

# **Designing a Multi-level Metadata Standard Based on Dublin Core for Museum Data**

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# Outline

- Background
- **Procedure**
- **Research Result**
  - ❖ Core Metadata
  - ❖ **Extension Rules**
  - ❖ Specific Metadata
  - ❖ Metadata Management System

# Background

- A **Study** of Metadata for Digital Museums
- Funded by China's **State Administration of Cultural Heritage**
- **Ordinated** by Gang Chen
- Metadata for Digital Museums
  - Meet with **different requirements**
  - **Be compatible with published specifications**
  - **Precise** description, **simple**

# Procedure

- **Step 1**
  - **DC, CDWA, EDM, CIDOC CRM, EAD, VRA core, FGDC/CSDGM, OAIS**
  - **Data specifications for museums in China**
  - **Collect detailed requirements from museums**

Data Specification for Museum's Collections

Standard for Image Archive of Unmovable Cultural Relics

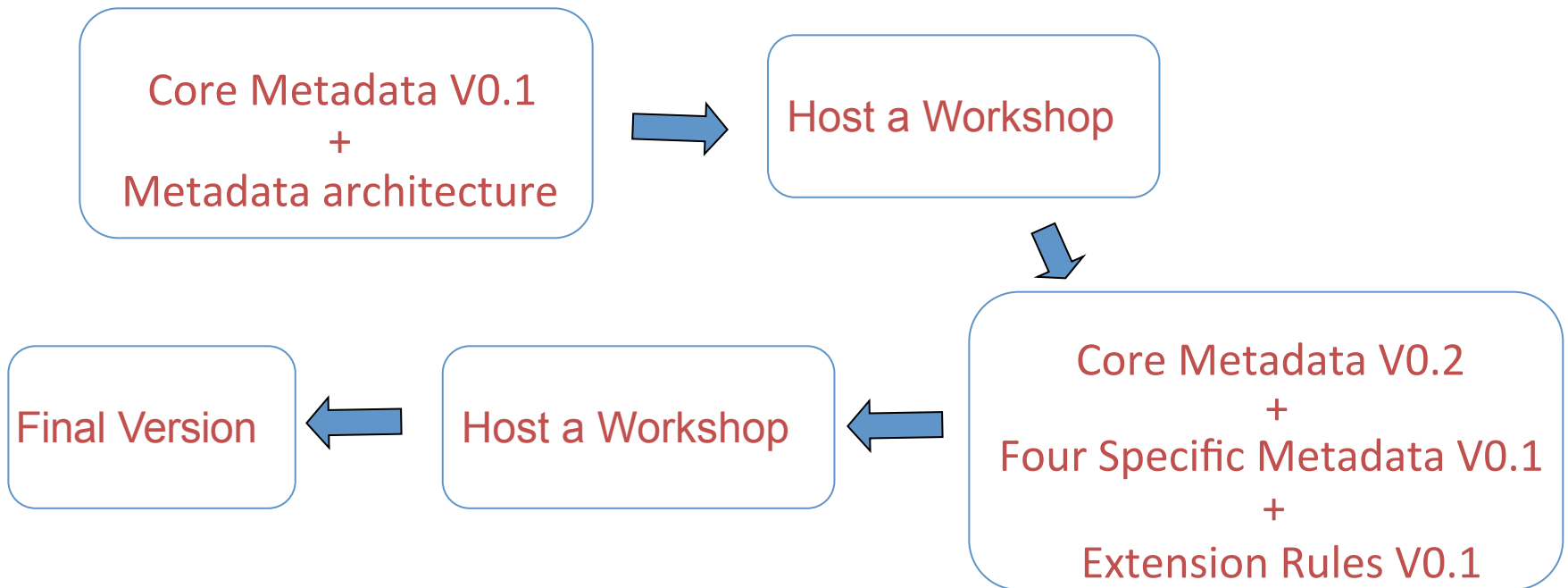
Data Specification for the Third National Heritage Sites Census

Data specification for the First National Movable Cultural Relics

Census

# Procedure

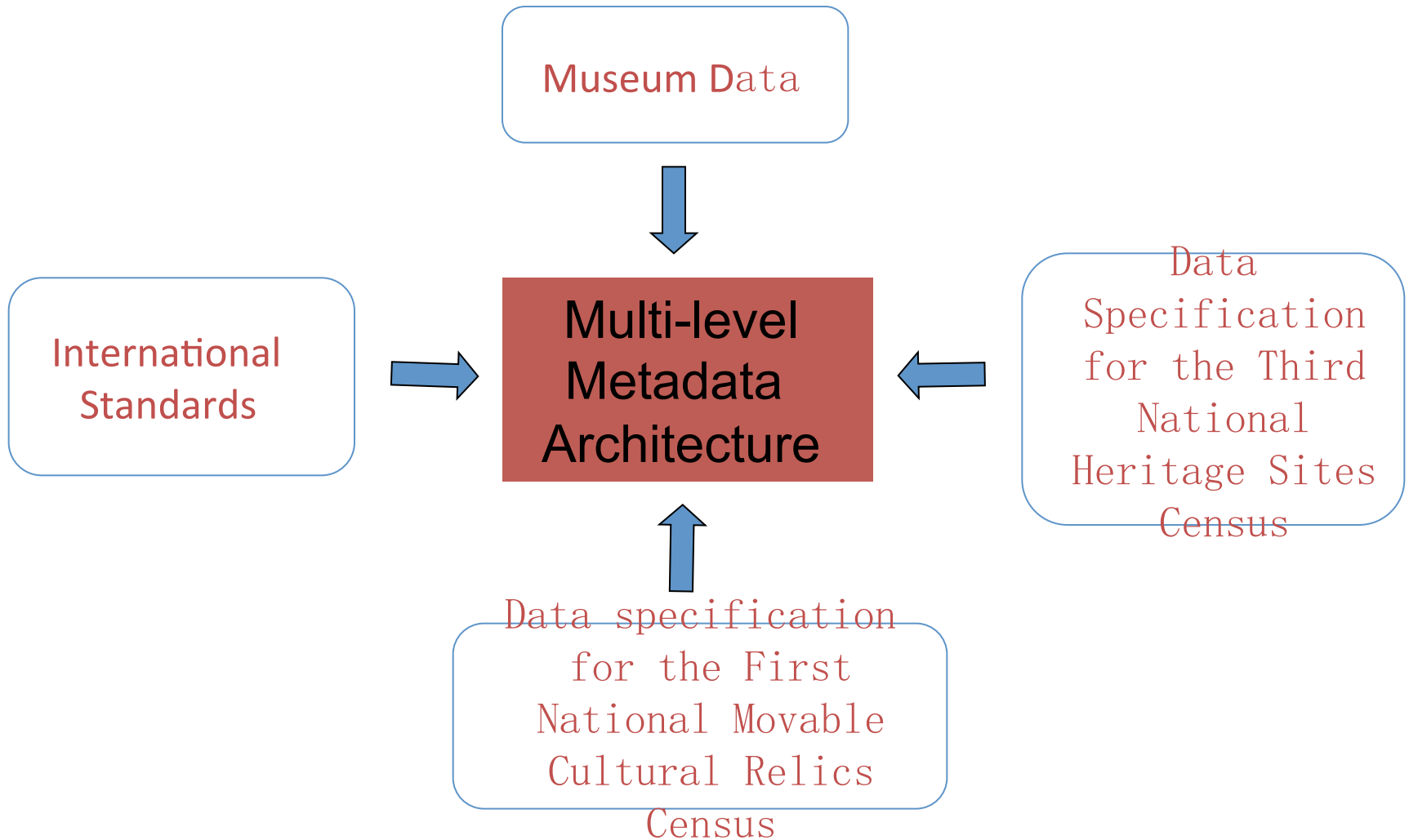
- **Step 2**



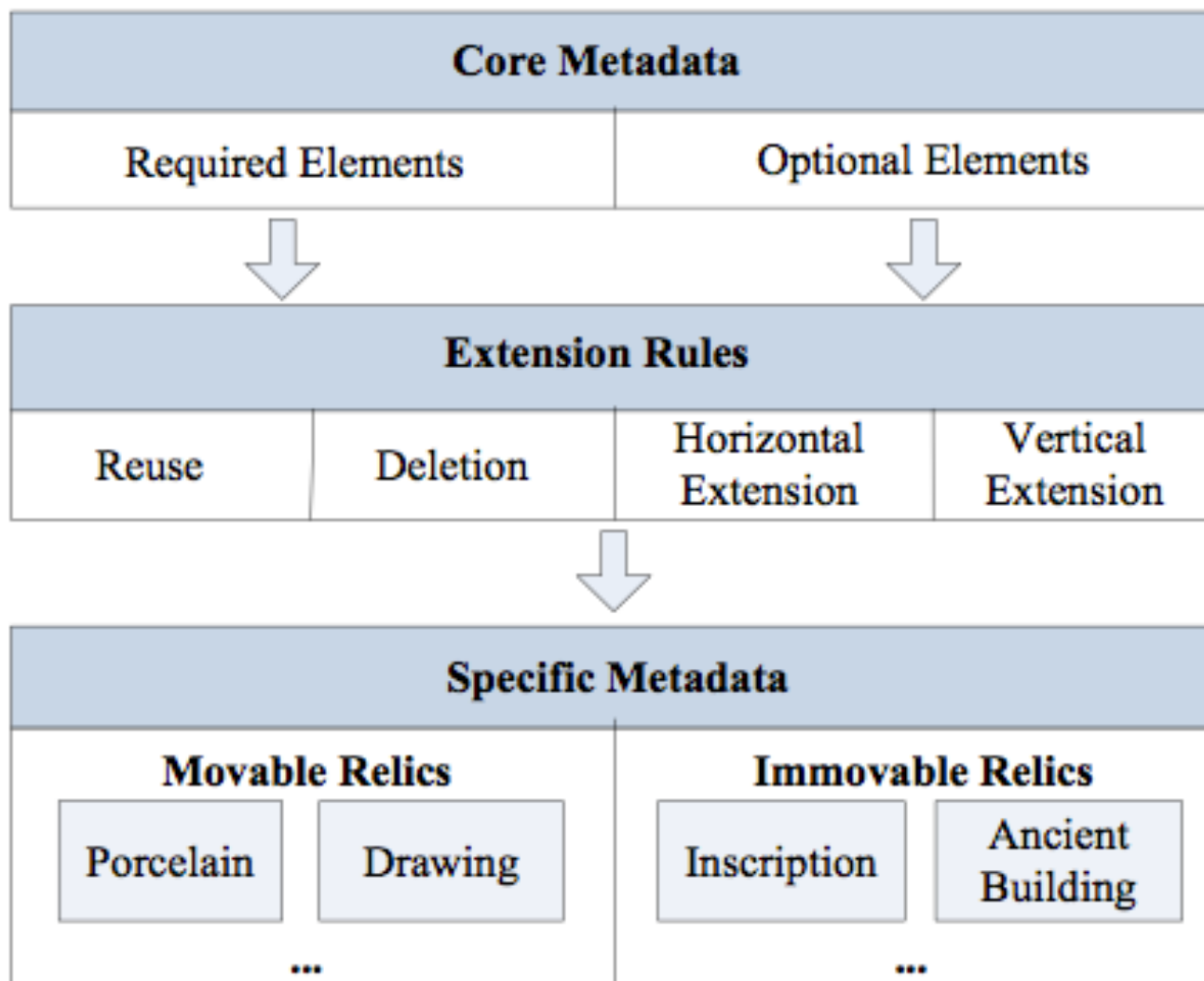
- **Step 3**

A Metadata Management

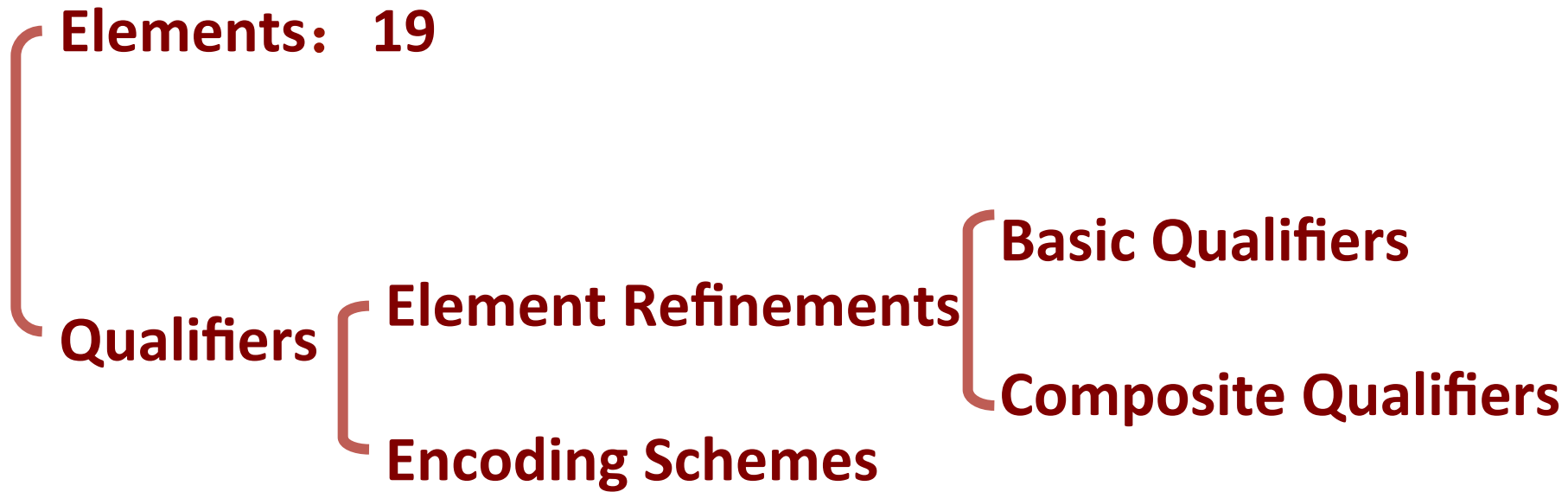
# Metadata Architecture



# Metadata Architecture



# Core Metadata



# Elements

| Term        | DC              | Term         | DC         |
|-------------|-----------------|--------------|------------|
| Name        | DC: Title       | Material     | DC: Format |
| Identifier  | DC: Identifier  | Acquisition  |            |
| Type        | DC: Type        | Grade        |            |
| Date        | DC: Date        | Measurement  |            |
| Subject     | DC: Subject     | Conservation |            |
| Description | DC: Description | Quantity     |            |
| Creator     | DC: Creator     | Condition    |            |
| Coverage    | DC: Coverage    | Environment  |            |
| Rights      | DC: Rights      | DamageCause  |            |
| Relation    | DC: Relation    |              |            |

# Example

## ● Grade

| Property   | Value                                      |
|------------|--------------------------------------------|
| Label      | 保护等级                                       |
| Identifier | grade                                      |
| Version    | version 1.0                                |
| Definition | The protection grade of a cultural relics. |
| Iteration  | No                                         |
| Data Type  | String                                     |
| Required   | Yes                                        |
| Value      | Grading Standard For Cultural Relics.      |
| Qualifier  | No                                         |

Movable Cultural Relics:  
grade one, grade two,  
grade three, undetermined

# Example

## ● Damage Cause

| Property   | Value                                                                 |
|------------|-----------------------------------------------------------------------|
| Label      | 损毁原因                                                                  |
| Identifier | DamageCause                                                           |
| Version    | version 1.0                                                           |
| Definition | It refers to the reason which results in damage of a cultural relics. |
| Iteration  | Yes                                                                   |
| Data Type  | String                                                                |
| Required   | No                                                                    |
| Value      |                                                                       |
| Qualifier  | NaturalCause, ManMadeCause                                            |

# Example

## ● Natural Cause

| Property   | Value                                                                         |
|------------|-------------------------------------------------------------------------------|
| Label      | 自然损毁                                                                          |
| Identifier | Natural Cause                                                                 |
| Version    | version 1.0                                                                   |
| Definition | It refers to the natural reason which results in damage of a cultural relics. |
| Iteration  | Yes                                                                           |
| Data Type  | String                                                                        |
| Required   | No                                                                            |
| Value      | 地震, 水灾, 火灾, 生物破坏, 污染, 雷电, 风灾, 泥石流, 冰雹, 腐蚀, 沙漠化, 其他自然因素                        |
| Qualifier  | No                                                                            |

# Refinements

## ● Convergence

- Geographic Coordinate (**basic qualifier**)
- Scope Coordinates (**composite qualifier**)
  - Measure point number
  - Measure Point Coordinates ←
  - Adjacent Measure point
- Geographic Name

Third National  
Heritage Sites  
Census

# Extension Rules

- Vertical Extension

Add new element refinements

- Horizontal Extension

Add new elements

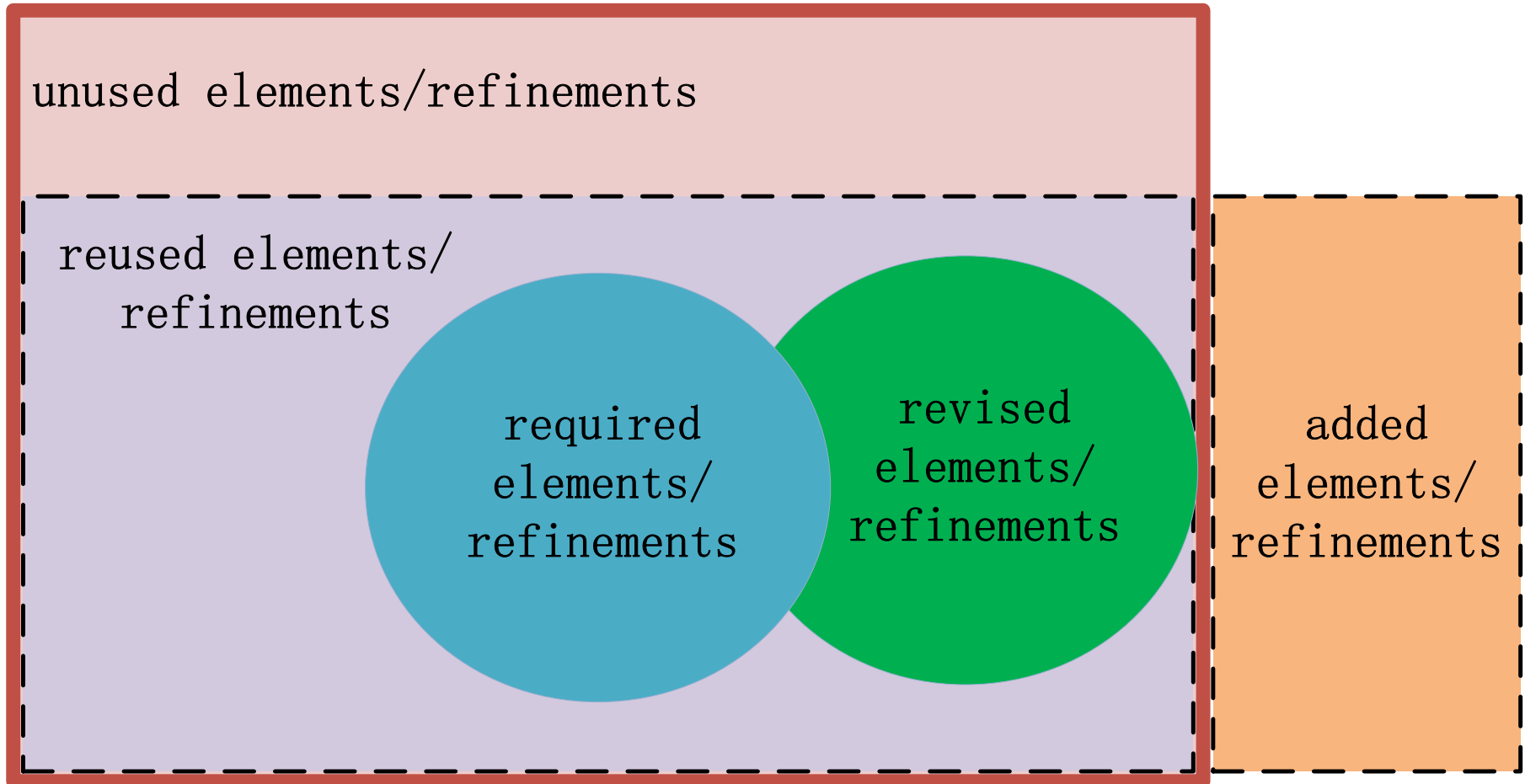
- Delete

Delete elements or refinements

- Reuse

Reuse elements or refinements

# Extension Rules



# Metadata for Porcelain

| Term        | Term         |
|-------------|--------------|
| Name        | Rights       |
| Identifier  | Relation     |
| Type        | Material     |
| Date        | Coverage     |
| Subject     | Grade        |
| Description | Measurement  |
| Creator     | Conservation |
| Acquisition | Quantity     |

complete  
reuse

part reuse: its  
domain of value  
is narrowed.

deletion

Vertical  
Extension

# Metadata Management System

元数据规范管理

元数据规范

核心元数据规范

- 名称
  - 登记名称
  - 登记号
  - 类别
- 文物构成
  - 所属群组
  - 构件数
- 年代
  - 考古学/历史朝代纪年
  - 地质年代/公元纪年
- 关键词
- 描述
- 创建者
- 范围
  - 地理坐标
    - 不可移动文物
      - 范围坐标描述
      - 具体位置
- 度量
  - 可移动文物
    - 尺寸
      - 长
      - 质量

元数据查询

简单查询

用户名: admin

添加 编辑 删除

| 名称         | 名称                                                                                                                                                                                                                                                       |                 |     |    |     |            |       |              |   |            |       |                 |   |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----|----|-----|------------|-------|--------------|---|------------|-------|-----------------|---|
| 标识         | Name                                                                                                                                                                                                                                                     |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 版本         | Version 1.0                                                                                                                                                                                                                                              |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 定义         | 文物的名称。文物的名称可以包括但是不限于：登记的名称，名称描述等。                                                                                                                                                                                                                        |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 可重复性       | 不可重复                                                                                                                                                                                                                                                     |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 数据类型       | 复合型                                                                                                                                                                                                                                                      |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 必备性        | 是                                                                                                                                                                                                                                                        |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 值域         |                                                                                                                                                                                                                                                          |                 |     |    |     |            |       |              |   |            |       |                 |   |
| 元素限定词      | <table><thead><tr><th>名称</th><th>类别</th><th>标识</th><th>必备性</th></tr></thead><tbody><tr><td>6.1.1 登记名称</td><td>基本限定词</td><td>RegisterName</td><td>是</td></tr><tr><td>6.1.2 名称描述</td><td>基本限定词</td><td>NameDescription</td><td>否</td></tr></tbody></table> | 名称              | 类别  | 标识 | 必备性 | 6.1.1 登记名称 | 基本限定词 | RegisterName | 是 | 6.1.2 名称描述 | 基本限定词 | NameDescription | 否 |
| 名称         | 类别                                                                                                                                                                                                                                                       | 标识              | 必备性 |    |     |            |       |              |   |            |       |                 |   |
| 6.1.1 登记名称 | 基本限定词                                                                                                                                                                                                                                                    | RegisterName    | 是   |    |     |            |       |              |   |            |       |                 |   |
| 6.1.2 名称描述 | 基本限定词                                                                                                                                                                                                                                                    | NameDescription | 否   |    |     |            |       |              |   |            |       |                 |   |
| 著录说明       | 非著录元素                                                                                                                                                                                                                                                    |                 |     |    |     |            |       |              |   |            |       |                 |   |



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**Thank you!**  
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