W3C Open Annotation: Status and Use Cases

Robert Sanderson
azaroth42@gmail.com
Los Alamos National Laboratory
@azaroth42

Paolo Ciccarese
paolo.ciccarese@gmail.com
Harvard Medical School
@paolociccarese

(Community Group Co-Chairs)
Web Annotation History

1993
Andreessen adds and removes annotation capabilities from Mosaic

… many failed annotation start ups …

1999
Third Voice (discontinued 2001)

2001
W3C Annotea (nothing new after 2005)

… many more failed annotation start ups …

2009
Google Sidewiki (discontinued 2011)
Open Annotation Collaboration
Annotation Ontology
Community Group History

2011/11
AO and OAC initial Face to Face in Albuquerque

2012/03
Community Group Face to Face in Boston

2012/05
First Draft of Joint Specification

2012/09
Community Group Face to Face in Chicago

2013/02
Second Draft of Joint Specification

2013/04
West Coast (US) Rollout, iAnnotate13

2013/05
East Coast (US) Rollout, WebSci13

2013/06
European Rollout, OA18

2014
???
Why a Community Group?

Interoperability is made of People

http://www.w3.org/community/openannotation/
Drilling Down a Little…

hypothes.is

ePUB

iiif

Annotations @ Harvard
W3C Open Annotation Community Group

• Established after reconciliation of Open Annotation Collaboration and Annotation Ontology models
• 89 participants from around the world: 6th largest of 128 groups
Many universities, also commercial and not-for-profit

Mission:

Interoperability between Annotation systems and platforms, by
…following the Architecture of the Web
…reusing existing web standards
…providing a single, coherent model to implement
…which is orthogonal to the domain of interest
…without requiring adoption of specific platforms
…while maintaining low implementation costs
Why Care About Interoperability?

Users:

• Avoid vendor lock-in
• Avoid end-of-life loss of content
• Share with yourself or others using different systems
**Why Care About Interoperability?**

**Developers:**

- Build on existing code libraries, tools and systems
- Community of developers for questions
- Data model covers a myriad of use cases, No need to think them all up again
Why Care About Interoperability?

Content Providers:

- Leverage what your users are saying, where they say it
- Build community around your resources
- Consumer as Producer (Web 2.0)
- Semantic Web (Web 3.0)
- Someone else will do it…
Why Care About Interoperability?

Annotation is made of People!
**What is Annotation?**

An Annotation is considered to be a set of connected resources, typically including a body and target, where the body is related to the target.

**Users Annotate To:**

- Provide an Aide-Memoire
- Share and Inform
- Improve Discovery
- Organize Resources
- Interact with Others
- Create as well as Consume

- Highlighting, Bookmarking
- Commenting, Describing
- Tagging, Linking
- Classifying, Identifying
- Questioning, Replying
- Editing, Moderating
Basic Data Model

http://www.openannotation.org/spec/core/
Use Case: Peer Review

Designing the W3C Open Annotation Data Model

Robert Sanderson
Los Alamos National Laboratory
Los Alamos, NM 87544, USA
rsanderson@lanl.gov

Paolo Ciccarese
Massachusetts General Hospital
Boston, MA 02114, USA
paolo.ciccarese@gmail.com

Herbert Van de Sompel
Los Alamos National Laboratory
Los Alamos, NM 87544, USA
herbert@lanl.gov

ABSTRACT
The Open Annotation Core Data Model specifies an interoperable framework for creating associations between related resources, called annotations, using a methodology that conforms to the Architecture of the World Wide Web. Open Annotations can easily be shared between platforms, with sufficient richness of expression to satisfy complex requirements while remaining simple enough to also allow for most common use cases, such as attaching a piece of text to a single web resource. This paper presents the W3C Open Annotation Community Group specification and the rationale behind the scope and technical decisions that were made. It also motivates interoperable Annotations via use cases, and provides a brief analysis of the advantages over previous specifications.

Author Keywords:
Annotations, Web Architecture, Interoperability

This paper presents the W3C Open Annotation Data Model specifications, as well as the rationale behind the design choices of the community. Overall, the paper is well-written and structured, and the points made are thorough with sound underlying reasoning. The authors discuss several aspects of the model, which covers at large extent most of the intrinsic requirements of the issue of sharing resource annotations following open directives. The main aspect of any core model is that it should drive interoperability between and across remote, heterogeneous and independent environments. With this in mind, the community has taken care of specifying a universally applicable model for resource annotation, keeping in mind to provide a portable model with low complexity. The model covers functional as well as non-functional characteristics of annotations, such as annotation timestamps, supporting different annotation types (such as text, video and so on), as well as providing the ability to indicate specific fragments of the target resource that are annotated, and diverse fragment types (mostly depending on the data format of the target resource).
Use Case: Organization - Bookmarking

I should use this
Use Case: Organization - Tagging

```
oa:tagging
  oa:motivatedBy
    anno1
      rdf:type
        oa:Annotation

oa:hasBody
  tag1
    rdf:type
      oa:SemanticTag

oa:hasTarget

eg: http://dbpedia.org/resource/Astronomy
```
Further Specification of Resources

Specific Body and Specific Target resources **identify** the region of interest, and/or the state of the resource.

Need to be able to **describe** the state of the resource, the segment of interest, and potentially styling hints for how to render it.

We introduce:

- **State**: Describes how to retrieve representation
- **Selector**: Describes how to select segment
- **Style**: Describes how to render/process segment
- **Scope**: Describes context of the resource
Use Case: Specific Note Taking

But I don't want to go among mad people,' Alice remarked.

"Oh, you can't help that," said the Cat: "we're all mad here. I'm mad. You're mad.

How do you know I'm mad?

"You must be,' said the Cat, 'or you wouldn't have come here.'

Alice didn't think that proved it at all; however, she went on. "And how do you know that you're mad?"

"To begin with," said the Cat, "a dog's not mad. You grant that?"

'I suppose so,' said Alice.

"Well, then,' the Cat went on, "you see, a dog growls when it's angry, and wags its tail when it's pleased. Now I growl when I'm pleased, and wag my tail when I'm angry. Therefore I'm mad."

'I call it purring,' said Alice.

"Call it what you like," said the Cat. "Do you play croquet with the Queen to-day?"

"Well then ... therefore I'm mad."
Use Case: Dynamic Knowledge

- anno1
  - rdf:type
    - oa:Annotation
  - oa:hasBody
  - oa:hasTarget
    - urn:uuid...
  - oa:hasSource
  - oa:hasState
    - "2012-01-18 12:00:00Z"
    - oa:when
    - rdf:type
  - urn:uuid...
  - describes
  - identifies

Open Annotation Community Group
http://www.w3.org/community/openannotation/

OA18: Innovations in Scholarly Communication
June 19-21 2013, Geneva, Switzerland
Future of Annotation

Model:
- Selectors for new media types
- More explicit motivations
- Collections of Annotations

Protocols:
- REST
- Search and Ranking Results

Trust:
- Reputation and Identity
- Controlling Access and Digital Signatures
Future of Annotation?

Challenge to know if/when to move to formal standards process

- Informal (Community Group):
  - More flexible
  - No membership requirements
  - Important for short term engagement

- Formal (Working Group):
  - Actually becomes a standard
  - Important for long term adoption

Likely move to formal process in 2014, unless objections or significant changes required
Thank You

Robert Sanderson
azaroth42@gmail.com
Los Alamos National Laboratory
@azaroth42

Paolo Ciccarese
paolo.ciccarese@gmail.com
Harvard Medical School
@paolociccarese

(Community Group Co-Chairs)

http://www.flickr.com/photos/hinkeb/5232293964/

http://www.w3.org/community/openannotation/
http://www.openannotation.org/