Persistent Annotations Deserve New URIs

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Introduction

- An annotation can be described as a relation between different resources with different media types like text, image, audio, or video.
Goals

• A unique URI for every annotation.
• Persistent annotations and resources.
• Annotate specific part of media.
• Keep track of the resources.
• Present annotation in browser.
• Meet the OAC model requirements.
Annotation Example
• OAC specifies the relations between resources.
• Associates annotations with resources.
• Describes the annotation.
• What part of the resource are we annotating?
• Media fragment specification does not support the non-rectangular shapes.
• SVG technology allows users to select particular parts of the images of any shape.

The fragment URI for a rectangle part
http://www.example.com/img.png#xywh=100,200,360,260
Annotation with SVG
Annotation’s URI

http://128.82.5.41:8080/cgi-bin/retrieve.py?svg=344

Annotation’s resources

• Resources may:
  o Move [location]
  o Change [updated]
  o Disappear

• Resources will be pushed to WebCite archive.
Annotation’s resources

• Resources may:
  o Move [location]
  o Change [updated]
  o Disappear

• Each resource has an archived copy.
Archive the Resources

• How can we keep track of all these resources?
Resource Map

- The URIs and the relation between these URIs are represented with Resource Maps and Link headers.

- A Resource Map is generated for every annotation.

- Lists all the associated resources to this annotation and the relationship between them.
(A) The annotation
(B) Adding mementos

```
M-1
  oac:hasBody
  memento

Ex:Anno
  oac:hasTarget

M-2
  oac:constrainedBy
  memento

ex:Tusk

uu1
  oac:constrains

ex:svg
  memento

M-3

ex:AFRICA
  memento

M-4
```

Ex:Anno

Ex:AFRICA

Ex:Tusk

M-1

M-2

M-3

M-4
Implementation

• Two main Services:
  o Create and share the annotation.
  o Retrieve and represent the annotation.

• Scalable Vector Graphs SVG.
• ORE Resource Maps.
• WebCite
• Bitly
SVG_Edit Plugin
Create The Annotation

Annotating online service
- Push to Archive
- Generate RDF
- Generate ReM
- Shorten the URI

Browser

Annotation’s data
Annotation’s URI

Retrieve and share the annotation

Conclusion

• The paper concentrates mainly on minting new URIs for the annotations.

• Annotating the media fragments was made possible using the SVG and its media tags.

• Using the web archives solved the issue of keeping the annotation persistent over time.

• The Resource Map is the perfect solution to keep track of all the related

• Demonstration video:
Conclusion

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• Demonstration video:
  • http://bit.ly/Annotate

• E-mail: aalasaad@odu.edu
• Backup Slides.
RDF Syntax

ex:Anno a oac:Annotation ,
oac:hasBody   ex:Tusk ,
oac:hasTarget uu1 .

uu1 a oac:ConstrainedTarget ,
oac:constrains  ex:AFRICA ,
oac:constrainedBy ex:svg .

ex:svg a oac:SvgConstraint ,
dc:format "image/svg+xml" .

ex:Tusk a oac:Body .
Create The Annotation


http://www.webcitation.org
Retrieve The Annotation

curl -I http://128.82.5.41:8080/cgi-bin/retrieve.py?svg=334

link: <http://128.82.5.41:8080/RDFs/334.rdf> ; rel="http://www.openannotation.org/ns/hasTarget"; anchor = "http://bioweb.uwlax.edu/bio203/s2007/shah_rach/map.JPG",
<http://128.82.5.41:8080/RDFs/334.rdf> ; rel="http://www.openannotation.org/ns/hasBody"; anchor = "http://128.82.5.41:8080/SVGs/image334.svg#body",
<http://128.82.5.41:8080/Res/334.atom> ; rel="resourcemap",
<http://www.webcitation.org/5vtIf1BwD>; rel ="memento"; datetime= "Sun, 12 Jun 2011 10:15:19 GMT",
<http://www.webcitation.org/5vtIf68Cn>; rel ="memento"; datetime= "Sun, 12 Jun 2011 10:15:19 GMT"

Content-Type: text/html
Resource Map

<link rel="http://www.openarchives.org/ore/terms/aggregates" href="http://2.bp.blogspot.com/ _2ASHdLrOGi0/TNmzuwr3kJI/AAAAAAAAsI/Y91p52Huq3s/ s1600/elephant-tusks-460_1016757c-739042.jpg" title="The Body" type="image/jpg"/>
<link rel="http://www.openarchives.org/ore/terms/aggregates" href="http://www.webcitation.org/5xqiA4E0f" title="Archived Target" type="text/html"/>
<link rel="http://www.openarchives.org/ore/terms/aggregates" href="http://www.webcitation.org/5xqhw5tI9" title="Archived RDF Annotation" type="text/html"/>
<oreatom:triples>
  <oac:Annotation rdf:about='http://cs.odu.edu/~aalasaad/RDF/344.rdf'>
    <oac:hasbody rdf:resource='http://128.82.5.41:8080/SVGs/image344.svg'/>
    <oac:hasTarget rdf:resource='http://bioweb.uwlax.edu/bio203/s2007/shah_rach/map.JPG'/>
    <oac:hasTargetContext>
      <oac:TargetContext>
        <oac:when>2011-04-06T20:51:20-00:00</oac:when>
      </oac:TargetContext>
      <oac:TargetContext>
        <oac:contextAbout rdf:resource='http://128.82.5.41:8080/SVGs/image344.svg'/>
      </oac:TargetContext>
    </oac:hasTargetContext>
  </oac:Annotation>
</oreatom:triples>