

Land Information Ontario

Data Class Fact Sheet:

MNR REGION

Version 1.0

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Additional Information

For more information about this document, please contact Land Information Ontario at (705) 755-1878 or info-access@webmail.mnr.gov.on.ca.

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1. Introduction

Data modeling involves identifying the things of importance to an organization (entities), the properties of those things (attributes) and how they are related to one another (relationships). This document provides the logical view of the data model. Appendix 1 provides details on understanding data models.

2. Overview

This data class is part an Information Class.

Information Class: **ADMIN OR RESOURCE MANAGEMENT AREA (ADMINRES)**

Data Classes are:

- i. Agreement Forest Area*
- ii. Bear Management Area*
- iii. Breeding Zone*
- iv. Conservation Authority Area*
- v. Fire Management HQ Area*
- vi. Fire Response Sector*
- vii. Fire Weather Sector*
- viii. Forest Management Unit*
- ix. MNR Area*
- x. MNR District*
- xi. MNR Region*
- xii. OTIB Zone*
- xiii. Restricted Fire Zone*
- xiv. Seed Zone*
- xv. Wildlife Management Unit – Data Collection (Wildlife Data collection Unit)*
- xvi. Wildlife Management Area*

MNR Region (MNRREG)

An MNR Region is a polygon feature that identifies a Ministry of Natural Resources organisational unit.

Abstract Class

Abstract Spatial Single Tessellating Nested Polygon User Object.

Tessellating polygons are logically nested so that the larger, higher level, polygons are made up from smaller lower level polygons.

Example: Townships, concessions and lots. A concession comprises a number of lots; a township is made up from a number of concessions. I.e. lots are nested within a concession, which are in turn nested within a township. Other examples include MNR Districts and Regions, and ordered watersheds.

Nesting level is indicated by 2 keys: NESTING_LEVEL of the Concrete Class and NUMBER_OF_LEVELS in the layer hierarchy.

Custodian

Provincial Government, Ministry of Natural Resources, Science and Information Resources (SIRD), Geographic Information Branch (GIB), Geographic Information Ontario Section.

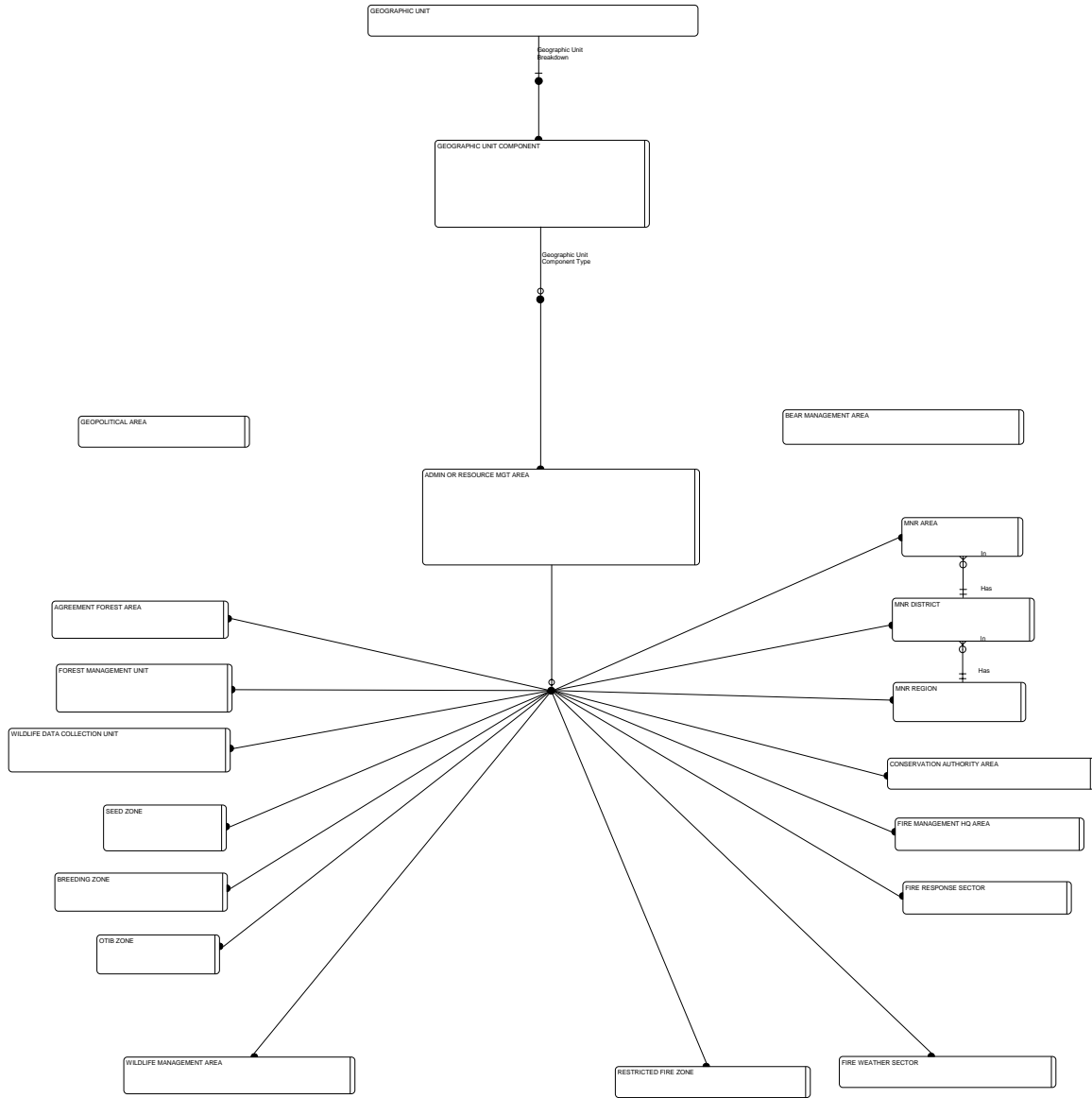
Geographic Unit Types

MNR Region (1146)

An MNR Region is an organisational unit of the Ministry of Natural Resources.

3. Logical Data Model (Business View)

See appendix 1 for how to read an Entity Relationship Diagram.



4. Data Dictionary

See Appendix 2 for how to interpret a data dictionary.

Entity : ADMIN OR RESOURCE MGT AREA

Description :

An area where specific resources are managed as one unit or an area that is administered by a group. These areas should never overlap within the same data class.

<u>Official Name</u>	Character (variable length string)	100	Mandatory
MNR's official name or a name defined by an official body.			

Class :

Subtype Of GEOGRAPHIC UNIT COMPONENT

Entity : AGREEMENT FOREST AREA

Description :

An area of forested private land governed by a Forest Management Agreement. Private companies have agreed, through negotiated agreements with MNR, to carry out planning and all operational timber management, except protection operations (i.e. insect and disease pest control). See the "Class Environmental Assessment for Timber Management on Crown Lands in Ontario, p.12.

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : BEAR MANAGEMENT AREA

Description :

An area where bear hunting is regulated. This area is typically characterized by potential bear habitat sites, and tourist outfitters or guides licensed to hunt bear. May need to track bear harvest limit per year.

<u>Bear Management Area ID</u>	Character (variable length string)	10	Mandatory
Unique identifier of the Bear Management Area. e.g. CC-30-008			

Class : Business Identifier

<u>Bear Management Area ID Suffix</u>	Integer	2	Optional
A sequential number when combined with the Bear Management Area ID makes the identifier unique. The intent of this attribute is to resolve the issue around splitting a bear management area along database project boundaries. If only one BMA then this field may be NULL or '1' depending on if the data was from data load or via the application. (Changed June 98 - this field should always have a value of at least '1')			

Class : Number

<u>Mast Areas Available Indicator</u>	Character (variable length string)	3	Optional
An indication of whether there is at least one mast area within the Bear Management Area. May be derived from Mast Producing entity; however, may be cases where the Mast Producing area may not exist yet			

Class : Indicator
Permissible Values :
'Yes','No'

<u>Denning Site Available Indicator</u>	Character (variable length string)	3	Optional
An indication of whether there is at least one denning site available in the Bear Management Area.			

Class : Indicator
Permissible Values :
'Yes','No'

Subtype Of GEOGRAPHIC UNIT COMPONENT

Entity : BREEDING ZONE

Description :

A geographic area in which from which flora selections are made and interbred.

Breeding Zone Number

Numeric

Mandatory

Unique identifier of the Breeding Zone.

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : CONSERVATION AUTHORITY AREA**Description :**

A Conservation Authority Area is an area of jurisdiction of a Conservation Authority. The Conservation Authorities Act reads as follows: "The objects of an authority are to establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals".

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : FIRE MANAGEMENT HQ AREA**Description :**

A Fire Management Headquarters Area, also referred to as Fire Management Area, is a polygon feature that represents administrative areas for the Ontario Ministry of Natural Resources Fire Program. Fire Management Headquarters Areas are analogous to Ministry Districts. In all cases, the areas follow OMNR District boundaries, and in most cases, a FMHA will have the same extent as one OMNR District. In some cases, the FMHA will encompass two OMNR Districts. In all, there are 18 FMHAs in the province. The boundaries for these polygons can be verified by the Aviation, Flood and Fire Management Branch.

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : FIRE RESPONSE SECTOR**Description :**

An area for which response planning and attack services are delivered. In some locations, response sector boundaries coincide with OMNR District boundaries, but elsewhere, many response sectors contain portions of more than one district and do not follow any other administrative OMNR boundaries. There are a total of 14 Fire Response Sectors in the province.

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : FIRE WEATHER SECTOR**Description :**

An administrative area that represents local climatic areas and is used by the Fire Management Program for weather forecasting purposes. North of the French River, weather sector boundaries correspond to the areas used by Environment Canada for public weather forecasting. South of the French River, OMNR combined 25 Environment Canada Areas into 6 larger units (E13-18).

Fire Weather Sector Code

Character (variable length string) 5

Mandatory

The OMNR weather sector identifier used for generating weather forecast information. The ID is a letter that identifies the region (W for West Fire Region, or E for East Fire Region) and a number for each sector within that region (ie: W02, E07). Some sectors (W07, W13, E02 and W01) overlap regional boundaries and serve both regions.

Class : Business Identifier

Valid values in NRVIS_FIRE_WEATHER_SECTOR.

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : FOREST MANAGEMENT UNIT**Description :**

All or part of a Crown forest which has been designated as a management unit for the purposes of the Crown Forest Sustainability Act.

Forest Management Unit Code

Character (variable length string) 8

Mandatory

A code which uniquely identifies the Forest Management Unit within the province.

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : GEOGRAPHIC UNIT

Description :

A bounded geographic area of a specified type. A thing of interest to the Ministry that has spatial characteristics (i.e. location represented by a point, line or polygon) and requires supporting evidence (GEOGRAPHIC UNIT SOURCE ITEM) and justification (GEOGRAPHIC UNIT JUSTIFICATION) for its creation and major changes.

<u>System Effective Date</u>	Timestamp	Mandatory
Date that the record becomes effective i.e. date that the record becomes a part of the database.		

Class : Date

<u>System Expiry Date</u>	Timestamp	Optional
Date the record is no longer part of the database. This is only populated in the history tables otherwise it will be null except for code tables.		

Class : Date

<u>System Calculated Metric</u>	Decimal	16	Optional
Size of the area in square meters or length of a line in metres. Will only be applied when the Geographic Unit is a polygon or a line.			

Class : Measurement

<u>User Calculated Area</u>	Decimal	16	Optional
Size of the area in square metres. Potentially applicable to points, lines, or polygons.			

Class : Quantity

Each GEOGRAPHIC UNIT May be One or more SITE ACCESS METHOD(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more ALIAS NAME(s). Exclusive :

Each GEOGRAPHIC UNIT May be One and only one GEOGRAPHIC UNIT DESCRIPTION(s). Exclusive :

Each GEOGRAPHIC UNIT May be One and only one GEOGRAPHIC UNIT VERIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more JUSTIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be Derived From One or more SOURCE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Described By One or more ALIAS NAME(s). Exclusive :

Each GEOGRAPHIC UNIT May be Employing One or more GEONAME EXTENT AND FEATURE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Justified By One or more JUSTIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be Plays One or more ROLE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Referenced By One or more ANNOTATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be The Specific Location For One or more PLAN(s). Exclusive :

Each GEOGRAPHIC UNIT Must be One or more DATA ENTRY(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more SOURCE(s). Exclusive :

Each GEOGRAPHIC UNIT Must be Defined By One and only one GEOGRAPHIC UNIT TYPE(s). Exclusive :

Entity : GEOGRAPHIC UNIT COMPONENT

Description :

A Geographic Unit that may be included in a Geographic Unit Consolidation.

Location Accuracy Character (variable length string) 2 Mandatory
The degree of conformity or closeness of a measurement within the database to its true value in the world.

Class : Code
Valid values in NRVIS_LOCATION_ACCURACY.

Subtype Of GEOGRAPHIC UNIT

Each GEOGRAPHIC UNIT COMPONENT May be One and only one FIRE DETAIL(s). Exclusive :

Each GEOGRAPHIC UNIT COMPONENT May be One and only one GEOGRAPHIC UNIT SENSITIVITY(s). Exclusive :

Each GEOGRAPHIC UNIT COMPONENT May be Defined By One or more DRAWING SCALE(s). Exclusive :

Entity : GEOPOLITICAL AREA

Description :
An area defined by statute that is either the jurisdictional area of a governing body (eg. a province, state, municipality, country) or an area represented by an elected person (eg. an electoral riding, municipal ward).

Subtype Of GEOGRAPHIC UNIT COMPONENT

Entity : MNR AREA

Description :
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory
A business identifier used to uniquely identify MNR administrative areas.

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Each MNR AREA Must be In One and only one MNR DISTRICT(s). Exclusive :

Entity : MNR DISTRICT

Description :
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory
A business identifier used to uniquely identify MNR administrative areas.

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Each MNR DISTRICT May be Has One or more MNR AREA(s). Exclusive :

Each MNR DISTRICT Must be In One and only one MNR REGION(s). Exclusive :

Entity : MNR REGION

Description :
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory
A business identifier used to uniquely identify MNR administrative areas.

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Each MNR REGION May be Has One or more MNR DISTRICT(s). Exclusive :

Entity : OTIB ZONE

Description :

The Ontario Tree Improvement Board is a chartered cooperative that includes both MNR and industry as its members. The cooperative is structured as a provincial coordinating body and 6 semi-independent operational zones.

<u>OTIB Zone Number</u>	Numeric	1	Mandatory
Ontario Tree Improvement Board administrative zone number.			

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : RESTRICTED FIRE ZONE

Description :

A Restricted Fire Zone is a geographic area in which the use of fire can be restricted under a regulation made by the Minister of Natural Resources in accordance with the Forest Fires Prevention Act. There are 26 Zones in Ontario (may expand in near future) that follow easily recognizable geographic boundaries, and take into consideration differing fire hazards and historic fire danger. The boundaries for these polygons can be verified by AFFMB. Their Official Name is a number from 1 to 25, with 2 zones identified as 14 A and 14 B.

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : SEED ZONE

Description :

An area of the province used for the purposes of guiding seed and stock movement.

<u>Seed Zone Number</u>	Numeric	2	Mandatory
Unique identifier for Seed Zone.			

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : WILDLIFE DATA COLLECTION UNIT

Description :

A geographic unit designated for the purposes of wildlife data collection. An area similar to the WILDLIFE ADMINISTRATIVE UNIT (boundaries are squared off according the UTM grid) used in managing wildlife.

<u>Wildlife Data Collection Number</u>	Character (variable length string)	4	Mandatory
The number identifying the Wildlife Data Collection Unit (i.e., the mercator grid block).			

Class : Business Identifier

Subtype Of ADMIN OR RESOURCE MGT AREA

Entity : WILDLIFE MANAGEMENT AREA

Description :

An area of land within the Wildlife Administrative Unit managed as a unit for the purpose of maintaining wildlife. Each Wildlife Management Area usually has a Wildlife Management Plan.

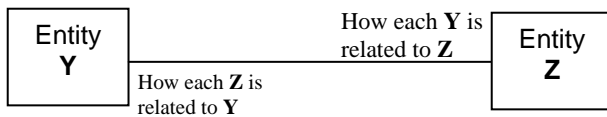
Subtype Of ADMIN OR RESOURCE MGT AREA

Appendix 1: Reading an Entity Relationship Diagram

A modeler can define the data needs of a business using an **entity relationship diagram** (ERD). An ERD is a schematic representation showing entities and their relationship to other entities. An **entity** is a data object and a **relationship** is a model of the association between objects of one or more different entities. In an ERD, entities are rectangles connected to other entities by relationship lines. (Official definition excerpt from the *Information Modeling Handbook for the OPS* – Ontario Government Management Board Secretariat Corporate Architecture Branch)

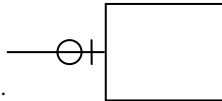
You will encounter the following symbology in an ERD.

General Notation: Text that describes a relationship between entities.

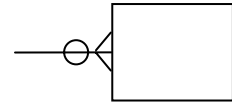


Relationship Cardinality Symbols:

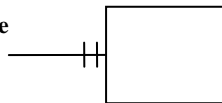
There *may* be **zero or one** occurrence of this entity. This means that the entity is optional.



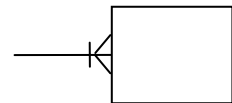
There *may* be **zero or more** occurrences of this entity. The relationship is optional.



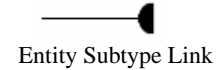
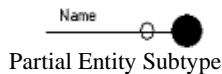
There *must* be **one and only one** occurrence of this entity. This means that the relationship is mandatory.



There *must* be **one or more** occurrences of this entity. The relationship is mandatory.

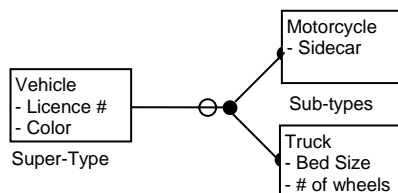


Entity Sub-type Groups: Entity subtype group icons link sub-type entities to the super-



type entity. All subtype entities inherit the characteristics of the super-type entity. For example: Entity subtype group icons link subtype entities to the super-type entity. All subtype entities inherit the characteristics of the super-type entity. For example:

The circle indicates that the definition of subtypes for the super-type Vehicle is only partially



The attributes for Motorcycle include not only Sidecar, but Licence # and Color.

The attributes for Truck include not only Bed Size and # of Wheels, but Licence # and Color.

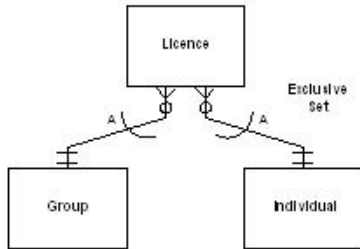
complete.

A line in this same location would indicate that all possible subtypes have been defined – indicating it as complete.

Types of vehicles that have not be explicitly defined would inherit only the characteristics of the Vehicle entity e.g. Car, ATV.

Exclusive Set:

An Exclusive Set describes a relationship between entities where, at any one time, only one of the relationships can be true. For example:



A Group *may* be the holder of one or more Licences.
 An Individual *may* be the holder of one or more Licences.
 A Licence *must* be Issued to one and only one Group **or** One and only one Individual.

One licence cannot be issued to both a group and an individual.

Additional Examples:

Interpreted as :

An Instructor *must be* teaching One or More Courses.

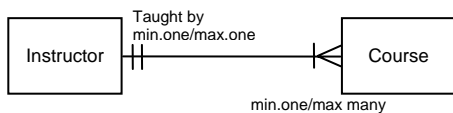
A Course *must* be taught by One and Only One Instructor.

An Instructor cannot exist unless they teach a course.

A Course cannot exist unless it has an Instructor. Tag-Team teaching by Instructors is not permitted.

A newly hired Instructor, not yet assigned to a course, may therefore not be part of this entity.

If the business rules dictate that this is not so, the relationship is incorrect. (See next example)



Interpreted as :

An Instructor *may be* teaching One or More Courses.

A Course *must* be taught by One or More Instructors.

A newly hired Instructor, not yet assigned to a course, can exist.

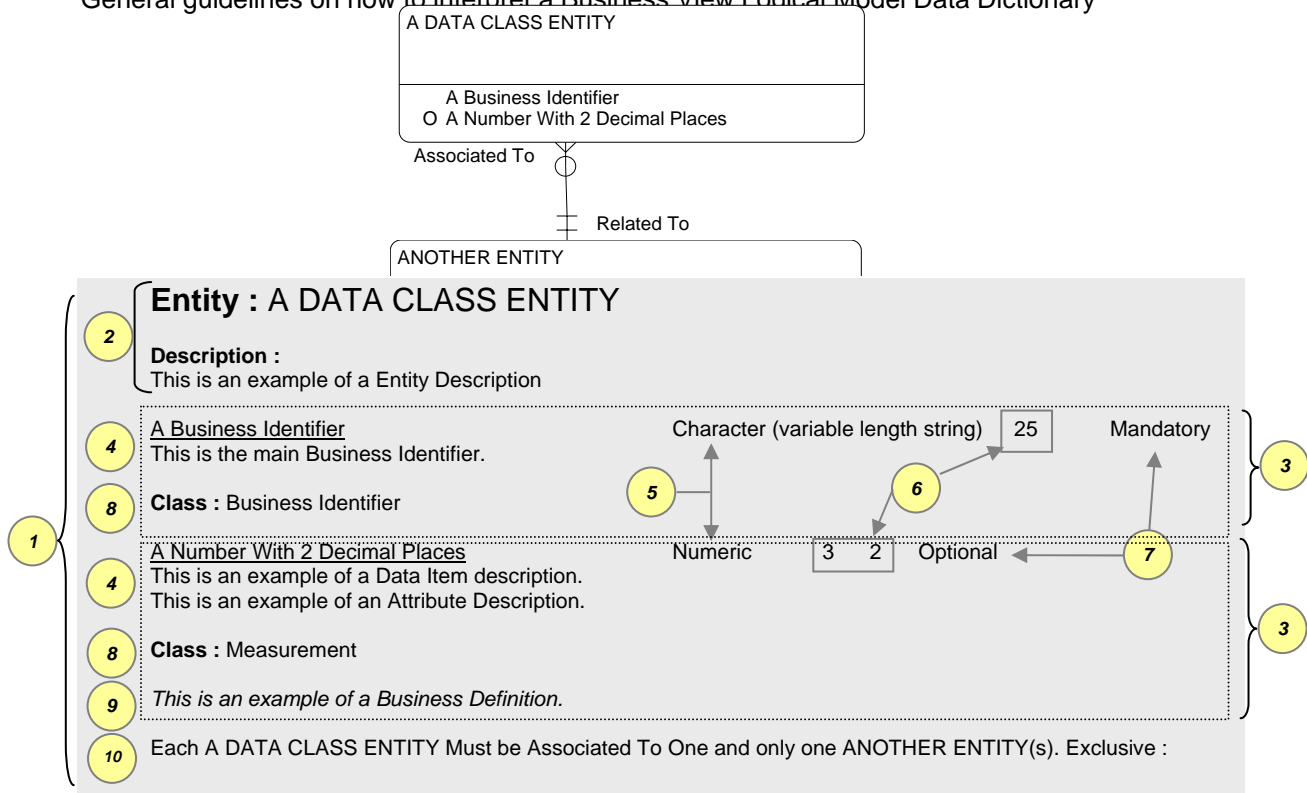
A new inexperienced Instructor, can be paired up with an experienced Instructor to teach a course until they are confident to teach solo.

A Course cannot exist unless it has an Instructor.

Once again, if the business rules dictate that this is not so, the relationship is incorrect.

Appendix 2: Interpreting a Data Dictionary

General guidelines on how to interpret a Business View Logical Model Data Dictionary



- Entity Block
- Entity Name and Description
- Attribute Block
- Attribute name (underlined) with item description (below). Sometimes, the item is also described at the attribute level to describe its specific usage within an entity.
- Field Type. E.g.: Character, Numeric, Date etc...
- Field Length and where applicable – number of decimal places. The maximum capacity for a field's content is determined by the Item's set length. With the examples above...
 - The 1st item, has been defined as a Character (Variable length string) field, with a maximum length of 25 characters.
 - The 2nd item has been defined a Numeric field with a width of 3 including 2 decimal places. (9.99)
Other numeric definition examples: 99.99 would be defined as 4 2, 999.9 as 4 1, 999 as 3 0 etc...
 Whenever numeric data items are defined, it is good practice to include an example in the item's description.
- Attribute Optionality within Entity
- Logical Class of the Data Item. Examples include:
 - Business Identifier: a field used by a business area as a reference to obtain more information.
 - Code: Where values are stored as a code – with the full value sometimes stored in a corresponding lookup table.
 - Date: For storing date information e.g.: Year, full or partial dates, character dates etc...
 - Description: For storing long descriptions.
 - Flag: Where the field is used to store a condition that may be used by the business area to trigger an event.
 - Identifier: Where field is used to store an identifier e.g.: a Licence Number.
 - Indicator: Usually Boolean e.g. Yes/No
 - Measurement: The unit of measure is also defined e.g.: mm, feet, kilograms etc...
 - Name: Where field is used to store a name. e.g.: Lake Rome
 - Quantity: Where a field stores a value that measures quantity. E.g.: Number of Moose Observed: 12
- Business Definition. E.g.: *Valid Values in NRVIS_2NUM Lookup Table*
- Entity Relationship Description

Document Control

Version	Date	Author/Editor	Comments
1.0	January 5, 2006	Victor AZONDEKON	First draft pending approval

Contributors

Approvals