UCD Humanities Institute of Ireland

Irish Virtual Research Library and Archive

MODS Implementation Guidelines

(Version 2.0)

CONTENTS

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1.0 Introduction

1.1 Foreword

This paper outlines the implementation of the **Library of Congress Metadata Object Description System (MODS), Version 3.1** by the IVRLA Project.

This paper is a revised edition of Version 1.1.

Version 2.0 was prompted by some conceptual, procedural and design changes made by the project in February/March 2006.

As the project developed, variations in the lowest level of description of a resource in the Finding Aids of the different collections and repositories was identified.

In order to maintain consistent levels of cataloguing, the project developed the concept of a "container" record, in addition to "object" and "part" records. This led to a re-design of the database and modifications in the way the metadata schema was implemented.

See ***Section 3.0*** for full details of the design of the new IVRLA database (Version 3.2).

1.2 Acknowledgments

The IVRLA wishes to acknowledge the assistance of Mr Richard Gartner of the Oxford Digital Library in discussing a number of approaches to metadata creation and for permission to view and access the ODL documents.

1.3 Background

The IVRLA Project is digitising and cataloguing primary source material held on a variety of media formats and subjected to a range of legacy cataloguing models and standards. The ultimate goal is to create and offer access to this material within an on line digital repository.

The gradual convergence in metadata standards towards **XML** based schemas was noted by the IVRLA and seen as a means to ensure future interoperability and metadata harvesting.

The IVRLA originally attempted to map its metadata requirements to the **Dublin Core** (DC) schema. The publication by the Oxford Digital Library (ODL) of their DC schema was used as a starting point for some of the IVRLA schema.

The publication by the Digital Library Federation (DLF) of their proposed use of the **MODS** schema prompted a review of the IVRLA schema and the revision of certain elements based on operational usage.

As a result, DC was found to be too limiting and the decision was made in May 2005 to discontinue its implementation and to adopt the MODS schema. This was reinforced by the use of **FileMaker Pro** as the interim database and its ability to export an XML file from the database. The IVRLA interim database is designed to store this metadata for future export as an XML file incorporated into the **Library of Congress Metadata Encoding & Transmission Standard (METS)**.

The next section gives an overview of MODS, its structure and its features.

2.0 Outline of MODS Structure

2.1 Vocabulary

MODS is composed of 20 **top-level elements**, listed below.

titleInfo*	note
name*	subject*
typeOfResource	classification
genre	relatedItem*
originInfo*	identifier
language	location
physicalDescription*	accessCondition
abstract	part
tableOfContents	extension
targetAudience	recordInfo*

Elements marked with ***** are deemed **wrapper elements** in that they exist to hold a number of **subelements**.

Elements and subelements can be qualified by the use of certain **attributes**. Attributes are defined by MODS.

The content of an element, subelement or attribute is the **value.** Values can be controlled (ie from an existing list or thesaurus) or uncontrolled free-text. Some values are specifically defined within MODS.

MODS expands on DC with the use of controlled lists for attributes and subelements and allows for a tighter catalogue entry detailing the resource.

Section 4.0 gives a detailed description of how IVRLA implements MODS elements, subelements, attributes and values, to create a complete catalogue records.

2.2 Syntax

MODS is expressed with XML.

The format for entering an element and subelement is as follows:

<element><name_of_subelement>value

For example, the code: *<originInfo><datePublished>1965* gives the value "1965" to the subelement <datePublished>, all within the element <originInfo>.

The format for entering attributes is as follows:

<element name_of_attribute"value of_attribute"><subelement>

For example, the code: *<subject authority="lcsh"><topic>Academic rites and ceremonies* identifies LCSH as the authority from which the value for the <topic> subelement was chosen, all within the <subject> element. The value here is "Academic rites and ceremonies".

All MODS top-level elements are repeatable.

The next section gives a description of the design of the IVRLA database and how it facilitates the creation of MODS.records.

3.0 IVRLA Database Design

3.1 Overview

The current IVRLA database is Version 3.2 and uses **FileMaker Pro, Version 8**.

The design of the IVRLA database is based on the concept of objects and parts.

An **object** is the representation of an individual resource (eg. a letter, a pamphlet or a photograph). Each object is assigned an **Object ID number** and its own record. These records are held in the **Objects Screen.** The MODS elements and subelements used to create records for each object are detailed in ***Section 4.1.***

Each object is composed of a number of **parts**, which represent the separate digitized files or scans which make up the object (eg. the pages of a letter or the front and back of a photograph). Each part is assigned a **Part ID number** and its own record. These records are held in the **Parts Screen.** The MODS elements and subelements used to create records for each object are detailed in ***Section 4.2.***

When a number of resources or objects have been intellectually linked by a repository (eg a series of related photographs or a collection of notes on the same subject), the relationship is represented by a **container**. Each container is assigned a **Container ID number** and its own record. These records are held in the **Container Screen.** The MODS elements and subelements used to create records for each container are detailed in ***Section 4.3***.

Containers, objects and parts are connected in the database by means of a relational table. All records will then be linked using a structured **METS** file.

Finally, the IVRLA database contains an **Authority File** for personal, corporate and conference names. These records are constructed using the **Library of Congress Metadata Authority Description Schema (MADS)**. A separate screen in the database contains these records (See ***Appendix IV*** for more detail).

3.2 Inputting Metadata

The IVRLA database is designed to be user-friendly for both cataloguers and digitizers. The fields in the database correspond directly to MODS elements and subelements.

Data is entered into these fields either by choosing from a picklist or entering free-text. Picklists represent a choice from a controlled list of attributes or values.

Where an element is repeatable (eg. <name> or <language>), a different method of entering data is necessary. In these situations, a pre-scripted "insert text" function is available. This function inserts a segment of code, which the cataloguer edits and adds to as required.

In the case of the **<subject>** element, where both complex strings of code and repeatability are required, a more flexible method of entering data is allowed: The cataloguer selects elements, subelements and/or attributes from various picklists to add to the field and build the **MODS** code.

For further information on the cataloguing conventions adopted by IVRLA see the ***IVRLA Cataloguing Rules*** document.

The next section gives a detailed description of how IVRLA implements the MODS schema to create complete catalogue records.

4.0 IVRLA MODS Implementation

4.1 Object Records

IVRLA uses the following top-level elements to create object records:

identifier	part
titleInfo	language
typeOfResource	name
genre	abstract
physicalDescription	subject
note	originInfo
location	accessCondition
recordInfo	relatedItem

A detailed description of each element and its constituent subelements, attributes and values, as implemented by IVRLA is given below.

For a summary of this, see ***Appendix V***.

Definitions for each element are from the **MODS** website: http://www.loc.gov/standards/mods/.

<identifier>

Definition:
A unique standard number or code that distinctively identifies a resource.

Implementation:
In the Objects Screen, IVRLA uses this element to identify the record number of the object (the **Object ID number**).

The attribute **type="doi"** is used to specify that the value of this element is a "Digital Object Identifier".

The object ID number is automatically generated by the digitization process.

<identifier> is used for all records, including those invalid and cancelled.

Example:

<identifier type="doi">OB_0001052_AR**</identifier>**

<titleInfo>

Definition:
A word, phrase, character, or group of characters, normally appearing in a resource, that names it or the work contained in it.

"titleInfo" is a wrapper element that contains all subelements related to title information.

Implementation:
The subelement **<title>** is used under the main element and is represented in the database by a free-text field.

Titles are constructed in accordance with **AACR2** conventions. For further details on cataloguing conventions adopted by IVRLA, see the ***IVRLA Cataloguing Rules*** document.

The proper title (as written on the title-page) of a resource is entered into the field, together with any sub-titles if necessary.

If there is no proper title for the resource, a title is assigned by the cataloguer and entered into the field in square brackets.

If the assigned title is a translation (for example from Irish to English) of a title, the **type="translated"** attribute can also chosen from a picklist (This may be used for resources catalogued at a later stage of the project).

Examples:

<titleInfo>
    <title>Dublin United Tramways Co. (1896) Limited. Official Time Table, January 1940**</title>**
</titleInfo>

_____

<titleInfo>
    <title>[Letter from William Maunsell Hennessy to William Frazer, 29 August 1886.]**</title>**
</titleInfo>

<typeOfResource>

Definition:
A term that specifies the characteristics and general type of content of the resource.

Implementation:
MODS defines a controlled list of textual values, which is also used by IVRLA.

These values categorize the material using broad high-level terms. Narrower, more specific categories are assigned in the **<genre>** element.

IVRLA allows for two instances of **<typeOfResource>** because of the varied nature of some of the resources in the repositories.

The values used for **<typeOfResource>** are listed below. One or two types that best represent the resource or object are chosen from this picklist.

VALUE
text
cartographic
notated music
sound recording
soundrecording - musical
sound recording - nonmusical
still image
moving image
three dimensional object
software
multimedia
mixed material

Examples:

<typeOfResource>text**</typeOfResource>**

_____

<typeOfResource>still image**</typeOfResource>**

<genre>

Definition:
A term(s) that designates a category characterizing a particular style, form, or content, such as artistic, musical, literary composition, etc.

The terms may be from a controlled list with a designation of the authoritative list used in the authority attribute, or it may be an uncontrolled term.

Implementation:
IVRLA uses its own localized list, based on a narrower category of terms than those found in the **<typeOfResource>** element.

See **Appendix I** for the full **IVRLA Genre List**. In the database, a term which best represents the object is chosen from a picklist.

Examples:

<genre>Photograph**</genre>**

_____

<genre>Correspondence**</genre>**

<physicalDescription>

Definition:
A wrapper element that contains all subelements relating to physical description information of the resource described. Data is input only within each subelement.

Implementation:
In the Objects Screen, IVRLA uses the subelements and attributes below to describe the overall physical extent of the object or resource itself. More detailed information on the parts that make up the object is provided in the **<part>** element.

SUBELEMENT & ATTRIBUTE	DESCRIPTION
<extent>	The number of items the object consists of (the value will almost always be “1 item”)
<note type=“physicalDetails”>	Used by digitizers to detail any extra information on the physical characteristics of the object.

Each subelement is represented by a specific field in the database. Information is entered directly into the fields.

Examples:

<physicalDescription>
<extent>1 item**</extent>**
</physicalDescription>

_____

<physicalDescription>
<note type =“physicalDetails”>First page is torn**</note>**
</physicalDescription>

<note>

Definition:
General textual information relating to a resource.

Implementation:
In the Objects Screen, IVRLA uses this element as a means for cataloguers to record any information relating to the cataloguing process, which may not be covered elsewhere.

The attribute **type="admin"** is used to distinguish this element it from the subelement **<note>** found in **<physicalDescription>**, which is used for digitizers' notes.

The **<note>** element is represented by a specific field in the database. Information is entered directly into the field.

Example:

<note type="admin">Abstract reorganized by IVRLA**</<note>**

<location>

Definition:
Identifies the institution or repository holding the resource, or a remote location in the form of a URL from which it is available.

Implementation:
IVRLA uses two instances of the element **<location>**, each with the subelement **<physicalLocation>**, and a "type" attribute to distinguish between them, as detailed below.

ATTRIBUTE & VALUE	DESCRIPTION
type="repository"	specifies that the value is the name of the repository where the resource is to be found (using a controlled local list)
type="originalRef"	Specifies that the value is the actual reference/shelf number of the resource, within that repository

Each instance of **<physicalLocation>** is represented in the database by a separate field. A picklist of repositories is available for the first one, and a free-text field is available for the second one.

Example:

<location>
<physicalLocation type="repository">UCD School of History and Archives**</physicalLocation>**
</location>

<location>
<physicalLocation type="originalRef">LA30_PH_160**</physicalLocation>**
</location>

<recordInfo>

Definition:
Information about the metadata record.

"recordInfo" is a wrapper element that contains subelements relating to information necessary for managing metadata.

Implementation:
IVRLA uses just one subelement here: **<recordCreationDate>** to identify the date of the creation of the IVRLA record. An **ISO** standard date format is used, therefore the attribute **encoding="iso8601"** is also used.

The date is automatically generated once an object has been created in the database.

Example:

```
<recordInfo>
   <recordCreationDate encoding="iso8601">2006-02-21</recordCreationDate>
</recordInfo>
```

<part>

Definition:
The designation of physical parts of a resource in a detailed form.

Implementation:
In the Objects Screen, IVRLA uses the **<part>** element to identify, reference and name the individual parts which make up the object. For example, the front and back of a photograph or the pages of a letter.

In the database, this information is displayed in a table which forms the basis of the relationship between objects and parts.

The table is formed with the subelement and attribute **<detail type="part">** and the following subelements of **<detail>**:

SUBELEMENT, ATTRIBUTE & VALUE	DESCRIPTION
<number type="partID">	The actual IVRLA Part ID number
<number type="originalRef">	The reference number given to that Part by the repository
<title>	The title given to the Part by IVRLA

The digitization process automatically creates the actual partID numbers. The repository reference number and the IVRLA title are then assigned to each part.

Examples:

<part>
<detail type="part">
<number type="partID">AR_PM_0006519**</number>**
<number type="originalRef">LA_41_42**</number>**
<title>[page 1] **</title>**
</detail>
</part>

_____

<part>
<detail type="part">
<number type="partID">AR_PM_0006520**</number>**
<number type="originalRef">LA_41_42**</number>**
<title>[page 2] **</title>**
</detail>
</part>

<language>

Definition:
A designation of the language in which the content of a resource is expressed.

Implementation:
Languages can be expressed in code format (using ISO 639-2b or RFC3066 as the authority) or in text format.

Since IVRLA wishes to identify Irish language dialects not covered by either authority, a text format has been adopted.

A localized text based list will be detailed as needs arise.

The subelement <**languageTerm**> is used within the main element, and as specified by **MODS**, this can be repeated if the content of the resource is in more than one language.

For each language, a segment of **MODS** code relating to the **<language>** element is added to a specific field (using an "insert text" function of the database). The language is then entered into the correct section of code.

Example:

```
<language>
        <languageTerm>English</languageTerm>
</language>
```

<name>

Definition:
The name of a person, organization, or event (conference, meeting, etc.) associated in some way with the resource.

"name" is a wrapper element that contains all subelements related to name information. It is equivalent to […] Creator and Contributor in Dublin Core.

Implementation:
In the Objects Screen, IVRLA uses the **<name>** element to identify the names of those *responsible* for the resource.

(Note: Names as *subjects* of a resource are identified using the subelement **<name>** in the **<subject>** element).

Since multiple entities names responsible for the resource may exist, the **<name>** element is repeatable in IVRLA.

IVRLA uses the attributes below to qualify the *type* of name being identified.

ATTRIBUTE & VALUE	DESCRIPTION
type="personal"	A personal name
type="corporate"	A company, organisation or corporate name
type="conference"	An organized conference or congress name

The subelement **<role>** and its subelement and attributes below are used to identify the specific *type* of responsibility for creating the resource.

SUBELEMENT	ATTRIBUTE & VALUE	DESCRIPTION
<roleTerm>	type="code"	Identifies the fact that the value of <role> appears in code format as opposed to free text
	authority="marcrelator"	Identifies the **MARC Relators List*** as the source of the role codes

***Found at: http://www.loc.gov/marc/relators/

See **Appendix IV** for a list of role codes commonly used by IVRLA.

In terms of the database, a segment of **MODS** code relating to the **<name>** element is added to a specific field (using an "insert text" function of the database), for each name.

The cataloguer then chooses the correct attribute (personal, corporate or conference), enters the full **authorized version** of the name and enters a role code from the MARC Relators List.

A **MADS** record is then created for each new name entered into the **<name>** element, through the **Authority File Screen** in the database. These records give the authorized form of every name and any necessary cross-references. See **Appendix IV** for further details and examples.

Examples:

<name type="personal">
<namePart>Hennessy, William Maunsell, 1829-1889**</namePart>**
<role>
<roleTerm type="code" authority="marcrelator">rcp**</roleTerm>**
</role>
</name>

<name type = "corporate">
<namePart>M. H. Gill & Son, Dublin**</namePart>**
<role>
<roleTerm type="code" authority="marcrelator">prt**</roleTerm>**
</role>
</name>

<abstract>

Definition:
A summary of the content of the resource.

Implementation:
IVRLA uses the attributes listed below in order to specify the source of the abstract information.

ATTRIBUTES & VALUES	DESCRIPTION
type= “summary”	Abstract is supplied by the cataloguer
type=“findingaid”	Abstract is taken from an existing finding aid
type=“catalogue”	Abstract is taken from an existing catalogue entry

These attributes are represented by a picklist in the database, one of which is chosen by the cataloguer for each object.

The abstract information is then entered into a specific field which represents the **<abstract>** element.

At least a single sentence description of the resource is given.

Example:

<abstract type=“summary”>Pamphlet, edited by William Dudley Wodsworth, on the history of the Foundling Hospital in Dublin since 1702. Reports concerning similar institutions abroad are also included.**</abstract>**

<subject>

Definition:
A term or phrase representing the primary topic(s) on which a work is focused.

“subject” is a wrapper tag that binds together subelements.

Implementation:
<subject> is repeatable in MODS and in IVRLA as more than one subject term may be assigned to a resource.

For each instance of **<subject>,** the value may be assigned from a controlled list (using the authority attribute to indicate the source of the list) or from an uncontrolled list.

IVRLA uses subject terms from the authorities below, identified by their respective attributes:

ATTRIBUTE	DESCRIPTION
Authority= “lcsh"	Subject is a term from the Library of Congress Subject Headings (LCSH) Authority List (used for textual resources)
Authority= "lctgm"	Subject is a term from the Library of Congress Thesaurus for Graphic Materials (used for graphic resources)
Authority= “local"	Subject is a locally assigned term (usually a keyword or phrase found in the resource)

Various *types* of subject terms are defined by **MODS** through the use of subelements. IVRLA uses the subelements outlined in the table below:

SUBELEMENT & ATTRIBUTE	DESCRIPTION
<topic>	A topical subject term not appropriate in any other tag
<geographic>	Subject is a geographic place name
<temporal>	Subject is a chronological subject term or temporal coverage of the resource (date format according to authority used)
<temporal encoding="iso8601">	Subject is a chronological subject term or temporal coverage of the resource (date format according to ISO standard)
<titleInfo><title>	Subject is a proper title (eg a book)
<name type="personal"><namePart>	Subject is an authorized personal name
<name type="corporate"><namePart>	Subject is an authorized corporate name
<name type="conference"><namePart>	Subject is an authorized conference name
<geographicCode>	Subject is Dept. of Environment county townland reference (IVRLA authority)

IVRLA parses the subject subelements into their respective tags, rather than using strings.

At least one <topic> subelement is assigned to each resource..

For further information on specific cataloguing conventions and standards adopted by the IVRLA, see the ***IVRLA Cataloguing Rules*** document.

Due to the complexity and number of variables existing in the **MODS** code for **<subject>**, the IVRLA database allows various elements, subelements and attributes to be chosen from picklists and added to a field. The code is edited and values are entered as necessary.

Examples:

<subject authority="lcsh">
<topic>Landscape drawing**</topic>**
<temporal>19th century**</temporal>**
<temporal encoding="iso8601">18 **</temporal>**
</subject>

_____

Examples (cont.):

```
<subject authority=“local”>
        <name type="personal">
                <namePart>De Valera, Eamon, 1882-1975</namePart>
        </name>
</subject>
<subject authority="lctgm">
        <topic>Monasteries</topic>
        <geographic>Luxeuil-les-Bains (France)</geographic>
</subject>
```

```
<subject authority="lcsh">
        <topic>Education,compulsory</topic>
        <geographic>Ireland</geographic>
</subject>
<subject authority="lcsh"><topic>Speeches, addresses, etc.</topic>
</subject>
<subject authority="lcsh">
        <name type="corporate">
                <namePart>Statistical Society, London</namePart>
        </name>
</subject>
```

```
<subject authority="lcsh">
        <topic>Celtic harp</topic>
</subject>
<subject authority="local">
        <topic>Brian Boroihue</topic>
</subject>
<subject type=“local”>
        <titleInfo>
                <title>Proceedings of the Royal Irish Academy</title>
        </titleInfo>
</subject>
```

<originInfo>

Definition:
Information about the origin of the resource, including place of origin or publication, publisher/originator, and dates associated with the resource

"originInfo" is a wrapper element that contains all subelements related to publication and origination information.

Implementation:
IVRLA uses a selection of relevant subelements from MODS, detailed below.

As much data as possible is entered where known and applicable to create a comprehensive record.

SUBELEMENT	DESCRIPTION
<place><placeTerm>	Place of publication of the resource
<publisher>	Name of the publisher of the resource
<dateIssued>*	Date the resource was published, released or issued
<dateCreated>*	Date the resource was created
<copyrightDate>*	Actual copyright date on resource
<edition>	Edition or version of the resource

*Each date element occurs twice. In the first instance the date is entered in textual format for user readability. No attribute is used here. In the second instance the date is normalised using the ISO 8601 [W3CDTF] format, for computer searchability. The attribute **encoding="iso8601"** is used to denote this. For complete examples of these date formats, see ***Appendix III***.

In addition, each ISO date has an optional attribute **keyDate="yes**", so that a particular date may be distinguished for sorting records. In the database this is represented by a check-box.

Examples:

<originInfo>
<place>
<placeTerm>Dublin, Ireland**</placeTerm>**
</place>
</originInfo>

_____

Examples (cont.):

_____

<originInfo>
<publisher>Diprose & Bateman**</publisher>**
</originInfo>

_____

<originInfo>
<dateIssued>17 November 1889**</dateCreated>**
<dateCreated encoding="iso8601">1889-11-17**</dateCreated>**
</originInfo>

_____

<originInfo>
<dateCreated>23 April 1973**</dateCreated>**
<dateCreated encoding="iso8601" keyDate="yes">1973-04-23**</dateCreated>**
</originInfo>

_____

<originInfo>
<edition>1st**</edition>**
</originInfo>

<accessCondition>

Definition:
Information about restrictions imposed on access to a resource.

Implementation:
IVRLA uses a controlled list of values for this element, as shown below. These may be amended in future as necesserary.

VALUE
restricted_SHARC_access_policy
restricted_LIBSC_access_policy
restricted_SICSIFL_access_policy
restricted_IVRLA_review_low risk
restricted_IVRLA_review_high risk

In the database, the appropriate value for the resource is chosen from a picklist. Any additional information can be entered in the **<note>** element if necessary.

Example:

<accessCondition>restricted_SHARC_access_policy**</accessCondition>**

<relatedItem>

Definition:
Information that identifies other resources related to the one being described.

"relatedItem" is a container element under which any **MODS** element may be used as a subelement. It is thus fully recursive.

Implementation:
IVRLA uses this element to make an intellectual link between one object and another. It is used, for example, when a repository Finding Aid contains references to another item.

Since one object is linked to another, the **object ID number** is the desired value for **<relatedItem>**. In keeping with the recursive nature of this element, the **<identifier>** element with the attribute **type="doi"** (digital object identifier) is thus used as a subelement.

Since one object may be related to more than one object, **<relatedItem> i**s repeatable in IVRLA.

For each related object ID number, a segment of **MODS** code for the **<relatedItem>** element is added to a specific field in the database (using an "insert text" function).

The object ID number is then entered into the correct section of code.

Example:

```
<relatedItem>
        <identifier type="doi">OB_0001021_AR</identifier>
</relatedItem>
```

4.2 Part Records

IVRLA uses the following top-level elements to create part records:

identifier
location
titleInfo
physicalDescription
note
name

A detailed description of each element and its constituent subelements, attributes and values, as implemented by IVRLA is given below.

For a summary of this, see ***Appendix V***.

Definitions for each element are from the **MODS** website http://www.loc.gov/standards/mods/.

<identifier>

Definition:
A unique standard number or code that distinctively identifies a resource.

Implementation:
In the Parts Screen, IVRLA uses this element to identify the record number of the part (the **Part ID number**).

The attribute **type="doi"** is used to specify that the value of this element is a "Digital Object Identifier".

The Part ID number is automatically generated by the digitization process.

<identifier> is used for all records, including those invalid and cancelled.

Example:

<identifier type="doi">AR_PM_0006442**</identifier>**

<location>

Definition:
Identifies the institution or repository holding the resource, or a remote location in the form of a URL from which it is available.

Implementation:
As with object records, IVRLA uses two instances of **<physicalLocation>** in parts records, with a "type" attribute to distinguish between them, as detailed below.

SUBELEMENT	ATTRIBUTE & VALUE	DESCRIPTION
<physicalLocation>	type="repository"	Specifies that the value is the name of the repository where the resource is to be found (using a controlled local list)
	type="originalRef"	Specifies that the value is the actual reference/shelf number of the resource, within that repository

Each instance of **<physicalLocation>** is represented in the database by a separate field. A picklist of repositories is available for the first one, and a free-text field is available for the second one.

Examples:

<location>
<physicalLocation>UCD School of History and Archives**</physicalLocation>**
</location>

_____

<location>
<physicalLocation> LA30_PH_160_1**</physicalLocation>**
</location>

<titleInfo>

Definition:
A word, phrase, character, or group of characters, normally appearing in a resource, that names it or the work contained in it.

"titleInfo" is a wrapper element that contains all subelements related to title information.

Implementation:
Each part is assigned a title by IVRLA. The title describes the extent of the part in relation to the object (ie. a description of which part of the object has been scanned).

If the title assigned by IVRLA does not actually appear on the part, then square brackets are used.
The only subelement needed here is **<title>** and this is represented by a specific field in the database. The title is then entered directly into the field.

Examples:

<titleInfo>
    <title>pages 6 & 7**</title>**
</titleInfo>

_____

<titleInfo>
    <title>fold-out map and title page (page [i])</**title>**
</titleInfo>

_____

<titleInfo>
    <title>front of envelope</**title>**
</titleInfo>

<physicalDescription>

Definition:
A wrapper element that contains all subelements relating to physical description information of the resource described. Data is input only within each subelement.

Implementation:
In the Parts Screen For part records, IVRLA uses the subelements and attributes below to describe the overall physical characteristics of each part:

SUBELEMENT & ATTRIBUTE	VALUE	DESCRIPTION
<extent>		The physical dimensions of the part in cm.
<reformattingQuality>	access*	The electronic resource is intended to support current electronic access to the original item (i.e., reference use), but is not sufficient to serve as a preservation copy
	preservation*	The electronic resource was created via reformatting to help preserve the original item. The capture and storage techniques ensure high-quality, long-term protection
	replacement*	The electronic resource is of high enough quality to serve as a replacement if the original is lost, damaged, or destroyed
<internetMediaType>	image/tiff	The electronic format type
	image/jpeg	The electronic format type
	text/html	The electronic format type
	audio/wav	The electronic format type
<digitalOrigin>	reformatted digital*	A resource was created and is intended to remain in digital form.
	born digital*	A resource was created in a non-digital form and was converted into a digital form
<note type="physicalDetails">		Used by digitizers to detail any extra information on the physical characteristics of the object

* These values are defined by **MODS**.

Each subelement is represented by a specific field in the database. Value are entered directly into the fields or chosen from a picklist.

Examples:

<physicalDescription>
<extent>23 x 18.6**</extent>**
</physicalDescription>

_____

<physicalDescription>
<reformattingQuality>preservation**</reformattingQuality>**
</physicalDescription>

_____

<physicalDescription>
<internetMediaType>image/tiff**</internetMediaType>**
</physicalDescription>

_____

<physicalDescription>
<digitalOrigin>reformatted digital**</digitalOrigin>**
</physicalDescription>

_____

<physicalDescription>
<note type =“physicalDetails”>duplicate**</note>**
</physicalDescription>

<note>

Definition:
General textual information relating to a resource.

Implementation:
In the Parts Screen, IVRLA uses two instances of this element:

The first instance has the attribute **type="content"** and relates to the intellectual content of the part. It is used as a means for cataloguers to identify specific keywords or phrases that may appear in the part and that are not reflected in subject heading terms at the object level.

The element is represented by specific field in the database. Information is entered directly into the field. Keywords and phrases are listed as they appear in the text and with a space between them. Name keywords are identified separately using the **<name>** element. This field will be searchable.

The second instance of **<note>** occurs with the attribute **type="admin".** It is used as a means for digitizers to enter the number of the DVD on which that part is stored. This element is represented by a separate field.

Examples:

<note type="admin">IVRLA_10008A**</<note>**

_____

<note type="content">London Temple gardens Thames Songs The song of Mary Cruys**</<note>**

<name>

Definition:
The name of a person, organization, or event (conference, meeting, etc.) associated in some way with the resource.

"name" is a wrapper element that contains all subelements related to name information.

Implementation:
In the Parts Screen, IVRLA uses the **<name>** element to list any names appearing in the resource which are not regarded as subjects of the resource, but which may wish to be identified as keywords. Names are not required to be authorized, but additional information and structure may be added for clarification.

(Names which are subjects of a resource or which are responsible for the resource are identified through the **<subject>** and **<name>** elements at the object level).

The subelement **<namePart>** is the only subelement necessary here.

<name> is represented by a separate field in the database. The element is repeatable, therefore for each name, a section of MODS code is added to the field (using an "insert text" function") and the name is entered into the correct position.

Examples:

<name>
<namePart>Lady Cruys**</namePart>**
</name>

_____

<name>
<namePart>Mary Anne Cruise**</namePart>**
</name>

_____

<name>
<namePart>Sir Thomas Plunket, d. 1471, of Killeen**</namePart>**
</name>

4.3 Container Records

IVRLA uses the following top-level elements to create container records:

identifier
titleInfo
physicalDescription
note
location
part
abstract
relatedItem

A detailed description of each element and its constituent subelements, attributes and values, as implemented by IVRLA is given below.

For a summary of this, see ***Appendix V***.

Definitions for each element are from the **MODS** website
http://www.loc.gov/standards/mods/

<identifier>

Definition:
A unique standard number or code that distinctively identifies a resource.

Implementation:
In the Container Screen, IVRLA uses this element to identify the record number of the container (the **Container ID number**).

The attribute **type="doi"** is used to specify that the value of this element is a "Digital Object Identifier".

The Container ID number is automatically generated by the digitization process.

<identifier> is used for all records, including those invalid and cancelled.

Example:

<identifier type="doi">CT_0000110_AR**</identifier>**

<titleInfo>

Definition:
A word, phrase, character, or group of characters, normally appearing in a resource, that names it or the work contained in it.

“title info” is a wrapper element that contains all subelements related to title information.

Implementation:
The subelement **<title>** is used under the main element and is represented in the database by a free-text field.

Titles will be in accordance with existing naming conventions.

If the assigned title is a translation (for example from Irish to English) of a title, the **type=“translated”** attribute can also chosen from a picklist (This may be used for resources catalogued at a later stage of the project).

If the title does not actually appear on the resource, and is assigned by the individual cataloguer, square brackets are used.

For container records, the title will usually be assigned by the cataloguer and will describe a collection of objects.

Examples:

<titleInfo>
    <title>[De Valera at St. Gall, Switzerland, October 1951] **</title>**
</titleInfo>

_____

<titleInfo>
    <title>[Collection of ballad sheets printed by E. Nugent, Dublin]**</title>**
</titleInfo>

<physicalDescription>

Definition:
A wrapper element that contains all subelements relating to physical description information of the resource described. Data is input only within each subelement.

Implementation:
In the Container Screen, IVRLA uses the subelements and attributes below to describe the physical extent of the objects contained.

SUBELEMENT & ATTRIBUTE	DESCRIPTION
<extent>	The number of items or objects in the container
<note type="physicalDetails">	Used by digitizers to detail any extra information

Each subelement is represented by a specific field in the database. Information is entered directly into the fields.

Example:

<physicalDescription>
<extent>8 items**</extent>**
</physicalDescription>

<note>

Definition:
General textual information relating to a resource.

Implementation:
In the Container Screen, IVRLA uses this element as a means for cataloguers to record any information relating to the cataloguing process, which may not be covered elsewhere.

The attribute **type="admin"** is used to distinguish this element it from the subelement **<note>** found in **<physicalDescription>**, which is used for digitizers' notes.

The **<note>** element is represented by a specific field in the database. Information is entered directly into the field.

Example:

<note type="admin">Abstract reorganized by IVRLA**</<note>**

<location>

Definition:
Identifies the institution or repository holding the resource, or a remote location in the form of a URL from which it is available.

Implementation:
IVRLA uses two instances of **<physicalLocation>**, with a "type" attribute to distinguish between them, as detailed below.

SUBELEMENT	ATTRIBUTE & VALUE	DESCRIPTION
<physicalLocation>	type="repository"	specifies that the value is the name of the repository where the resource is to be found (using a controlled local list)
	type="originalRef"	Specifies that the value is the actual reference/shelf number of the resource, within that repository

Each instance of **<physicalLocation>** is represented in the database by a separate field. A picklist of repositories is available for the first one, and a free-text field is available for the second one.

Examples:

<location>
<physicalLocation>UCD School of History and Archives**</physicalLocation>**
</location>

_____

<location>
<physicalLocation>P150_3140**</physicalLocation>**
</location>

<part>

Definition:
The designation of physical parts of a resource in a detailed form.

Implementation:
In the Container Screen, IVRLA uses the **<part>** element to identify, reference and name the individual objects grouped together in each container.

In the database, this information is displayed in a table which forms the basis of the relationship between containers and objects.

The table is formed with the subelement and attribute **<detail type="object" >** and the following subelements of **<detail>**:

SUBELEMENT, ATTRIBUTE & VALUE	DESCRIPTION
<number type="objectID">	The actual IVRLA Object ID number
<number type="originalRef">	The reference number given to the item by the repository

The digitization process automatically creates the actual object ID numbers. The repository reference number is then assigned to each obejct.

Example:

```
<part>
        <detail type="object">
                <number type="objectID">OB_0000260_001_AR</number>
                <number type="originalRef">LA_41_42</number>
        </detail>
</part>
```

<abstract>

Definition:
A summary of the content of the resource.

Implementation:
IVRLA uses the attributes listed below in order to specify the source of the abstract information.

ATTRIBUTE & VALUE	DESCRIPTION
type= “summary”	Abstract is supplied by the cataloguer
type=“findingaid”	Abstract is taken from an existing finding aid
type=“catalogue”	Abstract is taken from an existing catalogue entry

These attributes are represented by a picklist in the database, one of which is chosen by the cataloguer for each container.

The abstract information is then entered into a specific field which represents the **<abstract>** element.

Example:

<abstract type=“findingaid”>File on de Valera’s attendance at the celebrations to mark the thirteenth centenary of the death of ‘the great Irish man’ St. Gall in St. Gallen in Switzerland in October 1951. Includes black and white press photographs of the celebrations, each individually captioned.**</abstract>**

<relatedItem>

Definition:
Information that identifies other resources related to the one being described.

"relatedItem" is a container element under which any **MODS** element may be used as a subelement. It is thus fully recursive.

Implementation:
IVRLA uses this element to make an intellectual link between a container and another object. It is used, for example, when a repository Finding Aid contains references to another item.

Since one object is linked to another, the **object ID number** is the desired value for **<relatedItem>**. In keeping with the recursive nature of this element, the **<identifier>** element with the attribute **type="doi"** (digital object identifier) is thus used as a subelement.

Since one object may be related to more than one object, **<relatedItem> i**s repeatable in IVRLA.

For each related object ID number, a segment of **MODS** code for the **<relatedItem>** element is added to a specific field in the database (using an "insert text" function).

The object ID number is then entered into the correct section of code.

Example:

```
<relatedItem>
        <identifier type="doi">OB_0001021_AR</identifier>
</relatedItem>
```

Appendix I: Genre List

The following is a list of values for the <genre> element in the Objects Screen:

VALUE
animation
ballad sheet
correspondence
draft
drawing
ephemera
film
handbill
interview
journal article
map
monograph
musical score
narration
negative
newscutting
notes
painting
pamphlet
photograph
plan
postcard
preprint
print
questionnaire
slide
speech
thesis

Appendix II: Date Formats

IVRLA uses two instances for each date element.

The first is a textual format for user readability (**Display Date**) and the second is a normalised format conforming to **ISO 8601** [W3CDTF] for computer searchability.

Example of display dates and their equivalent ISO formats are outlined below:

DESCRIPTION	DISPLAY DATE EXAMPLES	ISO FORMAT	ISO EXAMPLES
year only	1985	YYYY	1985
year and month	April 1985	YYYY-MM	1985-04
year, month and day	12 April 1985	YYYY-MM-DD	1985-04-12
century only	20th C.	YY	19
range (complete date)	12 April 1985-15 June 1986	YYYY-MM-DD/YYYY-MM-DD	1985-04-12/1986-06-15
range (same year, same month)	12-15 April 1985	YYYY-MM-DD/DD	1985-04-12/15
range (same year)	April-June 1985	YYYY-MM/MM	1985-04/06
range (different Century)	17th-18th C.	YY/YY	16/17
range of eras	1920s	YYYY-YYYY	1920/1929
more specific range of era	early 1800s	YYYY-YYYY	1800/1850
more specific range of era	late 1850s	YYYY-YYYY	1850/1859

Approximate Dates

Display Date : "c." is entered before the date (Example: c. May 1950)

ISO Date: No precise provision is made. The date is represented using the relevant ISO format from the table above. (Example: 1950-05

Questionable or Inferred Dates

Display Date: Square brackets are entered around the portion of the date which is uncertain. (Example: [25] December 1945)

ISO Date: No precise provision is made. The date is represented by the relevant ISO format from the table above. (Example: 1945-12-25)

If the date can be narrowed down to two known options:

Display Date: "/ " is entered between the two dates. (Example: January/February 1965)

ISO Date: No precise provision is made. The date is represented by an appropriate range using the relevant ISO format from the table above. (Example: 1965-01/02)

Dates occurring before or after a known date

Display Date: "pre" is entered before the date if it occurs before a known date. (Example: pre 1945)
"post" is entered before the date if it occurs after a known date. If a date occurs before a known date. (Example: post 1945)

ISO Date: No precise provision is made. An appropriate range of dates is chosen depending on the context of the resource. The relevant ISO format from the table above is then used to represent this. (Example: 1940/1944)

Two or more dates

Display Date: "," separates the two dates. (Example: 1916, 1922)

ISO Date: An applicable range of dates using the relevant ISO format from the table above is entered. (Example: 1916/1922)

Appendix III: Authority File

IVRLA uses the **Library of Congress Metadata Authority Description Schema (MADS)** to create an Authority File for personal, corporate and conference names.

This XML based schema is compatible with MODS and METS.

The IVRLA Authority File is represented in the FileMaker Pro database in a separate screen with individual records.

Each record consists of one <**authority**> main element and, if necessary, one or more <**variant**> main elements. The <authority> element contains the authorized form of the name, whilst the <variant> main element contains any unauthorized versions of the name. All <variant> entries will cross-reference to one <authority> entry.

For each **<authority>** main element, the element and subelement **<name><namePart>** is used. Then, one **type** attribute and one **authority** attribute (as shown in the table below) is chosen from a picklist in the database. The fully authorized name is then entered into a specific field.

<authority> main element	
ATTRIBUTE	**DESCRIPTION**
type="personal"	Personal type name
type="corporate"	Corporate type name
type="conference"	Conference type name
authority="lcsh"	Name is a Library of Congress authorized name
authority="local"	Name is a locally authorized name

For each **<variant>** main element, a section of MADS code is entered into a specific field. The code is made up of the attributes in the table below and the element and subelement **<name><namePart>.** One of the attributes is chosen and the unauthorized form of the name is entered into the correct section of code.

<variant> main element	
ATTRIBUTE	**DESCRIPTION**
type="acronym"	Acronym form of the name
type="abbreviation"	Abbreviated form of the name
type="translation"	Translated form of the name
type="other"	Any other form of the name (eg. maiden names, pseudonyms, changes in name etc.)

Any names occurring in the **Objects Screen** are entered in the authorized format. If this authorized name does not already exist in the Authority File, a new record is then created for it in the **Authority File Screen**. (NOTE: names occurring in the **Parts Screen** are not required to be authorized.)

Authorized names are constructed using the **Anglo-American Cataloguing Rules (AACR2)**. After initial consultation with the repositories it was envisaged using the **National Council on Archives (NCA)** "**Rules for the construction of personal, place and corporate names"**. However, as the IVRLA database and cataloguing policy developed, consistency with the Library of Congress Subject Headings (LCSH) and Library of Congress Thesauras for Graphic Materials (LCTGM) became necessary. As these subject authority lists are based on AACR2, this standard was implemented for the authority file.

Examples:

<authority>
<name type="personal" authority ="lcsh">
<namePart>Mac Neill, Eoin, 1867-1945**</namePart>**
</name>
</authority>

_____

<authority>
<name type="corporate" authority="lcsh">
<namePart>St. Patrick's Roman Catholic Cathedral, Armagh**</namePart>**
</name>
</authority>
<variant type="other">
<name>
<namePart>Armagh Cathedral**</namePart>**
</name>
</variant>

_____

<authority>
<name type="personal" authority="local">
<namePart>Lecale, Charles James FitzGerald, Baron, 1756–1810**</namePart>**
</name>
</authority>
<variant type="other">
<name>
<namePart> Fitzgerald, Charles James, Baron Lecale, 1756–1810**</namePart>**
</name>
</variant>

Appendix IV: Role Codes

The following is a list of values from the **Marc Relators List** (found at : http://www.loc.gov/marc/relators/) commonly used by IVRLA in the Objects Screen. Any other code from this authority list may also be used.

VALUE	DESCRIPTION
ann	Annotator
aft	Author of afterword, colophon etc.
aui	Author of introduction, etc.
aut	Author
art	Artist
bnd	Binder
ctg	Cartographer
coll	Collector
cmp	Composer
edt	Editor
ill	Illustrator
lyr	Lyricist
mus	Musician
pht	Photographer
plt	Platemaker
pop	Printer of plates
prt	Printer
rcp	Recipient
snh	Singer
trl	Translator
typ	Typesetter

Appendix V: Summary of MODS Implementation by IVRLA

OBJECT RECORDS

Element	Repeatable	Attribute Required	Subelements and attributes Required	Content Controlled
*<identifier>	NO	type= “doi”	none	YES
*<titleInfo>	NO	none	<title> & type=”translated” if applicable	NO
*<typeOfResource>	YES (once)	none	none	YES
*<genre>	NO	none	none	YES
*<physicalDescription>	NO	none	<extent> <note type =“physicalDetails”>	NO NO
<note>	NO	type=”admin"	none	NO
*<location>	YES	none	<physicalLocation type=“repository”> <physicalLocation type=“originalRef”>	YES NO
*<recordInfo>	NO	none	<recordCreationDate encoding=“iso8601”> <number type=“originalRef”>	YES NO
*<part>	YES	none	<detail type=“part”> <number type=“partID”> <number type=“originalRef”> <title>	 YES NO NO
*<language>	YES	none	<languageTerm>	NO
*<name>	YES	One of: type=“personal” type=“corporate” type=“conference”	<namePart><role><roleTerm type=“code” authority=“marcrelator”>	YES
*<abstract>	NO	One of:- type=“summary” type=“findingAid” type=“catalogue”	none	-
*<subject>	YES	One of:- authority= “lcsh" authority= “lctgm authority= “local”	Where applicable:- <topic> <geographic> <temporal> <temporal encoding=“iso8601”> <titleInfo><title> <name type=“personal”><namePart> <name type=“corporate”><namePart> <name type=“conference”><namePart> <geographicCode>	NO NO NO NO NO NO NO NO NO YES
*<originInfo>	NO	none	<place><placeTerm> <publisher> <dateIssued> <dateIssued> encoding=“iso8601” † <dateCreated> <dateCreated encoding=“iso8601”>† <copyrightDate> <copyrightDate encoding=“iso8601”>† <edition>	NO NO NO NO NO NO NO NO NO
*<accessConditions>	NO	none	none	YES
<relatedItem>	YES	none	<identifier type="doi">	YES

PART RECORDS

Element	Repeatable	Attribute Required	Subelements and attributes Required	Content Controlled
*<identifier>	NO	type= “doi”	none	YES
*<location>	YES	none	<physicalLocation type=“repository”> <physicalLocation type=“originalRef”>	YES NO
*<titleInfo>	NO	none	<title>	NO
*<physicalDescription>	NO	none	<extent> <reformattingQuality> <internetMediaType> <digitalOrigin> <note type=”physicalDetails”>	NO YES YES YES NO
*<note>	YES	type=”content” type=”admin”	none	NO YES
<name>	YES	none	<namePart>	NO

CONTAINER RECORDS

Element	Repeatable	Attribute Required	Subelements and attributes Required	Content Controlled
*<identifier>	NO	type= “doi”	none	YES
*<titleInfo>	NO	none	<title type=“translated”>	NO
*<physicalDescription>	NO	none	<extent>	NO
			<note type =“physicalDetails”>	NO
<note>	NO	type=”admin"	none	NO
*<location>	YES	none	<physicalLocation type=“repository”> <physicalLocation type=“originalRef”>	YES NO
*<part>	YES	none	<detail type=“object”> <number type=“objectID”> <number type=“originalRef”>	 YES NO
*<abstract>	NO	One of:- type=“summary” type=“findingAid” type=“catalogue”	none	NO
<relatedItem>	YES	none	<identifier type="doi">	YES

* These elements are required for a complete IVRLA record
† At least one date must have attribute keyDate=”yes”