MEDQUEST SOFTWARE

CLINICAL DATA DICTIONARY: TECHNICAL PAPER # 2

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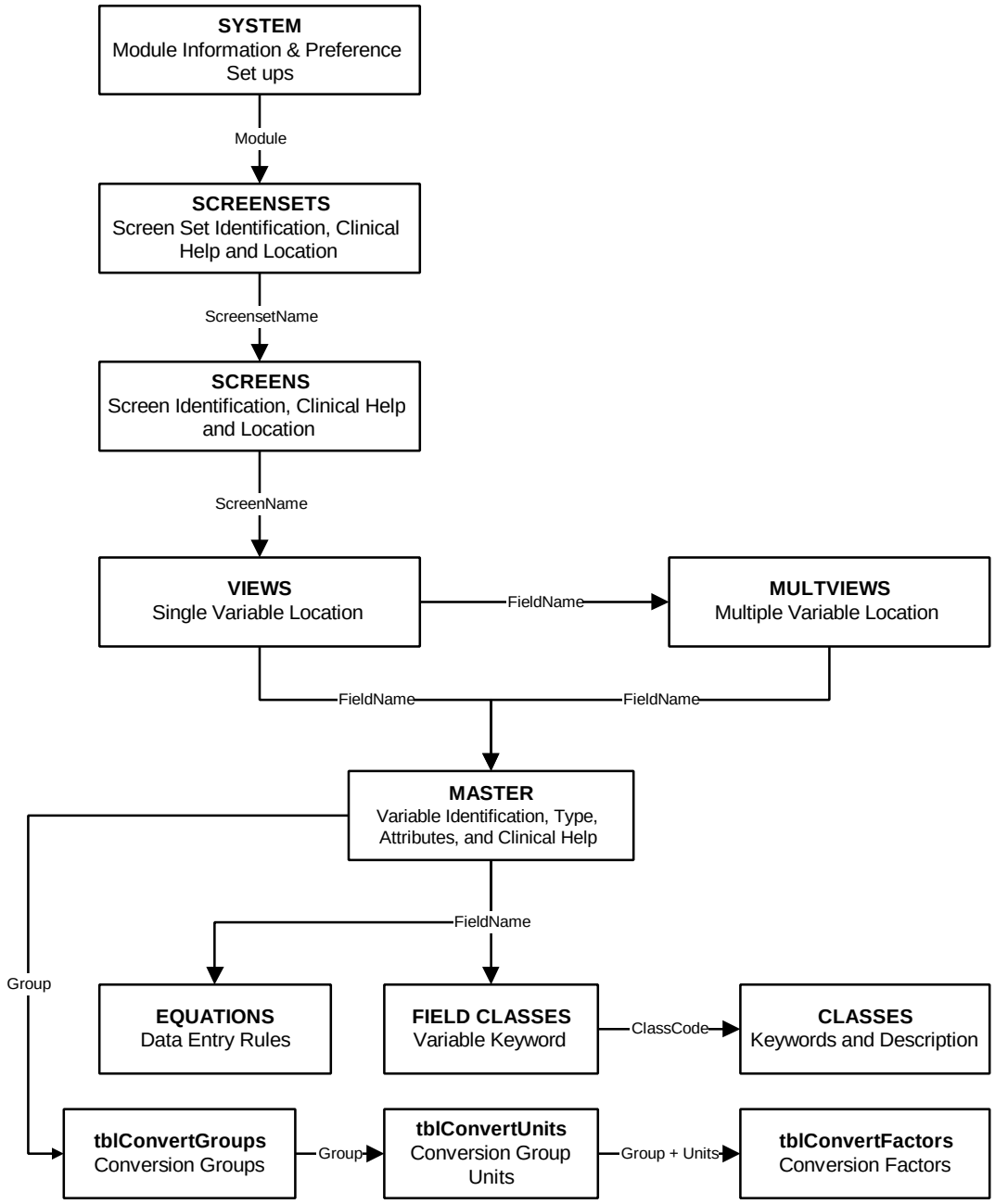
OVERVIEW

This paper presents a technical overview of the new clinical data dictionary structure. The new data dictionary is relational in design and uses related tables to save the clinical data dictionary attributes.

This technical specification can be used by third party developers who want to build tools that work with MedQuest.

RELATIONAL STRUCTURE



SYSTEM TABLE

The SYSTEM table contains general information about the entire data entry system (e.g., version information) as well as preferences set by the designer.

Field Name	Data Type	Size	Description
MODULENAME	Text	3	Three-character acronym of the data entry system
VERSIONDATE	Date/Time	8	Dictionary version date and time
VERSIONID	Text	8	Dictionary version number
VERSIONDESC	Memo	-	Version description
CREATEDBY	Text	8	Dictionary designer
CREATEDDATE	Date/Time	8	Dictionary create date
LASTMODBY	Text	8	Dictionary last author indicated by the author's log in identification
LASTMODDATE	Date/Time	8	Dictionary last modification date and time
CASEPOSTPROC	Yes/No	1	Post processing after case exit during data entry
SCRPOSTPROC	Yes/No	1	Post processing after screen during data entry
CASESTATUS	Yes/No	1	Case status screen displayed after exiting a case in data entry
COLORREADONLY	Number (Long)	4	Read only variable color specification
COLORMANDATORY	Number (Long)	4	Mandatory variable color specification
COLORNOTENTERED	Number (Long)	4	Variable with no data entered color specification
COLORENTERED	Number (Long)	4	Variable with data entered color specification
NUMBERVARIABLES	Yes/No	1	Number variables
FIELDONSCREEN	Yes/No	1	Display field name on **Design** and **Data Entry** windows indication
ISINUSE	Yes/No	1	Establish if dictionary being worked on
QUICKENTRY	Yes/No	1	Quick data entry indicator
UTDCHARACTER	Text	1	Character representing the "Unable to Determined" option
SCREENFULLON	Yes/No	1	Not used
TAG	Memo	-	Used to save design preferences not saved in a separate field
MODULE_TYPE	Number (Long)	4	Not used
DEBUG_OPTIONS	Number (Long)	4	-1 if debug of data entry rules enabled
HOTKEYS	Memo	-	Not used

SCREENSETS TABLE

The SCREENSETS table contains information required to create screen sets.

Field Name	Data Type	Size	Description
SCREENSETNAME	Text	8	Screen set name (e.g., HXFAM is a name for the screen set Family History)
FIELDTITLE	Text	254	Not used
TITLE	Text	30	Descriptive screen set name (e.g., Family History) that is displayed on the **Edit Screen Sets/Screens** window
HELP	Memo	-	Screen set clinical help used for generating online help during data entry and producing documentation
COMMENTS	Memo	-	Notations regarding the screen set used primarily during design
ORDER	Text	12	Order of screen sets
MODULENAME	Text	3	Three-character acronym of the data entry system
HEADER	Yes/No	1	Header Screen Set
TAG	Memo	-	Not used

SCREENS TABLE

The SCREENS table contains information required to create screens and subscreens.

Field Name	Data Type	Size	Description
SCREENNAME	Text	8	Screen or subscreen name (e.g., HX is a screen name for the History screen)
SCREENSETNAME	Text	8	Screen set name (e.g., HXFAM is a name for the screen set Family History)
ORDER	Text	12	Order of screen or subscreen
PARENTSCREEN	Text	8	Parent screen name if it is a subscreen
FIELDTITLE	Text	254	Same as title
TITLE	Text	30	Screen or subscreen description (e.g., History) that is displayed on a tab or a subtab and on windows referencing it
HELP	Memo	-	Screen or subscreen clinical help used for generating online help during data entry and producing documentation
COMMENTS	Memo	-	Notations regarding the screen or subscreen used primarily during design
SUBTAB	Yes/No	1	Existence of subscreens indication
MERGEDATA	Yes/No	1	Not used
FILLOUTFIRST	Yes/No	1	Not used
TAG	Memo	-	Not used

VIEWS TABLE

The VIEWS table stores the location of each variable that appears on a screen.

Field Name	Data Type	Size	Description
FIELDNAME	Text	8	Variable name (e.g., NEAADMDT is a variable name for the Admission date)
SCREENNAME	Text	8	Screen or subscreen name (e.g., HX is a screen name for the History screen)
ORDER	Text	12	The order in which the variable was added to the module
TOP	Number (Integer)	2	The top border location of the variable on the **Data Entry** screen
LEFT	Number (Integer)	2	The left location of the variable on the **Data Entry** screen
HEIGHT	Number (Integer)	2	The height of the variable on the **Data Entry** screen
WIDTH	Number (Integer)	2	The width of the variable on the **Data Entry** screen
TABORDER	Number (Integer)	2	The tab index number
READONLY	Yes/No	1	Read only variable indication
MANDATORY	Yes/No	1	Mandatory variable indication
MULTIPLE	Yes/No	1	Grid variable
INDENT	Number (Integer)	2	Indentation level (e.g., 0 = no indent)
POSTPROC	Memo	-	Stores a grid medication group (if any)
TAG	Memo	-	Not used
PARENTNODE FIELDNAME	Text	8	Not used

MULTVIEWS TABLE

The MULTVIEWS table contains the variables associated with each grid variable.

Field Name	Data Type	Size	Description
FIELDNAME	Text	8	Variable name (e.g., NEAADMDT is a variable name for the Admission date)
PARENTFIELD	Text	8	Parent (grid) variable name (e.g., NEAADMDT is a variable name for the Admission date)
ORDER	Text	12	Order of variable on grid
MANDATORY	Yes/No	1	Mandatory variable indication
INDENT	Number (Integer)	2	Not used
POSTPROC	Memo	-	Store medication group that enables variable
TAG	Memo	-	Not used
COLUMNWIDTH	Number	4	Width of columns
GRIDWIDTH	Number	4	Not used
HEIGHT	Number	4	Height of variable frame
WIDTH	Number	4	Width of variable frame

MASTER TABLE

The MASTER table contains information required to create screen sets.

Field Name	Data Type	Size	Description
FIELDNAME	Text	8	Variable name (e.g., NEAADMDT is a variable name for the Admission date)
FIELDNUMB	Number (Integer)	2	Field number
FIELDLEN	Number (Integer)	2	Field length
EDITTYPE	Number (Integer)	2	Edit type (variable type)
FIELDTITLE	Text	254	Variable description that appears on the **Data Entry** screen
TITLE	Text	30	Short variable title
HELP	Memo	-	Variable clinical help
COMMENTS	Memo	-	Notations regarding the variable
CONVERT	Text	40	Conversion units group name
RESERVED	Yes/No	1	Not used
SYSTEM	Yes/No	1	System variable (cannot be deleted or changed)
FIELDFORMAT	Text	100	Data entry format for numbers, dates, times
FIELDDATA	Memo	-	Data belonging to the field (e.g., option names)
FIELDVALUE	Memo	-	Values to save that correspond with options given in the FIELDDATA field
SPECIALFLAG	Number (Long)	4	Special flag field to save Medication data entry rules (e.g., prevent duplicate generic; warn if generic; do not warn on duplicate generic)
GROUPFLAG	Number (Long)	4	Not used
DERIVED	Yes/No	1	Derived variable indicator (not used)
DEFAULTVALUE	Memo	-	Default value
TAG	Memo	-	Not used

EQUATIONS TABLE

The EQUATIONS table contains the data entry rules.

Field Name	Data Type	Size	Description
FIELDNAME	Text	8	Variable name (e.g., NEAADMDT is a variable name for the Admission date) that executes rule
INDENT	Number (Integer)	2	Not used
EQUATION	Memo	-	Rule logic
EQUATIONID	Text	12	Rule identification
EVENTTYPE	Text	12	Rule type
ACTIONFIELDNAME	Text	8	Variable name on which the rule performs an action
EDITMODE	Text	12	Edit mode (overwrite warning)
SCREENNAME	Text	8	Screen name
MESSAGE	Memo	-	Warning message (post processor)
SAVEVALUE	Memo	-	Value to save
ORDER	Text	12	Rule execution order
TAG	Memo	-	Not used

FIELDCLASSES TABLE

The FIELDCLASSES table contains the keywords linked to variables.

Field Name	Data Type	Size	Description
FIELDNAME	Text	8	Variable name (e.g., NEAADMDT is a variable name for the Admission date)
CLASSCODE	Text	8	Variable keyword
TAG	Memo	-	Not used

CLASSES TABLE

The CLASSES table contains the variable keywords.

Field Name	Data Type	Size	Description
CLASSCODE	Text	8	Variable keyword
CLASSDESC	Text	254	Variable keyword description
TAG	Memo	-	Not used

UNITS

The Unit Conversion utility enables you to add a set of units of measurement and define the conversion factors among those units in the set. The unit group and the conversion factors that you created in the design option are stored in four tables in the database called CLINDATA.MDB. The tables from which the conversion information is retrieved during data entry are: TBLCONVERTGROUPS, TBLCONVERTUNITS, and TBLCONVERTFACTORS. These three tables are linked by the Group field, which is the number automatically assigned to the group created by the MedQuest user. The fourth table, TBLLABNORM (also in CLINDATA.MDB), is used to import units and conversion data when needed.

CONVERSION GROUPS TABLE (TBLCONVERTGROUPS)

Only the unit description and the unit name are displayed when you browse the groups that have been created. If the Read Only flag is on, the set of units cannot be modified. The Read Only flag is set for units of measurement that are commonly used and it cannot be removed during the Design.

Example:

Group	Description	Name	Readonly
-1	Temperature	TEMP	*
1	Height	HEIGHT	*
2	Weight	WEIGHT	*
3	Blood Urea Nitrogen (BUN)	BUN	*
4	Glucose (GLU)	GLU	*
5	Concentration 1	CONCEN1	*
6	Concentration 2	CONCEN2	*

Table Definition:

Object	Name	Data Type	Length
Table	TBLCONVERTGROUPS (Record Count: 7)		
Column 1	GROUP	Number	2
Column 2	DESCRIPTION	Text	128
Column 3	NAME	Text	8
Column 4	READONLY	Text	1
Index 1	GROUP (Unique: No)		
Index Field	GROUP (Ascending)		
Index 2	NAME (Unique: Yes)		
Index Field	NAME (Ascending)		

ITS OF CONVERSION TABLE (TBLCONVERTUNITS)

The TBLCONVERTUNITS table holds the group number, the units of measurement, and a read only flag. Each unit can occur only once for any given group. Note, however, that many different abbreviations can be used for the same unit, e.g., “lb” and “Pounds” are acceptable within the same group.

Example:

Group	Unit	Read only
2	kg	*
2	Kilograms	*
2	lb	*
2	Pounds	*
3	mg/dl	*
3	mmol/l	*

Table Definition:

Object	Name	Data Type	Length
Table	TBLCONVERTUNITS (Record Count: 22)		
Column 1	GROUP	Number (Integer)	2
Column 2	UNIT	Text	20
Column 3	READONLY	Text	1
Index 1	GROUP (Unique: No)		
Index Field	GENERIC (Ascending)		
Index 2	GROUP + UNIT (Unique: Yes)		
Index Field 1	GROUP (Ascending)		
Index Field 2	UNIT (Ascending)		

CONVERSION FACTORS TABLE (TBLCONVERTFACTORS)

The conversion factors table is prepopulated with some commonly-used conversion rules. When the MedQuest user assigns additional unit conversions, the conversion factors are added to the table. These factors are used during data entry to convert a value from the units entered to the units to be stored, if required. Other conversion factors can be added while designing a data entry system.

Example:

Group	Unit1	Unit2	Convert	Equation
2	kg	Kilograms	1	
2	kg	lb	2.2046226	
2	kg	Pounds	2.2046226	
2	Kilograms	kg	1	
2	Kilograms	lb	2.2046226	
2	Kilograms	Pounds	2.2046226	
2	lb	kg	0.4535924	
2	lb	Kilograms	0.4535924	
2	lb	Pounds	1	
2	Pounds	kg	0.4535924	
2	Pounds	Kilograms	0.4535924	
2	Pounds	lb	1	
3	mg/dl	mmol/l	0.3703704	
3	mmol/l	mg/dl	2.7	

Table Definition

Object	Name	Data Type	Length
Table	TBLCONVERTFACTORS (Record Count: 46)		
Column 1	GROUP	Number (Integer)	2
Column 2	UNIT1	Text	20
Column 3	UNIT2	Text	20
Column 4	CONVERT	Number	8
Column 5	EQUATION	Memo	-
Index 1	GROUP (Unique: Yes)		
Index Field 1	GROUP (Ascending)		
Index Field 2	UNIT1 (Ascending)		
Index Field 3	UNIT2 (Ascending)		

TREES TABLE

The TREES table is not currently used.

TREEVIEWS TABLE

The TREEVIEWS table is not currently used.