
**Language resource management —
Transcription of spoken language**

Gestion des ressources linguistiques — Transcription du langage parlé



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Metadata	2
4.1 Description of the electronic file (<fileDesc>)	2
4.1.1 Distribution information (<publicationStmt>)	2
4.1.2 Recording information (<recordingStmt>)	2
4.2 Description of circumstances (<profileDesc>)	4
4.2.1 Participant information (<particDesc>)	4
4.2.2 Setting information (<settingDesc>)	4
4.3 Description of source (<encodingDesc>)	5
5 Macrostructure	5
5.1 Timeline (<timeline>)	5
5.2 Utterances (<u>)	6
5.3 Free dependent annotations (<spanGrp>,)	7
5.4 Grouping of utterances and dependent annotations (<annotationBlock>)	9
5.5 Independent elements outside utterances (<pause> and <incident>)	10
5.6 Inline paralinguistic annotation (<shift>)	10
5.7 Global divisions of a transcription (<div>)	11
6 Microstructure	12
6.1 Tokens (<w>)	12
6.1.1 Characterization	12
6.1.2 Representation as <w>	12
6.1.3 Further constraints	13
6.1.4 Examples	13
6.2 Pauses (<pause>)	14
6.2.1 Characterization	14
6.2.2 Representation as <pause>	14
6.2.3 Further constraints	14
6.2.4 Examples	15
6.3 Audible and visible non-speech events (<vocal>, <kinesic> and <incident>)	15
6.3.1 Characterization	15
6.3.2 Representation as <vocal>, <kinesic> or <incident>	16
6.3.3 Examples	16
6.4 Punctuation (<pc>)	17
6.4.1 Characterization	17
6.4.2 Representation as <pc>	17
6.4.3 Further constraints	17
6.4.4 Examples	18
6.5 Uncertainty, alternatives, incomprehensible and omitted passages (<unclear>, <choice>, <gap>)	18
6.5.1 Characterization	18
6.5.2 Representation as <unclear> or <gap>	18
6.5.3 Further constraints	18
6.5.4 Examples	19
6.6 Units above the token and below the <u> level (<seg>)	20
6.6.1 Characterization	20
6.6.2 Representation as <seg>	20
6.6.3 Further constraints	20
6.6.4 Examples	20

Annex A (informative) Fully encoded example	22
Annex B (informative) Element and attribute index	28
Bibliography	31

This document is a preview generated by EVS

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 37, *Terminology and other language and content resources*, Subcommittee SC 4, *Language resource management*.

Introduction

This document sets out to facilitate the interchange of transcriptions of spoken language between different computational tools and environments for creating, editing, publishing and exploiting such data. Transcription of spoken language in this context means an orthography-based transcription of verbal activity as recorded in an audio or video recording of a natural interaction. The description of activity in other modalities (e.g. body language, gestures and facial expression) may be part of a spoken language transcription, but this document starts from the assumption that the verbal dimension is the primary focus of a spoken language transcription. Likewise, although this document may also be relevant for transcription based on phonetic alphabets like the IPA, the assumption for this document is that orthography-based transcription is the default case.

This document is developed in the context of the joint agreement between ISO and the Text Encoding Initiative (TEI) consortium, and accordingly, its content is also distributed as part of the TEI guidelines.^[23]

This document takes into account data models and encoding practices supported by widely used transcription software. More specifically, it builds on several interoperability studies^{[12],[16],[17],[19]} involving the following tools:

- ANVIL^[10]
- CLAN^[11]
- ELAN^[22]
- EXMARaLDA^[20]
- FOLKER^[18]
- Transcriber^[1]

This document was developed to be compatible with the formats produced by these tools. The compatibility may extend to the formats of further labelling tools (e.g. Praat^[4] or Wavesurfer, <http://www.speech.kth.se/wavesurfer/index2.html>), but possibly on a lower level and/or with a requirement to convert these formats to one of the above-mentioned before adding mandatory information (e.g. speaker assignment) using the respective tools.

This document also aims to be usable with widely used transcription systems (“conventions”). However, in a technical sense, compatibility is not easily definable in this area since, unlike the tool formats, most of these systems lack an explicit formalization. The following selection of transcription systems was considered for this document:

- Codes for the Human Analysis of Transcripts (CHAT)^[11]
- Discourse Transcription (DT)^[7]
- Gesprächsanalytisches Transkriptionssystem (GAT)^[21]
- Halbinterpretative Arbeitstranskriptionen (HIAT)^[13]

Since TEI is the reference framework for this document and metadata is not its main concern, no attempt is made here to address metadata compatibility issues beyond the TEI header. However, it should be noted that there are several TEI profiles for the CMDI framework which are related both to each other and to CMDI profiles of other metadata formats (e.g. IMDI) via the ISOCAT registry (see also References ^[5], ^[6] and ^[9]).

This document aims to define both a target format for legacy data conversion and a format suitable for future data processing requirements. The pros and cons of these two demands were carefully weighed up before decisions were taken. At some points, certain techniques are therefore marked as preferred

from a data processing point of view while an alternative technique is still allowed if the structure of legacy data makes its use unavoidable.

With regard to the other standards developed within ISO committee TC 37/SC 4, this document is intended to provide the primary layer on top of which further annotation layers may be implemented. In particular, the use of the <w> element for tokenizing a transcription is conformable to the TEI-based representation of tokens ISO 24611 (MAF).

This document also aligns with the mechanism proposed in the TEI guidelines to embed stand-off annotations within a TEI document. In particular, this mechanism contains a generic element (<annotationBlock>) that groups together annotations related to the same linguistic segment; this grouping meets the needs of this document in the case of annotations of <u> elements or its children.

Finally, this document is complementary and does not overlap with the speech and multimodal interaction-related standards developed within the W3C. In particular, it does not deal with speech synthesis as is the case for SSML,^[24] nor does it deal with the representation of the semantic interpretation of multimodal utterances as does EMMA.^[25]

Language resource management — Transcription of spoken language

1 Scope

This document specifies rules for representing transcriptions of audio- and video-recorded spoken interactions in XML documents based on the guidelines of the TEI. As a secondary objective, the document aims to relate transcribed data with standards for annotated corpora. It is applicable to transcription data for studies in sociolinguistics, conversation analysis, dialectology, corpus linguistics, corpus lexicography, language technology, qualitative social studies and other transcription data of recorded spoken language. It is not applicable to other forms of transcription, most importantly transcriptions of hand-written manuscripts.

[Annex A](#) gives a fully encoded example and [Annex B](#) provides an element index and an attribute index.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

dependent annotation

annotation which does not refer directly to an audio or video recording, but to another annotation, typically an orthographic or phonetic transcription

3.2

milestone element

empty XML element used to indicate a boundary point

3.3

orthographic transcription

representation or modelling of spoken language based on the orthography of the respective language

3.4

paralinguistic feature

feature of spoken language beyond the individual sound(s), such as voice quality, pitch, volume, intonation

3.5

phonetic transcription

representation or modelling of spoken language based on the sound system of the respective language

3.6

spoken language

oral language produced by a person's vocal system