

Classification of Everyday Living Version 1.0

Committee Specification Draft 02 /
Public Review Draft 01

13 October 2016

Specification URIs

This version:

<http://docs.oasis-open.org/coel/COEL/v1.0/csprd01/COEL-v1.0-csprd01.docx> (Authoritative)

<http://docs.oasis-open.org/coel/COEL/v1.0/csprd01/COEL-v1.0-csprd01.html>

<http://docs.oasis-open.org/coel/COEL/v1.0/csprd01/COEL-v1.0-csprd01.pdf>

Previous version:

<http://docs.oasis-open.org/coel/COEL/v1.0/csd01/COEL-v1.0-csd01.docx> (Authoritative)

<http://docs.oasis-open.org/coel/COEL/v1.0/csd01/COEL-v1.0-csd01.html>

<http://docs.oasis-open.org/coel/COEL/v1.0/csd01/COEL-v1.0-csd01.pdf>

Latest version:

<http://docs.oasis-open.org/coel/COEL/v1.0/COEL-v1.0.docx> (Authoritative)

<http://docs.oasis-open.org/coel/COEL/v1.0/COEL-v1.0.html>

<http://docs.oasis-open.org/coel/COEL/v1.0/COEL-v1.0.pdf>

Technical Committee:

[OASIS Classification of Everyday Living (COEL) TC](https://www.oasis-open.org/committees/coel/)

Chairs:

David Snelling (David.Snelling@UK.Fujitsu.com), [Fujitsu Limited](http://www.fujitsu.com/)

Joss Langford (joss@activinsights.co.uk), [Activinsights Ltd](http://www.activinsights.com/)

Editor:

Joss Langford (joss@activinsights.co.uk), [Activinsights Ltd](http://www.activinsights.com/)

Additional artifacts:

This prose specification is one component of a Work Product that also includes:

* COEL model v1.0: <http://docs.oasis-open.org/coel/COEL/v1.0/csprd01/model/coel.json>

Related work:

This specification is related to:

* *Roles, Principles, and Ecosystem Version 1.0*. Edited by Matthew Reed. Latest version: <http://docs.oasis-open.org/coel/RPE/v1.0/RPE-v1.0.html>.
* *Behavioural Atom Protocol Version 1.0*. Edited by Joss Langford. Latest version: <http://docs.oasis-open.org/coel/BAP/v1.0/BAP-v1.0.html>.
* *Minimal Management Interface Version 1.0*. Edited by David Snelling. Latest version: <http://docs.oasis-open.org/coel/MMI/v1.0/MMI-v1.0.html>.
* *Identity Authority Interface Version 1.0*. Edited by Paul Bruton. Latest version: <http://docs.oasis-open.org/coel/IDA/v1.0/IDA-v1.0.html>.
* *Public Query Interface Version 1.0.* Edited by David Snelling. Latest version: <http://docs.oasis-open.org/coel/PQI/v1.0/PQI-v1.0.html>.

Abstract:

This document provides an overview of the structure of the specification and defines the model of the hierarchical taxonomy that provides the holistic framework for measuring everyday living events. The content of the model is defined in the document by a link to the JSON object.

Status:

This document was last revised or approved by the OASIS Classification of Everyday Living (COEL) TC on the above date. The level of approval is also listed above. Check the “Latest version” location noted above for possible later revisions of this document. Any other numbered Versions and other technical work produced by the Technical Committee (TC) are listed at <https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=coel#technical>.

TC members should send comments on this specification to the TC’s email list. Others should send comments to the TC’s public comment list, after subscribing to it by following the instructions at the “[Send A Comment](https://www.oasis-open.org/committees/comments/index.php?wg_abbrev=coel) button on the TC’s web page at <https://www.oasis-open.org/committees/coel/>.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the TC’s web page (<https://www.oasis-open.org/committees/coel/ipr.php>).

Citation format:

When referencing this specification the following citation format should be used:

[COEL-COEL-v1.0]

*Classification of Everyday Living Version 1.0*. Edited by Joss Langford. 13 October 2016. OASIS Committee Specification Draft 02 / Public Review Draft 01. <http://docs.oasis-open.org/coel/COEL/v1.0/csprd01/COEL-v1.0-csprd01.html>. Latest version: <http://docs.oasis-open.org/coel/COEL/v1.0/COEL-v1.0.html>.

Notices

Copyright © OASIS Open 2016. All Rights Reserved.

All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual Property Rights Policy (the "OASIS IPR Policy"). The full [Policy](https://www.oasis-open.org/policies-guidelines/ipr) may be found at the OASIS website.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to OASIS, except as needed for the purpose of developing any document or deliverable produced by an OASIS Technical Committee (in which case the rules applicable to copyrights, as set forth in the OASIS IPR Policy, must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

OASIS requests that any OASIS Party or any other party that believes it has patent claims that would necessarily be infringed by implementations of this OASIS Committee Specification or OASIS Standard, to notify OASIS TC Administrator and provide an indication of its willingness to grant patent licenses to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification.

OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any patent claims that would necessarily be infringed by implementations of this specification by a patent holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification. OASIS may include such claims on its website, but disclaims any obligation to do so.

OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to rights in any document or deliverable produced by an OASIS Technical Committee can be found on the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this OASIS Committee Specification or OASIS Standard, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any information or list of intellectual property rights will at any time be complete, or that any claims in such list are, in fact, Essential Claims.

The name "OASIS" is a trademark of [OASIS](https://www.oasis-open.org/), the owner and developer of this specification, and should be used only to refer to the organization and its official outputs. OASIS welcomes reference to, and implementation and use of, specifications, while reserving the right to enforce its marks against misleading uses. Please see <https://www.oasis-open.org/policies-guidelines/trademark> for above guidance.

Table of Contents

[1 Introduction 5](#_Toc465696418)

[1.1 Terminology 5](#_Toc465696419)

[1.2 Normative References 5](#_Toc465696420)

[1.3 Non-Normative References 5](#_Toc465696421)

[2 Overview of specification 6](#_Toc465696422)

[2.1 Knowledge Base 6](#_Toc465696423)

[2.2 Data Model 6](#_Toc465696424)

[2.3 Methodology 6](#_Toc465696425)

[3 Structure of the model 8](#_Toc465696426)

[3.1 Principles behind structuring and populating the knowledge base 8](#_Toc465696427)

[3.2 Structure of the model 8](#_Toc465696428)

[3.2.1 Artefact Format 9](#_Toc465696429)

[3.2.2 Artefact Style Guide 11](#_Toc465696430)

[4 Description of taxonomy 12](#_Toc465696431)

[4.1 Visualising the model 13](#_Toc465696432)

[5 Conformance 14](#_Toc465696433)

[Appendix A. Acknowledgments 15](#_Toc465696434)

[Appendix B. Revision History 16](#_Toc465696435)

# Introduction

This document provides an overview of the structure of the specification and defines the model of the hierarchical taxonomy that provides the holistic framework for measuring everyday living events. The content of the model is defined in the document by a link to the JSON object.

## Terminology

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

## Normative References

[RFC2119] Bradner, S., “Key words for use in RFCs to Indicate Requirement Levels”, BCP 14, RFC 2119, March 1997. <http://www.ietf.org/rfc/rfc2119.txt>.

**[RFC4627]** D. Crockford, The application/json Media Type for JavaScript Object Notation (JSON), July 2006, <http://www.ietf.org/rfc/rfc4627.txt>.

## Non-Normative References

[Coelition] <http://www.coelition.org>

[Data to Life] Reed, M. & Langford, J. (2013). Data to Life. Coelition, London. ISBN 978-0957609402

# Overview of specification

The Classification of Everyday Living (COEL) is a hierarchical taxonomy of everyday human life events. It comprises three distinct aspects: Knowledge Base*,* Data Model and Methodology. Together these facilitate the creation of personal digital services in a wide range of jurisdictions. For further background on COEL see [Data to Life].

## Knowledge Base

A taxonomy is a highly structured form of knowledge base that links two distinct features: a nomenclature (a way of naming things) and a classification (a way to discriminate between different types of thing based on their features or attributes). Although called the Classification of Everyday Living, COEL is more accurately described as a taxonomy.

The COEL is highly compacted by design, nevertheless, it’s high level structure and content represents a significant knowledge base. The COEL is a taxonomy of human life events, where an event is defined as: ‘a transient and time-bound activity that can be objectively recorded by a person or a device’. Each such life event is called a Behavioural Atom.

The COEL has the ambition of becoming a globally used asset base – a comprehensive and unambiguous taxonomy of human life events.

## Data Model

Although the COEL knowledge base could be structured in many different ways, for ease of human understanding and machine readability the COEL is constructed as a four level hierarchical Data Model. The Behavioural Atoms in the lower levels are sub-types of a Behavioural Atom at the next higher level. Thus the lower levels represent progressively more detailed views of life events.

## Methodology

To operationalize the COEL Data Model a methodology is needed to capture, record and communicate data. This methodology is described in the specifications described below.

The complete COEL specification can be read from the top down using the table below as a guide. This set of specifications is the minimum requirement to stand up and use a fully functioning COEL compliant system.

|  |  |
| --- | --- |
| **NAME of COEL-TC document** | **Description** |
| **COEL**[Classification of Everyday Living] | This document. A high level overview of what COEL is, the design principles by which it was constructed and key references. Permanent links to the detailed content of the latest version of the COEL Data Model.  |
| **RPE**[Roles, Principles & Ecosystem] | A top level description of the possible structures and operations of a COEL compliant ecosystem. The roles that various actors in the ecosystem play, the principles by which the ecosystem works together, the interaction structure between different actors, the REQUIRED and OPTIONAL data flows within the ecosystem and high level security considerations.  |
| **IDA**[Identity Authority] | A description of the role and operation of the Identity Authority used to create and manage COEL compliant Pseudonymous Keys.  |
| **BAP**[Behavioural Atom Protocol] | The means by which COEL event data can be packaged and communicated. |
| **PQI**[Public Query Interface] | The minimal requirements of a query interface.  |
| **MMI**[Minimal Management Interface] | The minimal management interface requirements for operation of the COEL ecosystem. |

The specifications are dependent on each other as can be seen in the visualization below.

COEL

RPE

IDA

BAP

MMI

PQI

# Structure of the model

## Principles behind structuring and populating the knowledge base

The COEL is a new event-based taxonomy for classifying and naming small observable events that form our everyday lives. It was constructed according to a set of design principles, as follows:

* Beneath the important surface of cultural differences, everyday human behaviour is surprisingly similar. Our daily lives are made up of a finite number of behaviours which have a natural granularity. A coherent classification of daily events SHOULD work at this level of granularity.
* We SHOULD aim to classify, name and code all of the daily behaviours that make up an individual’s life.
* To provide a robust and accurate view on daily life, we SHOULD only measure and record human behaviours that are observable. Personal emotions / thoughts become observable events when an individual reports those emotions / thoughts, for example in conversation or a digital diary.
* Individual behavioural events SHOULD sit at the bottom of a logically clustered hierarchy. Events that have certain similarities SHOULD be kept together.
* Category errors SHOULD be avoided. The COEL SHOUD only include elements of a single category: events, where an event is defined as: “a transient, time-bound activity that can be objectively recorded by a person or device”.
* Each element in the COEL SHOULD be clearly distinct from all other elements, that is, they SHOULD be Mutually Exclusive.
* In totality, the complete listing of elements in the COEL SHOULD completely cover the whole of everyday human activity, that is, they SHOULD be Completely Exhaustive.

The requirement for the COEL to be both Mutually Exclusive AND Completely Exhaustive (MECE) is particularly demanding. This principle SHOULD be applied to the Class, Sub-class and Element layers of the knowledge base.

The principles above have been used to create the COEL. Future developments and versions of the COEL can be expanded both in depth (by adding more detail at the Element level) and breadth (by adding more Clusters and Classes).

## Structure of the model

The most logical way to describe the structure of the full COEL taxonomy is from the top down. However, the fine-grained (and often most interesting) detail is at the bottom of the hierarchy, at the level of the individual elements.

At the top level of the COEL tree there are about thirty Clusters of event categories that go together. The name of each Cluster has been chosen to be intuitive for users of the classification. Some of these Clusters inevitably have a much richer structure than others, since certain aspects of daily life contain more variation than others.

Below the level of the Clusters come three further levels: Class, Sub-class and Element. This structure is shown schematically below.

Cluster 1

Cluster 2

Class 1

Class 2

Sub-class 1

Sub-class 2

Element 1

Element 2

The principles in section 3.1 above have been used to create the COEL.

The COEL exists concretely as a single digital artefact – a JSON format object defining the COEL Clusters, COEL Classes, COEL Sub-classes, COEL Elements and Version. This artefact is held at the permanent OASIS hosted URIs described above.

Applications that refer to or use the Classification of Everyday Living (COEL) as a coherent Knowledge Base of daily human events or as a Data Model that embodies that knowledge base MUST refer to this document, its subsidiary documents and the JSON artefact described above.

### Artefact Format

The JSON format is a single object with the following fields:

| **Value Name** | **Description** | **Type** |
| --- | --- | --- |
| **Version** | The version number of this instance of the COEL model. See below for details. | **JSON Array 0..3 of Integers.**  |
| **Clusters** | The model Clusters. See below for details. | **JSON Array of JSON Objects.** |
| **Classes** | The model Classes. See below for details. | **JSON Array of JSON Objects.** |
| **SubClasses** | The model SubClasses. See below for details. | **JSON Array of JSON Objects.** |
| **Elements** | The model Elements. See below for details. | **JSON Array of JSON Objects.** |

The Cluster, Class, Sub-class and Element sections of the JSON artefact SHALL all have the same format. Each activity is described fully by its cluster, class, sub-class, and element code numbers. When an activity is being used as a general term (or the detail is not sufficient to describe at all four levels) the upper levels can be used in place of the more specialized descriptions (by providing a zero value for the lower level code numbers). For example, Travel by sports car would be coded as cluster = 22, class = 2, subclass=1, element=1, while travel by land would be coded as cluster = 22, class = 2, subclass=0, element=0.

| **Value Name** | **Description** | **Type** |
| --- | --- | --- |
| **Name** | The name of the everyday living activity. | **String**  |
| **Cluster** | The cluster code number of the activity. | **Integer**: 1..99 |
| **Class** | The class code number of the activity. | **Integer**: 0..99 |
| **SubClass** | The sub-class code number of the activity. | **Integer**: 0..99 |
| **Element** | The element code number of the activity. | **Integer**: 0..99 |

**Examples:**

 [ …,

 {"name": "Travel",

 "cluster": 22, "class": 0, "subclass": 0, "element": 0}

 …]

 [ …,

 {"name": "Travel by car",

 "cluster": 22, "class": 2, "subclass": 1, "element": 0}

 …]

The Version section of the JSON artefact SHALL have the following format:

| **Index Value** | **Description** | **Type** |
| --- | --- | --- |
| **0** | Must increment when a non-backwards compatible change is made, e.g. new structure or changing the value of an existing field. MUST run through full OASIS process. | **Integer** |
| **1** | Incremented for any release that is backwards compatible, e.g. only new fields. MUST be agreed by the OASIS Committee. | **Integer** |
| **2** | Experimental – incremented to working draft publications that are for public release. | **Integer** |
| **3** | For developments outside the OASIS TC and will always be “0” in any OASIS version. | **Integer** |

### Artefact Style Guide

The string descriptions MUST be formatted with only the first word capitalised with no punctuation, abbreviations or trailing spaces. The Clusters MUST be single words with no spaces.

# Description of taxonomy

To provide a human readable top level description of COEL, the following table provides names of and longer form descriptions of the COEL Clusters. Note that any apparent logical ambiguities that can be suggested by these top level cluster names can be resolved by moving down in the hierarchy. Although structured for ease of use, the actual coherence of the COEL is guaranteed by the full set of elements.

|  |  |
| --- | --- |
| **COEL Cluster Name** | **Long Form Description** |
| **Personalcare** | All self performed activities related to looking after yourself |
| **Childcare** | Activities related to looking after children |
| **Adultcare** | Activities related to looking after adults |
| **Housework** | Cleaning and day to day running of your dwelling |
| **Maintenance** | Functional upkeep of your dwelling and possessions |
| **Animalcare** | Activities related to looking after animals  |
| **Health** | Activities related to your own health |
| **Medicine** | The diagnosis & treatment of ailments |
| **Symptoms** | Specific events related to symptoms of illness |
| **Eating** | The consumption of food items |
| **Drinking** | The consumption of liquid items |
| **Cooking** | The preparation of food and drink |
| **Sleep** | Activities related to preparing for sleep and the timecourse of sleep itself |
| **Sports** | Sports and predominantly physically active hobbies & pastimes |
| **Hobbies** | Sports and hobbies using vehicles / equipment |
| **Spectator** | Activities related to watching sports |
| **Pastimes** | Participatory pastimes (non-physically active) |
| **Observer** | Spectator pastimes (non-physically active) |
| **Media** | All activities involving the use of media. |
| **Shopping** | Activities involved in shopping for physical goods |
| **Service** | Activities involved in shopping for services |
| **Travel** | Moving from one place to another for a specific purpose |
| **Communication** | All methods of socially interacting via communicating face to face, non face to face and to groups & audiences |
| **Device** | Using electronic devices |
| **Trials**  | Unplanned events which cause irritation or shock |
| **Education** | Activities involved with the process of acquiring knowledge |
| **Accident** | Accidents and injuries related to people |
| **Lifestage** | Life defining events |
| **Lifestyle** | Events related to lifestyle and type of person |
| **Task** | Generic work tasks |
| **Work** | Different types of work |
| **Mind** | Observable manifestations of emotion |

## Visualising the model

As a gracious and thoughtful service to users of COEL, a dynamic visual representation of the latest version of the full COEL model is provided at **[Coelition]**.

# Conformance

The Classification of Everyday Living model MUST conform to the conditions set out in Section 3.

1. Acknowledgments

The following individuals have participated in the creation of this specification and are gratefully acknowledged:

Participants:

Paul Bruton, Individual Member

Joss Langford, Activinsights

Matthew Reed, Coelition

David Snelling, Fujitsu

1. Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Editor** | **Changes Made** |
| 1 | 26/09/2015 | Joss Langford | Artifact reference for 4 levels of COEL model added |
| 2 | 6/10/2015 | Matt Reed | Added explanatory material about COEL structure and knowledge base |
| 3 | 14/10/2015 | David Snelling | Review with some edits and the inclusion of the JSON format description. |
| 4 | 19/10/2015 | David Snelling | Minor additional changes, |
| 5 | 31/10/2105 | Joss Langford | Some text edits and additional diagrams added. Accept all changes, track changes off, check references and style consistency. |
| 6 | 31/10/2015 | David Snelling | Added references to json artefacts. Changes date to target of Nov 3. |
| 7 | 25/11/2015 | David Snelling | Set date for CD publication |
| 8 | 07/01/2016 | David Snelling | Update to WD02. |
| 9 | 14/01/2016 | Paul Bruton | Minor spelling corrections and a comment about the numerical ranges. |
| 10 | 05/07/2016 | Joss Langford | Style guide added (COEL-70)Versioning added (COEL-57)COEL description as single JSON (COEL-62) |
| 11 | 09/08/2016 | David Snelling | Accepted change tracking and tidied up the model description to match the current JSON format. |
| 12 | 14/08/2016 | Joss Langford | Cluster range extended (COEL-72).Checked and changes accepted. |
| 13 | 20/08/2016 | Matt Reed | Reduced JSON URIs to one. Small tidy ups. |
| 14 | 25/09/2016 | Joss Langford | Changes accepted. |