Better image area annotations

Robert Casties, Max Planck Institute for History of Science
What we do

• Work with historical sources
  • scanned books, manuscripts, notebooks
  • digital photos
  • scanned drawings and paintings
  • digital texts
  • data
Our vision

• "Weaving a web of knowledge" (Jürgen Renn)

• close and distant reading of all kinds of sources

• create comments, relations, narratives

• share the results during the process or the result with collaborators or everybody

• collecting annotations on a source creates a "semantic network" of sources
What we want now

• Right now
  • annotate resolution-independent images
  • annotate points, rectangular and non-rectangular image regions

• but also
  • annotation of relations
  • rich and reliable provenance information
Status quo of image annotation standards

<urn:uuid:40F2B17E-7CA2-42C2> a oa:FragmentSelector ;
  rdf:value "xywh=135,16,25,53" .

• too simple
  • only rectangles along axes
  • only pixel or (integer) percent units
Status quo of image annotation standards

- too complicated
- needs XML parser
- many ways to describe the same geometry and coordinate system
- many other features not related to defining areas
Proposal: fractional relative coordinates

- Resolution-independent image using scaling image server
- \( x \) and \( y \) as decimal fraction \( 0 \leq x \leq 1 \) of image width / height
- can be used in media fragments: \#xywh=fraction: 0.3333,0.5,0.1,0.31
- resolution depends on decimal precision
- does not conserve angles and areas
Proposal: fractional relative coordinates

- Advantages of relative coordinates
  - allows the client to use smaller image
  - saves round trip to server
  - enables resolution upgrades on the server
Proposal: WKT / GeoJSON for image areas

- WKT / Simple Feature Access: plaintext geometry language, GeoJSON: JSON version
- geometric primitives: point, line, polygon
- only point coordinates
- different geographic Coordinate Reference Systems (add fractional relative coordinates?)
Open questions

• Use WKT plain text in OAC selector?
• use GeoJSON in OAC selector?
• more structured selector?
• integration of GeoJSON in Annotator.js format?