

# Better image area annotations

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# 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

```
<2752261a-d14b-11e1-b9b2-00163e110825> a oa:SvgSelector, ct:ContentAsText;  
dcterms:format "image/svg";  
ct:chars ""  
  <?xml version="1.0" standalone="no"?>  
    <polygon xmlns="http://www.w3.org/2000/svg"  
      points="5315,5639 5444,5529 5505,5593 5346,5691 5315,5639" />  
  ""
```

- 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?