

Embedding RDF Metadata in XHTML



- Embedding RDF Metadata in XHTML
- Homepage Generator: MMM.Persons 2.2 - Math-Net Meta Maker for Persons
- by Gulraj Singh University of Osnabrueck Germany
- Presentation by Martin Cavanagh
- University of Waikato New Zealand & University of Osnabrueck Germany

Göttingen, 2005-02-28 – 2005-03-02

Terminology



- SVG stands for Scalable Vector Graphics
- SVG is used to define vector-based graphics for the web
- SVG defines the graphics in XML format
- SVG is a World Wide Web Consortium (W3C) recommendation
- SVG can be embedded in XHTML

Terminology



- RDF stands for Resource Description Framework
- RDF is a framework for describing resources on the web
- RDF provides a model for data, and a syntax so that independent parties can exchange and use it
- RDF is designed to be read and understood by computers

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Terminology



- RDF is NOT designed for being displayed to people
- RDF is written in XML
- RDF is part of the W3C's Semantic Web Activity
- RDF is a World Wide Web Consortium (W3C) recommendation
- RDF can be an element in a SVG object

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Problem Description



- We want to be able to describe webpages with metadata - namely RDF
- But when we embed RDF directly in XHTML the browser attempts to render the RDF

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RDF embedded directly in XHTML



```
<?xml version="1.0" encoding="iso-8859-15"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1 plus MathML 2.0
  plus SVG 1.1//EN"
  "http://www.w3.org/2002/04/xhtml-math-svg/xhtml-math-svg.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head><title>Personal Homepage of Martin Cavanagh</title></head>
<body><p> page with info and RDF describing the page
<b> elements of the RDF document MAY be rendered!</b></p>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#">
</rdf:RDF>
</body>
</html>
```

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Directly embedding



- Why doesn't it work? The browser (or validator) parses the RDF object as XHTML! Some browsers will then render this
- This is a BAD THING:
- RDF has many tags that are not a part of XHTML
- The metadata was never designed to be displayed as XHTML
- Therefore we need a way to include RDF in XHTML without letting it be parsed by the browser!

A Solution:



- Embed a SVG object of 0 width and 0 height (so that it won't be seen) in the XHTML page.
- Inside this SVG object include the RDF resource
- This works because XHTML allows SVG objects & SVG may have RDF tags

RDF embedded in SVG example



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RDF embedded in SVG sample solution



MMM v 2.1 tool:

<http://www.inf-eng.org/cgi-bin/infeng/MMM/MMMPersons/MMMPers2.1.cgi>

produces:

<http://homepages.ihug.co.nz/~cavanatj/MMMPers2.1.cgi.htm>

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Problem with this method:



- RDF describes every object on the page (or can) except the SVG object.

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Another school of thought:



- Inside the XHTML include a link to the RDF document.
- The RDF document is then in a separate document

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Linked RDF example



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Linked RDF sample solution



MMM ver 2.2

<http://www.inf-eng.org/cgi-bin/infeng/MMM/MMMPersons/MMMPers2.2.cgi>

Produces

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Problems with Linked RDF



- No longer embedded in XHTML page, which was the goal
- But the RDF now shows up as a link for the user (metadata is for computers not for people - there is no reason for people to visit this page)
- Every link could be a RDF document....the metadata browser would need to parse them all...

Conclusion



- Cashmere Int at Osnabrueck University have implemented the 2 prevailing solutions
- RDF cannot be directly written into XHTML (ver 1.1. -and this is likely to remain the case for XHTML 2.0)
- Solutions:
- Embedd RDF resource in SVG object and SVG object in XHTML page
- Have a seperate RDF page and a link to this page from XHTML
- Neither solution is perfect - but they both allow backwards compatibility

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