



ISO/IEC JTC1 SC36 **N0065**

ISO/IEC JTC1 SC36
Information Technology for Learning, Education, and Training

Title:

Expertise and Role Identification for Learning Environments
(ERILE)

Source:

Rolf Lindner

Project:

All

Document Type:

Working Paper

Status:

For information

Date:

2001-02-26

Action ID:

FYI

Distribution:

P, O, & L Members, WG Conveners

Expertise and Role Identification for Learning Environments (ERILE)

Introduction

This Proposed Standard Draft addresses environments for learning, education and training that are supported by information technology (IT).

Throughout this document, a number of specific words are used in a specific meaning. These specific words are printed in *bold italics*. The specific meaning of these words is given in section 3 of this document.

The Proposed Standard Draft focuses on human-based and digitally coded *expertise* that plays a *role* in these environments. Typical *expertise categories* in this concern are *knowledge, skill, talent, didactic guidance, pedagogic guidance, assessment, and evaluation*.

In IT-supported environments for learning, education and training, humans and *agents* (i.e. computer programs representing required humans who are not available) are potentially coacting. Humans and *agents* are both expected to handle *expertises* properly and preferably in the same way and with the same results. At a given time, they are typically acting in a distinct *role*.

The range of provided *expertise* exchange between humans and software *agents* heavily influences the value, IT support adds to educational environments. The effectiveness of human-*agent expertise* exchange depends largely on the coding and the *context identification* of the involved *expertises*.

Different learning scenarios serving different purposes may differ considerably. Different *learning environments* are differently convenient for specific purposes, due to their particular integration and use of different *expertise categories*. Facing the typically high complexity of powerful IT-supported *learning environments*, choosing the best-fitting one and configuring it properly demands a clear synopsis of their features. This suggested standard enables providers to formulate the characteristics of environments for learning, education and training in an abstract way, by this helping them in their design and helping users to find the best fitting environments for their specific goals.

CONTENTS

1	Overview	1
1.1	Scope	1
1.2	Purpose	1
1.3	Normative wording vs. informative wording	1
2	Normative references	1
3	Definitions	2
3.1	Definitions incorporated via normative reference.....	2
3.2	Actor	2
3.3	Administrator	2
3.4	Agent	2
3.5	Assessment.....	2
3.6	Author.....	2
3.7	Carrier.....	2
3.8	Context	3
3.9	Didactic Guidance.....	3
3.10	Evaluation	3
3.11	Expertise	3
3.12	Expertise Category	3
3.13	Identification (defined in IEEE 1484.3 Glossary).....	4
3.14	Instance	4
3.15	Knowledge	4
3.16	Learner (defined in IEEE 1484.3 Glossary).....	4
3.17	Learning Community	4
3.18	Learning Environment	4
3.19	Machine Function.....	4
3.20	Mediation	4
3.21	Pedagogic Guidance	5
3.22	Practicing	5
3.23	Process	5
3.24	Provision	5
3.25	Reviewer	5
3.26	Role	5
3.27	Skill	5
3.28	Storage.....	5
3.29	Talent.....	6
3.30	Teacher.....	6
3.31	Template	6
3.32	Tutor.....	6
3.33	Acronyms and abbreviations	6
4	Conformance	7
5	Functionality	7
6	Conceptual Model	7
7	Semantics	8
7.1	Default List of Expertise Categories	8
7.2	Default List of Actor Roles	8
7.3	Identification Table of Expertise Categories	9
7.4	Identification Table of Actor Roles.....	10
8	Sample	10
8.1	List of Expertise Categories	10
8.2	List of Actor Roles.....	10

8.3 Identification Table of Expertise Categories11

8.4 Identification Table of Actor Roles.....15

9 Bindings17

10 Encodings17

11 Annex B: Document development17

11.1 Revision history17

11.2 Release notes for this document17

11.3 Resolved issues.....17

11.4 Open issues17

11.5 Comments on this document18

1 Overview

1.1 Scope

Note: This section is normative.

This Proposed Standard Draft specifies a format for the characterization of environments for learning, education and training concerning the involved *expertise* and *actors*.

1.2 Purpose

Note: This section is normative.

The purpose of this Proposed Standard is:

- To allow the meaningful and unmistakable characterization of environments for learning, education and training with respect to their involved *expertise* and *actors*.

1.3 Normative wording vs. informative wording

Note: This section is informal.

This Proposed Standard Draft contains two categories of documentation: documentation concerning normative specification and documentation concerning informal description. These two categories are identified by Notes of one of the forms: “*this section/clause/subclause is normative*”, or: “*this section/clause/subclause is informal*”.

Normative wording places technical requirements on conforming implementations. Normative wording is the essence of this Proposed Standard Draft.

Informative wording does not place technical requirements on conforming implementations. Informative wording is solely meant to facilitate the understanding of this Proposed Standard Draft.

2 Normative references

Note: This section is normative.

The following documents are incorporated by normative reference.

- IEEE 1484.3, Learning Technology Glossary.

3 Definitions

Note: This section and subsections are normative.

3.1 Definitions incorporated via normative reference

Note: The following terms and their definitions have been incorporated via the normative references:

- From the Institute of Electrical and Electronic Engineers (IEEE) 1484.3 Glossary (throughout this document, these specific terms are printed in **bold underlined**):
 - Assignable unit
 - Certification
 - Course
 - Identification
 - Reusability

3.2 Actor

In *learning environments*, a human, an agent, or a group of any combination of them.

3.3 Administrator

In *learning environments*, an *actor's role* characterized by predominantly managing the machine-based information related to *actors* and *expertises*.

3.4 Agent

In *learning environments*, a *machine function* performing one or a group of related tasks of single/several humans required for an application.

Note: In general, an agent substitutes a single human or several humans who are not available for any reasons (e.g. for reasons of missing multitude, of different time zones, or of different locations). Agents are conditioned for their tasks by humans.

3.5 Assessment

In *learning environments*, an *expertise category* marking the *expertise* of extracting learning progress information for an actor.

Note: The effect of accurate *assessment* is seen from the observation that the generated learning progress information corresponds to the further behaviour of the respective actor.

3.6 Author

In *learning environments*, an *actor's role* characterized by predominantly coding *expertise* into *carriers* and specifying adequate *context* information.

Note: Authoring is typically performed in teams of differently specialized experts.

3.7 Carrier

In *learning environments*, part of the machine representation of *expertise*.

Note: For usage by *actors*, data exist in machine storage that carry *expertise*. They are adequately associated with *contexts* that are provided in machine storage as well. Any data item carrying *expertise* may adequately be associated with several *contexts*. *Expertise* in human brains is usually associated here with one *context* or with several different adequate *contexts*. For solely human usage, non-machine-readable media exist that carry *expertise* (e.g. books, movies, audio tapes). For these media, *contexts* may exist in both, machine-readable and non-machine-readable form.

3.8 Context

In *learning environments*, concerning *expertise*, a semantic meaning that is adequately associated with one *carrier* or several *carriers*.

Note: *Agents* that deal with *expertise*, first of all compute the semantic meaning of the *expertise* and use the *carriers* solely for the realization of the final effects (e.g. the *mediation* of *expertise* or the issuing of a certification). In general, humans act similarly, but they do not separate the semantic meaning and the *carriers* explicitly in form of separate information instances.

3.9 Didactic Guidance

In *learning environments*, an *expertise category* marking the *expertise* of tactically guiding *actors* in picking up *expertise*, *practiced* within limited activities of teaching and learning, such as assignable units and raw media.

Note: The effect of *didactic guidance* is seen from the observation that *actors* are learning easily.

3.10 Evaluation

In *learning environments*, an *expertise category* marking the *expertise* of analysing a specific *expertise* of an *actor* and providing an adequate statement in form of a grade and/or a report.

Note: The correctness of *evaluation* is seen from the observation that evaluated *actors* prove their stated *expertise* by their acting.

3.11 Expertise

In *learning environments*, the generalization for *knowledge*, *talents* and *skills*.

Note: *Knowledge*, *talents* and *skills* may be associated with *actors*. For machines, *knowledge*, *talents*, and *skills* are usually represented by a *carrier* and a separate, associated *context*. Regarding humans, this physical separation of *carriers* and *context* is not visible to the outside. Expertise may be present or provided, may be *mediated*, received, and *stored*, and may be *practiced*. *Provision* of *expertise* in machine *storage* requires adequate coding (for producing the *carriers*) and description (for specifying the *context*). *Mediation* of *expertise* is related to *didactic* and *pedagogic strategies*, learning and teaching. *Practicing* of *expertise* is related to *skills* and training.

3.12 Expertise Category

In *learning environments*, the generalization of a certain type of *expertise*.

Note: Different types of *expertise* are distinguished by their different effect regarding their *practicing*. Typical categories of *expertise* are *knowledge*, *skill*, *talent*, *didactic guidance*, *pedagogic guidance*, *assessment*, and *evaluation*.

3.13 Identification (defined in IEEE 1484.3 Glossary)

Comment: throughout this document, *expertise* and *role identification* for *learning environments* means the provision of the information specified in this document. (see also IEEE 1484.3 Glossary: (1) A security practice or technology that associates users, groups, and other entities with one or more identifiers. (2) The recognition of users, groups, and other entities by means of their identifiers).

3.14 Instance

In *learning environments*, concerning *expertise*, a specific issue of an *expertise category*.

3.15 Knowledge

In *learning environments*, an *expertise category* marking the awareness or the *provision* of facts, rules, and relations.

Note: The effect of the *knowledge* is seen from the observation that an *actor* acts considering the respective facts, rules, and relations.

3.16 Learner (defined in IEEE 1484.3 Glossary)

Comment: throughout this document, an *actor's role* characterized by predominantly acquiring *expertise*. (see also IEEE 1484.3 Glossary: An individual engaged in acquiring knowledge or skills with a learning technology system).

3.17 Learning Community

A closed community of humans and *agents* serving the exchange of *expertise*.

Note: Usually the limitation of this community is given by the common usage of an infrastructure of limited extent. Typical infrastructures of limited extent are schools and *learning environments* where humans identify themselves.

3.18 Learning Environment

The sum of all *actors*, *expertise* and *processes* being essential for the functioning of a *learning community*.

Note: Included are the *carriers* and *contexts* of the *agents*, *expertises*, and *processes* in form of technological infrastructures like computer hardware, data, software, computer peripherals and communication networks.

3.19 Machine Function

A function that is performed by a machine (usually a computer and its peripherals).

3.20 Mediation

In *learning environments*, concerning *expertise*, the effect of *expertise* transfer among *actors*.

Note: The successful mediation of *expertise* may be proved by experiments (e.g. by the comparison of *practicing* results before and after the *expertise* mediation process).

3.21 Pedagogic Guidance

In *learning environments*, an *expertise category* marking the *expertise* of strategically guiding *actors* in picking up *expertise, practiced* within large settings of teaching and learning, such as courses.

Note: The effect of *pedagogic guidance* is seen from the observation that an *actor* is building his *expertise* easily.

3.22 Practicing

In *learning environments*, concerning *expertise*, the effect of making adequate use of it in actions.

Note: The adequate use of *expertise* may be proved by the evaluation of experiments (e.g. by the evaluation of experiments which require the consideration of *knowledge* for the application of rules, and by the evaluation of the experiment results and their comparison with a known, typical range of success).

3.23 Process

In *learning environments*, a task that is performed by an *actor*.

Note: Such a task may represent *expertise* exchange among humans, expertise exchange among *agents*, or expertise exchange among humans and *agents*.

3.24 Provision

In *learning environments*, concerning *expertise*, the effect of its awareness or existence.

Note: The existence of *expertise* may in some cases be proved directly and in other cases only indirectly (e.g. the awareness of *knowledge* may be proved by direct questions and evaluation of the answers, while the existence of *talent* can only be proved by experiments).

3.25 Reviewer

In *learning environments*, an *actor's role* characterized by predominantly performing quality *assessment* for *carriers* and *contexts* of *expertise*.

3.26 Role

In *learning environments*, a specific and logically coherent set of activities that, at a given time and concerning a specific aim, reflect the predominant activities of an *actor* in a *learning community*.

3.27 Skill

In *learning environments*, an *expertise category* marking the *expertise* of acting effectively and efficiently by applying *knowledge*.

Note: The effect of *skill* is seen from the observation that an *actor* acts effectively and efficiently.

3.28 Storage

In *learning environments*, concerning *expertise*, the machine storage of at least the *carrier* or the *carrier* and the *context*.

3.29 Talent

In *learning environments*, an *expertise category* marking the *expertise* of augmenting *expertise* by inductive or deductive methods.

Note: *Talent* appears as a kind of learning *skill*. The effect of *talent* is seen from the observation that an *actor* augments his *expertise* without explicit external help.

3.30 Teacher

In *learning environments*, an *actor's role* characterized by predominantly *mediating expertise* to *actors*.

3.31 Template

In *learning environments*, concerning *expertise*, a specific concept of manufacturing for *expertise instances* of an *expertise category*.

3.32 Tutor

In *learning environments*, an *actor's role* characterized by predominantly helping *actors* in *expertise* internalization.

3.33 Acronyms and abbreviations

- IEEE: Institute of Electrical and Electronic Engineers
- IT: Information Technology

4 Conformance

Note: This section is normative.

An instance of *Expertise* and *Role Identification* for a *Learning Environment* shall conform to this standard if it satisfies the following requirements:

- a) The *identification* tables are supplied according to the description in sections 5. Functionality, 6. Conceptual Model, and 7. Semantics.
- b) One of the following usage modes for the *expertise categories* and *roles* lists applies:
 - The default lists (possibly shortened) of section 7. Semantics are applied
 - One alternative list and the complementing default list (possibly shortened) or two alternative lists of section 7. Semantics are applied and the required definitions of the *expertise categories* and the *actor roles* are supplied for the alternative lists according to the way it has been done for the *expertise categories* and the *actor roles* of the default lists in this document.

5 Functionality

Note: This section is normative.

An instance of *expertise identification* for a *learning environment* conforming to this Proposed Standard Draft shall be either a document aiming at human reading or a data structure that is also machine readable. In the second case, a registration of any alternative lists for *expertise categories* respectively *actor roles* shall be precondition.

6 Conceptual Model

Note: This section and subsections are normative.

The format for the characterization of *learning environments* concerning the involved *expertise* and the exchange of *expertise* among *actors* shall be based on terms from two lists:

- A list of *expertise categories*
- A list of *actor roles*.

There are default lists provided in this section in order to give examples for these lists and to allow application of this Proposed Standard Draft without the urgency of building these lists previously.

If the default lists do not sufficiently reflect the involved *expertise categories* and/or *actor roles*, one or two alternative lists may be supplied replacing the default lists. It shall also be permitted to use subsets of the default lists in order to simplify the characterization format.

In those cases where alternative lists are applied, the definitions of the *expertise categories* and the *actor roles* have to be supplied according to the way it has been done for the *expertise categories* and the *actor roles* of the default lists in this document.

The format for the characterization of *learning environments* shall contain:

- An *identification* table of *expertise categories* specifying which *expertise categories* are involved in the characterized *learning environment* and how.
- An *identification* table of *actor roles* specifying which *actor roles* are involved in the characterized *learning environment* and how.

7 Semantics

Note: This section and subsections are normative.

7.1 Default List of Expertise Categories

A category of *expertise* shall be related to *expertises* regarding a similar type of application, that are used in a *learning environment* and possibly coded into *carriers*, completed by adequate *context* information, and stored. The list of *expertise categories* involved in *learning environments* is clearly an open list. This is observed in this document by allowing to refer to alternative lists of *expertise categories*. This document presents a default list of *expertise categories* in order to give an example for such a list and to allow application of this Proposed Standard Draft without the urgency of building such a list previously.

The following *expertise categories* shall be the "default" list of *expertise categories* and may be referred to in *expertise identifications*:

<i>Knowledge</i>
<i>Skill</i>
<i>Talent</i>
<i>Didactic Guidance</i>
<i>Pedagogic Guidance</i>
<i>Assessment</i>
<i>Evaluation</i>

Table 1: Default List of Expertise Categories

7.2 Default List of Actor Roles

A *role* of an *actor* shall be a specific and logically coherent set of activities that, at a given time and concerning a specific aim, reflect the predominant activities of the *actor* in a *learning community*. The list of *roles* involved in *learning environments* is clearly an open list. This is observed in this document by allowing to refer to alternative lists of *roles*. This document presents a default list of *roles* in order to give an example for such a list and to allow application of this Proposed Standard Draft without the urgency of building such a list previously.

Typically, besides their actions in their primary set of activities, humans act also in secondary sets of activities to a minor extent. E.g., a learner will act as a tutor in order to explain something to a fellow learner, or a teacher will act as a learner as soon as a learner explains to him a shortcoming in his lecture, by this acting as a teacher. *Agents*, however, will sometimes be restricted to subsets of these logically coherent sets of activities.

The following *expertise categories* shall be specified for the "default" list of *expertise categories* and may be referred to in *expertise identifications*:

<i>Learner</i>
<i>Teacher</i>
<i>Tutor</i>
<i>Author</i>
<i>Reviewer</i>
<i>Administrator</i>

Table 2: Default List of *Actor Roles*

7.3 Identification Table of Expertise Categories

For every category of *expertise*, the application aspects creation, evolvement, reception, management, *practicing*, *mediation*, and *assessment* shall be distinguished.

For every category of *expertise*, the coding aspects *instance* and *template* shall be distinguished.

The coding of *expertise* is one of the most expensive operations in *learning environments*. This process, however, can be made much less expensive by exchanging the coding *expertise*. The *expertise* of coding *expertise* can be coded into so-called *expertise templates*. These are *carriers* of *expertise* themselves and deserve specific *context* information. The *provision* of *expertise templates* is apparently the most effective means of *expertise reuse*.

The *identification* table of *expertise categories* shall specify which *expertise categories* are involved in the characterized *learning environment* and how. The following data elements shall be used for each column of this table:

- Expertise category
- Human representation
 - Description: narrative text describing which human *roles* in the *learning environment* create, evolve, receive, manage, *practice*, *mediate*, and *assess* the respective *expertise*
- *Agent* representation
 - Description: narrative text describing which *agent roles* in the *learning environment* create, evolve, receive, manage, *practice*, *mediate*, and *assess* the respective *expertise*
- Storage representation
 - *Instance Carrier*: Yes, Little, No
 - *Instance Context*: Yes, Little, No
 - *Template Carrier*: Yes, Little, No
 - *Template Context*: Yes, Little, No
 - Description: narrative text describing the used formats for the *carriers* and the *contexts* of the *instances* and the *templates* and the way of *storage* (e.g. file system, relational data base, etc.)

7.4 Identification Table of Actor Roles

The *identification* table of *actor roles* shall specify which *actor roles* are involved in the characterized *learning environment* and how. The following data elements shall be used for each column of this table:

- *Actor role*
- Human representation
 - Description: narrative text describing which humans in the *learning environment* represent the respective *role*
- Machine representation
 - *Agent*: Yes, Little, No
 - *Storage* based: Yes, Little, No
 - Description: narrative text describing the inherent functionality of the *agent*, i.e. its interfaces, its functions and the machine-based *expertise(s)* it uses or influences

8 Sample

Note: This section and subsections are informal.

8.1 List of Expertise Categories

The default list of *expertise categories* is used.

8.2 List of Actor Roles

The default list of *actor roles* is used.

8.3 Identification Table of Expertise Categories

Of course, every *actor* is *practicing knowledge, skills* and *talents* for his *role(s)*. This is not declared in the table below.

<i>Expertise Category</i>	Human representation	<i>Agent</i> representation	<i>Storage</i> representation (<i>instance carrier</i>)	<i>Storage</i> representation (<i>instance context</i>)	<i>Storage</i> representation (<i>template carrier</i>)	<i>Storage</i> representation (<i>template context</i>)	Description
<i>Knowledge</i>	<i>Learner</i> receives, <i>practices</i> <i>Teacher</i> assesses, manages <i>Tutor</i> assesses, mediates <i>Author</i> creates, manages <i>Reviewer</i> assesses <i>Administrator</i> assesses, manages	<i>Learner</i> <i>Teacher</i> mediates <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator</i> mediates, receives	Yes	Yes	Little	No	<i>Carrier instances</i> in media formats stored in a relational data base. <i>Context instances</i> in proprietary metadata format stored in a relational data base. <i>Carrier templates</i> in form of examples and <i>template</i> documentation stored in file systems.

<i>Expertise Category</i>	Human representation	<i>Agent</i> representation	<i>Storage</i> representation (<i>instance carrier</i>)	<i>Storage</i> representation (<i>instance context</i>)	<i>Storage</i> representation (<i>template carrier</i>)	<i>Storage</i> representation (<i>template context</i>)	Description
<i>Skill</i>	<i>Learner</i> evolves, <i>practices</i> <i>Teacher</i> assesses, manages <i>Tutor</i> assesses, <i>mediates</i> <i>Author</i> creates, manages <i>Reviewer</i> assesses <i>Administrator</i> assesses, manages	<i>Learner</i> <i>Teacher</i> <i>mediates</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator</i> <i>mediates</i> , receives	Yes	Yes	Little	No	<i>Carrier instances</i> in interactive media formats stored in a relational data base. <i>Context instances</i> in proprietary metadata format stored in a relational data base. <i>Carrier templates</i> in form of examples and <i>template</i> documentation stored in file systems.
<i>Talent</i>	<i>Learner</i> evolves <i>Teacher</i> assesses <i>Tutor</i> assesses <i>Author</i> <i>Reviewer</i> <i>Administrator</i> assesses, manages	<i>Learner</i> <i>Teacher</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator</i>	No	No	No	No	

<i>Expertise Category</i>	Human representation	<i>Agent</i> representation	<i>Storage</i> representation (<i>instance carrier</i>)	<i>Storage</i> representation (<i>instance context</i>)	<i>Storage</i> representation (<i>template carrier</i>)	<i>Storage</i> representation (<i>template context</i>)	Description
<i>Didactic Guidance</i>	<i>Learner</i> receives <i>Teacher</i> manages <i>Tutor practices</i> <i>Author</i> creates, manages <i>Reviewer assesses</i> <i>Administrator</i> manages	<i>Learner</i> <i>Teacher practices</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator mediates</i> , receives	Yes	Yes	Little	No	<i>Carrier instances</i> integrated in media formats stored in a relational data base. <i>Context instances</i> in proprietary metadata format stored in a relational data base. <i>Carrier templates</i> in form of examples and <i>template</i> documentation stored in file systems.
<i>Pedagogic Guidance</i>	<i>Learner</i> receives <i>Teacher</i> creates, manages <i>Tutor</i> <i>Author</i> <i>Reviewer assesses</i> <i>Administrator</i> manages	<i>Learner</i> <i>Teacher practices</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator mediates</i> , receives	Yes	Yes	Little	No	<i>Carrier instances</i> in proprietary script format stored in a relational data base. <i>Context instances</i> in proprietary metadata format stored in a relational data base. <i>Carrier templates</i> in form of examples and <i>template</i> documentation stored in file systems.

<i>Expertise Category</i>	Human representation	<i>Agent</i> representation	<i>Storage</i> representation (<i>instance carrier</i>)	<i>Storage</i> representation (<i>instance context</i>)	<i>Storage</i> representation (<i>template carrier</i>)	<i>Storage</i> representation (<i>template context</i>)	Description
<i>Assessment</i>	<i>Learner</i> <i>Teacher</i> manages <i>Tutor practices</i> <i>Author</i> creates, receives, manages <i>Reviewer assesses</i> <i>Administrator</i> manages	<i>Learner mediates</i> , receives <i>Teacher practices</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator mediates</i> , receives	Yes	No	Little	No	<i>Carrier instances</i> integrated in media formats stored in a relational data base. <i>Carrier templates</i> in form of examples and <i>template</i> documentation stored in file systems.
<i>Evaluation</i>	<i>Learner</i> <i>Teacher</i> creates, <i>practices</i> , manages <i>Tutor</i> <i>Author</i> <i>Reviewer assesses</i> <i>Administrator</i> manages	<i>Learner mediates</i> , receives <i>Teacher practices</i> <i>Tutor</i> <i>Author</i> <i>Reviewer</i> <i>Administrator mediates</i> , receives	Little	No	No	No	<i>Carrier instances</i> (only small percentage of <i>evaluation</i>) integrated in proprietary script format stored in a relational data base.

Table 3: IDEALS MTS - *Identification* Table of *Expertise Categories*

8.4 Identification Table of Actor Roles

<i>Actor Role</i>	Human representation	<i>Agent</i>	<i>Agent Storage</i> -Based	Description
<i>Learner</i>	Mainly those humans learning topical <i>knowledge, skills</i> and evolving topical <i>talents</i> .	Yes	Yes	Mainly representing the humans by receiving and providing their personal information, their rights and their <i>assessment</i> logs. The learning management system assembles and provides all information regarding the human <i>learners</i> that is of importance for their guidance and administrative decisions.
<i>Teacher</i>	Mainly those humans being responsible for the success of the <i>learners</i> . They mainly make use of stored <i>didactic expertise</i> in the <u>assignable units</u> and raw media of the <i>authors</i> . They mainly provide their <i>pedagogic expertise</i> in form of guidance scripts. They evaluate the <i>learners</i> mainly by evaluating their <i>assessment</i> logs. They make substantial use of <i>templates</i> .	Yes	Yes	Mainly representing the humans by receiving and providing their guidance scripts, and by guiding and assessing the <i>learners</i> . The <i>expertise</i> of all <i>teachers</i> in form of guidance scripts and their <i>contexts</i> is available for the other <i>actor roles</i> in the learning management system.
<i>Tutor</i>	Mainly those humans complementing the <i>teacher agent's expertise</i> by their human <i>expertise</i> for the learning/teaching process.	No	No	

<i>Actor Role</i>	Human representation	<i>Agent</i>	<i>Agent Storage</i> -Based	Description
<i>Author</i>	Mainly those humans coding their topical and <i>didactic expertise</i> to <u>assignable units</u> and raw media. They make substantial use of <i>templates</i> .	Little	Yes	Mainly representing the humans by receiving and providing their <u>assignable units</u> and raw media. The <i>expertise</i> of all <i>authors</i> in form of <u>assignable units</u> and raw media and their <i>contexts</i> is available for the other <i>actor roles</i> in the learning management system.
<i>Reviewer</i>	Mainly those humans assessing the topical, didactic and pedagogic quality of the guidance scripts, the <u>assignable units</u> and the raw media (<i>carriers</i> and <i>contexts</i>).	No	No	
<i>Administrator</i>	Mainly those humans being responsible for the performance of the overall operation and managing the users in their different <i>roles</i> and the guidance scripts, the <u>assignable units</u> and the raw media in the learning management system.	No	No	

Table 4: IDEALS MTS - *Identification* Table of *Actor Roles*

9 Bindings

Note: This section and subsections are normative.

*** TO BE SUPPLIED ***

10 Encodings

Note: This section and subsections are normative.

*** TO BE SUPPLIED ***

11 Annex: Document development

This annex is informative and not normative.

This section concerns the development of this document. The past (revision history, resolved issues), present (release notes, comment returns), and future (open issues) releases of this document are identified here.

11.1 Revision history

- **Draft 1, 2001-01-05**, the first draft.
- **Draft 1, 2001-01-07**, some editorial changes.
- **Draft 1, 2001-01-21**, some editorial changes.
- **Draft 1, 2001-01-29**, some editorial changes.
- **Draft 1, 2001-02-14**, some editorial changes.
- **Draft 1, 2001-02-26**, some editorial changes, this draft

11.2 Release notes for this document

The following notes apply to this release of this Proposed Standard Draft:

- This version is ready for distribution in a wider expert community.

11.3 Resolved issues

The following issues have been resolved:

- Several editorial changes have been made.

11.4 Open issues

The following issues are outstanding:

- Review of the entire document by a larger community.

11.5 Comments on this document

All comments are appreciated. Please return all comments on this release of this document by **Friday, 2001-03-09 23:00 MET**. Please deliver all comments to the technical editor of this document.

The technical editor of this document will distribute all comments and resulting correspondence to the group of experts interested in the official foundation of a German DIN NI-36 planned to be a mirror for the ISO/IEC JTC1 SC36. Currently, the technical editor of this document is the rapporteur for the ISO/IEC JTC1 SC36 within the German DIN NI.

In order to involve a larger community in this discussion from the beginning, the technical editor of this document will further distribute all comments and resulting correspondence to the mailing list of the PROMETEUS SIG-DESIGN:

sig-design@prometeus.org

and will publish the course of the discussion on the PROMETEUS SIG-DESIGN Meeting Point site:

http://www.igd.fhg.de/~lindner/PROMETEUS/SIG-DESIGN_Meeting-Point.html

All interested experts are encouraged to join SIG-DESIGN by following the procedure described following the link "How to Join SIG-DESIGN" on the start page of the above site.

The technical editor of this document may be contacted directly as follows:

Telephone: +49 6151 155 125

Fax: +49 6151 155 669

E-mail: lindner@igd.fhg.de