

Title: Properties  
Identifier: [BERLIN:/terms-accessibility/.index.html](http://dublincore.org/terms-accessibility/.index.html)  
Source: [BERLIN:/terms-accessibility/index.txt](http://dublincore.org/terms-accessibility/index.txt)  
Directory: [BERLIN:/terms-accessibility/](http://dublincore.org/terms-accessibility/)  
Created: 2008-09-17

Shepherd: Andrew

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Required Usage Board reading

- The wiki front page:  
<http://dublincore.org/accessibilitywiki/>  
archived as: [BERLIN:/terms-accessibility/FrontPage.html](http://dublincore.org/terms-accessibility/FrontPage.html)
- A proposal for a new element  
<http://dublincore.org/accessibilitywiki/NewElementProposal>  
archived as: [BERLIN:/terms-accessibility/NewElementProposal.html](http://dublincore.org/terms-accessibility/NewElementProposal.html)
- Context for the element proposal  
<http://dublincore.org/accessibilitywiki/AccessForAllFramework>  
archived as: [BERLIN:/terms-accessibility/AccessForAllFramework.html](http://dublincore.org/terms-accessibility/AccessForAllFramework.html)

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Background reading

- An application profile providing context to the proposal  
<http://dublincore.org/accessibilitywiki/ElementsVocabularies>
  - Liddy, August 2008: "this is irrelevant to the proposal now"
- An abstract model for the application profile  
<http://dublincore.org/accessibilitywiki/ApplicationProfileAbstractModel>
  - Liddy, August 2008: "an abstract model that relates to application profiles that might be considered elsewhere"
- Various RDF schemas
  - <http://purl.org/afa/afa.xml> redirects to <http://www.ozewai.org/afa-namespaces/afa.xml> which is archived as [BERLIN:/terms-accessibility/afa.xml](http://dublincore.org/terms-accessibility/afa.xml)
  - <http://purl.org/afa/accessibility/accessibility.xml> redirects to <http://www.ozewai.org/afa-namespaces/accessibility/accessibility.xml> which is archived as [BERLIN:/terms-accessibility/accessibility.xml](http://dublincore.org/terms-accessibility/accessibility.xml)
  - Liddy, August 2008: "Long term, of course, I would not want to have those on my website but the purl can easily be changed. I trust they would point to DCMI in the end... or whatever is appropriate?"

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2008-08-27 Liddy responses to questions by Tom

(passages in single quotes are paraphrased, in double quotes are quoted)

'We will find a (non-DCMI) way to declare accessMode, flexibility, supportTool, role, and readingRate in an Afa namespace. We are asking the Usage Board to declare accessibility in the dcterms: namespace. Then we will register

an application profile and call it quits.'

[Is "accessibility" particularly salient, or is it more important than the others (is there a reason "accessibility" should be declared in a different namespace from the others)?]

"I expect that most people will do no more than give values to one element. We always thought that. Experts in the field, and those working on alternatives etc, will use the application profile. For a while we were convinced to call that main element 'adaptability' and then it became possible that the only way forward was to avoid using the main element, that we hoped would be a DC term, and use accessmode. This is, I hope, history."

[AccessForAllFramework [2] provides context, but the document cites itself (a page on accessibilitywiki) as the home of the Accessibility Framework. Where do you want to publish the overall framework itself?]

"I guess now I would go for a DC term published by DC and the rest just registered in the DC registry and finally close down leaving a page to provide guidance to DC users."

Last updated: 2008-09-18 10:49

# DCMI Accessibility Wiki

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(For information about Wikis and how to use this Wiki, please see the bottom of the page.)

## Quick introduction

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Dublin Core metadata is designed to be easy-to-use and ubiquitous. A single DC term should convey important information that can be complemented by other metadata where suitable. For people with disabilities who use assistive technologies, very detailed metadata about their needs and the characteristics of a resource may be necessary if they are to have good access to information.

The single term 'accessibility' has been designed to perform the duties of a DC term for access: it warns users with limitations on their access facilities of potential problems with a resource. AccessForAll descriptions (see below) make a much greater difference and are, of course, recommended. A resource may be inaccessible to a user as it is first published, but subsequently augmented by an accessible alternative, such as a description of an image. In this case, the use of the DC accessibility term supports the addition of another term, such as has-version or has-alternative, that points to the new resource that may be useful in the circumstances.

AccessForAll is a new strategy for matching resources to the needs and preferences of individual users, especially, but not exclusively, for those with permanent disabilities. AccessForAll is a general accessibility strategy and the task for the DC community is to develop application profiles so AccessForAll can be realised across all domains in an interoperable way. The original AccessForAll work is the work of the ATRC at the University of Toronto, who have given free access to their work, and is supported by work in other fora in collaboration with the ATRC. The first version was made by IMS GLC for education, and is currently being updated to match the ISO/IEC version.

ISO JTC1 has adopted AccessForAll and the first three parts of the standard are completed. These include an introductory Part 1; Part 2 that describes how to write descriptions of user need and preferences for digital resources and Part 3 describes how to write resource descriptions for matching them to the needs and preferences; currently Part 4 & 5 (non-digital resources), Parts 6 & 7 (events and places), and Part 8 (languages) are in preparation. The AccessForAll approach to accessibility has been implemented in several places, including at the University of Toronto (TILE - <http://www.barrierfree.ca/tile/>) and in the learning management product of Angel Learning (<http://www.angellearning.com/products/lms/accessibility/default.html>)

## Potential use of DC AccessForAll metadata



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- many DC creation tools are based on schema that can be augmented/replaced - the new schema will just 'slot in';
- DC-based metadata applications, in general, will be able to understand AfA DC modules because they are DC Abstract Model compliant;
- standard DC users and those with application profiles for communities such as governments, education and even public broadcasting will be able to work with the accessibility modules;
- website developers will use AfA modules to customise their sites to the needs of individual users, not just classes of users;
- website builders who have communities with special needs will use AfA modules to address their community's needs,
- etc.

## Quick Links

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- AccessForAllFramework: explanation of the AccessForAll approach to resource accessibility

- [NewElementProposal](#): requirements table for the proposed DC.accessibility term
- [ApplicationProfileAbstractModel](#) (terms and values in UML diagram)
- [ElementsVocabularies](#)
- [ImplementersNews](#) - page for news and views
- [EducationAndOutreach](#) resources for [AccessForAll](#) metadata
- [Draft UserGuidelines](#)
- [AccessForAllCitations](#) meetings and other participatory events for wide consultation about the [AccessForAll](#) work
-  [DC Accessibility Community homepage](#)
-  [Information about tools for creating and working with Dublin Core metadata](#)
- DC 2008 Conference Accessibility Session See [DraftSessionAgenda2008](#)

## Outstanding Tasks

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### Technical

1. finalise full [AccessForAll](#) terminology
2. register [AccessForAll](#) schema with vocabularies for terms
3. develop [AccessForAll](#) descriptions for user's needs and preferences
4. provide cross-walks?

### Practical

1. provide guidelines for [AccessForAll](#) implementation
2. develop some 'very good' examples

Draft of terminology (in SKOS) as [SkosTerminology](#)

[BetaVersion](#) of AfA accessibility profile


## Recommendation by DCMI Usage Board work (in progress)

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- [NewElementProposal](#): requirements table for the proposed DC.accessibility term
- draft of an [ApplicationProfileAbstractModel](#) (terms and values in UML diagram)
- AfA namespace
- [ElementsVocabularies](#) for terms as text
- [ExamplesOfAccessForAll](#) usage

## Cancore work - developing guidelines for using Access For All (in IEEE LOM)

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- Cancore [AccessForAll](#) Metadata Guidelines for IEEE LOM: now available at <http://www.cancore.ca/guidelines/drd> (These are also available in French: [http://www.cancore.ca/lignes\\_directrices/drn](http://www.cancore.ca/lignes_directrices/drn)).
-  [A list of authoring tools for making AccessForAll IEEE LOM metadata](#)

## WCAG 2.0 amendments for metadata - LN

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[WCAG-metadata-proposal-LN.html](#)

## Issues for Discussion on this Wiki

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If you have looked at the DC Accessibility Community homepage <http://dublincore.org/groups/access>, you will have seen that there is a list of work items and some issues for discussion. This Wiki is here to solicit constructive comment on the issues.

If you are interested in tracking discussion on any issues, you need to register and then subscribe to the page. This means you will get notification of changes made to that page. Your name and address will not be given to anyone or used for any other purposes.

## Archived pages

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Discussion pages no longer active:

- [EuAccessibilityQualityMark](#)
- [ExamplesOfAccessibilityTermUsage](#)
- [AdaptabilityOrAccessibility](#)
- [AccessibilityIssuesDiscussion](#)
- [ResponseToUsageBoard](#): WG response to UB decision of 2005-06-13
- [CharterProposal](#): 2006 charter proposal for the DC-Accessibility working group
- DC Conference Sessions - [SessionReport](#) DC2005. Also see notes online at <http://www.w3.org/2005/09/14-dc2005-minutes.html> (thanks to Charles [McCathieNevile](#) and David Weinkauf).
- ISO CD1 [EditingDiscussionItems](#)
- [DiscussionOfFcd](#)
- [CancoreAccessForAllMetadataGuidelines](#): [CanCore](#) Wiki discussion page
- W3C WAI proposal for [RolesAndAdaptability](#) discussion page
- discussion page for public comment on ISO FCD [AccessForAllDrafts](#)
- draft of a possible DC [AccessForAllApplicationProfile](#) (to be used only as a working document)
- a form that gives 'a sense of' the kind of questions that will be required for metadata creation - try <http://www.ozewai.org/A4A/Draft-AP-6-3.html>
- DC 2007 Conference Accessibility Session See [DraftSessionAgenda2007](#)

## DC Accessibility Wiki

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A [WikiWikiWeb](#) is a collaborative hypertext environment, with an emphasis on easy access to and modification of information. This wiki can also link to [InterWiki](#) space.

You can edit any page by pressing the link at the bottom of the page. Capitalized words joined together form a [WikiName](#), which hyperlinks to another page. The highlighted title searches for all pages that link to the current page. Pages which do not yet exist are linked with a question mark: just follow the link and you can add a definition.

Rather than 'edit' text, please just add comments starting with your name so we know from whom they came, e.g. Liddy Nevile: Accessibility should be redefined as .....

To get an overview of this site and what it contains, see the [SiteNavigation](#) page.

To learn more about what a [WikiWikiWeb](#) is, read about [WhyWikiWorks](#) and the [WikiNature](#). Also, consult the [WikiWikiWebFaq](#).

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**Interesting starting points:**

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- [RecentChanges](#): see where people are currently working
- [HelpForBeginners](#): to get you going
- [WikiSandPit](#): feel free to change this page and experiment with editing
- [FindPage](#): search or browse the database in various ways
- [SyntaxReference](#)

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[CategoryHomepage](#) [CategoryHomepage](#)

```
<div class="tags">tags technorati : <a href="http://technorati.com/tag/accessibility" rel="tag">accessibility</a><a href="http://technorati.com/tag/metadata" rel="tag">metadata</a><a href="http://technorati.com/tag/AccessForAll" rel="tag">AccessForAll</a></div>
```

Contributions about this document are very welcome, however they should be discussed on the dc-accessibility mailing list. To join or leave the dc-accessibility mailing list, please visit <http://www.jiscmail.ac.uk/lists/dc-accessibility.html>.

## Accessibility Term Proposal

Accessibility Requirements Table	
<b>Name</b>	<a href="http://purl.org/dc/terms/accessibility">http://purl.org/dc/terms/accessibility</a>
<b>Label</b>	Accessibility
<b>Definition</b>	Characteristics of the resource that affect how it can be modified for users or agents.
<b>Comment</b>	An Accessibility statement might be used to match a (digital or physical) resource to a description of user or user agent needs and preferences.
<b>Example 1</b>	Accessibility ="auditoryOnly" That is, the resource contains some significant content available as sounds only, e.g. there is a significant content component with recorded speech with no alternative format.
<b>Example 2</b>	Accessibility ="allTextual" That is, the resource contains all significant content as transformable text, e.g. although there is visual content, it is also available as transformable text.
<b>Example 3</b>	Accessibility ="visualOnly" That is, the: resource contains some significant content available as images only, e.g. there is some significant content that is available as an image with no alternative format.
<b>Type of Term</b>	Element
<b>Term qualified</b>	None
<b>Why needed</b>	<p>Resources that are made available electronically are often not in a suitable form for users. This may be because the users have particular needs resulting from their choice of devices, user agents, circumstances or perhaps a disability. While many of these problems can be adjusted automatically, there are some that can't. Importantly, resources should not be adjusted without input from the user about how they want these adjustments made.</p> <p>Currently, there is no way for a user to determine if a resource will satisfy their needs. There is no way a system can automatically match the characteristics of a resource to a user's specified needs, so all users can access content equally.</p> <p>Metadata descriptions of resources (and a user's needs) can be used to provide the necessary information and the term proposed aims to facilitate this. When a resource does not itself have the necessary accessibility characteristics or components, they may nevertheless be available and discovered as the result of a suitable search. In this case, they can be integrated into the original resource for the user. Use of the new term in combination with other descriptive information should enable the <u>AccessForAll</u> process described. Without the new term, there is information missing that is needed especially for people with severe disabilities, but which, like curb cuts, is likely to be of value to all mobile information users.</p> <p>Currently, there is no cross-domain metadata standard for such information although there is an equivalent ISO/IEC standard i(2008:24751) for use with educational material. That standard was developed in close collaboration with the development of this proposed DC term.</p> <p>In addition, as DC metadata is the base for many metadata systems, incorporation of this term into DC will encourage attention being paid to the needs of people with disabilities, among others, by a wide range of communities who provide valuable, described resources. As many significant resources are produced by content developers who are required to assess the accessibility characteristics of their resources, this term is designed to facilitate their re-use of this information as the value statement for the term.</p> <p>It should be noted that when a user needs content in a different language from that in which it is originally provided, for instance, the user needs a way to indicate this, but more importantly, to</p>

	<p>know if the content is in a suitable form for automatic or other translation. When a user wants content on a small screen that was first seen on a large screen, they need information about the content and its structure and presentation/display. Currently there is no DC term that would make available information about this characteristic of the resource.</p>
<b>Working Group support</b>	<p>In 2001, the DC Accessibility Special Interest Group first met. They determined that the DC metadata term set did not provide adequate information for the matching of resources to users' needs in cases where those users had disabilities. In the seven years since that first meeting, as the technology has matured, the range of reasons why users might not be able to access content has increased, as have the available solutions to the problem.</p> <p>The group started by considering available DC terms and finding that they were not sufficient, and anyway, in some cases, had to be used in relationship to each other, which was not considered appropriate. In those early days, a comprehensive, stand-alone new term was proposed and it was to be known as an accessibility term. In more recent work, especially as a result of the increased mobility of information, it has become apparent that a number of communities have an interest in how content can be adapted and transformed for individual users or circumstances. The proposed term is suitable for a wider context and so its name was changed to adaptability for a while but it has proven more appropriate to the accessibility community to call it accessibility.</p> <p>The term has been carefully re-modeled from the ISO/IEC version to be used in conjunction with existing DC terms.</p> <p>The approach to accessibility being supported by the proposed term is one that makes use of metadata. In other contexts, there are specifications and standards for the structuring, encoding and organisation of content that aim to improve the accessibility of that content. The <u>AccessForAll</u> approach is concerned only with description of the resource making explicit any accessibility characteristics, and the exploitation or re-use of metadata in both local and distributed environments. The aim is to provide a consistent way for content to be described so that such descriptions are interoperable and thus facilitate the greatest possible use of content suitable for people according to their needs and preferences.</p> <p>As some users have no flexibility with their needs while others may have choices but perhaps some preferences, the needs and preferences of users are expected to be matched using metadata including the proposed term.</p> <p>In the seven years of development of the proposed term, many communities have been involved and many presentations have been made in a wide range of contexts and communities. There has been a lot of feedback including in the context of DCMI conferences, workshops and email lists.</p> <p>The new term was made an open issue several years ago and there has not been any significant disagreement with it, so far as is known. It has been adopted in principle, awaiting DCMI recommendation, by the Australian Government as its standard, and has been recommended by the IMS Global Learning Consortium for IEEE/LOM metadata for learning resources. There has been discussion with W3C Working Groups and there is no known disagreement with the approach or term.</p> <p>For a complete list of public meetings, workshops, presentations and citations, please see <u><a href="#">AccessForAllCitations</a></u>.</p>
<b>Proposed status</b>	Recommended



<b>Related DCMI terms</b>	<p>In developing the proposed term, the Working Group considered the DCMI Abstract Model in detail and shows how a potential application profile might make use of the proposed term. A UML diagram of such an <u>ApplicationProfileAbstractModel</u> is available.</p> <p>Some refinements of DC terms are expected to be used in association with the accessibility term in an application profile, possibly as follows:</p> <ul style="list-style-type: none"> <li>* has format/is format of - when a second resource presents the same content as in another resource in a different format (MIME-type etc), but usually in a different access mode</li> <li>* has part/is part of - when a resource has or is a component of another resource</li> <li>* conformsTo - when a resource conforms to the W3C/WAI guidelines, for example.</li> </ul> <p>Other terms are anticipated, e.g.:</p> <ul style="list-style-type: none"> <li>* has/is adaptation of - when one resource is suitable as a partial replacement/augmentation for another.</li> </ul> <p>It is expected that DC terms will be used in association with the accessibility term in the usual way, in particular including the following terms :</p> <ul style="list-style-type: none"> <li>* language</li> <li>* format</li> <li>* type</li> <li>* education level</li> </ul> <p>NOTE: It is the opinion of the Working Group, discussed on many occasions, that it would not be possible to simply elect to use the DC term conformsTo and avoid the need for the new term. There is no standard or set of specifications to which a resource might conform that would ensure that it would satisfy <u>AccessForAll</u> requirements.</p>
<b>Related non-DCMI terms</b>	<ul style="list-style-type: none"> <li>- IMS <u>AccessForAll</u> Metadata Specification (AccMD) Version 1.0: The requirements of the Adaptability Statement term proposal, specifically its ability to match resources to the accessibility preferences of a user, are highly influenced by the IMS AccMD specification. The AccMD specification documents are located at the <a href="#">IMS Accessibility Web site</a>. A brief technical explanation of the key concepts behind the AccMD can be found in the <u>AccessForAllFramework</u>.</li> <li>- ISO/IEC N:24751 <u>AccessForAll</u> Metadata Personal Needs and Preferences and Digital Resource Descriptions: Part 1: Framework and reference model, Part 2: “Access for all” personal needs and preferences for digital delivery, and Part 3: “Access for all” digital resource description.(In publication.)</li> </ul>
<b>Impact on applications</b>	<p>Minimal. Current DC-based applications provide no conflicting means of identifying accessibility characteristics of resources.</p>
<b>About the proposers</b>	<p><a href="http://dublincore.org/groups/access/">http://dublincore.org/groups/access/</a></p>

The AccessForAll Framework is a general framework to be implemented in a number of communities and this representation of it aims to be the general representation for such communities. There is a discussion list for those interested in AfA metadata. Any interested party is welcome to join that mailing list. To join or leave the dc-accessibility mailing list, please visit <http://www.jiscmail.ac.uk/lists/dc-accessibility.html>.

## AccessForAll (AfA): an Accessibility Framework

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### Introduction

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This document explains the AccessForAll accessibility framework. The intended audience of this document is anyone interested in accessibility and standards, especially those from the metadata community. A small proficiency in software design is assumed from the reader (for this document uses UML in some of its explanations), however the hope is that the concepts are explained clearly enough to be understood by readers of any technical skill-level.

### What is AccessForAll

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AccessForAll is a framework designed to define and describe resource accessibility. Its goal is to provide a means whereby resources are matched to the individual accessibility needs and preferences of a particular person. The framework is divided into the following concepts, which, when used in conjunction, make possible the meeting of resources to needs and preferences and the description of resource accessibility:

- a statement of the needs and preferences of the individual user, at the time and in the context they are in (called the personal needs and preferences profile - PNP)
- a statement of the relevant characteristics of a resource to be matched to the PNP (called a digital resource description DRD)
- alternative resources that can be swapped into or appended to a given resource, when it is missing what the user needs

The main idea behind the AfA work is that while there are guidelines for making resources universally accessible, they are rarely used properly and they do not always solve all problems. AfA is about matching resources to an individual's requirements, even if it is not suitable for others. AfA anticipates the matching being done automatically but, if not, at least possible manually.

### History

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The concepts behind the AccessForAll framework were originally developed by the Adaptive Technology Resource Center at the University of Toronto. They were then worked on by the IMS Accessibility Working Group.<sup>1</sup> The working group defined two specifications: the IMS Accessibility for Learner Information Package (AccLIP) and the IMS AccessForAll Meta-data [sp] Specification (AccMD). Together they defined what is currently the AccessForAll framework in an applied, XML-specific way that is suitable for users of IEEE LOM metadata.

### Accessibility Description Set

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An Accessibility Description Set is a set of metadata (statements) that describe in a machine-readable way the characteristics (Digital Resource Description - DRD) of the resource that affect how it can be sensed, understood, or interacted with by users or agents. Both resources, and the needs and preferences of persons, can have Accessibility Description Sets.

### Access mode

An access mode is the *human sense* or *medium* through which a person receives the output of a resource. The mode refers to either the perceptual system, or the cognitive faculty engaged by the person. An access mode is defined either as a sense, to reference a perceptual system, or as a medium to connect with a cognitive ability. Some examples will clarify:

Describing a resource's access mode as "visual" implies that a person will use their eyes (visual sense) to process it. Pictorial and video resources are examples of such resources.

Describing a resource's access mode as "textual" implies that a person will rely on their ability to read in order to understand the resource's content<sup>2</sup>.

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## Alternative resource

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A resource can be described as an alternative to another resource when the described resource is the same intellectual content of the referenced resource, but presented in another access mode.

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## AfA User Needs and Preferences Description Set

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A person may at different times have different needs and preferences for resource accessibility. Their needs and preferences form a set of functional requirements that are expressed as accessibility description statements in a Personal Needs and Preferences (PNP) description set. DRD statements may contain access mode information about the relevant accessibility characteristics of the resources the person wishes to interact with.

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## Matching Resources to a User's Needs and Preferences

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The main idea behind AfA is that if a user has a description of their accessibility needs and preferences, and is looking for resources that satisfy them, this can be done automatically by an application if those descriptions are expressed in a well-described metadata format. An example of how this might work is provided by The Inclusive Learning Exchange of the University of Toronto (<http://www.barrierfree.ca/tile/>).

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## Guidelines

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See [UserGuidelines](#)

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## Relationship with Web Content Accessibility Guidelines (WCAG)

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The Web Content Accessibility Guidelines (WCAG) are a set of principles and guidelines that define and explain the "requirements for making Web-based information and applications accessible to a wide range of people with disabilities."<sup>3</sup> The WCAG does not define new technologies, but rather techniques that can be applied to any type of content accessed through the Web. The [AccessForAll](#) framework defines a complementary approach to resource accessibility: The [AccessForAll](#) Framework *describes* (via metadata on resources) the accessibility properties that are *recommended* by the WCAG. This enables the [AccessForAll](#) Framework to provide a means whereby resources can be matched to the needs and preferences of persons.

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## Acknowledgements

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The following people have contributed to the development of AfA in a significant way:

- Anastasia Cheetham, Adaptive Technology Resource Centre, University of Toronto, Canada
- Martyn Cooper, Accessibility in Educational Media Team, Institute of Educational Technology, Open University, UK
- Andy Heath, Sheffield-Hallam University, UK
- Pete Johnson, UKOLN, UK
- Liddy Nevile, Computer Science Department, La Trobe University, Australia
- Andy Powell, DCMI Usage Board, UKOLN, UK
- Madeleine Rothberg, WGBH-National Center for Accessible Media, USA
- Joseph Scheuhammer, Adaptive Technology Resource Centre, University of Toronto, Canada
- Jutta Treviranus, Faculty of Information Sciences, University of Toronto, Canada
- David Weinkauf, Adaptive Technology Resource Centre, University of Toronto, Canada

<div class="tags">tags technorati : <a href="<http://technorati.com/tag/accessibility>" rel="tag">accessibility</a> <a href="<http://technorati.com/tag/metadata>" rel="tag">metadata</a> <a href="<http://technorati.com/tag/AccessForAll>" rel="tag">AccessForAll</a></div>

- 1 The Website for the IMS Accessibility Working Group is located at <http://www.imsglobal.org/accessibility>.
- 2 Textual content may be rendered into speech or Braille by a processing system, however these would not be considered the resource's (original) access modes.
- 3 From the Web Content Accessibility Guidelines 2.0 (<http://www.w3.org/TR/WCAG20/>).