

# Implementing PDF/UA in Microsoft Word - How Can PDF/UA Become an Everyday Part of Document Authoring?

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**Abstract.** The ISO-standard PDF/UA-1 with its clearly-defined requirements promises a new era of accessible document creation. But users of word processing software are often overwhelmed when they try to understand how to fulfill the requirements. This leads to our focus in this paper: how can every document author using Microsoft Word be able to create a PDF/UA compliant PDF document without deep knowledge of PDF accessibility or time-consuming quality assurance and remediation? We present a workflow model which enables in combination with a special Word-Add-In the easy creation of accessible PDF documents without special training.

**Keywords:** PDF, Accessibility, PDF/UA, Document, Template, Workflow, Microsoft Word.

## 1 Introduction: Is PDF/UA Only for Insiders, Geeks and Experts?

The ISO-standard PDF/UA-1 (ISO 14289-1) with its clearly-defined and WCAG 2 orientated requirements [3] - elaborated in the so called Matterhorn Protocol [4] - is a big progress in the field of document accessibility. But a standard can only be successful if there are easy to handle tools for the creation and evaluation of compliant documents. A vast amount of PDF documents are created with Microsoft Word which is a wide-spread word processing software especially in the fields of e-government, education and business. In the majority of cases to meet the requirements of accessible documents is the responsibility of one small part of an organization with deep PDF accessibility knowledge [5]. But with this strategy it is not possible to make accessibility as an everyday part of document authoring.

The support in mainstream authoring tools like Microsoft Word is not sufficient in order to generate PDF/UA conforming documents. Even if the author fulfills all accessibility requirements in the source document, it is not possible to create a fully complying PDF document by using the PDF export function in Word itself [2] or the common Add-In Adobe PDF-Maker for Word. The technical side of this issue is

ad-dressed by a special conversion tool. The concept of that tool as a Word-Add-In was presented by the authors of this paper at ICCHP 2012 [1]. The remaining problem however is the workflow itself.

Till today the common strategy is to train all document authors to become a PDF accessibility expert. We want to choose another approach: what role based model or workflow model is necessary in order to empower Microsoft Word authors without deep PDF accessibility knowledge to create PDF/UA documents?

## 2 The Concept: A New Role Based Model - Only the Template Creator Has to Be the PDF Accessibility Expert

In a first step we tried to make clear what we mean with "to empower". Based on our experiences in teaching document accessibility to office workers and power users for many years we worked out the goals of a new workflow model:

- to easily create accessible PDF documents without any special training
- to relieve the authors of dealing with PDF accessibility problems or special knowledge about PDF tagging
- to enable the authors to focus on content issues
- to facilitate semantic authoring without calling it semantic
- to support the creation of "born accessible" documents
- to minimize the effort of PDF/UA checking

In a second step we tried to define roles and their special tasks according to accessibility issues. We identified 3 different roles:

1. The template developer: responsible for the basic layout and the styles – he determines the look of the document and the possibilities to structure the content by using different styles.
2. The document author: responsible for the content and the document structure – he writes the content and marks it by using the available styles.
3. The document evaluator: responsible for the quality assurance – he checks the PDF for accessibility (in this case for conformance with PDF/UA).

Every role needs a special knowledge in order to execute the according tasks.

### 2.1 The First Role: The Template Developer

The template developer needs deep knowledge about the creation of templates, PDF accessibility and axesPDF for Word features and settings. He provides the authors with templates that are prepared for accessible authoring. His tasks are in detail:

- prepare all styles and complex elements already with accessibility features in the template
- determine the PDF-tags processing in the template