INTERNATIONAL STANDARD

ISO 24617-4

First edition
2014-08-01

Language resource management — Semantic annotation framework (SemAF) —

Part 4: Semantic roles (SemAF-SR)

Gestion de ressources linguistiques — Cadre d'annotation sémantique (SemAF) —

Partie 4: Rôles sémantiques (SemAF-SR)

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Reference number
ISO 24617-4:2014(E)

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Published in Switzerland

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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).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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

ISO 24617 consists of the following parts, under the general title *Language resource management — Semantic annotation framework (SemAF)*:

— *Part 1: Time and events (SemAF-Time, ISO-TimeML)*

— *Part 2: Dialogue acts*

— *Part 4: Semantic roles (SemAF-SR)*

— *Part 5: Discourse structure (SemAF-DS)*

— *Part 7: Spatial information (ISO-Space)*

The following parts are under preparation:

— *Part 8: Semantic relations in discourse (SemAF-DRel)*

Principles of semantic annotation (SemAF-Basics) will form the subject of future Part 6.

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Introduction

This part of ISO 24617 aims to specify criteria for defining semantic roles (SRs), and is the outcome of an agreement that the various semantic role frameworks being used to support data annotation (e.g. FrameNet, VerbNet, PropBank, EngVallex, and LIRICS, to name only a few examples for English) have strong underlying compatibilities. The goal is to provide both an explanation of these compatibilities and a loose mapping between definitions of individual semantic roles, as listed in the different frameworks, that will benefit the community as a whole.

The current specification has been developed under the aegis of the ISO Semantic Annotation Framework (SemAF), where it is known as SemAF-SR.

The main parts of ISO 24617-4 consist of the following:

— Scope;

— Normative references;

— Terms and definitions;

— motivation and requirements;

— basic concepts and metamodel specifications;

— examples of mapping existing frameworks to the metamodel.

This part of ISO 24617 contains three informative annexes. In Annex A, the ISO semantic roles are specified. In Annex B, information is provided both on past and current activities in semantic role annotation and on tools and frame files. Annex C contains the abstract and concrete syntax for the metamodel.

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Language resource management — Semantic annotation framework (SemAF) —

Part 4: Semantic roles (SemAF-SR)

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1 Scope

The aim of this part of ISO 24617 is to propose a consensual annotation scheme for semantic roles; that is to say, a scheme that indicates the role that a participant plays in an event or state, as described mostly by a verb, and typically providing answers to questions such as "'who' did 'what' to 'whom'", and 'when', 'where', 'why', and 'how'. This includes not only the semantic relations between a verb and its arguments but also those relations that are relevant for other predicative elements such as nominalizations, nouns, adjectives, and predicate modifiers; the predicating role of adverbs and the use of coercion fall outside the scope of this part of ISO 24617.

NOTE In linguistics, **coercion** occurs when the grammatical context causes the language-user to reinterpret all or parts of the semantic and/or formal features of a lexeme that appear in that context.[60]

2 Terms and definitions

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

2.1 Formal semantic units

2.1.1
argument
formal semantic unit that is an essential element of a *predicate argument structure (2.1.3)* and can have variable instantiations depending on the utterance

Note 1 to entry: An argument corresponds to a *participant (2.2.5)* of an *eventuality (2.2.2)* described by the *predicate argument structure (2.1.3)*.

Note 2 to entry: Arguments typically satisfy certain argument positions and can be described as being syntactico-semantic notions, whereas *participants (2.2.5)* are semantico-conceptual. The standard view is that subsets of the *participants* associated with an *eventuality (2.2.2)* are selected as arguments by the verb (or nominal or adjective) expressing the *eventuality (2.2.2)*. Other *participants (2.2.5)* are either incorporated or realized as *eventuality modifiers (2.2.4)*.

Note 3 to entry: Natural language predicates typically have one, two, or three arguments, although they can have more.

2.1.2
predicate
formal semantic unit that represents a semantic relation between one or more *arguments (2.1.1)* in a *predicate argument structure (2.1.3)*

Note 1 to entry: Predicates are indicated by predicative linguistic elements such as verbs, nouns, and adjectives.

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