

# SWAD–Europe Deliverable 9.2: Accessibility adoption report

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Abstract:

This report describes the results of work to present RDF-based techniques to the Web Accessibility Initiative's working groups.

Status:

First version published 2004-01-03. This is a **Completed report**, published 2004-01-20.

This document may be updated during the life of the SWAD-Europe project to reflect or link to further developments in this area.

Comments on this document are welcome and should be sent to the [public-esw@w3.org](mailto:public-esw@w3.org) list, archived at <http://lists.w3.org/Archives/Public/public-esw/>. General discussion of semantic web tools and technologies should be sent to [www-rdf-interest@w3.org](mailto:www-rdf-interest@w3.org) which is archived at <http://www.w3.org/Archives/Public/www-rdf-interest>. Discussion of accessibility should be directed to an appropriate group within the Web Accessibility Initiative [[WAI](#)]

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## 1 Introduction

This report is part of [SWAD-Europe Work package 9: Visualisation and Accessibility](#), and addresses the scope, features and purpose of tools for annotating or commenting on web data using existing systems that are licensed as Free Software or Open Source.

For those in a hurry: go straight to the [outcomes section](#).

## 2 EARL

EARL is a W3C working draft that has been in development for several years. It is an RDF vocabulary for recording the results of evaluations.

Its application of accessibility is mostly in the area of tool development, since it potentially allows for the use of several specialised tools with EARL as an information transfer format. This application has been discussed since the early development of EARL.

Work within this project focused on promotion of and help with EARL development. Interest in EARL, particularly from non-english-speaking developers, was unmatched by supporting materials. Explanations of how to use EARL in multiple languages [EARL-code], discussions in non-english-language fora, example code available with documentation in Spanish and English, development in French, have all been part of the work in this project to

spread understanding of EARL.

The second axis of work on EARL has been to promote discussion of the remaining issues with the specification. This has been held up somewhat by W3C's lack of resources for management of the specification development, which may be resolved by a proposed project in which W3C would participate.

Demonstrating the possibilities offered for more complex conformance schemes has been the third major axis of work, in wider areas than just W3C. The Dublin Core Accessibility Interest Group, the INCITS V2 group standardising protocols for communication between devices for user-control of their environment, the CC/PP working group who are developing a relevant RDF vocabulary, the IMS project's work on Learner profiling as a way to ensure that it is possible to deliver information in a relevant format are groups with whom collaboration has been sought by both sides.

### 3 Information transformations and end users.

One important aspect of accessibility is the ability to transform content for users whose disability makes it difficult to use a particular content type. For example, some users have difficulty reading large amounts of text. Identifying different parts of the text, and being able to summarise them, can be helpful to someone who wants to navigate through a document with limited reading skills. Similarly, someone may have difficulty hearing, but be able to discern enough sound to benefit from an audio file if they are helped by having a description or transcript.

### 4 Implementation

Work undertaken in the SWAD-Europe project has led directly to the implementation of EARL management in a number of tools: Axforms, MUTAT, WAINu.

Collaborative work has been important in the development of EARL implementations in several other tools: AccessValet, AccVerify, the W3C markup validator, The Wave

Collaborative work on transformation techniques has led to them being used by UBAccess' SWAP tools, with techniques being written for the WCAG group to ensure these can be implemented in other tools.

Work on using RDF to manage relationships between information has been done in collaboration with the WWAAC project and UBAccess, and again techniques describing this for WCAG are under development.

Assistance has also been provided to a number of planned EARL implementations: W3C's CSS validator, Hera, el TAW, Torquemada, WAIZilla

### 5 Collaboration

Extensive collaboration with groups from Europe and around the world have been an important part of the Work done. Important collaboration has taken place with the following groups:

**Dublin Core** - The Dublin Core Accessibility Interest Group.

**European developers** - ESSI, FICYT, Fondazione Ugo Bordini, IBM Spain, Sidar, Humana, Handitech, W3C validators, Ensure, WWAAC

**Non-European developers** - Wave, UBAccess, HiSoftware, JIS, Community Connect (Yorke Peninsula, South Australia), Quinkan Matchbox (Cape York, Queensland / LaTrobe University)

**W3C** - WCAG, ATAG, and ERT working groups, and the Glossary project

### 6 Dissemination

These tools have been demonstrated through mailing lists and meetings in the Semantic Web developer community, and at meetings and workshops in Europe, particularly in France.

A tutorial on EARL implementation [EARL-code], has been written and various presentations on the accessibility benefits of the Semantic Web [semwai] have been made in French, Spanish, Italian and English. These materials have been publicised through various accessibility mailing lists, including the handitech list which was created in collaboration with ESSI to provide a francophone forum where one was not available.

### 7 Future work and lessons learned

Further development will take place on techniques for Accessibility within the context of the WAI's working groups. This is expected to proceed slowly overall, due to the need for a community of mixed technical ability and diverse perspectives to learn what RDF is and does, and how it might be useful.

This is expected to be assisted by various pieces of work which have emerged as a result of this project, and continue in development as examples such as new work in developing testing models, proposed by the Ensure project, with some preliminary prototyping being done in collaboration between W3C and ESSI in France, or the

ongoing development of projects such as WWAAC and SWAP.

Development of the EARL specification within W3C is currently held up for a lack of resources to manage the work, but implementation is ongoing, and feedback and suggestions for important improvements to the specification continue to be produced.

## 8 Outcomes

- Adoption of EARL is now in the next version development plan for a number of European tools: Hera, TAW, Torquemada, WAIzilla, and the proposed ENSURE project. It has been developed in WAINu.
- Close co-operation between the Dublin Core Accessibility Interest Group, Semantic Web developers, the EuroAccessibility Consortium and WAI working groups
- The EuroAccessibility Consortium, currently 25 European organisations working in this field together with a number of technical partners, is developing EARL as a reporting platform
- A document specifically about the uses of RDF for meeting Web Content Accessibility Guidelines is under development within the WCAG working group
- The earl.w3.org annotea-based server is publicly available to store EARL reports using the latest draft of the EARL specification
- Adoption of RDF-based techniques for supporting a variety of accessibility-related repairs by UBAccess, developers of transcoding repair software.
- Substantial new information and implementor experience for EARL has been produced

## 9 Frequently Asked Questions (FAQ)

**Can all accessibility problems be solved with RDF?** - Probably not. It can provide some solutions that are difficult to develop in other ways, but without tools and deployment they will not provide much for actual users.

**What software is available?** - EARL has begun to be widely implemented. It is now available in a number of evaluation tools, and is in the immediate future plans for several more. Some information is maintained by the WAI Evaluations and Repair Tools group [[earl-impl](#)]

UBAccess' SWAP tools [SWAP] and the WWAAC project [WWAAC] use RDF to transform content for users with disabilities.

A number of image annotation projects are available, and ongoing work on image annotation is tracked on the SWAD-Europe Wiki [[img-anno](#)].

## 10 References

### Tools, specifications and documents -

[[carte](#)]

The [Carte Zone Monde](#) demonstrator is available at [http://www.w3.org/2001/sw/Europe/200306/geo/carte\\_zone\\_monde\\_rdf.svg](http://www.w3.org/2001/sw/Europe/200306/geo/carte_zone_monde_rdf.svg)

[[earl-impl](#)]

The WAI Evaluation and Repair Tools group, which has been responsible for the EARL specification, has a list of [EARL implementations](#) maintained at <http://www.w3.org/WAI/ER/#earl>

[[FOAF](#)]

The [Friend-of-a-friend project](#) is an Rdf vocabulary for information about people, relationships and interests. It has a homepage at <http://www.foaf-project.org>

[[img-anno](#)]

The SWAD-Europe Wiki includes a [page on image description](#) at <http://esw.w3.org/topic/ImageDescription>

[[SVG](#)]

The [Scalable Vector Graphics](#) language is developed at W3C. Information is available about the development and the various versions of the specification at <http://www.w3.org/Graphics/SVG>

[[SWAP](#)]

A commercial tool developed by [UBAccess](#), SWAP uses RDF to annotate pages in order to provide more accessible renderings of them. More information available at SWAP

[[WWAAC](#)]

The [World Wide Augmentative and Alternative Communication project \(WWAAC\)](#) uses RDF to support mapping information between symbol sets used by people who have difficulty with reading. More information is available at <http://www.waac.org>

### Other references -

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[WAI]

W3C's Web Accessibility Initiative is the domain in which work on accessibility for people with disabilities is coordinated and generally carried out. It has a number of working groups focussed on different aspects of Web Accessibility. Further information on the various groups within the WAI, and on the various resources it produces, are available from the homepage at <http://www.w3.org/WAI>