

# I 202: INFORMATION ORGANIZATION & RETRIEVAL FALL 2025

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Identifiers, Controlled Vocabularies

# Today's Outline

Brief Review

Identifiers, Identifier Standards

Controlled Vocabularies

# LAST TIME

- **Collection:** A group of resources that have been selected for some purpose.
- **Organizing System:** An intentionally arranged collection of **resources** and the **interactions** they support.
- **Intentional Arrangement:** acts of organization by people (or computational proxies)

# CREATING A COLLECTION: FUNDAMENTAL QUESTIONS



The scope and scale of the collection



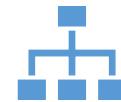
The number and nature of users, and how they will use the collection



The time span or lifetime over which the organizing system will operate



The physical or technological environment in which the organizing system is situated



The relationship of the organizing system to other ones that overlap with it in domain or scope

# Example: Smithsonian Natural History Collection

VISIT EXHIBITS RESEARCH EDUCATION EVENTS ABOUT JOIN US DONATE 

NATIONAL  
MUSEUM of  
**NATURAL  
HISTORY**

## Research & Collections

Beyond the Museum's exhibitions lies a labyrinth of hallways, vast storage rooms  
and busy offices, all filled with the sights and sounds of discovery.

# Smithsonian Collections Management Policy

## National Museum of Natural History

Smithsonian Institution

### Collections Management Policy

(Last revised April, 2012; next revision due 2022)

Have read and approve:

David J. Skorton

Secretary, Smithsonian Institution

12/13/17

Date

Judith Leonard  
General Counsel

John Davis  
Provost and Under Secretary  
for Museums and Research

William G. Tompkins  
Director, National Collections Program

Kirk Johnson, Sant Director  
National Museum of Natural History

Recommended for approval:

Maureen Kearney  
Associate Director for Science

Carol R. Butler  
Assistant Director for Collections

## National Museum of Natural History

Smithsonian Institution

### Collections Management Policy

Rev. December 13<sup>th</sup>, 2017

#### Table of Contents

Section I. Introduction .....	1
A. Purpose .....	1
B. Background .....	1
C. Applicability .....	2
D. Authority and Responsibility .....	3
E. Ethics .....	9
F. Accounting for Collections .....	10
G. Compliance .....	10
H. Exceptions .....	10
I. Policy Review and Revision .....	10
Section II. NMNH Policy Elements .....	11
A. Acquisition and Accessioning .....	11
B. Deaccessioning and Disposal .....	16
C. Preservation .....	19
D. Collections Information Management and Digitization .....	20
E. Inventory .....	21
F. Risk Management and Security .....	22
G. Access .....	23
H. Loans and Borrows .....	26
I. Intellectual Property Rights .....	29
J. Shipping and Transportation .....	30
Section III. Specific Legal and Ethical Issues .....	32
A. Native American and Native Hawaiian Human Remains and Objects .....	32
B. Collections Made via Field Work .....	33
C. Unlawful Appropriation of Objects during the Nazi Era .....	33
D. Animal Welfare and Institutional Animal Care and Use Committee .....	34
E. Human Subjects in Research and the Institutional Review Board .....	34
F. Collections Posing Health and Safety Risks .....	35

# SMITHSONIAN COLLECTIONS MANAGEMENT POLICY (SELECTED EXCERPTS)

“Staff will consider and evaluate the concerns of indigenous source communities regarding collections items, recordings, information, collecting activities and use.”

“The Smithsonian repudiates the illicit traffic in objects and specimens that contribute to the despoliation of museums, monuments, environments, sites and species resulting in irreparable loss to science and humanity. Items that have been stolen, unscientifically gathered or excavated, or unethically acquired should not be made part of Smithsonian collections. ”

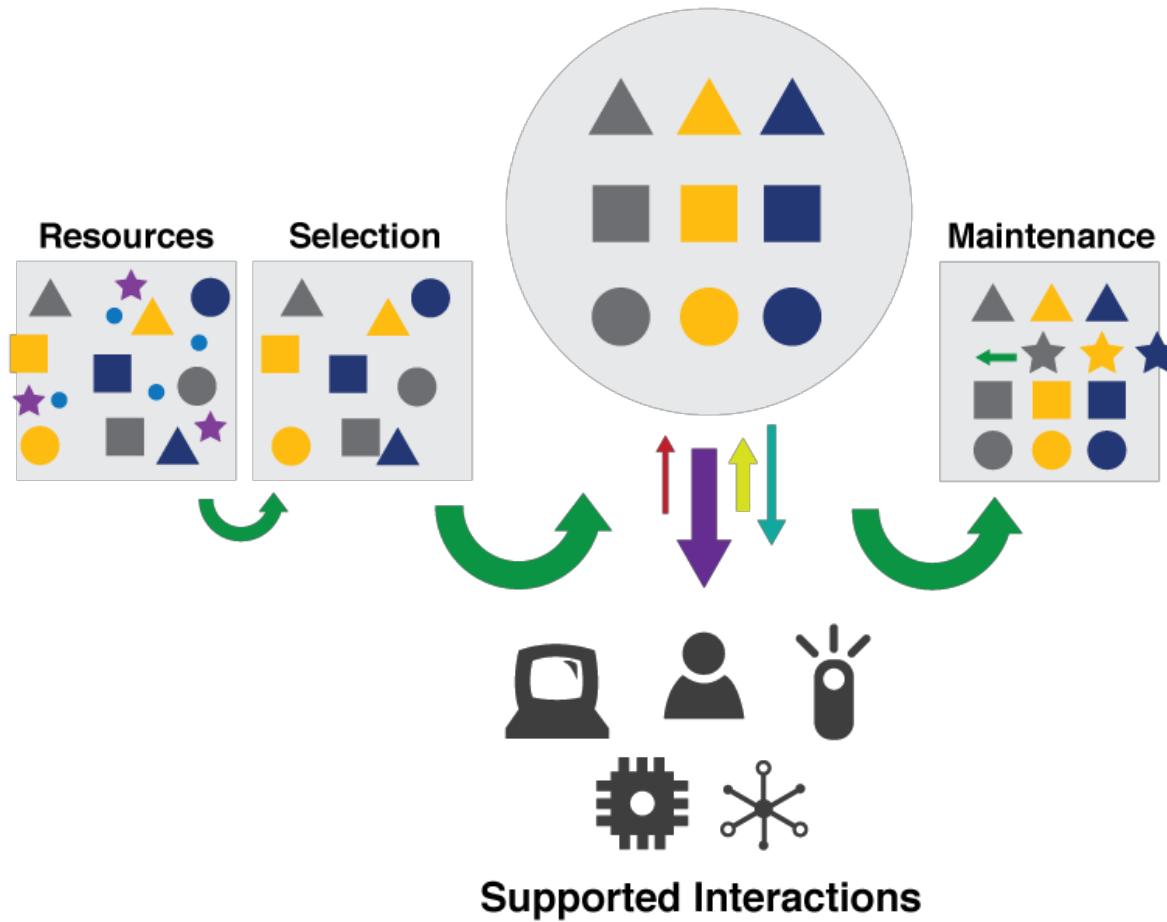
# SMITHSONIAN COLLECTIONS MANAGEMENT POLICY (SELECTED EXCERPTS)

“The concept of provenance refers to the history of ownership of a collection item. Collecting departments shall exercise due diligence in the acquisition of collections, including making reasonable inquiries into the provenance of collections items under consideration for acquisition consistent with Smithsonian policy.”

“Collections records must show decision-making processes of acquisitions evaluation...”

Last Time

## Arranged Collection of Resources



# Resource Examples

Organizing system	Resource
Closet	Clothes, shoes, hangers
iTunes	Music files (mp3, aac)
Search engine	Web pages
Political polling	People

# QUESTIONS TO ASK ABOUT RESOURCES

- What are the individual resources?
- What is their granularity?
- How do we identify them?
- Which ones are identical?

# Example Collection Creation: SB1421 Datasets

CALIFORNIA TODAY

## *What to Know About California's New Police Use-of-Force Law*

Tuesday: Gov. Gavin Newsom signed into law one of the nation's toughest standards for the use of deadly force. Also: A stunning

### California Senate Bill 1421 (2018)

---

From Wikipedia, the free encyclopedia

**SB 1421, Senate Bill 1421, or Peace Officers: Release of Records**, is a [California](#) state law that makes police records relating to officer use-of-force incidents, sexual assault, and acts of dishonesty accessible under the [California Public Records Act](#).<sup>[1]</sup> The bill was signed into law by then-governor [Jerry Brown](#) on September 30, 2018 and took effect on January 1, 2019.<sup>[2]</sup>

# EXAMPLE: SB1421 DATASET

<https://sfpublicdefender.org/copmonitor/>

- **Resources:**
- **Selection Policy:**
- **Organization:**
- **Interactions:**

# **NAMING AND IDENTIFYING**

A woman with short brown hair, wearing a white sleeveless top and a blue skirt, is looking down at something in her hands. A man in a dark suit and white shirt is standing next to her, looking towards the camera. In the background, there's a wooden fence and some trees. A small white text box is overlaid on the bottom left of the image.

“I'll meet you at the place  
near the thing where we  
went that time.”

— Aaron Altman from Broadcast news

# NAMING AND IDENTIFYING

- Naming resources allows us to understand and talk about them in relation to other resources.
- Identifiers: **global unique ID (GUID)** for a resource allows us to refer to it **unambiguously**

# IDENTIFIERS

**Identifier:** A special type of name assigned in a controlled way and governed by rules that define possible values and naming conventions

Identifiers are **UNIQUE** if they refer to one and only one resource within some defined context or scope

Identifiers are **PERSISTENT** if they resolve to the same referent indefinitely, or as long as needed

## WHY THINK ABOUT RESOURCE IDENTIFIERS?

- We identify resources so we can refer to them, select them, organize them, interact with them, and maintain them
- Also, to differentiate them from one another

# How Do We Identify Resources On the Web?

# NAMING RESOURCES CAN BE TRICKY

Names need to be

- Unambiguous
- Understandable
- Unite different variations
- Distinguish items that appear similar

We often use a combination  
of unique ID and  
understandable description



# Cat (disambiguation)

From Wikipedia, the free encyclopedia

Dealing with Ambiguity:  
Wikipedia Disambiguation Page

*On Wikipedia, CAT may refer to [Wikipedia:Categorization](#).*

A **cat** is a domesticated mammal of the *Felis catus* species. The term colloquially may also refer to:

- **Felidae**, a family of mammals
- **Pantherinae**, or "big cats", a subfamily of Felidae
- **Felinae**, or "small cats", a subfamily of Felidae which includes the domesticated cat

**Cat** or **CAT** may also refer to:

## Arts and entertainment [edit]

- **Cat (comics)**, a list of various characters
- **C.A.T.: Cyber Attack Team**, a 2003 video game
- **Confidential Assassination Troop**, a manhua by **Fung Chin Pang** first published in 2003
- **Cat Quest**, 2017 video game

## Film and television [edit]

- **C.A.T. Squad**, a 1986 television film
  - **C.A.T. Squad: Python Wolf**, a 1988 television film sequel
- **Cat Ballou**, a 1965 film and character

Main page

Contents

Current events

Random article

About Wikipedia

Contact us

Donate

Contribute

Help

Learn to edit

Community portal

Recent changes

Upload file

Tools

What links here

Related changes

Special pages

Permanent link

Page information

# IDENTIFIERS

Identifiers are **UNSTRUCTURED** if they have no inherent meaning based on their values

**STRUCTURED** identifier schemes have meaning

(Over time they often become less meaningful)

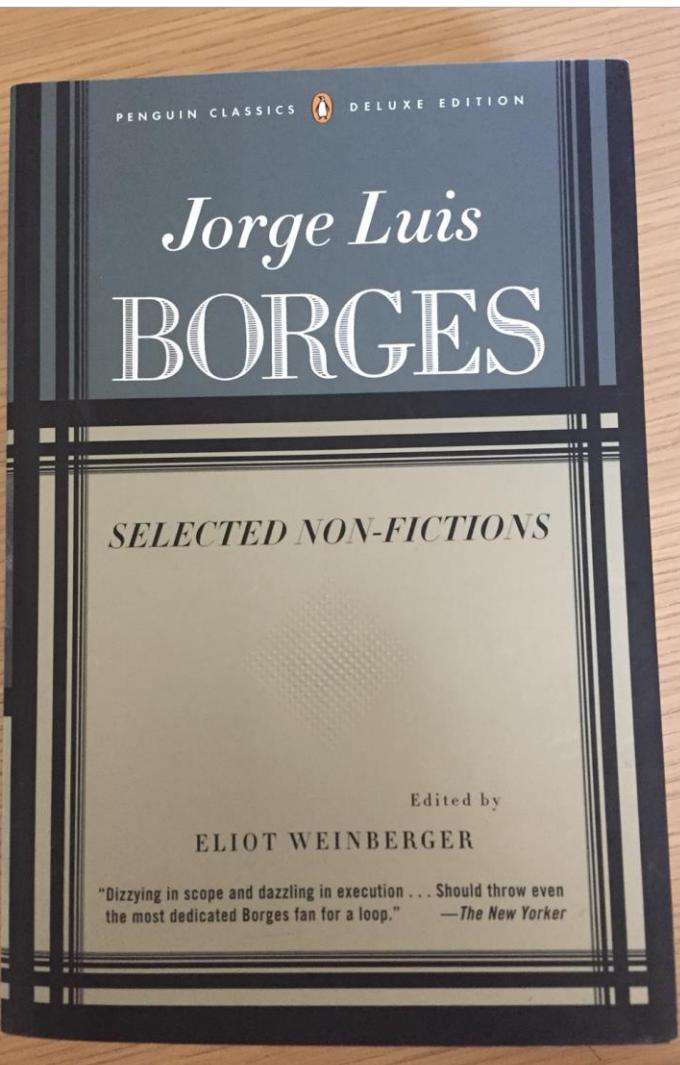
Examples of Unstructured?

Student ID #'s

Examples of Structured?

URIs for web sites

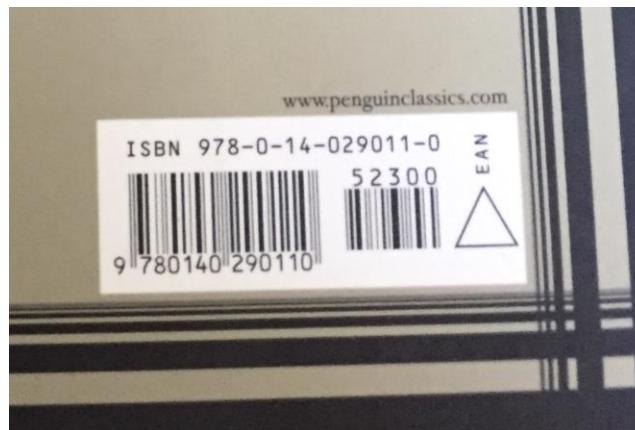
[https://en.wikipedia.org/wiki/Uniform\\_Resource\\_Identifier](https://en.wikipedia.org/wiki/Uniform_Resource_Identifier)



There are many copies of this book

Many books have the same title

How to identify them?



# ISBN: INTERNATIONAL STANDARD BOOK NUMBER

- Publishers purchase the numbers from an agency
  - *Details are nation-specific*
- One ISBN is assigned to each edition and variation
  - *Reprintings do not get new ISBNs, just print numbers*
- Different copies of the same book (same edition & variation) have the same ISBN

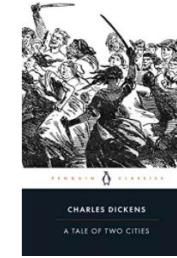
# Different Editions; Different ISBNs

<https://www.abebooks.com> › plp ⋮

## 9780141439600: A Tale of Two Cities (Penguin Classics)

May 27, 2003 — AbeBooks.com: **A Tale of Two Cities** (Penguin Classics) (9780141439600) by Charles Dickens and a great selection of similar New, ...

★★★★★ Rating: 3.8 · 852,078 votes

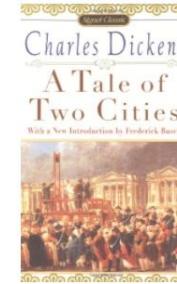


<https://www.abebooks.com> › plp ⋮

## 9780451526564: A Tale of Two Cities (Signet Classics)

AbeBooks.com: **A Tale of Two Cities** (Signet Classics) (9780451526564) by Dickens, Charles and a ... This specific **ISBN** edition is currently not available.

★★★★★ Rating: 3.8 · 852,108 votes



<https://www.penguinrandomhouse.com> › books › a-tale... ⋮

## A Tale of Two Cities by Charles Dickens: 9780141196909

Paperback \$8.00. May 27, 2003 | ISBN 9780141439600. Add to Cart. Buy from Other Retailers: ·  
Hardcover \$24.00. Apr 26, 2011 | ISBN 9780141196909. Add to Cart.





- Prefix: currently either 978 or 979
- Registration group: country, geo, language
- Registrant: publisher or imprint
- Publication: edition and format of the item
- Check digit: mathematically validates the rest of the number (sometimes called a check sum)

# ISBN CHECK DIGIT ALGORITHM

1. Take the first 12 digits of the 13-digit ISBN
2. Multiply each number in turn, from left to right by a number. The first digit is multiplied by 1, the second by 3, the third by 1 again, the fourth by 3 again, and so on to the eleventh which is multiplied by 1 and the twelfth by 3.
3. Add up the 12 answers.
4. Do a modulo 10 division on the result from step 3
5. Take that remainder result from step 4. If zero, then the check digit is zero. Else subtract the remainder from 10. The answer to that is your check digit.

First 12 digits x their multipliers = the results

9 x 1 = 9  
7 x 3 = 21  
8 x 1 = 8  
1 x 3 = 3  
8 x 1 = 8  
6 x 3 = 18  
1 x 1 = 1  
9 x 3 = 27  
7 x 1 = 7  
2 x 3 = 6  
7 x 1 = 7  
1 x 3 = 3

**9781861972712**

Add the results:

$$9 + 21 + 8 + 3 + 8 + 18 + 1 + 27 + 7 + 6 + 7 + 3 = 118$$

Modulo 10 the result:

$$118 \text{ modulo } 10 = 110 \text{ remainder } 8$$

**2 matches the last digit,  
so the check passes**

Work out the check digit:

$$8 \text{ doesn't equal zero, so check digit} = 10 - 8 = 2$$

# OTHER WAYS To DISTINGUISH RESOURCES?

Different **model** numbers:



800 Series  
Dishwasher  
24" Stainless steel  
**SHPM78Z55N**



800 Series  
Dishwasher  
24" Stainless steel  
**SHP878ZD5N**



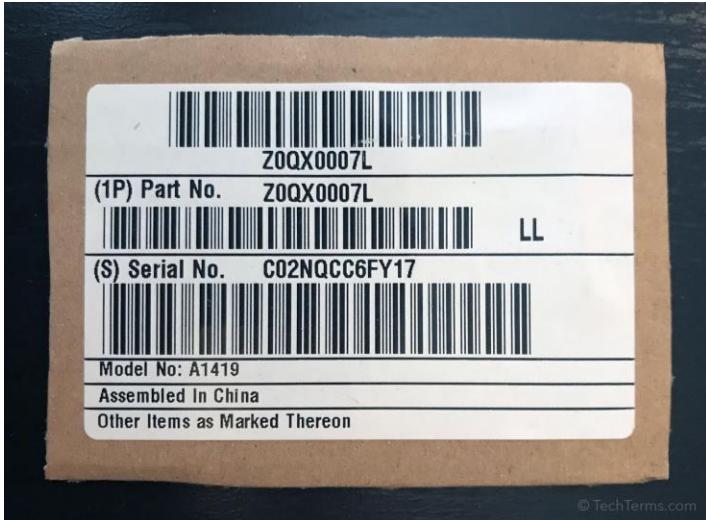
500 Series  
Dishwasher  
24" Stainless steel  
**SHPM65Z55N**



500 Series  
Dishwasher  
24" Stainless steel  
**SHP865ZD5N**

# OTHER WAYS To DISTINGUISH RESOURCES?

Why do products have **model**, **part** and **serial** numbers?



Serial numbers are **unique** and distinguish between many **instances** of the same product/part & model

# Representations of Names Can Be Noisy

Figure 1: Top 25 Representations of "Knockin' On Heaven's Door" [35]

Guns N' Roses - Knockin' On Heaven's Door  
Guns N' Roses - Knocking On Heavens Door  
Guns 'N' Roses - Knockin' On Heaven's Door  
Guns N' Roses - Knockin On Heavens Door  
Guns N' Roses - Knockin' On Heavens Door  
Guns N' roses - knockin on heavens door  
Guns N' Roses - Knocking On Heaven's Door  
Guns N Roses - Knockin' On Heaven's Door  
Guns N Roses - Knockin On Heavens Door  
Guns And Roses - Knocking On Heavens Door  
Guns Nroses - Knockin On Heavens Door  
Guns'n' Roses - Knockin' On Heaven's Door  
Guns N Roses - Knocking On Heavens Door  
Guns'n'Roses - Knockin' On Heaven's Door  
Guns 'N Roses - Knockin' On Heaven's Door  
Guns & Roses - Knockin' on Heaven's Door  
Guns N'roses - Knockin' On Heaven's Door  
Guns and Roses - Knockin' On Heaven's Door  
Guns'n' Roses - Knocking On Heavens Door  
Guns 'n' Roses - Knockin' On Heavens Door  
Aerosmith - Knocking On Heaven's Door  
Guns 'n' Roses - Knocking On Heaven's Door  
Guns 'n' Roses - Knocking On Heavens Door  
Guns N Roses - Knocking On Heaven's Door  
Guns N' Roses - Knockin On Heaven's Door

## CONTROLLED VOCABULARY: TRY TO REDUCE THE NOISY NAME PROBLEM

“A fixed or closed set of description terms in some domain with precise definitions that is used instead of the vocabulary that people would otherwise use.” -

TDO

# TYPES OF CONTROLLED VOCABULARIES

- Dictionaries
- Authoritative names
- Identifier Standards
- Subject heading lists
- Classification systems

# Example: Authors in Google Scholar Need to Make Names **Unambiguous**:

john smith

**John E. Smith III**

Research Associate, University of Arizona  
Verified email at email.arizona.edu

developmental biology muscle myocyte genetics drosophila

**Christopher John Smith**

Professor of Food Science, Manchester Metropolitan University  
Verified email at mmu.ac.uk

Immunodiagnostics food science

**John Smith**

Bedford Institute of Oceanography, Dartmouth, NS Canada  
Verified email at dfo-mpo.gc.ca

**John Smith**

University of Central Florida

**John R. Smith**

IBM TJ Watson Research Center  
Verified email at us.ibm.com

wei wang

Profiles

**Wei Wang**

University of California, Riverside  
Verified email at ucr.edu

Energy storage energy conversion supercapacitors lithium ion batteries nanotechno

**Wei Wang**

Tongji University  
Verified email at tongji.edu.cn

Steel Structure Seismic Engineering Ductile Fracture Resilience Progressive Collap

**Wei Wang**

Profesor of School of Medical Sciences, Edith Cowan University  
Verified email at ecu.edu.au

Genetics Public Health Genomics Glycomics

**Wei Wang**

Mallinckrodt Institute of Radiology, Washington University School of Medicine  
Verified email at wustl.edu

# Solutions for Author Name Problem: Standardize Global Unique ID

## About ORCID

ORCID, which stands for [Open Researcher and Contributor ID](#), is a global, not-for-profit organization sustained by fees from [our member organizations](#). We are community-built and governed by a [Board of Directors](#) representative of our membership with wide stakeholder representation. ORCID is supported by a dedicated and knowledgeable [professional staff](#).



## Our Vision

ORCID's vision is a world where all who participate in research, scholarship, and innovation are uniquely identified and connected to their contributions across disciplines, borders, and time.

## Our Mission

In order to realize our vision, ORCID strives to enable transparent and trustworthy connections between researchers, their contributions, and their affiliations by providing a unique, persistent identifier for individuals to use as they engage in research, scholarship, and innovation activities.

# Solutions for Author Name Problem: ORCID Standardized Global ID

We do this by providing three interrelated services:



**The ORCID iD:** a unique, persistent identifier free of charge to researchers



An **ORCID record** connected to the ORCID iD, and



A set of **Application Programming Interfaces (APIs)**, as well as the services and support of communities of practice that enable interoperability between an ORCID record and member organizations so researchers can choose to allow connection of their iD with their affiliations and contributions

# Solutions for Author Name Problem: ORCID Standardized Global ID

Items per page: 50 ▾ 1 - 50 of 185425 < >

ORCID ID	First Name	Last Name	Other Names	Affiliations
0000-0002-3075-3260	wei	wang		Changsha Energy Bureau, China University of Geosciences, Hunan University, National Energy Administration
0000-0002-1530-8783	wei	wang		Chongqing University, Kansas State University, Shanghai Institute of Plant Physiology and Ecology, Chinese Academy of Sciences
0000-0003-4821-0130	Wei	Wang		河海大学
0000-0002-8935-1821	Wei	Wang		Zhejiang University
0000-0002-2920-0730	Wei	Wang		Shanghai Tongji Hospital, Tongji University
0000-0001-5874-1184	Wei	Wang	Wendy Wang	Nestle Research Center St Louis, University of California Berkeley

# Format of the ORCID iD

The ORCID iD is an https URI with a 16-digit number that is compatible with the ISO Standard ([ISO 27729](#)), also known as the International Standard Name Identifier (ISNI), e.g. <https://orcid.org/0000-0001-2345-6789>

Initially ORCID iDs will be randomly assigned by the ORCID Registry from a block of numbers that will not conflict with ISNI-formatted numbers assigned in other ways. ORCID iDs always require all 16 digits of the identifier; they can not be shortened to remove leading zeros if they exist.

No information about a person is encoded in the ORCID iD. The identifiers were designed to be usable in situations where personally-identifiable information should/can not be shared. Also, since the ORCID iD is designed to be a career-long identifier, no information that can change over a person's career is embedded in the iD, e.g., country, institution, field of study.

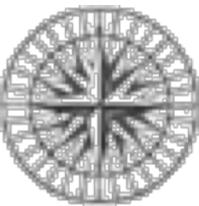
## Checksum

The last character in the ORCID iD is a checksum. In accordance with ISO/IEC 7064:2003, MOD 11-2, this checksum must be "0" - "9" or "X", a capital letter X which represents the value 10. View the algorithm used below to determine the checksum of an ORCID iD, or see it in action using the [ORCID Checksum Digit tool](#).



## IDENTIFIERS FOR LOCATION

- Identifiers that are well-known or highly-structured can be used to specify a location
  - South Hall, University of California, Berkeley
  - 37.871432,-122.258499 (latitude / longitude)
- This can vary
  - Addresses in Japan identify buildings by subdividing land into smaller units as needed based on population density



# Getty Thesaurus of Geographic Names® Online

## Full Record Display

Controlled vocabulary for  
geographic names  
(including historical names)

### Hierarchical Position:

- └ World (facet)
  - └ ... Asia (continent) (P)
    - └ ..... Turkey (nation) (P)
      - └ ..... İstanbul (province) (P)
        - └ ..... İstanbul (inhabited place) (P)

## Istanbul (inhabited place)

Coordinates:

Lat: 41 00 40 N *degrees minutes*    Lat: 41.0110 *decimal degrees*  
Long: 028 57 28 E *degrees minutes*    Long: 28.9578 *decimal degrees*

**Note:** The city was held by the Persian Empire in 512 BCE. Later was a Roman Republic free city. It was the seat of Constantine I's empire from 330, and the terminus of the ancient Silk Road trade route. Was declared a Christian city by Constantine. From the 6th-13th centuries, the city was attacked by Persians, Arabs, Bulgars and Russians, and eventually taken by the Fourth Crusade army in 1203. Later taken by Ottomans.

⋮ officially in 1930

[Istanbul](#) (C,V,English-P,U,N)

[Estambul](#) (C,O)

[Byzantion](#) (C,V)

[Constantinopoli](#) (C,V)

[Istamboul](#) (C,V)

[Istambul](#) (C,V)

[Konstantinoupolis](#) (C,V)

[Kustantiniyah](#) (C,V)

[Stamboul](#) (C,V)

[Stambul](#) (C,V)

[Byzantium](#) (H,V)

[Constantinople](#) (H,O)

..... ancient

[Constantinopolis](#) (H,V)

[Costantinopoli](#) (H,O)

[Konstantinopel](#) (H,O)

[Mikligard](#) (H,O)

..... Norse

[New Rome](#) (H,O)

..... capital of Constantine I from AD 324

[Tsargrad](#) (H,O)

[Tsarigrad](#) (H,O)

# CONTROLLED VOCABULARIES ARE DESIGN CHOICES

- Choices:
  - *Binary vs multiple*
  - *Static vs dynamic*
  - *Example: Facebook Gender Choices*

- Agender
- Androgynie
- Androgynous
- Bigender
- Cis
- Cisgender
- Cis Female
- Cis Male
- Cis Man
- Cis Woman
- Cisgender Female
- Cisgender Male
- Cisgender Man
- Cisgender Woman
- Female to Male
- FTM
- Gender Fluid
- Gender Nonconforming
- Gender Questioning
- Gender Variant
- Genderqueer
- Intersex
- Male to Female
- MTF
- Neither
- Neutrois

# DEWEY DECIMAL CLASSIFICATION

- Started in 1876 by Melvil Dewey for the Amherst College library
- One of the most widely used classification systems in the world (especially in public libraries)
  - *Number system designed for locating books on physical shelves*
  - *Location formerly was based on when the book was acquired*
- 10 main classes
  - *Each has 10 divisions*
    - Each has 10 sections
- Intended as a “universal classification”
  - *Cultural biases are very clear today*
- Proprietary; licensed by OCLC (an international library system)

# Example:

## Dewey Decimal System Top Levels

000 Computers, information & general reference  
100 Philosophy & psychology  
200 Religion  
300 Social sciences  
400 Language  
500 Science  
600 Technology  
700 Arts & recreation  
800 Literature  
900 History & geography

600 Technology (Applied sciences)  
    630 Agriculture and related technologies  
        636 Animal husbandry  
            636.7 Dogs  
            636.8 Cats

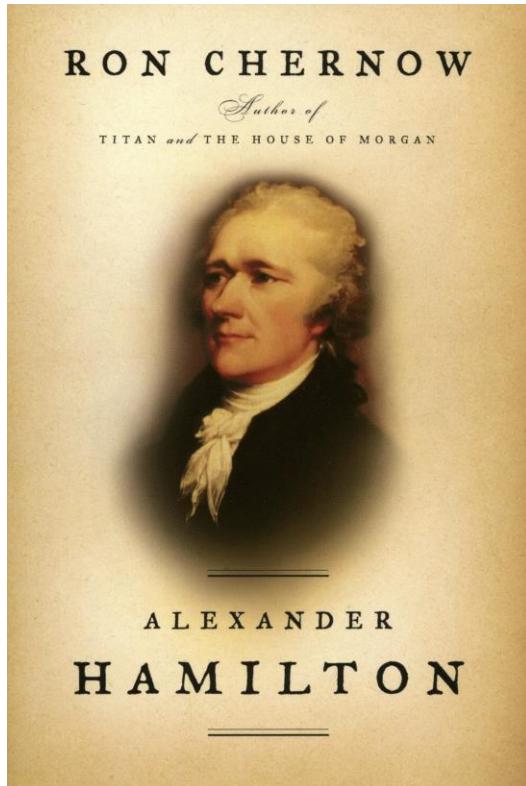
One set of divisions of the Dewey Decimal System, showing its glaring cultural biases

200	Religion
210	Natural Theology
220	Bible
230	Christian theology
240	Christian moral and devotional theology
250	Christian orders and local church
260	Christian social theology
270	Christian church history
280	Christian sects and denominations
290	Other religions

# LIBRARY OF CONGRESS CLASSIFICATION

- Started in 1800 – war of 1812 burned all the books
- Restarted in 1897 with Thomas Jefferson's personal, rather broad collection
- Broader than Dewey, but still biased towards the needs of government, U.S. in particular

# Library of Congress Subjects



Hamilton, Alexander, 1757-1804.  
Statesmen--United States--Biography.  
United States--Politics and government--1783-1809.

# Library of Congress Top Levels

A	general works
B	philosophy. psychology. religion
C	auxiliary sciences of history
D	world history
E	history of the americas
F	history of the americas
G	geography. anthropology. recreation
H	social sciences
J	political science
K	law
L	education
M	music and books on music
N	fine arts
P	language and literature
Q	science
R	medicine
S	agriculture
T	technology
U	military science
V	naval science
Z	bibliography. library science. information resources (general)

## **United States**

### **—Administrative and political divisions**

NT U.S. states

### **—Aerial views**

UF United States—Description and travel—Aerial [*Former heading*]  
United States—Description and travel—Views [*Former heading*]

### **—Air defenses**

USE Air defenses—United States

### **—Air defenses, Civil**

USE Air defenses—United States  
Civil defense—United States

### **—Air defenses, Military**

USE Air defenses—United States

### **—Air National Guard**

UF Air National Guard (United States)  
National Guard air units  
United States—Militia—Air National Guard  
BT Aeronautics, Military—United States  
United States—Militia

### **—Aliens**

USE Aliens—United States

### **—Altitudes**

### **—Annexations**

USE United States—Territorial expansion

### **—Politics and government**

[JK]

Here are entered works on the political history, conditions or institutions of the United States. Works on the discipline of political science in the United States are entered under Political science—United States.

UF United States—Government  
United States—History, Political  
NT Presidents—United States—Transition periods

### **—To 1775**

UF United States—Politics and government—Colonial period, ca. 1600-1775 [*Former heading*]

### **—Colonial period, ca. 1600-1775**

USE United States—Politics and government—To 1775

### **—1754-1763**

UF United States—Politics and government—1755-1763 [*Former heading*]  
United States—Politics and government—French and Indian War, 1755-1763 [*Former heading*]

# How are Controlled Vocabularies Used?



Search results for 'alexander hamilton'

## Topic

[History & Auxilia...](#) (3308)

[Business & Economics](#) (1289)

[Language, Linguis...](#) (1268)

[Law](#) (705)

[Political Science](#) (691)

[Music](#) (609)

[Library Science,...](#) (546)

[Philosophy & Reli...](#) (522)

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[Sociology](#) (227)

[Medicine](#) (199)

[Engineering & Tec...](#) (199)

[Performing Arts](#) (196)

[Geography & Earth...](#) (166)

[Government Documents](#) (156)

[Education](#) (135)

[Physical Sciences](#) (99)

[Biological Sciences](#) (84)

[Mathematics](#) (70)

[Agriculture](#) (59)

[Health Facilities...](#) (53)

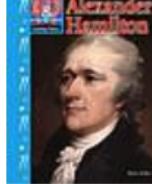
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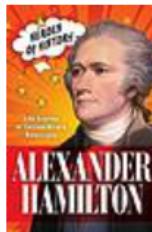
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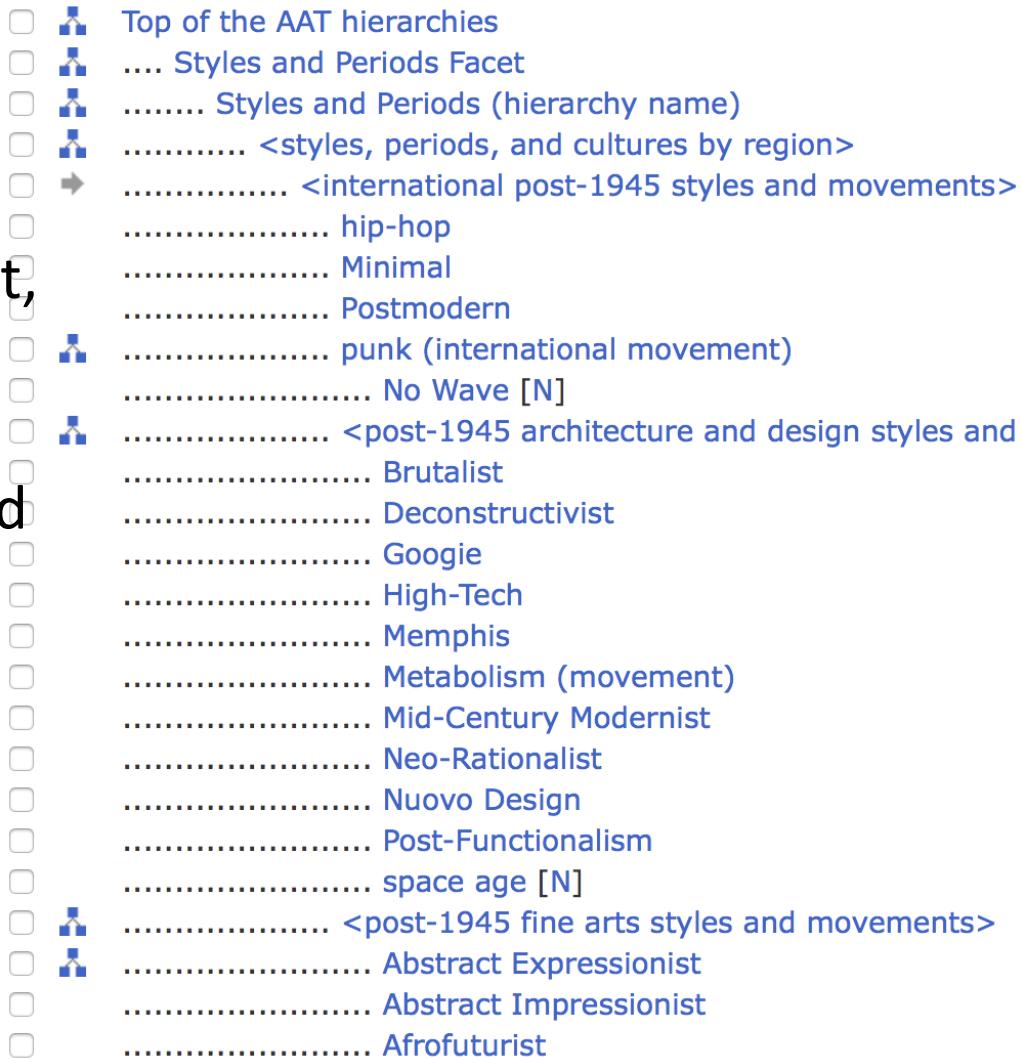
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# ART & ARCHITECTURE THESAURUS

- Controlled vocabulary for art, architecture and material culture to “encourage consistency in cataloging and more efficient retrieval of information”
- Hierarchical organization



# Flamenco Project: (Prof Hearst's Research)

## Controlled Vocabulary Integrated Into Faceted Navigation

Refine your results further  
within these categories:

### People (group)

agency (1), architect (1011),  
artist (14), culture (82), designer (8),  
developer (2), historical figure (29)

### Locations (group)

Africa (72), Asia (107), Eastern Europe (74), Middle East (38), North America (466), South America (34), Southeast Asia (2), Western Europe (614)

### Structure Types (group)

architectural elements (528), book elements (1), buildings (by design) (24), buildings (by function) (1139), buildings (by height) (16), buildings (by location or context) (41), buildings (by massing or shape) (117), cultural landscapes (1), details (268), human settlements (by condition) (57), more...

keyword "brick"

[start over](#)

all items  within current results

**Items 1 - 50 of 1444 results** (ungrouped, sorted by building name)

sort by: [location](#), [architect](#)

1



16th Street Bapt...  
Birmingham  
Rayfield, Wallace



16th Street Bapt...  
Birmingham  
Rayfield, Wallace



202 Island Inn  
San Diego  
Quigley, Rob Wel...



Acoma Pueblo  
Acoma  
no architect



Acoma Pueblo  
Acoma  
no architect



Acoma Pueblo



Acoma Pueblo



Acoma Pueblo



Acoma Pueblo

Refine your results further within these categories:

## Structure Types > cultural landscapes

[start over](#)

### People (group)

agency (2), architect (104), artist (7), culture (4), developer (4), photographer (3)

### Locations

Africa (17), Asia (31), Australasia & Pacific Islands (7), Central America (7), Eastern Europe (1), Middle East (9), North America (224), South America (12), Southeast Asia (4), Western Europe (101)

### Structure Types: all > cultural landscapes (group)

agricultural land (109), districts (271), environmentally sensitive areas (3), forests (19), industrial landscapes (4), oases (7), skylines (5), streetscapes (9), suburban landscapes (20), townscapes (2)

### Materials (group)

brick (1), ceramic tile (3), coating (4), concrete (1), fiber products (1), metal (1), plant material (9), residue (1), rock (5), water (2)

### Periods (group)

17 & 18th C (4), 19th Century (2), 20th Century (81), Modern (263)

### Styles (group)

Search

all items  within current results

435 items (grouped by locations)

[view ungrouped items](#)

### Africa 17



Acropolis  
Great Zimbabwe  
no architect



Project Lagoon D...  
Ikoyi, Lagos  
Yamasaki, Minoru



Project Lagoon D...  
Ikoyi, Lagos  
Yamasaki, Minoru



Project Lagoon D...  
Ikoyi, Lagos  
Yamasaki, Minoru

[all 17 items...](#)

### Asia 31



Fukuoka Civic Ce...  
Fukuoka  
Ambasz, Emilio



Fukuoka Civic Ce...  
Fukuoka  
Ambasz, Emilio



no name  
China  
no architect



no name  
China  
no architect

[all 31 items...](#)

### Australasia & Pacific Islands 1

# PROCESS OF RESOURCE DESCRIPTION

- Identify / scope the resources to be described
- Determine the purposes or uses of the descriptions
- Study the resource(s) to identify descriptive properties
- Design the description vocabulary (making use of existing standards)
- Design the description form and implementation
- Create the descriptions (either "by hand" or computational process)
- Evaluate the descriptions

# NEXT WEEK: CATEGORIZATION