

October 11, 2005

**PDF/UA (Universal Accessibility)**

**Draft Meeting Minutes**

**October 3, 2005**

**12:00 Noon – 5:30 P.M. EST**

**October 4, 2005**

**9:00 A.M. – 12:00 P.M. EST**

**AIIM Headquarters**

**1100 Wayne Avenue, Suite 1100**

**Silver Spring, MD 20910**

**<http://www.aiim.org>**

**Monday, October 3, 2005**

**1. Welcome and Introductions**

Mr. Duff Johnson called the meeting to order at 12:00 noon.

The following individuals participated in the meeting.

Bruce Bailey	US Dept. of Education
Angy Brooks	Independent Accessibility Consultant
Betsy Fanning	AIIM
Renee Georges	AIIM
Scott Goodrich	Design Science
Loretta Guarino-Reid	Adobe Systems
Richard Herring	Independent Accessibility Consultant
Duff Johnson, Chairperson	Document Solutions
Jamal Mazrui	US Federal Communications Commission
Greg Pisocky	Adobe Systems

**Participating by phone**

Jonathan Avila	BART and SSB Technologies
Joe Clark	Independent Accessibility Consultant
Mark Gavin	Appligent
Virginia Gavin	Appligent

George Kerscher	DAISY Consortium
Bob Martinengo	Alternate Text Product Center (ATPC)
Karen McCall	Karlen Communications
Shannon Rapuano	IBM
Neil Soiffer	Design Science

## **2. Approval of Agenda October 3-4, 2005 PDF-UA 2005-007**

The agenda was approved after some modifications. Neil Soiffer of Design Science would like to present a proposal for the use of MathML in the specification. Bruce Bailey of the US Department of Education mentioned a document at the US Department of Education which is a working draft discussing the requirements for accessible electronic documents.

- Approval of Minutes from May 18, 2005 PDF-UA 2005-006
- The Minutes from the May 18, 2005 meeting in Philadelphia, PA were approved with the following modifications.
- The spelling of Neil Soiffer's name was corrected.
- Minutes of May 18 as posted to PDF/UA webpage were not tagged. This needs to be corrected. From this point on, all documents that get posted must be tagged. Untagged documents should not be posted on the website.
- Joe Clark, Independent Accessibility Consultant, noted there were factual errors in minutes. Revised version of the minutes. Factual errors in the minutes were discovered. These errors will be addressed as they are encountered.
- It was also noted that posting and production of the minutes should be done promptly.
- To increase universal access to the minutes, consider posting them in additional format, i.e., text. Henceforth, minutes will be posted in both tagged PDF as well as plain text and/or HTML versions.

## **3. Discuss Scope Text for PDF/UA**

After debate and discussion the previous scope was modified and final wording agreed to as follows:

This is a description of PDF files that are accessible to people with disabilities. PDF components and their structure are highly dependent upon which objects (graphics, text, multimedia, form fields) are present in the PDF file. The specification identifies such components and the conditions governing their inclusion in a PDF file in order to be considered accessible for a particular document instance. The mechanisms for including the components in the PDF stream are left to the discretion of the individual developer, PDF generator, or PDF authoring tool.

#### **4. Review Progress on Committee Communications**

After some initial difficulties, the Listserv appears to be working. Email Duff Johnson or Renee Georges if you are encountering difficulties using the Listserv.

AIIM Staff has added a Blog. The blog has just come into being.

Blog vs. ListServ. Blog has an archive. Listserv doesn't. Listserv is archived but there are issues with the server. It is to be upgraded.

Blog is public, the listserv is not.

There seems to be a lack of lively discussion. This could be because the document is at a low order of development. Once there is a document that is beyond the skeletal framework there will likely be a lively discussion.

Other possibilities under consideration. Idea of a Wiki has been proposed. Any user can update any part of the wiki at any time. There are procedures to address issues that arise about areas of content. All additions, changes, etc. can be dealt with through the wiki. A Wiki could provide a convenient online collaborative authoring environment. Neil Soiffer of Design Science noted that the Web Content Accessibility Guidelines (WCAG) Working Group has instituted a Wiki.

It was noted that in the past, minutes were not posted in a timely manner, this situation is being corrected.

PDF/A has conducted its business through email, listserv, and meetings. PDF/A came about faster than most standards do. It was done via listserv. At some point AIIM is planning to update the listserv and have a truly collaborative working space. Let's make use of the current technologies.

AIIM will consider doing a Wiki for the committee though it is not at the top of the priority list. Possible to have a PDF/UA wiki by end of October early November.

#### **5. Reports on Actions Previously Assigned**

Candidate heading elements for PDF/UA were produced.

At this point a question arose about the PDF/A standard. "Does it have both normative and informational sections?"

Betsy Fanning, AIIM, responded. The only informative section is in the annex. The body of the standard is all normative. The PDF/A working group is focusing now on taking 19005-1 to -2 to go from PDF 1.4 to 1.6. The body of the standard must contain normative information. You can point people to the informative.

Scott Goodrich of Design Science provided a demonstration of MathML in PDF.

As a result of the demonstration the working group contemplated how MathML could be incorporated into the PDF/UA specification. Would the working group want to copy the MathML specification into PDF/UA or make reference to specific versions of the MathML specification?

During the presentation, Neil Soiffer noted that MathML was adopted as a "modular extension" to DAISY

Another approach to how math gets represented might involve describing conformance levels.

## 6. Define / Organize Headings

The starting point for organizing headings for the PDF/UA specification will be to borrow those headings from PDF/A and to some extent modify them for accessibility.

### I. Forward

Introduction

1 Scope (Idea if not the term)

2 Normative references

### 2.A PDF Reference

#### **Action Taken:**

Motion to Adopt PDF Reference 1.6 as the baseline for PDF/UA (Pisocky / Brooks)

Approved.

3 Terms and definitions

4 Conformance (Concept that PDF/UA wants to include)

4.1 General (Item for further discussion)

4.2 Minimal conformance level (item for further discussion)

4.3 Full conformance level (item for further discussion)

4.4 Conforming PDF /UA User Agents

5 File format (Retitle as exclusions? – or Skip Over?)

5.1 General

5.2 File header

5.3 File trailer

5.4 Cross reference table

5.5 Document information dictionary

5.6 Extraneous binary data

5.7 String objects

5.8 Stream objects

5.9 Indirect objects

5.10 Linearized PDF – Linearization tables technically represent a secondary cross reference. In PDF/UA you do not want this construct.

5.11 Filters

5.12 Streams

5.13 Implementation limits

5.14 Optional content (Layers?)

6 Graphics (the section stays, but the subheads can go) (Graphics 2 subsections, images and vector graphics – so the distinction between vectors and rasters is important – no harm in making a subhead for vector graphics and raster graphics. What about mathematics?)

(Introduce Content Type as its own top level header – PDF/UA will set aside as a separate topic)

- 6.1 General (delete the subsections under the heading)
- 6.2 Colorspaces
  - 6.2.1 ICCBased Colorspaces
  - 6.2.2 Uncalibrated Colorspaces
  - 6.2.3 Named colorants in Separation and DeviceN Colorspaces
- 6.3 Images (Huge subject should be content discussion or tags discussion – move the word images and put under the content heading)
- 6.4 Form XObjects
- 6.5 Reference XObjects
- 6.6 PostScript XObjects
- 6.7 Extended graphics state
- 6.8 Rendering intents
- 6.9 Content streams (out)
- 7 Fonts (Need a heading for fonts)

Fonts must be addressed. Character encodings and Unicode. Acknowledge that fonts have to be addressed and they will be marked technical. Fonts be extractable. Fonts issue with PDF/A raised a lot of discussion. Fonts are wrapped up in Intellectual Property issues. PDF/A says they have to be embedded in the file.

- 7.1 General
- 7.2 Font types
- 7.3 Composite fonts
  - 7.3.1 CIDFonts
  - 7.3.2 Cmaps
- 7.4 Embedded font programs
- 7.5 Font resources
- 7.6 Font subsets
- 7.7 Font metrics
- 7.8 Character encodings
- 7.9 Unicode character maps
- 8 Transparency (Talk about it? Here is what it means. Is this a visual construct? Do we permit it? Could impact low vision, and those with learning disabilities. Take the line item and place it in the content type section).
- 9 Annotations (Needed as its own section. Will we need subsections text, comments, links?)
  - 9.1 General
  - 9.2 Annotation types
  - 9.3 Annotation dictionaries
- 10 Actions (Features available in PDF files. As a general heading it is appropriate. In PDF Reference Interactive Features. Interactive Features makes for a great top heading – contents to be determined) JavaScript in PDF a separate heading from Actions. Change actions to interactive features. Actions is a technical reference.

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- 10.1 General
- 10.2 Trigger events
- 10.3 Hypertext links
- 11 Metadata/XML (Deserving of a heading)
  - 11.1 General
  - 11.2 Properties
  - 11.3 Normalization
  - 11.4 XMP header
  - 11.5 File identifiers
  - 11.6 File provenance information
  - 11.7 Extension schemas
  - 11.8 Validation
  - 11.9 Font metadata
  - 11.10 Version and conformance level identification
- 12 Logical structure (do we want to say more and then proceed through its elements? Proper relationship of elements to one another or proper read order? Within a conforming file, the information will be in a logical read order. Roman Left to Right and Top to Bottom). Logical Structure will be a heading which requires substantive detail.

Security (to be added as a heading)

- 12.1 General
- 12.2 Tagged PDF
  - 12.2.1 Mark information dictionary
  - 12.2.2 Artifacts
  - 12.2.3 Word breaks
  - 12.2.4 Structure hierarchy
  - 12.2.5 Structure types
- 12.3 Natural language specification
- 12.4 Alternate descriptions
- 12.5 Replacement text
- 12.6 Expansions of abbreviations and acronyms
- 13 Forms (clearly something needs to be said about forms)
- Annex A (informative) Security issues (Own header)
- Annex B (informative) Best practices for PDF/UA
  - B.1 Balanced page trees (delete)
  - B.2 Use of non-XMP metadata (delete)
  - B.3 Natural language identifiers (delete)
  - B.4 Quality requirements for archival records retention. (delete)
- Bibliography

For further consideration:

The proposed outline does not have a place yet, but there needs to be a place to add

proposed extensions to the tag set.

Potential additional subheadings

Links, tables, alt text, etc.

## **7. Define Priorities in Terms of Committee Time Spent Addressing Item Headings**

### **Issue**

Concerning this specification. Topics identified are in some cases beyond the scope of this committee's understanding.

## **8. Select Critical Headings and Define the Substructure document in Detail**

### **For tomorrow**

Apply WCAG success criteria to PDF file format

Obtain the principles from the success criteria of WCAG and modify as appropriate to PDF.

Success criteria and notes will be placed in the draft document

In addition tasks will be given to people to execute.

Action Item: Greg Piskey: Obtain success criteria from WCAG, turn that into a working document (thanks to Angy Brooks and Karen McCall for providing samples of same).

Members of the working group to be prepared to attached the appropriate PDF construct that would meet the success criteria.

We will be defining tasks for people to accomplish.

A component of our specification will be available in draft form....

Action Items and Tasks must be specific, assigned, accepted and have a due date associated with them.

Establish an acceptable meeting timeline and meeting times. Teleconference meetings for instance. Propose something tomorrow.

A URL for using GoToMeeting will be issued to allow remote attendees to view what is being projected in the meeting room.

Meeting time set for 9:00 A.M. October 4, 2005

The meeting was adjourned at 5:30 P.M.

## **Tuesday, October 4, 2005**

Mr. Duff Johnson called the meeting to order at 9:00 A.M..

## 9. Recap of Previous Day's Activity and Plan for Today

### Yesterday

- The baseline for PDF/UA was established as PDF 1.6
- Headings were “worked out” based upon the PDF/A headings. Some of those criteria were beyond the understanding of this working group.
- The working group agreed to use the success criteria from WCAG 2.0 and identify application of those criteria with respect to PDF.

### For Today

- Use success criteria from WCAG 2.0 and identify application of those criteria with respect to PDF.
- Create assignments for what needs to be done, who needs to do it, and when it should be done in anticipation of our next meeting.

## 10. Work Out Selected Headings Contents from WCAG 2.0 Success Criteria

Bruce Bailey provided group with a brief overview of WCAG 2.0: 4 guidelines associated with each principle, then for each guideline there is multiple success criteria. Real numbering can be shorthanded (SC1).

We begin with this and note where we need to expand upon the text or where it fails to serve our purposes.

**Action Item:** Bruce Bailey has volunteered to provide notification to WCAG that our Working Group would like to borrow from their success criteria

Duff Johnson: Let's proceed: Endorse, reject, or make substantive modification.....

(Note: At 11:00 we took a 10 minute break from the following and agreed to extend our time to 12:30 pm EST.)

## WCAG 2.0 Success Criteria Checklist and Commentary on Applicability to PDF/UA

The four principles of accessibility are as follows:

1. Content must be perceivable.
2. User interface components in the content must be operable.
3. Content and controls must be understandable.
4. Content must be robust enough to work with current and future technologies.

# Guidelines for Principle 1: Content Must Be Perceivable

## **Guideline 1.1: Provide text alternatives for all non-text content.**

### Success Criterion

#### **1.1 L1 SC1:**

For all [non-text content](#) that is used to convey information, [text alternatives](#) identify the non-text content and convey the same information. For [multimedia](#), provide a text-alternative that identifies the multimedia.

PDF/UA Commentary: Applicable. Relevant, in. We embrace this one. SC1 will be hard. This needs to cover items such as watermarks also. If embedding a watermark make sure it is text not image. Techniques are author responsibilities. How to deal with techniques. Keep notes to generate application notes that can be conveyed to those not participating in the process today.

#### **1.1 L1 SC2:**

For [functional non-text content](#), [text alternatives](#) serve the same purpose as the non-text content. If text alternatives can not serve the same purpose as the functional non-text content, text alternatives identify the purpose of the functional non-text content

PDF/UA Commentary: Example. Something to interact. Applicable. Illustration (examples).

#### **1.1 L1 SC3:**

For [non-text content](#) that is intended to create a [specific sensory experience](#), [text alternatives](#) at least identify the non-text content with a descriptive label.

PDF/UA Commentary: Attach a sound clip might be a better example. The attachment interpretation is the one we will adopt as opposed to conveying the intent of graphic design descriptions.

Easy? Could be easy, but execution could be difficult.

#### **1.1 L1 SC4:**

[Non-text content](#) that is not functional, is not used to convey information, and does not create a [specific sensory experience](#) is implemented such that it can be ignored by assistive technology.

PDF/UA Commentary: Relevant, well liked. Q: underlying terms are identified by definitions. PDF uses artifact mark up for this purpose.

### **1.1 L1 SC5:**

For live audio-only or live [video-only](#) content, text alternatives at least identify the purpose of the content with a descriptive label.

PDF/UA Commentary: These media types could be attached to a PDF conceivably. Probably not applicable, PDF is not used to do this. A link in a PDF to a live stream would make it an issue to be dealt with in the launched user agent

### **1.1 L3 SC1:**

For prerecorded multimedia content, a combined transcript of [captions](#) and [audio descriptions](#) of video is available.

PDF/UA Commentary: Relevant. The audio descriptions or captions need to be in the multimedia. PDF is a container that can hold. If you are going to have multimedia in your PDF then the multimedia must be accessible. The embedded object itself is outside the scope of the PDF. Make sure the controls are available, extractability to be a very important requirement. This item must be returned to later.

## **Guideline 1.2: Provide synchronized alternatives for multimedia.**Success Criterion

### **1.2 L1 SC1:**

[Captions](#) are provided for prerecorded [multimedia](#).

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

### **1.2 L1 SC2:**

[Audio descriptions](#) of video are provided for prerecorded [multimedia](#)

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

### **1.2 L2 SC1:**

Real-time captions are provided for *live* multimedia.

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

### **1.2 L3 SC1:**

Sign language interpretation is provided for multimedia

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

### **1.2 L3 SC2:**

[Extended audio descriptions](#) of video are provided for prerecorded multimedia.

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

### **1.2 L3 SC3:**

Audio descriptions of video are provided for live multimedia.

PDF/UA Commentary: Not within scope of PDF. Reference the W3C

## **Guideline 1.3: Ensure that information, functionality, and structure can be separated from presentation.**

### **Success Criterion**

### **1.3 L1 SC1:**

[Structures](#) within the content can be [programmatically determined](#).

PDF/UA Commentary: Very important. Very Difficult. Return to later. For our purposes structure is the content model. Must return. Can the software figure it out? Do they mean the content organization. Expressed in a way the software can expose them. Things that promote efficient navigation by assistive technology. 1. Content must be tagged. 2. Content must be tagged in a logical read order. 3. Content must be hierarchical,

### **1.3 L1 SC2:**

When information is conveyed by color, the color can be [programmatically determined](#) or the information is also conveyed through another means that does not depend on the user's ability to differentiate colors.

PDF/UA Commentary: Programmatically determined not a feature. Nature of accessible PDF color used as content is there a way to determine that as such? Is that difficult? Return to this.

### **1.3 L2 SC1:**

Information that is conveyed by variations in [presentation](#) of text is also conveyed in text or the variations in presentation of text can be [programmatically determined](#).

PDF/UA Commentary: Meaning, bold and italic. Return to this. You can get this information out of the PDF.

### **1.3 L2 SC2:**

Any information that is conveyed by color is visually evident when color is not available.

PDF/UA Commentary: Meaning viewed in black and white. Strictly an author's responsibility? If it is just eye candy it does not matter. Table with a highlighted row. Return to this? Strictly author. Example, defining instance of a word. Why this and the earlier item about color? This is level 2 the other is a level 1. This does not provide that out. This is the harder of the two to achieve. Relevant. Return to this.

### **1.3 L3 SC1:**

When content is arranged in a sequence that affects its meaning, that sequence can be [determined programmatically](#).

PDF/UA Commentary: Meaning read order. Very important. Return to this.

## **Guideline 1.4: Make it easy to distinguish foreground information from background images or sounds.Success Criterion**

### **1.4 L1 SC1:**

Any text that is presented over a [background image](#), color, or text can be [programmatically determined](#).

PDF/UA Commentary: Meaning that it is text and what the text is. Could be an area that it is easier for PDF than other technologies. Heading with background image with words on it. That is an instance where you would add alt text. PDF allows you to combine those two. Watermarks, Do Not Copy, how does one convey that kind of information? Not this success criteria but could be earlier (1.1?)

Make it possible vs. is it possible?

### **1.4 L2 SC1:**

Text and diagrams that are presented over a [background image](#), color, or text have a contrast greater than X1 where the whiter element is at least Y1 as measured by \_\_\_\_\_.

PDF/UA Commentary: Success criteria is to be measurable, testable, and verifiable. For PDF for instance, if viewed in high contrast setting, you can discern the two. Remember, this is not about Acrobat. Could be an Author responsibility. Since there

is no “programmatically determined” notionally this is an author issue. Typically in PDF, text and background are not on different layers. In reflow, you would lose the background information. Return to this.

#### **1.4 L2 SC2:**

Text that is presented over a background pattern of lines which are within 500% +/- of the stem width of the characters or their serifs must have a contrast between the characters and the lines that is greater than X2, where the whiter element is at least Y2.

PDF/UA Commentary: Author responsibility. In short, you have to be able to see it.

#### **1.4 L2 SC3:**

A mechanism is available to turn off background audio that plays automatically.

PDF/UA Commentary: Very important.

#### **1.4 L3 SC1:**

Text is not presented over any background (image, text, color or pattern), or if any background is present, the contrast between the text and the background is greater than X2.

PDF/UA Commentary: This is an author prohibition. No different for PDF than any other technology,

#### **1.4 L3 SC2:**

Audio content does not contain background sounds or the background sounds are at least 20 decibels lower than the foreground audio content, with the exception of occasional sound effects.

PDF/UA Commentary: Not relevant. Outside of scope of PDF.

## **Guidelines for Principle 2: User Interface Components in the content must be operable**

### **Guideline 2.1: Make all functionality operable via a keyboard interface.**

#### **Success Criterion**

#### **2.1 L1 SC1:**

All of the [functionality](#) of the content, where the functionality or its outcome can be described in a sentence, is operable through a [keyboard interface](#).

PDF/UA Commentary: For example. Photoshop is Gaussian blur. 508 described this as functional text. You want to be able to tab to all the form fields for instance. If you satisfy the L3 then you do not need the L1? Which level is more applicable? We have the freedom to determine which items we adopt. Could affect instance relating through the use of JavaScript for instance. To satisfy WCAG you must satisfy all level 1 Success Criteria. Higher level SC (like this) may be harder to satisfy, even if the SC is easier to understand.

Relevant Return to but not highest priority.

### **2.1 L3 SC1:**

All [functionality](#) of the content is designed to be operated through a [keyboard interface](#).

PDF/UA Commentary: What are the interactive elements that can be in a PDF file. Annotations, movies, form fields, sound clips, etc. Overlap does not concern us at this time. Return to.

## **Guideline 2.2: Allow users to control time limits on their reading or interaction.**

### **Success Criterion**

### **2.2 L1 SC1:**

Content is designed so that time-outs are not an essential part of interaction, or at least one of the following is true for each time-out that is a function of the content:

PDF/UA Commentary: JavaScript.

- the user is allowed to deactivate the time-out or;
- the user is allowed to adjust the time-out over a wide range which is at least ten times the length of the default setting or;
- the user is warned before time expires, allowed to extend the time-out with a simple action (for example, "hit any key") and given at least 20 seconds to respond or;
- the time-out is an important part of a real-time event (for example, an auction), and no alternative to the time-out is possible or;
- The time-out is part of an [activity where timing is essential](#) (for example, competitive gaming or time-based testing) and time limits can not be extended further without invalidating the activity.

PDF/UA Commentary: These are proscriptions to the script author in our world. Does this cover where someone has activated the transitions? Dealt with in a later criteria involving changes to UI.

### **2.2 L2 SC1:**

Content does not [blink](#) for more than 3 seconds, or a method is available to stop any blinking content in the [delivery unit](#).

PDF/UA Commentary: JavaScript. You could put in a GIF animation too. Also play games with form fields. Return to this. Low level issue.

### **2.2 L2 SC2:**

Moving or time-based content can be paused by the user.

PDF/UA Commentary: Should say animated, not moving. In some contexts user agent, but because you can add these constructs to the content you can also design a user agent that can make it stop.

### **2.2 L3 SC1:**

Except for [real-time events](#), timing is not an essential part of the event or activity presented by the content.

PDF/UA Commentary: Important to note this is L3. You can have timed activity such as testing which is an L1. This is an author responsibility.

### **2.2 L3 SC2:**

Non-emergency interruptions, such as the availability of updated content, can be postponed or suppressed by the user.

PDF/UA Commentary: That may end up being changed in light of recent events over the past years. Emergency info could take precedence. This is non emergency. Author. You should be able to provide control to the user to suppress this content. Does Designer fall into this. Web services. What's the PDF that is being generated? PDFs can be a container for a data flow that is not integral to the PDF where PDF serves as the vehicle for that data flow. Return to this.

### **2.2 L3 SC3:**

When an authenticated session has an inactivity timeout, the user can continue the activity without loss of data after re-authenticating.

PDF/UA Commentary: Difficult to impossible. Reader does not allow people to save data. If you deployed a PDF within an authenticated session. Could mean you cannot have an inactivity timeout. Important, return to later.

## **Guideline 2.3: Allow users to avoid content that could cause seizures due to photosensitivity.**

### **Success Criterion**

#### **2.3 L1 SC1:**

Content that violates international health and safety standards for [general flash](#) or [red flash](#) is [marked in a way that the user can avoid its appearance](#).

PDF/UA Commentary: Author issue. Related to anything you can do. What is the definition between author problems vs. PDF problem. Example: Someone who knows how to make the file and someone else knows how to make it accessible. An author might determine what graphics go in a file, there's no way the content editor can correct the mistakes the author has made.

A discussion will have to take place regarding how we construe these author distinctions from the PDF distinctions. Doesn't WCAG have to deal with these kind of decisions all the time? What deals with author vs. content. Some possibilities in PDF are less common than HTML. The 2.0 guidelines are intended to move away from specific XML / HTML to address broader content. All of these guidelines are written towards the author. The format should at least have the capacity to make it accessible. The format should have a way for the user agent to programmatically determine what is flash. Author side issue we will come back to it. We may be able to provide as specification for what to do about flash. How to mark it.

#### **2.3 L2 SC1:**

Content does not violate international health and safety standards for [general flash](#) or [red flash](#).

PDF/UA Commentary: Refer to previous discussion.

#### **2.3 L3 SC1:**

Content does not violate international health and safety standards for [spatial pattern thresholds](#) or [red flash](#).

PDF/UA Commentary: Refer to previous discussion.

## **Guideline 2.4: Provide mechanisms to help users find content, orient themselves within it, and navigate through it.**

## Success Criterion

### [2.4 L1 SC1:](#)

Navigational features can be programmatically identified.

PDF/UA Commentary: Agreed!

### [2.4 L2 SC1:](#)

More than one way is available to locate content within a set of delivery units.

PDF/UA Commentary: If extractable, then searchable. If a document consists of many PDF files, there should be some responsibility in this specification to deal with inter as opposed to intra PDF file navigation. If a single document, albeit a million pages you still want to navigate that document. The bigger the document the more essential the navigation becomes. 20 different reports could be provided with a hierarchal navigation perhaps. This is an item we need to return to. Duff has volunteered to deal with this exclusively.

### [2.4 L2 SC2:](#)

Blocks of content that are repeated on multiple perceivable units are implemented so that they can be bypassed.

PDF/UA Commentary: Page headers. Written thinking about navbars in HTML pages. Return to it. Not clear if meaning headers or footers. Could need a skip link.

### [2.4 L2 SC3:](#)

Delivery units have descriptive titles

PDF/UA Commentary: Highly relevant and endorsed.

### [2.4 L2 SC4:](#)

The destination of each programmatic reference to another delivery unit is identified through words or phrases that either occur in text or can be programmatically determined.

PDF/UA Commentary: Give your link an alt text. What are delivery units in PDF? A delivery unit is something that comes down in one HTTP request. This distinction is to try to deal with an HTML page that deals with a CSS file. Perceivable units as well as delivery units.

### [2.4 L3 SC1:](#)

When a page or other [delivery unit](#) is navigated sequentially, elements receive focus in an order that follows relationships and sequences in the content.

PDF/UA Commentary: Tab order and focus. This is the requirement that says tab order should follow reading order.

#### **2.4 L3 SC2:**

Information about the user's location within a set of [delivery units](#) is available.

PDF/UA Commentary: Orientation. Page Number, Where am I? If I am in a 1000 page document . Is there enough information present in the content in order for the viewer to figure it out.

#### **2.5 L2**

If an input error is detected, the error is identified and provided to the user in text.

PDF/UA Commentary: There's more to it.

Guideline 2.5 Help users avoid mistakes and make it easy to correct them.

2.5.1 If an input error is detected, the error is identified and provided to the user in text.

2.5.2 If an input error is detected and suggestions for correction are known and can be provided without jeopardizing the security or purpose of the content, the error is identified and the suggestions are provided to the user.

2.5.3 For forms that cause legal or financial transactions to occur, that modify or delete data in remote data storage systems, or that submit test responses, at least one of the following is true:

2.5.4 Actions are reversible.

2.5.5 Actions are checked for errors before going on to the next step in the process.

2.5.6 The user is able to review and confirm or correct information before submitting it.

2.5.7 Additional context-relevant assistance is available for text input.

## **Guidelines for Principle 3: Content and controls must be understandable.**

### **Guideline 3.1: Make text content readable and understandable.**

#### **Success Criterion**

##### **3.1 L1 SC1:**

The primary [natural language](#) or languages of the delivery unit can be [programmatically determined](#).

PDF/UA Commentary: Agreed Applies can be done

##### **3.1 L2 SC1:**

The natural language of each [foreign passage or phrase](#) in the content can be [programmatically determined](#).

PDF/UA Commentary: Agreed Applies can be done

##### **3.1 L3 SC1:**

A mechanism is available for finding definitions for all words in [text](#) content.

PDF/UA Commentary: Not in our scope, this is an advisory for the author. This would not make the PDF inaccessible if not meant.

##### **3.1 L3 SC2:**

A mechanism is available for identifying specific definitions of words used in an unusual or restricted way, including idioms and jargon.

PDF/UA Commentary: Level 3 issue. Same problem as one above. There is a mechanism to do this in PDF, but you cannot dictate if the author will use these mechanisms.

##### **3.1 L3 SC3:**

A mechanism for finding the expanded form of acronyms and abbreviations is available.

PDF/UA Commentary: Yes / No? The mechanism exists, but it should not be a requirement. This is deferred for later discussion.

### **3.1 L3 SC4:**

Section titles are descriptive.

PDF/UA Commentary: Use headers. This is an author issue.

### **3.1 L3 SC5:**

When text requires reading ability at or above the upper secondary education level, one or more of the following supplements is available:

- a. A text summary that requires reading ability no higher than primary education level.
- b. Graphical illustrations of concepts or processes that must be understood in order to use the content.
- c. A spoken version of the text content.

PDF/UA Commentary: Author side issue. C would be covered as long as you follow the other requirements. There is no assumption that a reader will have access to assistive technology. This will probably not be in the PDF/UA guideline. Are there technology deficiencies that would prevent someone from doing these things in PDF.

## **Guideline 3.2: Make the placement and functionality of content predictable.**

### **Success Criterion**

### **3.2 L1 SC1:**

Any [change of context](#) is implemented in a manner that can be [programmatically determined](#).

PDF/UA Commentary: We are informed that this is no longer applicable. Possible dropped out of WCAG. Return to this.

### **3.2 L2 SC1:**

Components that are repeated on multiple [delivery units](#) within a set of delivery units occur in the same order each time they are repeated.

PDF/UA Commentary: Author responsibility. Thinking about things like page headers. Inspiration comes from an HTML navbar. Yes No convention without switching to No Yes. Hard to see how this is put in a spec.

### **3.2 L2 SC2:**

When any component receives focus, it does not cause a [change of context](#).

PDF/UA Commentary: JavaScript. Return to this.

### **3.2 L2 SC3:**

Changing the setting of any input field does not automatically cause a [change of context](#).

PDF/UA Commentary: How is change of context defined? Forms as an example. We need to discuss this further. Another example, sidebars, completely different information from main context flow. More likely a structure or reading order issue. Done all the time in books.

### **3.2 L2 SC4:**

Components that have the same functionality in multiple [delivery units](#) within a set of delivery units are labeled consistently.

PDF/UA Commentary: Author problem. We agree to this.

### **3.2 L3 SC1:**

Graphical components that appear on multiple pages, including graphical [links](#), are associated with the same text equivalents wherever they appear.

PDF/UA Commentary: Buttons, logos, next button etc. Traffic light example cannot mean different things on different pages. Agree. Author issue.

### **3.2 L3 SC2:**

[Changes of context](#) are initiated only by user action.

PDF/UA Commentary: Agreed. Scripting. Tabbing onto field should not make something happen. Unexpected actions. Revisit this issue.

Principle. Content must be robust enough to work with current and future technology.

## Guidelines for Principle 4: Content must be robust enough to work with current and future technologies.

### **Guideline 4.1: Use technologies according to specification.**

PDF/UA Commentary: Still being debated. Conforms to PDF version 1.6

Satisfied	Success Criterion	Comments

### **Guideline 4.2: Ensure that user interfaces are accessible or provide an accessible alternative(s)**

#### **Success Criterion**

#### **4.2 L1 SC1:**

If content does not meet all level 1 success criteria, then an alternate form is provided that does meet all level 1 success criteria.

PDF/UA Commentary: Escape clause! Paragraph (k). We must revisit once we determine the L1s that apply to PDF then we can specify what the alternatives might be if an author cannot meet all Level 1. For example, if you decide to include mathematics does this mean we will require MathML. Permitted. Vs. Required. DAISY example. If we require that tags be in there that are consistent with the DAISY tags. We feel confident that we may not have to resort to this. Another issue might involve using JavaScript that might not be accessible. Revisit this one.

#### **4.2 L1 SC2:**

Content using baseline technologies or non-baseline technologies, must meet the following criteria:

- a. Content that violates international health and safety standards for general flash or red flash is marked in a way that the user can avoid its appearance

**Editorial Note:** @@ update to match 2.3 text when it is complete

- b. If the user can enter the content using the keyboard, then the user can exit the content using the keyboard.

PDF/UA Commentary: We are on board with this.

#### **4.2 L1 SC3:**

The role, state, and value can be [programmatically determined](#) for every user interface component of the web content that accepts input from the user or changes dynamically in response to user input or external events.

PDF/UA Commentary: Can the assistive technology find out about the form fields? We will revisit this one.

#### **4.2 L1 SC4:**

The label of each user interface control that accepts input from the user can be [programmatically determined](#) and is explicitly associated with the control.

PDF/UA Commentary: Area where we need to propose changes. No well defined way today of explicitly associating a label with a control. There is a hole that needs to be addressed. Revisit this. PDF can do the role, state, and value of a control. The term “name” is missing – probably covered by label. Text converted to tree view with a JavaScript for instance? No way today to actively expose that as an interactive component. There is a recent extension to the tagging to take a static view of a control and expose a role. Something to consider but easier to outlaw it for now. Revisit this one. Input to Adobe required.

#### **4.2 L1 SC5:**

The states and values of content that can be changed via the user interface can also be changed programmatically.

PDF/UA Commentary: Agreed. No issue.

#### **4.2 L1 SC6:**

Changes to content, structure, selection, focus, attributes, values, state, and relationships within the content can be [programmatically determined](#).

PDF/UA Commentary: Can they? Requiring an event model? Same as 5 in some sense, but you need to know that the focus has changed for example. User Agent needs to be able to get to the full state of that information. This is a funny guideline because it addresses User Agent issues – though when you stop to consider Java applets, this might be the author’s responsibility. For example, if working with FLASH, use widgets that permit these kinds of things. The author doesn’t have to do anything but use the technology appropriately. Addresses those situations where the user agent is an interpreter (Java, FLASH). Not in our purview but have in the back of our minds.

#### 4.2 L2 SC1:

Accessibility conventions of the markup or programming language (API's or specific markup) are used.

PDF/UA Commentary: We support this because we are providing the accessibility conventions.

#### 4.2 L3 SC1:

Content implemented using technologies outside of baseline follows all WCAG requirements supported by the technology.

PDF/UA Commentary: Here is what baseline means: Set of technologies assumed to be supported by, and enabled in, user agents in order for Web content to conform to these guidelines .

## Appendix A References

### WCAG20

"Web Content Accessibility Guidelines 2.0," B. Caldwell, W. Chisholm, J. White, and G. Vanderheiden, eds., W3C Working Draft 30 June 2005. This W3C Working Draft is available at <http://www.w3.org/TR/2005/WD-WCAG20-20050630>. The latest version of WCAG 2.0 is available at <http://www.w3.org/>

#### **Recap of WCAG 2.0 Exercise Betsy Fanning, AIIM**

This exercise using the WCAG guidelines was done to provide us with an organizing document to begin the drafting of the PDF/UA specification document.

Documents that describe how technologies comply with WCAG should use the WCAG as our initial template. We are trying to create an ISO standard not guidelines. It will be possible to write the technology guidelines for PDF pointing at the spec we produce which will be used to demonstrate that it will be possible to create PDFs that conform to WCAG.

We are looking at the PDF technology that supports these things in the WCAG and 508 guidelines and so on. Clear language requirement for example is out of scope for this discussion. We are looking for those pieces of technology in PDF that make these documents accessible. The PDF/UA specification will be light on explanations of how to do it.

We are not out to rewrite WCAG, we are seeking to apply its guidelines to this particular technology (meaning PDF). Checking the W3C copyright statement indicates this is an "annotation." We are obliged to let W3C know we are doing this. We can incorporate sections of their documents into our standards.

The document we have been working on today and yesterday will have to be adapted to the ISO template.

**Action Item:** Inform WCAG of our use of their Success Criteria. Bruce Bailey

**Action Item:** Betsy Fanning to distribute the ISO template.

## 11. Discussion of Tags

At this point, Loretta Guarino-Reid proposed a brief discussion of tags in PDF.

There are provisions for defining tag extensions beyond the standard set. We can implore upon Adobe to incorporate those into the tag set. There is no guarantee Adobe will do this, but the mechanisms are there to accomplish this.

We need to emphasize there is no guarantee Adobe will do this, but it's been done (PDF/A for example) and that working group has forged ahead.

Question: Are tags in the PDF specification available for use by other authoring tools.

There are no restrictions on the tag set. An authoring application may generate a tag of any name.

There are elements in the content stream. Not a matter of what you name a tag, but what you can associate with what you name it. If we wanted to extend the scope of what you can include in a PDF file, then that's a much riskier proposition.

Encouraging the mapping is what we're going towards now.

If we find a gaping hole in PDF tags we will then specify new tags at that time or tell people to use these tags.

Duff Johnson, Chair Person: If there is no other objection, I would like to proceed with our remaining items of business

- 1) Name a Technical Editor
- 2) Assign tasks
- 3) Future meeting formats

## 12. Task Assignments

Create assignments for what needs to be done, who needs to do it, and when it should be done in anticipation of our next meeting.

### **Naming a Technical Editor**

Angy Brooks has volunteered to be the technical editor. Motion made and seconded (Johnson/Pisocky). Carried without objection. Angy Brooks is the PDF/UA Technical Editor.

**Action Item:** Betsy will forward to the listserv the ISO language directives

**Action Item:** Loretta Guarino –Reid to review the PDF 1.6 specification, Mark Gavin will assist.

**Action Item:** All members of the working group have an action item to familiarize themselves with the extraction of the relevant sections of the PDF 1.6 Specification.

**Action Item:** ISO formatted version of the emerging PDF/UA draft standard available Angy Brooks 3 weeks

**Action Item:** Candidate Headers available Loretta Guarino-Reid 6 weeks.

**Action Item:** Report back to WCAG Guideline List informing W3C of this process. How well WCAG 2 draft has facilitated this discussion. Bruce Bailey 1 week

**Action Item:** Question of Conformance Levels

**Action Item:** Normative References, Terms and Definitions

**Action Item:** 5, 6, 7, LGR and MG (within their review of the PDF 1.6 Reference)

Discussion Item assignments. Seeking volunteers for more work items: Problem areas in a particular subsection.

**Action Item:** 1.1 L1 SC1 - SC4 Non-Text Content.... Richard Herring 3 weeks

**Action Item:** Guideline 1.2 - Multimedia... Richard Herring. Combined captions and audio descriptions. Possible not come to conclusion that the concept is not workable but we need to address Multi-media.

**Action Item:** 1.3 L1 SC1 - Structures within content can be programmatically determined Jamal Mazrui 2 weeks.

**Action Item:** 1.3 L1 SC2 - When information conveyed by color and programmatically determined.... might result in restricting what people can do with PDF. 2 weeks (10 days Loretta Guarino-Reid)

**Action Item:** 1.3 L2 SC1 - Loretta Guarino-Reid will do with the one above.

**Action Item:** 1.3 L2 SC2 - Subsume all the color issues into one? Loretta Guarino-Reid is committing to put forward a proposal

**Action Item:** 1.3 L3 SC1 - Content arranged in a sequence content order. Section in PDF/A related to content read order. Mark Gavin

**Action Item:** 2.1 L1 SC1 - Shannon Rapuano(3 weeks)

**Action Item:** 2.2 L3 SC2 - Non emergency interruptions... Web services 2 kind of topics that come up in these criteria. JavaScript and the issue of PDF as a container. What kinds of things can it contain. Would layers be included in this category? Trigger a different layer view. Things that are not user initiated. Could this fall into the change of context items addressed in Guideline 3.2

Elephant in the room, the issue of JavaScript looms large. A separate treatment of the topic is in order. Qualified individual not on this call but someone who will agree to review and initiate this contribution. JavaScript and form fields.

**Action Item:** Greg Pisocky will organize this proposal. (3 weeks)

**Action Item:** 2.4 L2 SC1 More than one way to locate content within a set of delivery units, inter vs. intra document links. Search mechanism, site map. For PDF User Agent / links bookmarks. Inter / Intra. Duff Johnson (End of October).

**Action Item:** Angy Brooks wants to address overall form issues.

**Action Item:** 2.4 L2 SC4 Destination of each programmatic reference to another delivery unit, words phrases.... i.e., where is my link headed? Karen McCall (3 weeks)

**Action Item:** 2.4 L3 SC1 Elements focus Greg Piscocky (3 weeks)

**Action Item:** 2.4 L2 SC2 Expanded form of acronyms and abbreviations. There is a mechanism in PDF today. This is not a question, it's a question of how you would do this in PDF. Remove or move to authoring. Is it required for a PDF to be accessible? Likely a conformance item. This could be an example of a model for what others do. NOT AN ASSIGNABLE ITEM.

**Action Item:** 3.2. L1 SC1 Change of context implemented in a manner that can be programmatically determined. Self populating forms an example? It's an idea that exists other places. This is not a change of context it is a change of content. All changes of context in a PDF are actions of one kind or another and can be programmatically determined. The evil JavaScript use case arises. Is the proper interpretation that a change of context / content need to be detected by AT. TABLED.

**Action Item:** Post minutes, post WCAG application to PDF document, make transcript available to list serv. Greg Piscocky 1 week. 5 Business days.

At this time, the work list was completed.

### **13. Next Meeting**

Next meeting date Oct. 28 via concall, GoToMeeting 2 pm EST 11 am PST. If you happen to be in the neighborhood (Washington DC)

After that beginning October 28 institute a Biweekly call.

Feedback re: GoToMeeting good. Also have documents available ahead of time for meetings of October 28 and November 11.

### **14. Adjournment**

The Meeting was adjourned on October 4, 2005 at 12:30 P.M.