

QVDB core domain model v1.4 - detailed model, working document

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The conceptual model for the QVDB is an UML model displaying the main objects of the tool, relationships and functionalities. The models are based on DDI 3.2. Some of the DDI based objects have different names in the model then in DDI. The correspondence with DDI will be expressed in the definitions.

In addition to the model (p. 2), this document contains a list of class names and definitions (p. 3), a description of the relationships (p. 11), QDDT and QVDB priorities (p. 14), as well as object details and priorities for the QDDT (p. 18).

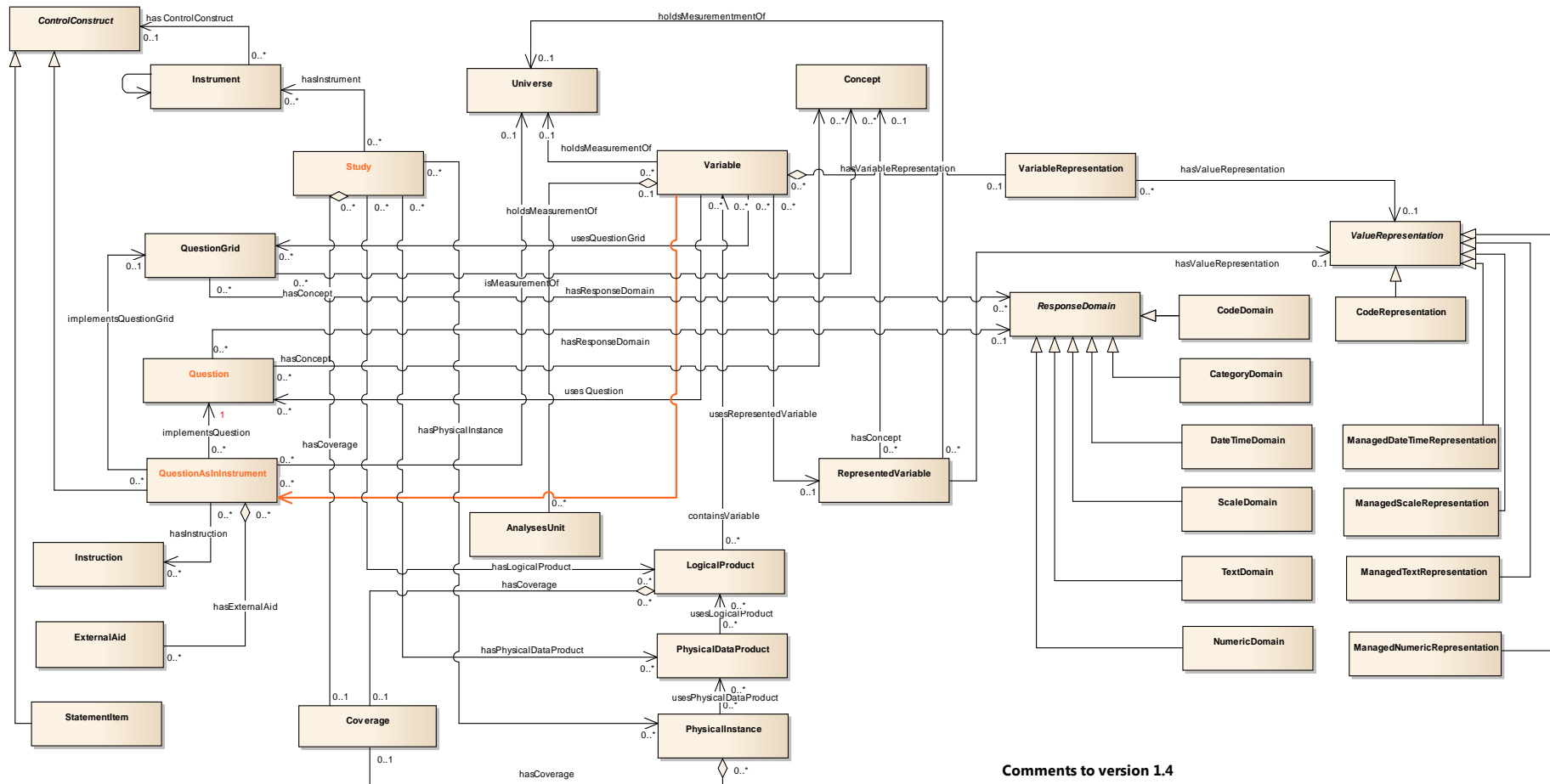
Changes in QVDB core domain since v.1.0

- Distinction between LogicalInstrument and PhysicalInstrument has been removed.
- Term 'Representations' in v1.0 in the QVDB model has been detailed. In v.1.4 ResponseDomains and ValueRepresentations have been detailed.
- QuestionGrid has been distinguished as an own object.
- ControlConstruct object is added.
- Instrument components like statements, Instructions and Statement has been added.
- PhysicalInstance object added.

QDDT priorities that remain to detail in the priorities section of the document

- Parameter, Binding usage
- Missing values structures
- Other material, Note

QVDB Core Domain class model V1.4 - detailed



Comments to version 1.4

- Classes represent DDI 3.2 classes
- Class Question (name in orange) is called QuestionItem in DDI
- Class QuestionAsInInstrument (name in orange) is called QuestionConstruct in DDI
- Class Study (name in orange) is called StudyUnit in DDI
- Directed associations represent references of target objects by the source objects.
- Directed association (in orange) between Variable and QuestionAsInInstrument does not exist in DDI. We consider to include this for variable documentation purposes.

The meaning of references of classes to themselves:

- Association from Instrument to itself indicates that an instrument can have sub-instruments
- Association from Concept to itself

Class names and definitions v1.4

DDI3.2 name	QVDB model name	Reason for name difference (nap is used when name is identical)	DDI 3.2 definition	QVDB model definition	Change and change reason
AnalysesUnit	AnalysesUnit	nap	A brief textual description or classification of the unit of analysis. Supports the use of an external controlled vocabulary.	identical	nap
CategoryDomain	CategoryDomain	nap	A response domain capturing a category (without an attached code) response for a question item.	A response domain capturing a category (without an attached code) response for a question item.	More generic term 'question' is used instead of 'question item' as for example question grids too have response domain
CodeDomain	CodeDomain	nap	A response domain capturing a coded response (where both codes and their related category value are displayed) for a question item.	A response domain capturing a coded response (where both codes and their related category value are displayed) for a question	More generic term 'question' is used instead of 'question item' as for example question grids too have response domain
CodeRepresentation	CodeRepresentation	nap	Defines the representation of a variable as coded values using a set or subset of codes from a CodeList.	identical	nap
Concept	Concept	nap	Describes a concept per ISO/IEC 11179.	identical	nap
ControlConstruct	ControlConstruct	nap	Provides the basic, extensible structure for control elements used	identical	nap

			in describing flow logic within the instrument		
Coverage	Coverage	nap	Describes the temporal, spatial and topical coverage.	identical	nap
DateTimeDomain	DateTimeDomain	nap	A response domain capturing a date or time response for a question item	A response domain capturing a date or time response for a question	More generic term 'question' is used instead of 'question item' as for example question grids too have response domain
ExternalAid	ExternalAid	nap	Description and link to the External Aid using the DDI Other Material structure.	identical	nap
Instruction	Instruction	nap	Provides the content and description of a single instruction.	identical	nap
Instrument	Instrument	nap	Defines the type of instrument used for data collection or capture.	identical	nap
LogicalProduct	LogicalProduct	nap	A module describing the logical (intellectual) contents of the quantitative data. It is a member of the substitution group BaseLogicalProduct and contains all of the common features of the BaseLogicalProduct as well as content specific to quantitative data.	A module describing the logical (intellectual) contents of the quantitative data.	Reference to BaseLogicalProduct removed for reason of simplicity.
ManagedDateTimeRepresentation	ManagedDateTimeRepresentation	nap	A value representation for a variable expressed as a date and or time. The data does not need to be captured in ISO format. The structure can be specified and optionally related to its XML	identical	nap

			schema equivalent such as MM.		
ManagedNumericRepresentation	ManagedNumericRepresentation	nap	A value representation for a variable expressed as a number (the intent is to analyze the content as a number).	identical	nap
ManagedScaleRepresentation	ManagedScaleRepresentation	nap	Defines the representation of a scale (either numeric or text).	identical	nap
ManagedTextRepresentation	ManagedTextRepresentation	nap	A value representation for a variable containing textual or character data.	identical	nap
NumericDomain	NumericDomain	nap	A response domain capturing a numeric response (the intent is to analyze the response as a number) for a question item	A response domain capturing a numeric response (the intent is to analyze the response as a number) for a question	More generic term 'question' is used instead of 'question item' as for example question grids too have response domain
PhysicalDataProduct	PhysicalDataProduct	nap	A module describing the physical storage structures of data files and the relationship of their internal objects to the logical (intellectual) description of the objects found in LogicalProduct. This describes the physical aspects of data files which may be common between one or more data files as described by physical structure of the file and the structure of data items within a record. The PhysicalDataProduct contains the critical links between the physical data store identified by a PhysicalInstance and the	identical	nap

			logical (intellectual) description of the data as found in the LogicalProduct.		
PhysicalInstance	PhysicalInstance	nap	Includes information about the physical instance of a data product (an actual data file). It completes the documentation contained in the Physical Data Product module that is specific to the individual file and serves as a descriptive record of the external data file. Physical Instance provides a citation for the data file, a link to the RecordLayout(s) used by the files records, a description of it coverage (as a constraint if different from the study), check figures for quality control (e.g. digital fingerprint, record count, etc.), and a statistical summary of the data in the file at both the variable and category level.	identical	nap
QuestionConstruct	QuestionAsInInstrument	QuestionAsInInstrument is our preferred name for this object. It corresponds to the question as it is represented in the questionnaire. This corresponds to QuestionConstruct in DDI and is a part	A construct which ties question content to the programmatic logic of the control constructs.	identical	nap

		of ControlConstruct.			
QuestionGrid	QuestionGrid	nap	Structures the QuestionGrid as an NCube-like structure providing dimension information, labeling options, and response domains attached to one or more cells within the grid.	identical	nap
QuestionItem	Question	Question corresponds to QuestionItem in DDI but represents a restriction of this. We plan to let Question contain the more reusable parts of DDI QuestionItem in this class, like question text and reference to a response domain.	Structure a single Question which may contain one or more response domains (i.e., a list of valid category responses where if "Other" is indicated a text response can be used to specify the intent of "Other").	Structure the reusable parts of a single Question. May contain a response domain or a mixed response domain.	Definition specifies that this object will be reserved for the most reusable parts of question. In the system only one response domain (single or mixed) is allowed.
RepresentedVariable	RepresentedVariable	nap	Describes a RepresentedVariable contained in the RepresentedVariableScheme. A RepresentedVariable contains a reference to the Concept and Universe (or ConceptualVariable) as well as the representation of the RepresentedVariable. Representation may be provided in-line or by reference to a managed representation.	RepresentedVariable contains a reference to the Concept and Universe (or ConceptualVariable) as well as the representation of the RepresentedVariable.	The definition is the same, but is abbreviated in order to make it more understandable in the context of the current model

			<p>RepresentedVariables are the core reusable parts of a Variable. RepresentedVariable maps to the GSIM Represented Variable.</p> <p>RepresentedVariable contains a reference to the Concept and Universe (or ConceptualVariable) as well as the representation of the RepresentedVariable.</p>	RepresentedVariables are the core reusable parts of a Variable.	
ResponseDomain	ResponseDomain	nap	An abstract element serving as the head of a substitution group. May be substituted by any valid object of substitution type ResponseDomain.	identical	nap
ScaleDomain	ScaleDomain	nap	A response domain capturing a scale response which describes a 1..n dimensional scale of various display types for a question. A ScaleDomain may also be provided by reference.	A response domain capturing a scale response which describes a 1..n dimensional scale of various display types for a question.	<p>The definition is abbreviated. The reason for the change is that the Scale domain is included by reference only, in the system.</p> <p>In addition more generic term 'question' is used instead of 'question item' as for example question grids too have response domain</p>
StatementItem	StatementItem	nap	A textual statement used in the	identical	nap

			Instrument. A substitution for ControlConstruct.		
StudyUnit	Study	Corresponds to DDI StudyUnit but will represent a restriction compared to this. A selection of the elements of StudyUnit will be used	A primary packaging and publication module within DDI representing the purpose, background, development, data capture, and data products related to a study. In DDI a study is defined as a single coordinated set of data collection/capture activities, such as a one-time survey or a single iteration of a multi-year repeated study (such as one year of a longitudinal survey). The StudyUnit brings together all of the components of the study including the description of its purpose, funding, quality statements, data collection and capture methods and activities, processing activities, and a description of the resulting data (description of its intellectual or logical content plus a description of its physical store).	A primary packaging and publication module within DDI representing the purpose, background, development, data capture, and data products related to a study.	The definition has been abbreviated, as Study only will contain a selection of the elements of DDI StudyUnit
TextDomain	TextDomain	nap	A response domain capturing a textual response.	identical	nap
Universe	Universe	nap	Describes a universe which may also be known as a population.	identical	nap
ValueRepresentation	ValueRepresentation	nap	Substitution group head for describing the representation value of the variable.	identical	nap
Variable	Variable	nap	Describes the structure of a Variable. This is the applied	identical	nap

			expression of a data item within a data set.		
VariableRepresentation	VariableRepresentation	nap	Describes the representation of the variable in the data set. TypeOfObject should be set to ManagedDateTimeRepresentation, ManagedNumericRepresentation, ManagedRepresentationGroup, ManagedRepresentationScheme, ManagedScaleRepresentation, or ManagedTextRepresentation.	Describes the representation of the variable in the data set.	Definition is the same, but has been abbreviated

Description of the relationship

Relationships types used in the model:

Generalization: Generalisation is used to indicate inheritance from target classes to source classes. In the model this is used to describe relationships between abstract elements in DDI and their substitution classes

Directed association: This relationship is used in the model to indicate inclusion by reference of target class in source class.

Aggregation: Indicates that the target class has the source class

Type of relationship	Source class	Target class	Comment	DDI name	
generalisation	CodeDomain	<i>ResponseDomain</i>		substitution	
	CategoryDomain				
	DateTimeDomain				
	NumericDomain				
	ScaleDomain				
	TextDomain				
	CodeRepresentation	<i>ValueRepresentation</i>			
	ManagedDateTimeRepresentation				
	ManagedNumericRepresentation				
	ManagedScaleRepresentation				
	ManagedTextRepresentation				
	QuestionAsInInstrument	<i>ControlConstruct</i>	ControlConstruct will be detailed further in a separate sub-model		
	StatementItem				
directed association	Study	Instrument	Inclusion by reference of data collection module, d: Instrument by Study	DataCollectionReference	
		LogicalProduct	LogicalProductReference		
		PhysicalDataProduct	PhysicalDataProductReference		
		PhysicalInstance	PhysicalInstanceReference		

	Question QuestionGrid	<i>ResponseDomain</i>	<i>ResponseDomainReference</i>	Abstract in DDI. May be substituted by the different ResponseDomains
		Concept	ConceptReference	
	QuestionAsInInstrument	Question	QuestionReference	
		QuestionGrid		
		Instruction	InterviewerInstructionReference	
		Universe	UniverseReference	
	Instrument	<i>ControlConstruct</i>	<i>ControlConstructReference</i>	Abstract in DDI. May be substituted by the different ControlConstruct elements
		Instrument		Used to allow for sub-instruments of instrument
	Variable	Universe	UniverseReference	
		Question	QuestionReference	
		QuestionGrid		
		QuestionAsInInstrument		Not in DDI. Is this needed for variable documentation purposes?
		RepresentedVariable	RepresentedVariableReference	
	RepresentedVariable	Universe	UniverseReference	
		Concept	ConceptReference	
		<i>ValueRepresentation</i>	<i>ValueRepresentationReference</i>	Abstract in DDI Abstract in DDI. May be substituted by the different representations
	VariableRepresentation	<i>ValueRepresentation</i>	<i>ValueRepresentationReference</i>	Abstract in DDI Abstract in DDI. May be substituted by the different representations
	AnalysesUnit	Universe	UniverseReference	
	PhysicalInstance	PhysicalDataProduct	RecordLayoutReference (in PhysicalInstance)	Is this correct?
	PhysicalDataProduct	LogicalProduct	VariableSchemeReference	Is this correct?

			(in RecordLayout)	
aggregation	PhysicalInstance	Coverage		
	LogicalProduct			
	Study			
	VariableRepresentation	Variable		
	AnalysisUnit			
	ExternalAid	QuestionAsInInstrument		

QDDT and QVDB priorities

DDI3.2 name	DDI3.2 name of type	QVDB model (or sub-model) name	Properties	QDDT priority 1	QDDT priority 2	QVDB	Comment
Concept		Concept		v			Further info on page 16
QuestionItem		Question		v			Question contains a selection of valid QuestionItem objects
QuestionGrid		QuestionGrid		v			
<i>ResponseDomain</i>		<i>ResponseDomain</i>		v			
	CategoryDomain	CategoryDomain		v			This is inline in QuestionItem and QuestionGrid in DDI. It references a CategoryScheme. Is this needed?
	CodeDomain	CodeDomain		v			This is inline in Question and QuestionGrid in DDI. It references a CodeList
	DateTimeDomain	DateTimeDomain		v			DDI DateTimeDomainReference will be used for this. See below. Type of object = ManagedDateTimeRepresentation
	NumericDomain	NumericDomain		v			DDI NumericDomainReference will be used for this. See below. Type of object = ManagedNumericRepresentation
	ScaleDomain	ScaleDomain		v			DDI ScaleDomainReference will be used for this. Type of object = ManagedScaleRepresentation

	TextDomain	TextDomain		v			DDI TextDomainReference will be used for this. Type of object = ManagedTextRepresentation
representation	StructuredMixedResponseDomain			v			This is inline in Question. It references various ResponseDomains
	StructuredMixedGridResponseDomain			v			This is inline in QuestionGrid. It references various ResponseDomains
CodeList		CodeList		v			
Code		Code		v			In Codelist. Links a value to a category by reference. Nesting of codes allowed
CategoryScheme		CategoryList		v			Do we need this?
Category		Category		v			
Variable		Variable				v	Variable as in the dataset
RepresentedVariable		RepresentedVariable				v	Reusable variable
VariableRepresentation		VariableRepresentation				v	
ValueRepresentation		ValueRepresentation				v	
	CodeRepresentation	CodeRepresentation				v	
	ManagedDateTimeRepresentation	ManagedDateTimeRepresentation		v			
	ManagedNumericRepresentation	ManagedNumericRepresentation		v			
	ManagedScaleRepresentation	ManagedScaleRepresentation		v			

	ManagedTextRepresentation	ManagedTextRepresentation		v			
<i>ControlConstruct</i>		<i>ControlConstruct</i>		v			
	StatementItem	StatementItem		v			Statement used in the questionnaire
	QuestionConstruct	QuestionAsInstrument		v			Question as in the instrument
	Sequence	Sequence		v			
	IfThenElse			v			First or second priority?
	Loop			v			First or second priority?
ExternalAid		ExternalAid		v			Showcard and other stimulus material
Instruction		Instruction		v			Interviewer or respondent instruction
Instrument		Instrument		v			
LogicalProduct		LogicalProduct					Do we need this in the first step already, as we will have code lists etc. already in the QDDT?
PhysicalDataProduct		PhysicalDataProduct				v	
PhysicalInstance		PhysicalInstance				v	
AnalysesUnit		AnalysesUnit				v	
Universe		Universe		v			
Coverage		Coverage				v	
StudyUnit		Study		v			This can be very simple in the QDDT. Would it be possible to build this out in the QVDB?
Comparison		Comparison			v		
	QuestionMap	QuestionMap			v		
	CategoryMap	CategoryMap			v		
	RepresentationM	RepresentationM			v		

	ap	ap					
	VariableMap	VariableMap				v	

If generic questionnaire: InParameter, OutParameter, Binding.

See DDI [Part I - Technical Documentation](#) p. 33 and onward.

Object details and priorities QDDT – DDI 3.2 elements

Concept				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
c:Concept				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string		v	
	r:UserID		xs:string		v	
	r:UserAttributePair					Allows a user defined controlled vocabulary
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	Referanse til organization scheme
	r:VersionRationale			v		
		r:RationaleDescription	xs:string			
		r:RationaleCode	xs:string			Allows a controlled vocabulary
	r:BasedOnObject			v		
		r:BasedOnReference				Reference to BasedOnObject
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			Allows a controlled

						vocabulary
	c:ConceptName			v		
		r:String+	xs:string			
	r:Label			v		
		r:TypeOfLabel	xs:string			Allows a controlled vocabulary
	r:Description	r:Content+		v		
	c:SubclassOfReference			v		Reference to higher level concept
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r: TypeOfObject	enumeration of xs:string			Required in DDI

Question				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d:QuestionItem				v		<p>Question in the QVDB model contain the more reusable parts of the DDI Questionitem.</p> <p>Less reusable items of QuestionItem are for example ExternalAid and d:InterviewerInstructionReference. We plan to move these to QuestionAsInstrument.</p> <p>r:InParameter, r:OutParameter and r:Binding could be of relevance if the tool should support the development of generic questionnaires</p>
	r:URN		xs:string	v		

	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	xs:string			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference				
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			Allows a controlled vocabulary
	d:QuestionText			v		
		d:LiteralText	d:Text			
		d:ConditionalText			v	Support for use of external content, for example output from a response domain. Relevant if tool should support the development of generic

						questionnaires
			Expression			
			r:SourceParameterReference			
	d:QuestionItemName		xs:string	v		
	d: QuestionIntent	r:Content+		v		
	d:ResponseDomain			v		Abstract in DDI. Can be substituted by the different response domains. In DDI CodeDomain and CategoryDomain are inline response domains in DDI as these reference maintainable lists already (code list, category scheme). See ResponseDomain section below.
	d:ResponseDomainReference			v		Abstract in DDI. May be substituted by DateTimeDomainReference , NumericDomainReference , ScaleDomainReference ,

						TextDomainReference Use when all cells have the same response domain.
	d:StructuredMixedResponseDomain			v		
		d: ResponseText				
		d: ResponseDomainInMixed				
			d: ResponseDomainReference			
			d: AttachmentLocation			
	r:ResponseCardinality		minimum Responses = xs:integer maximum Responses = xs:integer	v		
	r:ConceptReference			v		

	<i>r:ResponseDomainReference</i>			v		Reference. Abstract in DDI. May be substituted by <u>DateTimeDomainReference</u> , <u>NumericDomainReference</u> , <u>ScaleDomainReference</u> , <u>TextDomainReference</u>
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QuestionGrid				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d:QuestionGrid				v		<p>QuestionGrid in the QVDB model contain the more reusable parts of the DDI QuestionGrid.</p> <p>Less reusable items of QuestionGrid are for example ExternalAid and d:InterviewerInstructionReference. We plan to move these to QuestionAsInstrument (QuestionConstruct in DDI). r:InParameter, r:OutParameter and r:Binding could be of relevance if the tool should support the development of generic questionnaires</p>
	r:URN		xs:string	v		

	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference				
		r:BasedOnRationaleDescription	String +			
		r:BasedOnRationaleCode	xs:string			
	d:QuestionGridName		String +	v		
	d:QuestionText			v		
		d:LiteralText	d:Text			
		d:ConditionalText				Support for use of external content, for example output from a response domain. Relevant if tool should support

						the development of generic questionnaires
			Expression			
			r:SourceParameterReference			
	d: QuestionIntent	r:Content+	r: {text}	v		
	d:GridDimension			v		
		d:CodeDomain				
		d:Roster				
			r:Label			
			d:ConditionForContinuation			
	d:ResponseDomain			v		Abstract in DDI. Can be substituted by the different response domains. In DDI CodeDomain and CategoryDomain are inline in DDI as these reference maintainable lists already (code list, category list). Use when all cells have the same response domain.
	d:ResponseDomainReference			v		Reference. Abstract

						<p>in DDI. May be substituted by DateTimeDomainReference, NumericDomainReference, ScaleDomainReference, TextDomainReference</p> <p>Use when all cells have the same response domain.</p>
	d:StructuredMixedGridResponseDomain			V		
		d: GridResponseDomain				
			d: ResponseDomain			
			d: ResponseDomainReference			
			d: GridAttachment			

			d:NoDataByDefinition	v		
	d: CellLabel			v		
		r:Content +				
		r:TypeOfLabel	xs:string			Controlled Vocabulary
		d: GridAttachment				
	r:ConceptReference			v		

ResponseDomain				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d:CodeDomain				v		Inline in DDI as CodeDomain references a maintainable structure (codelist).
	r:RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r:GenericOutputFormat			v		
	r:CodeListReference			v		
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r:UserID	xs:string			
		r: TypeOfObject	enumeration of xs:string			Required in DDI
	r:CodeSubsetInformation			v		
		r:IncludedLevel				
		r:IncludedCode				
	r:Label			v		
	r:Description			?		Do we need this?
	r:ContentDateOffset				?	Do we need this?
	r:ResponseCardinality			v		
d:CategoryDomai				v		Inline in DDI as

n						CategoryDomain references a maintainable structure (CategoryScheme).
	r:RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r:GenericOutputFormat			v		
	r:CategorySchemeReference			v		
	r:ContentDateOffset				?	Do we need this?
	r:Description			?		Do we need this?
	r:Label			v		
	r:ResponseCardinality			v		
d:DateTimeDomainReference						ResponseDomainReference TypeofObject should be set to ManagedDateTimeRepresentation
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r: TypeOfObject		enumeration of xs:string	v		Required in DDI. Object set to ManagedDatetimeRepresentation
	r:Label			v		

	r:Description			?		Do we need this?
	r:ResponseCardinality			v		
	r:ContentDateOffset				?	Do we need this?
r:ManagedDateTimeRepresentation						
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference				
		r:BasedOnRationaleDescription	String +			
		r:BasedOnRationaleCode	xs:string			
	ManagedDateTimeRepresentationName	String +	xs:string	v		
	r:Label			v		

	r:Description			v		
	r:RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r:GenericOutputFormat			v		
	r:DateFieldFormat				v	
	r:DateTypeCode			v		
d: NumericDomainReference				v		ResponseDomainReference (see DateTimeDomainReference above). Type of object should be set to ManagedNumericRepresentation
r:ManagedNumericRepresentation				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			

	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:BasedOnObject					
		r:BasedOnReference				
		r:BasedOnRationaleDescription	String +			
		r:BasedOnRationaleCode	xs:string			
	r:ManagedNumericRepresentationName	String +	xs:string	v		
	r:Label			v		
	r:Description			v		
	r:RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r:GenericOutputFormat			v		
	r:NumberRange			v		
		r:High	xs:decimal			
		r:Low	xs:decimal			
	r:NumericTypeCode	xs:string		v		Controlled vocabulary recommended

d:ScaleDomainReference				v		ResponseDomainReference (see DateTimeDomainReference above). Type of object should be set to ManagedScaleRepresentation
r:ManagedScaleRepresentation						
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference				
		r:BasedOnRationaleDescription	String +			

		r:BasedOnRationaleCode	xs:string			
	r:ManagedScaleRepresentationName	String+	xs:string	v		
	r:Label			v		
	r:Description			v		
	r:RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r:GenericOutputFormat			v		
	r:ScaleDimension			v		
		r:NumberRange		v		
			r:High			
			r:Low			
		r:Anchor				
			r:CategoryReference			
		r:Label		v		
		r:MarkedIncrement		v		
		r:ValueIncrement		v		
	r:DimensionIntersect				?	Relevant if scales have more than one dimension. Do we need this?
		r:IncludedDimension				
	r:DisplayLayout	xs:string			v	Controlled vocabulary
d:TextDomainReference				v		ResponseDomainReference

						(see DateTimeDomainRe ference above). Type of object should be set to ManagedTextRepr esentation
r:ManagedTextRepresentation				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:UserAttributePair			v		Controlled vocabulary for publication status
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String+			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference				
		r:BasedOnRationaleDescription	String+			
		r:BasedOnRationaleCode	xs:string			

	r: ManagedTextRepresentationName	String +	String +	v		
	r: Label			v		
	r: Description			v		
	r: RecommendedDataType			?		Is this needed in the context of PAPI/CAPI questionnaires?
	r: GenericOutputFormat			v		

Code/CodeList				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
r: CodeList				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	r:Note				v	
	l:CodeListName	r:String +	xs:string	v		
	r:Label			v		
	r:Description			v		
	r:CodeListReference			v		
	r:CategorySchemeReference			v		
	l:HierarchyType			v		
	l: Level			v		

		l: LevelName	r:String+			
		r:Description				
		l: CategoryRelationship				
		l: Interval				
			l:Anchor			
			l:Increment			
	l:Code			v		
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r:UserID	xs:string			
		r:CategoryReference				
			r:URN			
			r:Agency			
			r:ID			
			r:Version			
			r: TypeOfObject			
		r:Value	xs:string			
		l:Code				Allows for nesting of codes

Category/CategoryScheme				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
l:CategoryScheme				v		We need to have versionable categories in the tool. Do we need CategoryScheme?
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:UserAttributePair			v		
		r:AttributeKey	String +			
		r:AttributeValue	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			Allows a controlled vocabulary
	r:Note				v	
	l:CategorySchemeName	r:String +	xs:string	v		

	r:Label			v		
	r:Description			v		
	r:CategorySchemeReference			v		
	r:CategoryReference			v		
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r: TypeOfObject				Required in DDI. TypeOfobject = Category
	l:Category			v		
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r:UserID	xs:string			
		r:VersionResponsibilityReference				
		r:VersionRationale				
			r:RationaleDescription			
			r:RationaleCode			
		r:BasedOnObject				
			r:BasedOnReference			
			r:BasedOnRationaleDescription			
		l:CategoryName	r:String+			
		r:Label				

		r:Description				
		l:Generation			v	
			l:ComponentReference			
			r:Description			
			r:CommandCode			
			r:OtherMaterial			
		l:SubCategoryReference				
		r:ConceptReference		v		
			r:URN			
			r:Agency			
			r:ID			
			r:Version			
			r: TypeOfObject			Required in DDI. TypeOfobject = Category

Universe				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
c: Universe				v		
	r: URN		xs:string	v		
	r: Agency		xs:string maxLength: 253 minLength: 1	v		
	r: ID		xs:string	v		
	r: Version		xs:string	v		
	r: UserID		xs:string		v	
	r: UserAttributePair				v	Allows a user defined controlled vocabulary
		r: AttributeKey	xs:string			
		r: AttributeValue	xs:string			
	r: VersionResponsibilityReference				v	Referanse til organization scheme
	r: VersionRationale			v		
		r: RationaleDescription	xs:string			
		r: RationaleCode	xs:string			Allows a controlled vocabulary
	r: BasedOnObject			v		
		r: BasedOnReference				Reference to BasedOnObject
		r: BasedOnRationaleDescription	xs:string			
		r: BasedOnRationaleCode	xs:string			Allows a controlled vocabulary
	c: UniverseName			v		
		r: String+	xs:string			

	r:Label			v		
		r:TypeOfLabel	xs:string			
	r:Description	r:Content+		v		
	c: UniverseGenerationCode				?	Could this be useful for CAPI? Includes parameters, program code and program language
		r:Description	r:Content+			
		r:Command				
		r:CommandFile				
		r:StructuredCommand				
	c: SubUniverseClassReference			?		Reference to higher level concept
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r: TypeOfObject	enumeration of xs:string			Required in DDI

ControlConstruct - QuestionConstruct				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: QuestionConstruct				v		Reusable object for question as in the instrument
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:UserAttributePair			v		
		r:AttributeKey	String +			
		r:AttributeValue	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	d: ConstructName	r:String +	xs:string	v		
	r:Label			v		
	r:Description			v		

	d: ExternalAid			v		Is inline in DDI but could be included by reference as in the QVDB model
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r:TypeOfMaterial	xs:string			
		r:Description				
		r:ExternalURLReference				
		r:ExternalURNReference				
		r:Relationship				
			r:RelatedToReference			
			r:RelationshipDescription			
		r:MIMEType	xs:string			
		r:Segment			v	
			r:Textal			
			r:Audio			
			r:Video			
			r:XML			
			r:ImageArea			
	d: InterviewerInstructionReference			v		
		r:URN				
		r:Agency				

		r:ID				
		r:Version				
		r: TypeOfObject				
		d:InstructionAttachmentLocation				
			d:AttachmentLocation			
			d:GridAttachment			
	r:QuestionReference			v		
		r:URN				
		r:Agency				
		r:ID				
		r:Version				
		r: TypeOfObject				
	d:ResponseSequence			v		
		d:ItemSequenceType e		v		"InOrderOfAppearance" "Random" "Rotate" "Other" "InOrderOfAppearance"
		d:AlternateSequenceType				Includes parameters, program code and program language
	d:DimensionSequence				v	
		d:ItemSequenceType				
		d:AlternateSequenceType				
	d:ResponseUnit				?	Could this be

						useful?
	r: UniverseReference				v	
		r: URN				
		r: Agency				
		r: ID				
		r: Version				
		r: TypeOfObject				

Instruction				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: Instruction				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:UserAttributePair			v		
		r:AttributeKey	String +			
		r:AttributeValue	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	d: InstructionName	r:String +	xs:string	v		
	r:Label			v		
	r:Description			v		
	d: InstructionText			v		
		TextContent +				
			d:LiteralText			

			d:ConditionalText		v	Support for use of external content. Relevant if tool should support the development of generic questionnaires (see also QuestionText)
	d:AssociatedImage				?	
		r:ImageLocation	xs:anyURI			
		r:TypeOfImage	xs:string			Controlled vocabulary

ControlConstruct - StatementItem				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: StatementItem				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String+			
		r:RationaleCode	xs:string			
	r:UserAttributePair			v		
		r:AttributeKey	String+			
		r:AttributeValue	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String+			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	d: ConstructName	r:String+	xs:string	v		
	r:Label			v		
	r:Description			v		
	d: ExternalAid				v	For further details, see QuestionConstruct. Is inline in DDI but

						could be included by reference as in the QVDB model
	d: InterviewerInstructionReference				v	
	d: DisplayText			v		
		d: TextContent ⁺				
			d: LiteralText			
			d: ConditionalText		v	Support for use of external content. Relevant if tool should support the development of generic questionnaires (see also QuestionText)

ControlConstruct - Sequence				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: Sequence				v		
	r:URN		xs:string	v		
	r:Agency		xs:string maxLength: 253 minLength: 1	v		
	r:ID		xs:string	v		
	r:Version		xs:string	v		
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale			v		
		r:RationaleDescription	String+			
		r:RationaleCode	xs:string			
	r:UserAttributePair			v		
		r:AttributeKey	String+			
		r:AttributeValue	xs:string			
	r:BasedOnObject			v		
		r:BasedOnReference	String+			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode				
	d: ConstructName	r:String+	xs:string	v		
	r:Label			v		
	r:Description			v		
	d: ExternalAid				v	For further details, see

						QuestionConstruct. Is inline in DDI but could be included by reference as in the QVDB model
	d: InterviewerInstructionReference				v	
	d: TypeOfSequence	xs:string		v		Controlled vocabulary
	d: ControlConstructReference					
	d: ConstructSequence			v		
		d: ItemSequenceType	enumeration of xs:string	v		"InOrderOfAppearance" "Random" "Rotate" "Other" "InOrderOfAppearance"
		d: AlternateSequenceType			v	Includes parameters, program code and program language
			r:Description			
			r:Command			
			r:CommandFile			
			r:StructuredCommand			

ControlConstruct - IfThenElse				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: IfThenElse					v	
	r:URN		xs:string		v	
	r:Agency		xs:string maxLength: 253 minLength: 1		v	
	r:ID		xs:string		v	
	r:Version		xs:string		v	
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale				v	
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:UserAttributePair				v	
		r:AttributeKey	String +			
		r:AttributeValue	xs:string			
	r:BasedOnObject				v	
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	d: ConstructName	r:String +	xs:string		v	
	r:Label				v	
	r:Description				v	
	d: ExternalAid				v	For further details, see QuestionConstruct. Is inline in DDI but

						could be included by reference as in the QVDB model
	d: InterviewerInstructionReference				v	
	d: IfCondition				v	
		r: Description	r: Content+			
		r: Command				
		r: CommandFile				
		r: StructuredCommand				
	d: ThenConstructReference				v	TypeOfObject should be set to ComputationItem, IfThenElse, Loop, QuestionConstruct, Sequence, orStatementItem
	d: ElseIf				v	
		d: IfCondition				
		d: ThenConstructReference				
	d: ElseConstructReference				v	TypeOfObject should be set to ComputationItem, IfThenElse, Loop, QuestionConstruct, Sequence, orStatementItem

ControlConstruct - Loop				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
d: Loop					v	
	r:URN		xs:string		v	
	r:Agency		xs:string maxLength: 253 minLength: 1		v	
	r:ID		xs:string		v	
	r:Version		xs:string		v	
	r:UserID		xs:string		v	
	r:VersionResponsibilityReference				v	
	r:VersionRationale				v	
		r:RationaleDescription	String +			
		r:RationaleCode	xs:string			
	r:UserAttributePair				v	
		r:AttributeKey	String +			
		r:AttributeValue	xs:string			
	r:BasedOnObject				v	
		r:BasedOnReference	String +			
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			
	d: ConstructName	r:String +	xs:string		v	
	r:Label				v	
	r:Description				v	
	d: ExternalAid				v	For further details, see QuestionConstruct. Is inline in DDI but

						could be included by reference as in the QVDB model
	d: InterviewerInstructionReference				v	
	d: LoopVariableReference					Type of object should be set to variable
	d: InitialValue				v	
		r:Description	r:Content+			
		r:Command				
		r:CommandFile				
		r:StructuredCommand				
	d: LoopWhile				v	
		r:Description	r:Content+			
		r:Command				
		r:CommandFile				
		r:StructuredCommand				
	d: StepValue				v	
		r:Description				
		r:Command				
		r:CommandFile				
		r:StructuredCommand				
	d: ControlConstructReference				v	

Instrument				QDDT priority 1	QDDT priority 2	Comment
Properties and relationships						
c:Instrument					v	
	r:URN		xs:string		v	
	r:Agency		xs:string maxLength: 253 minLength: 1		v	
	r:ID		xs:string		v	
	r:Version		xs:string		v	
	r:UserID		xs:string		v	
	r:UserAttributePair				v	Allows a user defined controlled vocabulary
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	Referanse til organization scheme
	r:VersionRationale				v	
		r:RationaleDescription	xs:string			
		r:RationaleCode	xs:string			Allows a controlled vocabulary
	r:BasedOnObject				v	
		r:BasedOnReference				Reference to BasedOnObject
		r:BasedOnRationaleDescription	xs:string			
		r:BasedOnRationaleCode	xs:string			Allows a controlled vocabulary
	d:InstrumentName				v	
		r:String+	xs:string			

	r:Label				v	
		r:TypeOfLabel	xs:string			
	r:Description	r:Content+			v	
	d: TypeOfInstrument				v	Allows for inclusion of a controlled vocabulary
	d: ExternalInstrumentLocation	xs:anyURI			v	A reference to an external representation of the data collection instrument, such as an image of a questionnaire or programming script
	d: ControlConstructReference				v	A reference to the Sequence control construct that initiates the flow of the instrument content
		r:URN	xs:string			
		r:Agency	xs:string maxLength: 253 minLength: 1			
		r:ID	xs:string			
		r:Version	xs:string			
		r:TypeOfObject				TypeOfObject should be set to ComputationItem, IfThenElse, Loop, QuestionConstruct, RepeatUntil, RepeatWhile,

						Sequence, or StatementItem.
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Comparison				QDDT priority 1	QDDT priority 2	Comment
cm:QuestionMap					v	Generic map structure. VariableMap is a priority for the QVDB
cm:CategoryMap						
cm:VariableMap						
	r:URN		xs:string		v	
	r:Agency		xs:string maxLength: 253 minLength: 1		v	
	r:ID		xs:string		v	
	r:Version		xs:string		v	
	r:UserID		xs:string		v	
	r:UserAttributePair				v	Allows for inclusion of a user defined controlled vocabulary
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale				v	
	r:BasedOnObject				v	
		r:BasedOnReference				

		r:BasedOnRationaleDescription	xs:string			
	cm:MapName	r:String+			v	
	r:Label	r:Content+			v	
	r:Description	r:Content+			v	
	cm:SourceSchemeReference				v	
		r:Exclude				
	cm:TargetSchemeReference				v	
		r:Exclude				
	cm:Correspondence				v	
		cm:Commonality	r:Content+			
		r:Difference				
		cm:CommonalityTypeCoded				Allows for inclusion of a controlled vocabulary. Can for example be used to code level of identicalness between objects
		cm:UserDefinedCorrespondenceProperty				To be used for a system specific vocabulary
	cm:ItemMap				v	

		r:URN				
		r:Agency				
		r:ID				
		r:Version				
		r:UserID				
		cm:SourceItem				
		cm:TargetItem				
		cm:Correspondence				
			cm:Commonality			
			r:Difference			
		cm:RelatedMapReference				
cm:RepresentationMap					v	
	r:URN		xs:string		v	
	r:Agency		xs:string maxLength: 253 minLength: 1		v	
	r:ID		xs:string		v	
	r:Version		xs:string		v	

	r:UserID		xs:string		v	
	r:UserAttributePair				v	Allows for inclusion of a user defined controlled vocabulary
		r:AttributeKey	xs:string			
		r:AttributeValue	xs:string			
	r:VersionResponsibilityReference				v	
	r:VersionRationale				v	
	r:BasedOnObject				v	
		r:BasedOnReference				
		r:BasedOnRationaleDescription	xs:string			
	cm:RepresentationMapName	r:String+			v	
	r:Label	r:Content+			v	
	r:Description	r:Content+			v	
	cm:SourceRepresentation				v	r:ManagedRepresentationReference r:CategorySchemeReference
	cm:TargetRepresentation				v	

						r:CodeListReference r:ConceptReference
	cm:Correspondence				v	
		cm:Commonality	r:Content+			
		r:Difference				
		cm:CommonalityTypeCoded				Allows for inclusion of a controlled vocabulary. Can for example be used to code level of identicalness between objects
		cm:UserDefinedCorrespondenceProperty				To be used for a system specific vocabulary
	r:ProcessingInstructionReference				v	