Classification of Digital Content, Media, and Device Types

Rebecca Green & **Xiaoli Huang**

Assistant Editor, Dewey Decimal Classification,
OCLC

Assistant Professor, Business School,
Sun Yat-Sen University

OCLC The world's libraries. Connected.

Context

- Trends
    - Digital content common
    - Emergence of new digital media types (e.g., wikis, blogs, podcasts)
    - Digital devices evolve (e.g., smartphones, tablet computers, phablets)
- Faceted classification approach
- DDC as case study

Digital media scope

Blogs
CDs (Compact discs)
Cellular radio
Cellular telephones
Chat groups
Computer game music
Digital audio
Digital media
Digital publications
Digital radio
Digital television
Digital video
Discussion lists
Electronic books

Electronic bulletin boards
Electronic journals
Electronic mail
Instant messaging
Interactive television
Internet forums
Internet publishing
Internet telephony
Machine-readable materials
Mobile radio
Mobile television
Online chat groups

Online social networks
Podcasts
RSS feeds
Social media
Software radio
Streaming media
Television
Text messages
Videoconferencing
Videotelephony
Web publications
Webcasts
Wikis

Attributes of media

- Description-based efforts
  - MARC form of material, category of material, and type of material configurations
  - AACR2 GMDs and SMDs
  - RDA content types and media types
  - RDA/ONIX Framework for Resource Categorization
  - MODS typeOfResource element
  - BIBFRAME resource types
  - IANA content types for Internet media types

Attributes of media—*cont.*

- Audio/hearing vs. video/sight vs. tactile/touch

- Language vs. music vs. image

- Mediated vs. unmediated

  - Projected vs. nonprojected (applies to images)

- Notated vs. performed (applies to music and language)

- Realistic vs. symbolic representation (applies to images)

- Moving vs. still (applies to images)

- Two-dimensional vs. three-dimensional (applies to images)

- Composite vs. simplex

But . . .

- Description vs. classification
  - Description is concerned with what a work is; classification is concerned with what a work is about.
  - Description focuses on specificity, so as to distinguish among resources; classification focuses on generality, so as to collocate subject-related works.

But . . .—*cont.*

- Bibliographic resources vs. digital resources
    - Digital resource content *recorded electronically*; digital resources *mediated*
    - *Physical characteristic attributes* less relevant for digital resources
    - *File format* important for use of digital resources, but not for their organization
    - *Sensory mode* and *character of content* important for both traditional and digital resources, but digital resources more likely to incorporate multiple sensory modes and/or multiple character of content types
    - Digital resources increasingly *distributed via download or streaming*.
    - Network access to digital resources *enables* both *collaborative authorship* and *continuous revision*; digital resources more likely to *support meaningful interaction*

Classification of digital resources

Attributes	Representative values
Properties of generation	
Collaborative authorship	Y/N (defaults to N)
Revision	fixed; revised discretely; revised continuously
Properties of representation	
Character of content	language, music, sound, image (multiple values possible)
Dynamicity	notated, performed; still, moving
Dimensionality	2-dimensional, 3-dimensional, non-dimensional
Properties of distribution	
Recurrence	serial, non-serial
Distribution/transmission medium	radio, microwave, cable, optical fiber, satellite, computer network (download; streaming); physical media
Synchronicity of communication	synchronous, asynchronous
Routing	point-to-point communication; broadcast communication
Properties of use	
Sensory mode	sight, hearing, touch, multimedia
Interactivity	Y/N (defaults to N)
Mediation	[equipment needed for playback]

Digital vs. non-digital media

- Should all digital media be grouped together?
  - Digital-only media
- Should a digital/non-digital split be made within media types?
  - If digital media not conventional
- Should digital versions class together with more traditional versions of a medium?
  - If digital media conventional

Citation order

- Widest applicability

  - Mediation, distribution/transmission medium, sensory mode, character of content, and dynamicity

- Applicability neither wide nor narrow

  - Dimensionality, synchronicity, and routing

- Narrowest applicability

  - Collaborative authorship, revision, recurrence, and interactivity

Media development in sociology (current)

302   Social interaction

. . .

302.23   Media (Means of communication)

. . .

302.231   Digital media
                     Including electronic publications, Internet, World Wide Web

302.232   Print media

302.232 2   Newspapers

302.232 4   Periodicals and journals

302.234   Motion pictures, radio, television

302.234 3   Motion pictures

302.234 4   Radio

302.234 5   Television

302.235   Telephony and telegraphy

Media development in sociology (proposed)

302.231   Digital media

Including Internet telephony

Class here social media; digital audio, digital video; sociology of the Internet, sociology of the World Wide Web

For online social networks, see 302.30285

Digital media in a specific medium relocated to the medium in 302.23, e.g., online newspapers 302.2322; multimedia not provided for below relocated to 302.2345

302.231 1   Electronic mail

Class here instant messaging; point-to-point communications

302.231 2   Discussion groups

Class here chat groups, electronic bulletin boards, e-mail lists, Internet forums, newsgroups; broadcast communications

302.231 4   Blogs

302.231 5   Wikis

Media development in sociology (proposed)—*cont.*

302.232	Print media
	Class here electronic publications
302.232 2	Newspapers
302.232 4	Periodicals and journals
302.234	Motion pictures, radio, television
	Class here podcasts, webcasts, streaming media
302.234 3	Motion pictures
302.234 4	Radio
302.234 45	Radiotelephony
	Including text messaging
	Class here mobile telephone systems
302.234 5	Television
	Including videotelephony, videoconferencing, telepresence
	Class here digital television, interactive television
302.235	Telephony and telegraphy
	For radiotelephony, see 302.23445; for videotelephony, see 302.2345

Digital device scope

Augmented reality devices (e.g., Google Glass)

Barcode readers

Camcorders

Cell phones

Computers

Desktop computers

Digital audio players

Digital cameras

Electronic book readers

Electronic organizers

Handheld computing devices

Handheld game consoles

Information appliances

Laptop computers

Mainframe computers

Microcomputers

Midrange computers

Minicomputers

Mobile computers

Mobile phones

Netbook computers

Palmtop computers

Personal computers

Personal digital assistants

Personal navigation assistants/devices

Phablets

Portable computers

Portable media players

RFID readers

Server class computers

Smart card readers

Smart devices

Smart phones

Smart TVs

Smart watches

Supercomputers

Tablet computers

Wearable computers

Workstations

Attributes of digital devices

- General-purpose vs. task-specific devices
  - Class task-specific devices with task / analog counterpart
  - Divide general-purpose devices by non-mobile vs. mobile (mobile = uses mobile operating system)
    - Divide general-purpose, non-mobile devices by size / processing capacity
    - Relevant characteristics of division not yet discernible for general-purpose, mobile devices

Future digital media & devices

- Extend current trends; address current needs
  - Wireless/mobile access to the Internet anywhere
  - Data, applications stored, executed in the cloud
  - Popularity of social media and user-generated content
  - Devices will need to support collaboration
  - Use of wearable digital devices will increase
  - Convergence among digital devices will be the norm
  - Size conundrum for single multifunctional / "do it all" device

Conclusion

- Digital media
    - Functional organization (generation, representation, distribution, and use) of attributes provides stability
    - New values of even most fundamental attributes (sensory mode, character of content) possible
    - Other new attributes likely of narrow applicability
- Digital devices
    - Only simple organizational structure now needed

That's all, folks!

Questions

or comments?