

# Content Markup for Persons in OMDoc 1.6 Metadata

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## Abstract

We propose a semantic representation scheme for Persons in OMDoc 1.6<sup>1</sup>

EdNote(1)

## 1 Introduction

In a content-oriented document format like OMDoc [Koh06] format, we also need a content-oriented representation for metadata and in particular persons, who come in as authors, contributors, or maintainers of documents. With persons, we face many of the same problems we face with mathematical objects. We want to identify them as individuals, we want to reference them in various communicative situations by salient properties — hoping that the interlocutor will be able to identify them from these, and we want to have a way of finding out more about them. And we want to achieve all of this without overburdening the author of documents.

Content Markup for Bibliographic references is probably best organized as BibTeX<sup>2</sup> does it. We have a database for bibliography entries, and have citations just reference that. An obvious idea for our problem with persons is to do something similar with persons, i.e. keep a database of general person descriptions like the one in Section 3 and just identify the person by a URI pointing to a **person** element in such a database. Then document presentation applications could look up the respective information needed by their document class and style it into the result document.

EdNote(2)

We propose to integrate this approach into OMDoc1.6, see Section 4 for a grammar and Section 3 for an example.

## 2 Related Work and Possible Extensions

Another approach would be to use an ontology like FOAF (Friend of a Friend [FOA]) and rely on information on the web for describing knowledge about persons. This approach is

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<sup>1</sup>EdNote: continue

<sup>2</sup>EdNote: cite it

clearly well-suited to find up-to-date information about people on the web, but allows the document author very little editorial control.<sup>3</sup>

EdNote(3)

Note that our proposal does not answer the requirement to be able to uniquely identify persons. Here an interface to a service like OpenID [Ope] might help<sup>4</sup>.

EdNote(4)

Finally, we could use OMDOC content dictionaries themselves to represent persons. We would essentially turn people into “mathematical objects” and describe them using “mathematical formulae”. While this sounds like an abuse of the format on the first glance, it would allow us to use the OMDOC technology for multiple ontological views on persons as well.<sup>5</sup>

EdNote(5)

Certainly we should take care that the OMDOC ontology for persons is compatible with external ontologies like FOAF,<sup>6</sup>

EdNote(6)

### 3 An Example

```
<?xml version="1.0" encoding="utf-8"?>

<person xml:id="miko" xmlns="http://omdoc.org/ns">
  <personalname>
    <honorific>Prof.</honorific>
    <honorific>Dr.</honorific>
    <firstname>Michael</firstname>
    <surname>Kohlhase</surname>
  </personalname>
  <affiliation>
    <title>Professor of Computer Science</title>
    <division>Computer Science</division>
    <division>School of Engineering and Science</division>
    <institution>Jacobs University, Bremen</institution>
    <address>
      <residence>
        <name>Research 1</name>
        <street>Campus Ring</street>
        <number>1</number>
      </residence>
      <town>Bremen</town>
      <zip>28759</zip>
    </address>
  </affiliation>
  <affiliation>
    <title>Vice Director</title>
    <division>Safe and Secure Cognitive Systems</division>
    <institution>German Research Center for Artificial Intelligence</institution>
    <address>
      <residence>
        <street>Enrique-Schmidt-Strasse</street>
        <number>5</number>
        <other>Cartesium</other>
      </residence>
      <town>Bremen</town>
      <zip>28353</zip>
    </address>
  </affiliation>
</person>
```

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<sup>3</sup>EdNOTE: continue

<sup>4</sup>EdNOTE: continue

<sup>5</sup>EdNOTE: make this clearer, and maybe generalize to position OMDOC as an ontology language.

<sup>6</sup>EdNOTE: continue; how can we integrate all of these?

```

        <country>Germany</country>
    </address>
</affiliation>
<address>
    <residence>
        <street>M#xFC;hlental</street>
        <number>5</number>
    </residence>
    <town>Bremen</town>
    <zip>28717</zip>
</address>
</person>

```

## 4 The RelaxNG Schema Module for Persons

```

# A RelaxNG schema for Open Mathematical documents (OMDoc 1.6) Module DOC
# $Id: omdocTAB.rnc 7985 2008-08-31 13:47:05Z kohlhase $
# $HeadURL: https://svn.omdoc.org/repos/omdoc/trunk/doc/blue/tables/rnc/omdocTAB.rnc $
# See the documentation and examples at http://www.omdoc.org
# Copyright (c) 2008 Michael Kohlhase, released under the GNU Public License (GPL)

default namespace omdoc = "http://omdoc.org/ns"

start = person|persons

id.attrib = attribute xml:id {xsd:ID}

persons = element persons {person*}

person = element person {id.attrib & personalname & affiliation* & address* & email* & homepage*}

personalname= element personalname {honorific*,firstname,other*,surname, lineage?}

honorific = element honorific {text}
firstname = element firstname {text}
surname = element surname {text}
lineage = element lineage {text}
email = element email {xsd:anyURI}
homepage = element homepage {xsd:anyURI}

address = element address {residence,town,zip?,country?}
residence = element residence {name?,street*,number,other*}
name = element name {text}
street = element street {text}
number = element number {text}
other = element other {text}
country = element country {text}
town = element town {text}
zip = element zip {text}

affiliation = element affiliation {title,division*,institution,address}
title = element title {text}
division = element division {text}
institution = element institution {text}

#add telephone-like stuff

```

## 5 Support

This setup is supported by sTeX [Koh08b, sTe] package for bibliographic metadata [Koh08a].

## References

- [FOA] Friend of a Friend (FOAF) project [online, cited June 2008].
- [Koh06] Michael Kohlhase. OMDOC – *An open markup format for mathematical documents [Version 1.2]*. Number 4180 in LNAI. Springer Verlag, 2006.
- [Koh08a] Michael Kohlhase. An infrastructure for marking up Dublin Core metadata in L<sup>A</sup>T<sub>E</sub>X documents, 2008.
- [Koh08b] Michael Kohlhase. Using L<sup>A</sup>T<sub>E</sub>X as a semantic markup format. *Mathematics in Computer Science*, 2008. to appear.
- [Ope] OpenID: Shared Identity Service [online, cited June 2008].
- [sTe] Semantic Markup for LaTeX [online, cited September 2008].