

## Classification of Everyday Living Version 1.0

### Committee Specification Draft 01

03 December 2015

#### Specification URIs

##### This 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>

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

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

- Cluster level of COEL model v1.0: [http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s\\_cluster.json](http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s_cluster.json)
- Class level of COEL model v1.0: [http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s\\_class.json](http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s_class.json)
- Subclass level of COEL model v1.0: [http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s\\_subclass.json](http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s_subclass.json)
- Element level of COEL model v1.0: [http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s\\_element.json](http://docs.oasis-open.org/coel/COEL/v1.0/csd01/model/s_element.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](https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=coel#technical).

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**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. 03 December 2015. OASIS Committee Specification Draft 01. <http://docs.oasis-open.org/coel/COEL/v1.0/csd01/COEL-v1.0-csd01.html>. Latest version: <http://docs.oasis-open.org/coel/COEL/v1.0/COEL-v1.0.html>.

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# 1 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.

## 1.1 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].

## 1.2 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>.

## 1.3 Non-Normative References

- [Coelition] <http://www.coelition.org>
- [Data to Life] Reed, M. & Langford, J. (2013). Data to Life. Coelition, London. ISBN 978-0957609402

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## 2 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].

### 2.1 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 Behavioral Atom.

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

### 2.2 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.

### 2.3 Methodology

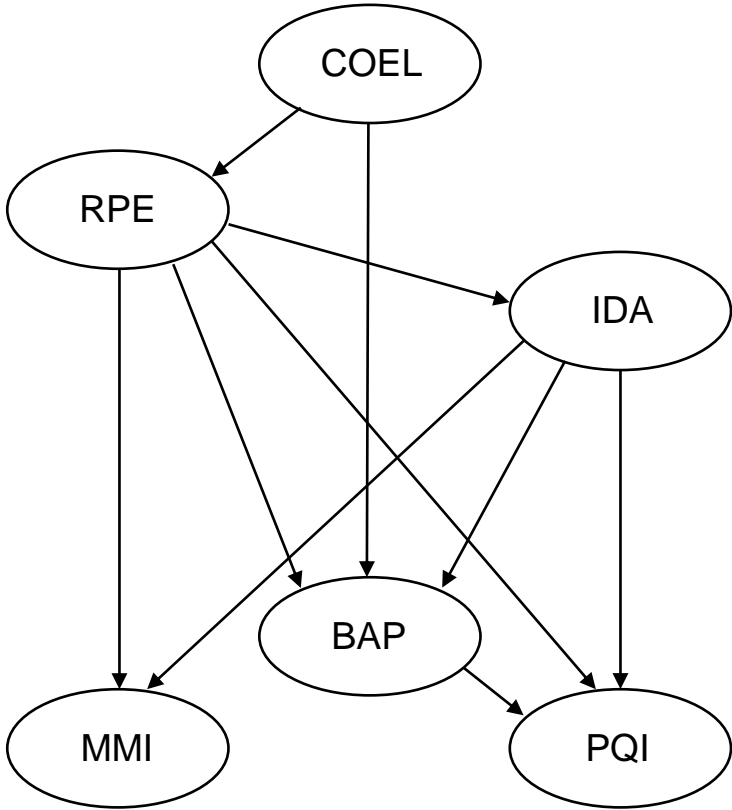
To operationalize the COEL Data Model a methodology is needed to capture, record and communicate data. This methodology is described in the specifications described below.

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.

<b>IDA</b> [Identity Authority]	A description of the role and operation of the Identity Authority used to create and manage COEL compliant Pseudonymous Keys.
<b>BAP</b> [Behavioural Atom Protocol]	The means by which COEL event data can be packaged and communicated.
<b>PQI</b> [Public Query Interface]	The minimal requirements of a query interface.
<b>MMI</b> [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.



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## 3 Structure of the model

### 3.1 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 behavior 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 SHOULD 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).

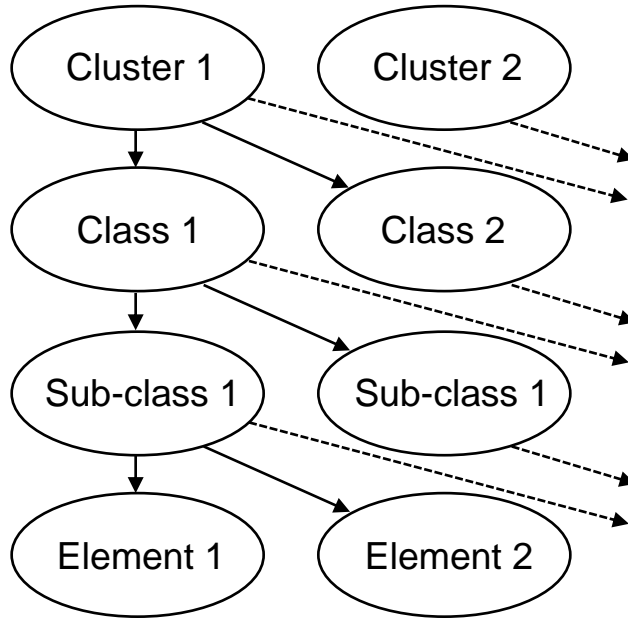
### 3.2 Structure of the model

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.





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

The COEL exists concretely as four digital artefacts – JSON format object definitions for the COEL Clusters, COEL Classes, COEL Sub-classes and COEL Elements. These artefacts are 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 four JSON artefacts described above.

### 3.2.1 Artifact Format

The JSON artefacts containing the Clusters, Classes, Sub-classes, and Elements SHALL all have the same format as detailed in this section. 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
<b>name</b>	The name of the everyday living activity.	<b>String</b>
<b>cluster</b>	The cluster code number of the activity.	<b>Integer: 1..31</b>
<b>class</b>	The class code number of the activity.	<b>Integer: 0..99</b>

Value Name	Description	Type
<b>subclass</b>	The sub-class code number of the activity.	<b>Integer: 0..99</b>
<b>element</b>	The element code number of the activity.	<b>Integer: 0.99</b>

**Examples:**

```
[ ...,
  {"name": "Travel",
   "cluster": 22, "class": 0, "subclass": 0, "element": 0}
...]
[ ...,
  {"name": "Travel by car",
   "cluster": 22, "class": 2, "subclass": 1, "element": 0}
...]
```

## 4 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.

<b>COEL Cluster Name</b>	<b>Long Form Description</b>
<b>Personalcare</b>	All self performed activities related to looking after yourself
<b>Childcare</b>	Activities related to looking after children
<b>Adultcare</b>	Activities related to looking after adults
<b>Housework</b>	Cleaning and day to day running of your dwelling
<b>Maintenance</b>	Functional upkeep of your dwelling and possessions
<b>Animalcare</b>	Activities related to looking after animals
<b>Health</b>	Activities related to "11ormalized" your own health
<b>Medicine</b>	The diagnosis & treatment of ailments
<b>Symptoms</b>	Specific events related to symptoms of illness
<b>Eating</b>	The consumption of food items
<b>Drinking</b>	The consumption of liquid items
<b>Cooking</b>	The preparation of food and drink
<b>Sleep</b>	Activities related to preparing for sleep and the timecourse of sleep itself
<b>Sports</b>	Sports and predominantly physically active hobbies & pastimes
<b>Hobbies</b>	Sports and hobbies using vehicles / equipment
<b>Spectator</b>	Activities related to watching sports
<b>Pastimes</b>	Participatory pastimes (non-physically active)
<b>Observer</b>	Spectator pastimes (non-physically active)
<b>Media</b>	All activities involving the use of media.
<b>Shopping</b>	Activities involved in shopping for physical goods
<b>Service</b>	Activities involved in shopping for services
<b>Travel</b>	Moving from one place to another for a specific purpose
<b>Communication</b>	All methods of socially interacting via communicating face to face, non face to face and to groups & audiences
<b>Device</b>	Using electronic devices
<b>Trials</b>	Unplanned events which cause irritation or shock

<b>Education</b>	Activities involved with the 12normalized process of acquiring knowledge
<b>Accident</b>	Accidents and injuries related to people
<b>Lifestage</b>	Life defining events
<b>Lifestyle</b>	Events related to lifestyle and type of person
<b>Task</b>	Generic work tasks
<b>Work</b>	Different types of work
<b>Mood and Mind</b>	Observable manifestations of emotion

## 4.1 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]**.

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## 5 Conformance

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

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## Appendix A. 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

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## Appendix B. 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