

Present data
- on the client (browser)-

HTML, CSS
Javascript

svg, png, jpg, geojson,
xml, gml

SVG, PNG

**Create files for
the user interface**

**Data and application
files are sent over
HTTP to the Browser**

Questions