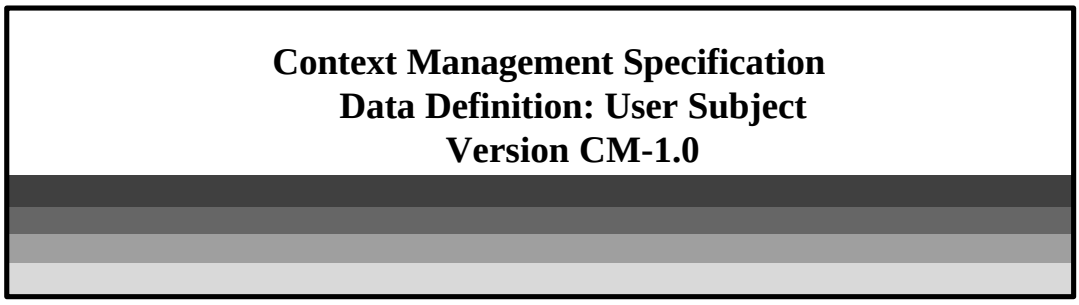
Health Level Seven Standard



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Preface

This document was prepared by Kyle Marchant, 3M Health Information Systems, on behalf of Health Level Seven's Special Interest Group on Visual Integration (formerly the Clinical Context Object Workgroup --- CCOW). Comments about the organization or wording of the document should be directed to the author (krmarchant@mmm.com). Comments about technical content should be directed to ccow@lists.hl7.org.

1 Introduction

The goal of this document is to provide a specification of the standard context data items that shall supported for user subject for the HL7 Context Management Architecture (CMA). For the user subject this document specifies the standard context data items that are available for applications to use in setting and accessing the common clinical context.

1.1 Context Management Document Overview

It is beyond the scope of this document to provide all of the details that are needed in order to fully implement conformant CMA applications and components. The necessary additional details are covered in a series of companion specification documents, starting most notably with the Health Level Seven Context Management Specification, Technology- And Subject- Independent Component Architecture, CM-1.0.

These documents are organized to facilitate the process of defining additional link subjects and to accelerate the process of realizing the CMA using any one of a variety of technologies:

- There is an HL7 context management user interface specification document for each of the user interface technologies with which CMA-enabled applications can be implemented. Each document reflects the user interface requirements established in this document in terms of a technology-specific look-and-feel. Concurrent with the publication of this document, the following document has been developed:

  Health Level-Seven Standard Context Management Specification,
  User Interface: Microsoft Windows OS, Version CM-1.0

- There is an HL7 context management component technology mapping specification document for each of the component technologies. Each document provides the technology-specific details needed to implement CMA-compliant applications and the associated CMA components, as specified in this document. Concurrent with the publication of this document, the following document has been developed:

  Health Level-Seven Standard Context Management Specification,
  Component Technology Mapping: ActiveX, Version CM-1.0

Finally, the context management subjects and technologies that are of interest are determined by the HL7 constituency. There is an HL7 context management data definition specification document for each of the standard link subjects. Each document defines the data elements that comprise a link subject. Concurrent with the publication of this document for the user subject, the following document has been developed:

Health Level-Seven Standard Context Management Specification,
Data Definition: Patient Subject, Version CM-1.0

The organization of this set of documents is illustrated in Figure 1.

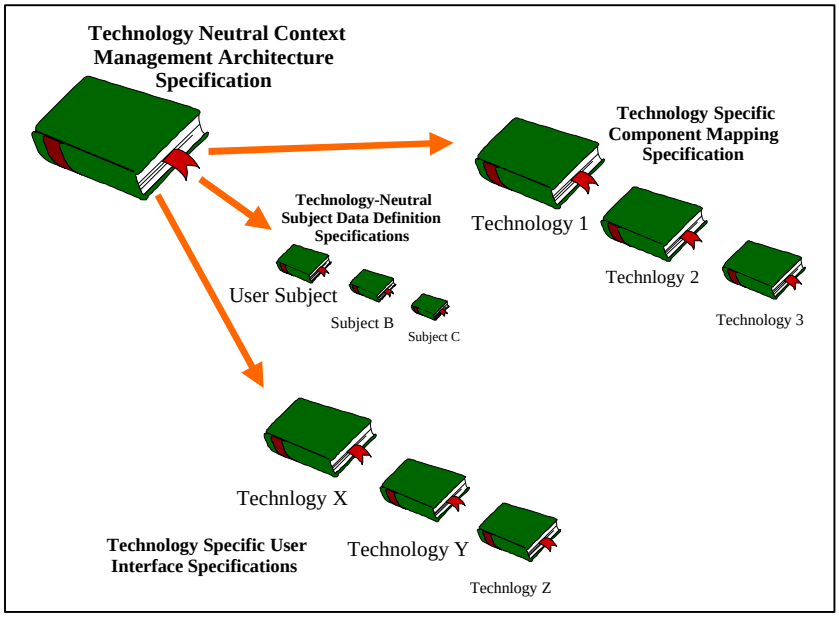

Figure 1: Organization of HL7 Context Management Specification Documents

1.2 Context Data Subject

Context data is grouped by subject. Each subject represents a real-world entity or concept. Each subject is described by a set of context data items. Each context data item is structured as a name/value pair. This document specifies the items for the user subject. The specific names and data types for each of the user subject context data items are specified later in this document.

1.3 Context Data Item Format

The general format of a context data item name is:

Item_subject_label.role.item_name_prefix.optional_item_name_suffix

Item_subject_label is the name of the subject to which the item belongs.

Role indicates the role of the item, as follows:

- "Id" = standard identifier data, which is used to identify a real-world entity or concept.
- "Co" = standard corroborating data, which is used by applications and/or users to corroborate the identity of a real-world entity or concept.
- "Zz" = non-standard organizationally defined data, the meaning of which is specified by the organization that defined the item.

Item_name_prefix is the name of the item within the context of its subject.

Optional_item_name_suffix is optional for identifier and corroborating data items. It's purpose is to two-fold:

- For identifier items, the suffix enables multiple items to represent the same logical concept. For example, at a particular site, patients may be identified by multiple medical record numbers. Each item that represents a patient medical record number would have the same item subject label, role, and item name prefix. However, each item name would have a different site-defined item name suffix.
- For non-standard items, the suffix shall always identify the name of organization that defined the item.

The HL7 Standard Context Management Specification, Technology-and-Subject-Independent Component Architecture specification document should be consulted for additional details on the definition and structure of context item names.

1.4 Case Sensitivity

Item names, and item values whose data type is a character string, shall be treated as "case insensitive" unless specifically noted otherwise. This means that unless specifically stated in one of the HL7 subject data definition documents, context participants, context managers, mapping agents etc. shall not rely on the case of a context item name or value when applying decision or comparison logic.

1.5 Item Values and Date Types

Where applicable, the HL7 Version 2.3 Specification for healthcare messaging data elements is used as the basis for context data item names and values.

1.6 Localization

Context data item names shall be in English, regardless of the country and/or location that the context manager and context participants are being used in. This enables those developing both context managers and context participants to code to a known language standard for each context subject area, while still allowing the user interface guidelines to take into account localization issues where appropriate.

The HL7 data types is used to represent context data item values support localized formatting of the values. For example, the XPN data type is used to represent a person's name. This data type enables ideographic and phonetic as well as alphabetic representations of a person's name. These alternative representations may be necessary in various countries.

2 User Subject

The item subject label for the user subject is “User”.

A single user may be identified using multiple user subject identifier (id) items. Each item is differentiated by a different application-specific suffix. An application shall be configurable such that it can be instructed on-site as to which suffix (or suffices) it is to use when it interacts with the context manager to set or get user context data. Use of this suffix, and the values that may be assigned to this suffix, is at the discretion of each healthcare institution at which a context management system is deployed.

2.1 Standard User Context Data Items

The standard context data items for the user subject are described below.

User Subject Identifier Item Name	**Meaning**	**HL7 Data Type**	**Semantic constraints on values**	**Case Sensitive**
`User.Id.Logon.`*`application_name`* where *`application_name`* is a site-specified name of an application, or a set of applications, for which this particular identifier item is valid.	User’s logon name.	ST	none	Value is case sensitive. For example, “ksmith” and “Ksmith” are two different logon id values.

An application shall set a value for the item defined above whenever it sets the user context.

User Subject Corroborating Item Name	**Meaning**	**HL7 Data Type**	**Semantic constraints on values**	**Case Sensitive**
`User.Co.Name`	User’s name	PN	none	no

An application may optionally set a value for items defined above when it sets the user context.

2.2 Examples of User Subject Items

Below are examples of user subject items:

Example Item Names	Example Item Values
User.Id.Logon.3M_Clinical_Workstation	k_marchant
User.Id.Logon.Logician	kylem
User.Id.Logon.Carevue	KM01230
User.Co.Name	Marchant^Kyle^^^^

3 HL7 Data Type Reference

The item data types referenced in Section 2, User Subject, are the same as those specified in the HL7 Version 2.3 Specification, Section 2.8, as described below:

DATA TYPE	DATA TYPE NAME	HL7 Section Reference
ST	String	2.8.38
XPN [1]	Extended Person Name	2.8.48

The formatting information for each of these fields is specified below, with its corresponding description and HL7 specification section identifier:

ST - string data (HL7 Spec 2.8.38)

XPN - extended person name (HL7 Spec 2.8.48)

```
Components:  <family name (ST)> ^ <given name (ST)> ^ <middle
         initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^
         <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^
         <name type code (ID) > ^ <name representation code (ID)>
```

The following table identifies the special characters that are to be used in formatting context item data values that are represented as HL7 data types. Only the encoding characters and escape sequences indicated below shall be used:

Delimiter	Value	Escape Sequence
Component Separator	^	\S\
Sub-Component Separator	&	\T\
Repetition Separator	~	\R\

[1] The XPN data type is a compatible with the PN data type. PN-based Applications can use just the PN part of an XPN data value.

Escape Character	\	\E\
Hexadecimal data		\Xddd\

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