caAdapter

Requirements Specification

For

caAdapter Release 1.3

Version 1.0 - Last Updated: March 14, 2006

Owners: caAdapter Team

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Sign Off Sheet (Key Stakeholders Only)

PROJECT ACCEPTANCE: By signing this Requirements Specification, you are accepting the initial requirements of the caAdapter Mapping Tool.

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1. Introduction

1.1 Purpose of This Document

The primary purpose of this document is to identify requirements associated with the caAdapter 1.3 Release. Primary functionality associated with the 1.3 Release includes:

1. HL7 API Upgrades – Support for new version of HL7 messages, Reference Information Model (RIM), HL7 data types, and Model Interchange Format (MIF).
2. Ongoing Maintenance – End user support, training, defect resolution

This requirements matrix identified in this document shall provide testable requirements to allow for requirements traceability throughout the test cycle.

1.2 Overview

The purpose of this caAdapter project is to develop a technical architecture to support HL7 version 3 messaging at NCICB or any cancer center as part of the caBIG solution. caAdapter has a component based architecture that offers a tool set to support HL7 v3 message generation capability. It has 2 major components – the Core Engine and the Mapping Tool. It provides a Java based API to HL7 v3 RIM components, such as RIM classes, HL7 Data Type classes and HL7 Meta Data classes. In addition, it contains a utility package to support HL7 v3 message building and parsing. It also provides additional services of vocabulary validation of the HL7 structural attributes by integrating with the NCICB's Enterprise Vocabulary Services (EVS). The Mapping Tool component has a GUI based front-end application for mapping clinical data to HL7 version 3 specification(s). It has a drag-and-drop interface and also provides some data transformation functions.

1.3 Audience

This document is intended for managers, developers, testers, and trainers of the caAdapter product.

1.4 Document Organization

This document is organized in the following sections:

1. Introduction
2. Requirements

2 Requirements

2.1 Overview

The primary requirements of the caAdapter 1.3 release focus on supporting HL7 API upgrades and providing continued maintenance of the caAdapter product.

2.2 Requirements Matrix

Req #	Requirement Description
1	**HL7 API Upgrades**
1.1	**The system shall provide support for the HL7 normative RIM version (v) 2.07 associated with the ICSR and CTLab messages to facilitate the building, parsing, validation, and mapping of HL7 messages derived from the HL7 RIM v2.07**
1.1.1	The system shall build HL7 messages generated from the HL7 RIM v2.07
1.1.2	The system shall parse HL7 messages generated from the HL7 RIM v2.07
1.1.3	The system shall support the validation of HL7 messages generated from the HL7 RIM v2.07
1.1.3.1	The system shall support vocabulary validation
1.1.3.2	The system shall support XML schema validation
1.1.4	The system shall support the mapping of HL7 messages generated from the HL7 RIM v2.07
1.1.5	The system shall implement HL7 v2.07 RIM classes
1.1.5.1	The system shall implement action related classes
1.1.5.2	The system shall implement context related classes
1.1.5.3	The system shall implement physical things and beings related classes
1.1.5.4	The system shall implement the roles related classes
1.1.5.5	The system shall implement the action relationship related classes
1.15.6	The system shall implement the role relationship related classes
1.2	**The system shall support HL7 v3 2005 normative data types associated with the ICSR and CTLab messages to facilitate the building, parsing, validation, and mapping of HL7 messages derived from the HL7 RIM v2.07**
1.2.1	The system shall build the xml elements for HL7 v3 2005 normative data types
1.2.2	The system shall parse the xml elements for HL7 v3 2005 normative data types
1.2.3	The system shall validate the xml elements for HL7 v3 2005 normative data types
1.2.4	The system shall facilitate mapping of fields in CSV specification to HL7 v3 2005 normative data types
1.2.5	The system shall provide support for designated HL7 v3 2005 normative data types

1.2.5.1	The system shall support the Postal Address(AD) data type
1.2.5.2	The system shall support the DataValue (ANY) data type
1.2.5.3	The system shall support the Bag (BAG) data type
1.2.5.4	The system shall support the Boolean (BL) data type
1.2.5.5	The system shall support the Concept Descriptor (CD) data type
1.2.5.6	The system shall support the Coded With Equivalents (CE) data type
1.2.5.7	The system shall support the Coded Simple Value (CS) data type
1.2.5.8	The system shall support the Coded Value (CV) data type
1.2.5.9	The system shall support the Encapsulated Data (ED) data type
1.2.5.10	The system shall support the Entity Name (EN) data type
1.2.5.11	The system shall support the General Timing Specification (GTS) data type
1.2.5.12	The system shall support the Instance Identifier (II) data type
1.2.5.13	The system shall support the Integer Number (INT) data type
1.2.5.14	The system shall support the Interval (IVL) data type
1.2.5.15	The system shall support the Organization Name (ON) data type
1.2.5.16	The system shall support the Person Name (PN) data type
1.2.5.17	The system shall support the Physical Quantity (PQ) data type
1.2.5.18	The system shall support the Ratio (RTO) data type
1.2.5.19	The system shall support the Character String with Code (SC) data type
1.2.5.20	The system shall support the Set (SET) data type
1.2.5.21	The system shall support the Character String (ST) data type
1.2.5.22	The system shall support the Telecommunication Address (TEL) data type
1.2.5.23	The system shall support the Trivial Name (TN) data type
1.2.5.24	The system shall support the Point in Time (TS) data type
1.2.5.25	The system shall support the Address Part (ADXP) data type
1.2.5.26	The system shall support the Entity Name Part (ENXP) data type
1.3	**The system shall support the HL7 Model Interchange Format (MIF) which embodies the meta-data and semantics HL7 v3 design artifacts from the HL7 RIM v2.07**
1.3.1	The system shall leverage the HL7 Java SIG MIF loader to load MIF files and CMETS for HL7 message building and parsing
1.3.2	The system shall leverage the HL7 Java SIG meta object graph to build HL7 messages
1.3.3	The system shall leverage the HL7 Java SIG MIF loader to parse MIF files and CMETS, therefore generate Meta Object Graph
1.3.4	The system shall allow users to add additional messages in the MIF format to the MIF loader
1.3.5	The system shall not support the HMD
1.4	**The system shall interface with the caCORE version 3.1 in support of HL7 v3 Structure Vocabulary validation**
1.4.1	The system shall provide an interface to caCORE version 3.1 to validate HL7 v2.07 structural attributes
1.5	**The system shall support HL7 RIM v2.07 vocabularies for validation of**

	structural attributes from EVS.
1.6	**The system shall provide documentation supporting caAdapter 1.3**
1.6.1	The system shall provide documentation on caAdapter 1.3 requirements (requirements specification)
1.6.2	The system shall provide documentation on caAdapter 1.3 usage (user's guide)
1.6.3	The system shall provide documentation on caAdapter 1.3 installation procedures (installation guide)
1.6.4	The system shall provide documentation on caAdapter 1.3 design documentation (design document)
1.6.5	The system shall provide documentation on caAdapter 1.3 test plan documentation (test plan)
1.6.6	The system shall provide documentation on caAdapter 1.3 javaDocs (javadoc)
1.6.7	The system shall provide documentation on caAdapter 1.3 release documentation (release notes)
2	**caAdapter Maintenance**
2.1	**Training shall be provided for the caAdapter 1.2 products**
2.1.1	HL7 and caAdapter Overview training and training documentation shall be provided
2.1.2	Fundamental caAdapter training and training documentation shall be provided
2.1.3	Advanced caAdapter training and training documentation shall be provided
2.2	**The caAdapter project shall be maintained in Gforge**
2.2.1	The caAdapter project shall be maintained on the NCICB Gforge site
2.2.2	The caAdapter project shall be accessible via the HL7 Gforge site
2.3	**End user support shall be provided for caAdapter 1.2 products**
2.3.1	The NCICB caAdapter list serv shall be monitored and responded to
2.3.2	caAdapter questions from the caBIG shall be monitored and responded to
2.3.3	caAdapter questions from the HL7 Java SIG shall be monitored and responded to

Table 1 - Requirements Matrix