

Documenting Classification Systems

A Case Study and Considerations

Christopher Straughn

There is little literature on documenting the correct application of classification systems. This paper seeks to remedy this gap by describing how Northeastern Illinois University created documentation for their implementation of system that describes Illinois State publications. We recommend creating documentation that is flexible, accessible, and user-oriented. Flexible documentation not only facilitates changes to the documentation, it also allows librarians to take advantage of other uses of this documentation. In our case, the process of documentation produced a near complete listing of Illinois publications and provided the basis for a structural history of Illinois government. Documentation of classification systems not only improves library work, but also assists in preserving artifacts of library history.

The goal of library classification is to “bring together those books which will be most used together,”¹ and by doing so improve retrieval and enhance browsing, among other things.² In a physical collection, the call numbers assigned by classification systems ensure that each item has a home in the bookstacks, and they serve as a visible reminder that the materials shelved next to each other are related in some way. An enterprise like classifying library materials is necessarily complex, especially as the largest libraries have many millions of items, each of which requires a distinct call number designation. As a complex endeavor, it is necessary to have detailed documentation of classification systems. Although this documentation is clearly crucial, there is very little guidance on how to create or structure this documentation. While this is likely because most libraries rely on outside agencies—such as Library of Congress (LC)—to maintain classification systems, it is not unusual for libraries to use local or modified systems for portions of their collections.³ This article describes the approach taken at Northeastern Illinois University to document the local system used to classify its Illinois State publications.

Northeastern Illinois University employs the Nakata-Strange Classification System to classify its collection of Illinois State documents. This system was developed by Yuri Nakata and Michele Strange in 1974 and was intended to organize the publications of the State of Illinois at the University of Illinois Chicago.⁴ There are nineteen libraries that serve as Illinois Depository Libraries, that is, they receive copies of state publications to ensure public access.⁵ As is the case for the Federal Depository Library Program, the Illinois depository program makes a number of stipulations regarding public access and retention of materials.⁶ The Illinois State Library, which administers this deposit program, does not require that libraries employ any specific classification system for materials received as part of this program. As a result, sixteen of the depository libraries have opted to use either the LC or Dewey Decimal systems to classify their Illinois documents. The Chicago Public Library employs a local system inspired by the Superintendent of Documents (SuDocs) system, while the remaining two libraries, Northeastern Illinois University (NEIU) and the

Christopher Straughn (castraughn@neiu.edu) is an assistant professor and the Continuing Resources and Government Information Librarian at Northeastern Illinois University.

University of Illinois Chicago (UIC) use the Nakata-Strange System, which is likewise inspired by SuDocs.

Like SuDocs, the Nakata-Strange System is based on the current organizational status of the government author, and therefore changes as the organizational structure of the state government changes.⁷ This means that Nakata and Strange's original documentation is unable to classify today's publications, as many departments (such as the Departments of Natural Resources, Homeland Security, and Human Services) did not yet exist in 1974. As a result, new class stems (*DNR*, *HLS*, and *DHS* for the respective aforementioned examples) have been created. Likewise, subagencies and serials are identified by integers, so the creation of new subagencies and serials (which is very common) requires the assignment of new numbers to these corporate bodies and works.

What makes the Nakata-Strange Classification System different from SuDocs or from the many other state publication classification schemes is the lack of oversight from a central agency. New SuDocs numbers are assigned by the US Government Publishing Office, and most state publication classifications are governed by their respective state libraries. The Nakata-Strange System has no such oversight, and the two libraries (NEIU and UIC) that use this system have not collaborated, resulting in what are effectively distinct systems at each library. For example, UIC uses *NR* to designate the Illinois Department of Natural Resources where NEIU uses *DNR*. And where NEIU designates the Department of Homeland Security with the class step *HLS*, UIC instead employs *TT* to designate the Terrorism Taskforce, which was a sub-agency of the Department of Homeland Security. Not only do the two libraries disagree about the form of certain class stems, they also disagree about which agencies merit class stems.

Until recently, Northeastern Illinois University Libraries had little documentation of its system for classifying Illinois documents. In fact, simply learning that our system was based on that of Nakata and Strange required many hours of browsing through binders of old documentation. The only visible documentation was two drawers of typed 3x5 inch notecards that were kept in the Government Documents Office. These cards outlined the basics of the system from the most general level (the department/class stem) to a more granular level (the book number or serial number). This method of record keeping was inaccurate and difficult to access, as the drawers of cards were not easily moved or taken home for remote work. Therefore we decided to create an electronic version of these records to improve access and accuracy.

While our initial goal was simply to improve access, we saw this as an opportunity to create a full system of documentation that included not only data from the cards, but also text explaining the structure of call numbers so library staff could more easily assign new call numbers. We also recognized the value of our system as a unique piece of library history and hoped to preserve this system in a way that

acknowledged that history. In creating our documentation, we also wanted to be transparent about how it was created to assist any other institutions that are tasked with creating similar documentation.

As we planned for and ultimately created our documentation, we found that many of the same principles that govern general documentation applied to the documentation of classification systems. Namely, documentation should be accessible, flexible, and user-oriented. By opting for a web-based platform with built-in flexibility, we were able to not only create a useful guide for library staff, but to also create a comprehensive list of our Illinois documents holdings, lay the foundation for a history of Illinois government, and preserve the unique aspects of our local implementation of a unique classification system.

Literature Review

While there is literature that describes the practical application of classification systems, there is little literature that describes how these systems should be documented. Even well-documented classification systems tend not to elaborate on how documentation was created or why it is organized in the way that it is. The Library of Congress Classification and Shelflisting Manual, for example, provides considerable information about the history of LC schedules, but does not describe how the structure of this documentation was organized and why given elements of the documentation were chosen for inclusion.⁸

In planning for our documentation, we consulted documentation for other classification systems to determine how ours should be structured. In addition to LC classification, we took guidance from the SuDocs system,⁹ which served as the inspiration for the Nakata-Strange Classification System. We also consulted other state documents classification systems, many of which have been collected by the GODORT-affiliated State Documents Collaborative Group.¹⁰

As the Nakata-Strange Classification System was based on SuDocs, it was also useful to consult the documentation for other classification systems that are derived from other, better-documented systems. The National Library of Medicine Classification,¹¹ and Canadian Class PS8000,¹² which are LC-based, and the Mormon Classification System,¹³ which is Dewey Decimal-based, provided insights into how to structure documentation when a similar system is more thoroughly documented. In these cases, it is assumed that the user has knowledge of the base systems and focuses on the novel aspects of the derivative systems.

Documentation in technical services is somewhat better represented in the literature, and some of the key points raised in this literature informed how we planned our own process of documentation. Nevertheless, much of the literature on

library documentation actually laments the lack of literature on the topic, as well as the overall lack of documentation that occurs in libraries.

In 1999, Brisson characterized the lack of documentation in libraries as resulting from the perceived ineffectiveness of documentation in improving library productivity, and noted that libraries often rely on institutional memory, rather than effective documentation to “maintain consistency in local practice and procedures.”¹⁴ In 2005, White similarly reflected on the lack of library documentation (and lack of literature on documentation), pointing out the irony that “while librarians excel at archiving and collecting the records and materials used and produced by other people, many libraries are not very good at creating and maintaining their own documentation.”¹⁵ This lack may be due to it being a “a huge task that is often not a high priority in day-to-day work, especially when staff already feel overloaded, and it may be difficult to justify the need for documentation work to administrators who are focused on production.”¹⁶ Despite the lack of current, broad-scoped literature on documentation, the lessons of earlier works and works focused on narrower topics can be applied to the problem at hand.

Much of the literature on documenting technical services procedures focuses on shifting from paper to online documentation. This has the benefit of making documentation more widely accessible, both to library staff (who may be working remotely or across different sites) and to outside institutions. Craft suggests that making documentation accessible outside of the institution for which it was created allows other institutions to compare their practices to those of others and to provide models for their own documentation.¹⁷ While online materials are naturally easier to share, institutions have not always taken advantage of this inherent benefit. Urban reports that the majority of survey participants “have their internal guides set to ‘Private’ or ‘Unpublished,’” meaning that their documentation is not visible to those outside of their institutions.¹⁸

Online documentation may also exploit the benefits of existing in a nonlinear, hyperlinked environment. Tomasi and Mehlenbacher note that online documentation often fails users when it merely replicates print documentation in a new environment. They propose reengineering documentation to take advantage of the online medium and to focus on the user.¹⁹ One way of reengineering documentation is to automate parts of the process, something which is not possible in print, and which saves time and effort on behalf of the person creating the documentation.²⁰

Methods

The process of creating our documentation started with a clear goal in mind: to transform the old documentation,

which was in a drawer on three-by-five-inch notecards, into something more accessible. The literature on library documentation informed how we approached this process, especially literature on moving documentation to an online platform.

Before we could begin our documentation process, we had to consider whether creating it would be worthwhile. Does the volume of new Illinois publications justify the effort required to create this? What other value does this documentation provide?

The prior state of the collection—stored on cards—was an unacceptable way to document a growing collection. Although not as many as in previous decades, NEIU still receives a few print publications per month from the State of Illinois. Many of these are new publications that need new call numbers. Using cards was cumbersome and, in a time when remote work has become both possible and necessary, impractical. Additionally, parts of the collection are still uncataloged, and the only evidence of the existence of certain titles was in our card-based documentation. Updating our documentation meant greater ease of creating new call numbers and would provide a better overview of the materials we hold.

An additional motive for creating better documentation is the fact that our system is, in effect, unique. As previously noted, UIC and NEIU have not collaborated to ensure that our implementations of the Nakata-Strange Classification System are uniform. As a result, the original system has evolved into two unique systems. Documentation in this context is more than just practical: it is a means of preserving a unique artifact of library history.

As a government publications classification system, the Nakata-Strange Classification System also provides insights into the history of Illinois government. There is, as far as we know, no systematic description of the structural history of Illinois government, at least not with the level of detail that the Nakata-Strange Classification System can provide. The *Illinois Blue Book*, for example, lists major agencies and boards, as well as the names of the persons who work with those organizations. However, small agencies and boards are often omitted, and there is rarely any detail about the internal structure of agencies. Viewing the Nakata-Strange Classification System as not only a historical document, but also as a means to conduct research independent of the materials it describes informed how we approached our documentation.

Having determined that creating new documentation would benefit library staff and would provide additional benefits, we needed to consider the needs of our end users. We intended for our primary users to be librarians and staff working in the Government Documents Department. These staff members would need to be able to assign new call numbers to newly received materials and would need to know, for example, if we already held materials published by a given

department or if the material in hand belonged to a series with an established series number. We also wanted other library staff to be able to look up the entities represented by the system to assist patrons in locating materials. While patrons were not the main audience for this documentation, we did consider that researchers of Illinois history and government may find our documentation useful. We also considered that the casual user of our documentation would have very different needs from library staff and serious researchers. Having a granular system that allowed some users to see just an overview of the system (such as class stems) and allowed other users to dig deeper meant that we could provide usable information to a variety of users.

A final consideration was time and staffing. The Government Documents Department consists of a single librarian who also has duties outside of that department. Student workers and the Technical Services Department provide occasional assistance. Although upfront time was required to create the documentation, the value of having easily consulted documentation clearly outweighed these costs. To save time and effort we examined what documentation (and data) was available both within our library and in external sources, then incorporated that into this new documentation.

From the beginning of this process, we wanted our documentation to be web-based, as that would allow for the greatest ease of access. We wanted to take advantage of the web's ability to organize data in ways that print documentation cannot: arranged in hierarchies, sorted, or linked.²¹ We considered several options for publishing our documentation on the web, taking into consideration cost, ease of data entry, and accessibility. One option was to use the library's LibGuides platform. As we already subscribed to LibGuides, cost was not an issue. Additionally, LibGuides are relatively easy to edit. However, the LibGuides platform is not designed to display large amounts of data and data is displayed in a rigid way. There is no easy way to enter large amounts of data. Blogs and similar publishing platforms faced the same problems: while easy to edit, they lacked the flexibility we wanted and were not designed to import and display large amounts of data.

The library already had a website, <https://neiuiinfo.org>, that could support Structured Query Language (SQL) databases. To that end, we decided to publish our documentation to an online database that would then be accessible via the internet. This approach would require coding in HTML and PHP, a preprocessor that allows HTML to communicate with databases. Although complicated to set up, such an approach provided flexibility that others did not. Having decided to follow this course of action, our first step was to figure out how to get the data we wanted into this database. Our goal was to transfer the information from the notecards into our database. These cards contained two types of information: agency structure and publication information. Cards

CM 1.	COMMERCE AND COMMUNITY AFFAIRS DEPT.
CM 2.	Government and community services division
CM 3.	Statewide Employment and Training Section
CM 4.	International Business Office
CM 5.	Local Management Services Office
CM 6.	Tourism Office
CM 7.	Resources Conservation Office
CM 8.	Main Street Program
CM 9.	Job Training Coordinating Council
CM 10.	Office of the Small Business Utility Advocate
CM 11.	ENERGY AND RECYCLING Bureau
CM 12.	Coal Development and Marketing office
CM 13.	DO NOT USE
CM 14.	Small Business Division

Figure 1. Agency structure card for the Commerce and Community Affairs Department

containing agency structure are pink and list the internal structure, e.g., subagencies of main agencies, as shown in figure 1.

The card in figure 1 lists some of the subagencies that make up the Commerce and Community Affairs Department. This department has a class stem of “CM.” In the Nakata-Strange system, the main office receives a designation of “1,” and subagencies are numbered from “2” onward. Therefore, we know that an item with a call number beginning with “CM 6” was produced by the Commerce and Community Affairs Department’s Tourism Office.

Cards with information about publications are green and contain a listing of publications from each agency and subagency, as illustrated in figures 2–4.

In figures 2–4, the cards contain the issuing body, the associated call number class, subclass, and cutter, and a listing of titles or series published by that body. In figure 2, the call number here has a class stem “EP,” which designates the Illinois Environmental Protection Agency. The following “1” tells us that the main office is responsible for issuing these publications.

The cards in figures 3–4 give examples of Y-class call numbers. These are reserved for small boards and commissions, with class Y 3 indicating non-legislative boards and commissions and class Y 4 indicating legislative boards and commissions. In the examples in figures 3–4, the “Y 3” class indicates that the issuing body is a non-legislative commission. The following “C 93” is a cutter formed from the word *criminal*, and the “/2” is used to distinguish this particular board from others whose cutters were similarly formed from the word *criminal*. We therefore know that materials with call numbers beginning in “Y 3.C93/2” are produced by the Illinois Criminal Justice Information Authority.

In the Nakata-Strange system, as in SuDocs, there are many standardized serial numbers that remain consistent across agencies. These can be seen in figures 2–4. Serial numbers from 1 to 8 are reserved and remain the same across all

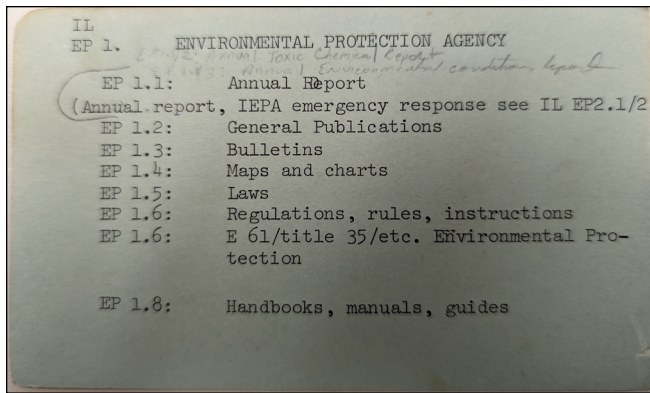


Figure 2. Title listing card for the Environmental Protection Agency's main office

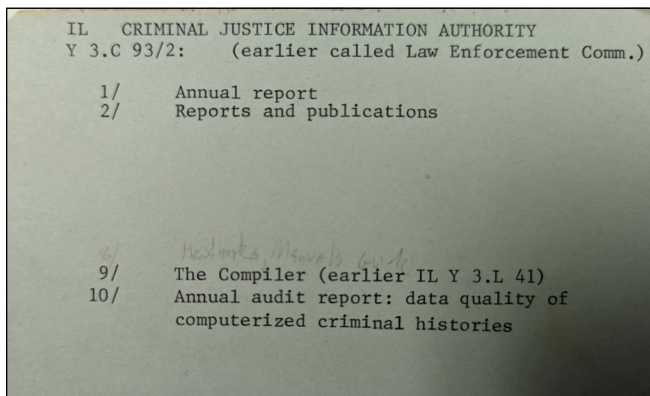


Figure 3. Title listing card for the Criminal Justice Information Authority (card 1)

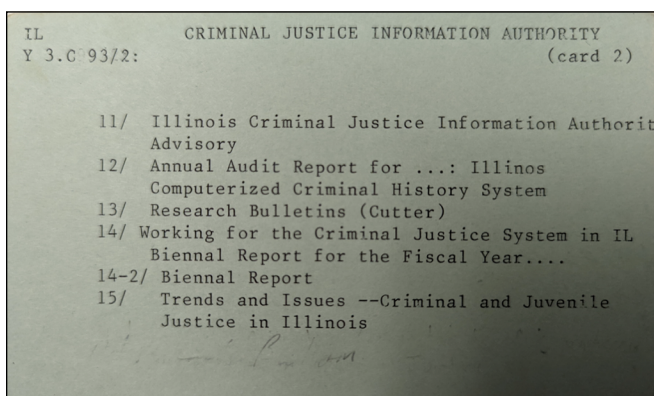


Figure 4. Title listing card for the Criminal Justice Information Authority (card 2)

agencies. For example, serial number 1 is reserved for annual reports and serial number 8 is reserved for handbooks, manuals, and guides. Serial number 2 is reserved for miscellaneous publications (usually monographs) that do not belong to a

category covered by the standardized serial numbers or to any other series. Serial numbers from 9 onward are assigned to individual series or serial publications. In figure 3 we see that serial number 9 has been assigned to issues of the periodical *The Compiler*.

We explored various options to transfer data from the cards to a database. One such option was scanning in the cards. However, we lacked a card-specific scanner and would have had to use a flatbed scanner. As can be seen in figures 2–4, much of the information on the cards consists of handwritten additions made after the cards were typed. The cards were also riddled with typos and corrections. This made it unlikely that optical character recognition would be effective. Even if scanning were feasible, there was no clear way to extract the information from the cards in a way that would allow us to turn this information into something structured and useful. To create a functional database, we would need to separate out call number stems, agencies, serial numbers, and titles, but this would have required human labor to parse this data. Scanning the cards would have produced little more than a digital surrogate of the original system, and we would have gained little additional benefit.

We also considered manually entering data from the cards. We began by entering data from the pink cards, which contain information about the structures of agencies. There were relatively few cards of this sort, so this was completed quickly. There were, however, many more green cards, as these listed every serial publication produced by all the agencies of the State of Illinois. Lacking the resources to manually enter this data, we need to explore other options.

Having ruled out both scanning and manually entering each card, we realized that we could use our library management system (LMS) to extract the relevant information from our catalog. This had two benefits: first, we would save time compared to either scanning or manual entry of data. Second, this method would ensure that our documentation would match our catalog, as opposed to worrying about whether we would need to retroactively reclassify materials that did not match the documentation. To extract this data, we ran a query in Alma, our LMS, to pull a list of all titles in our State Documents collection. We were able to obtain this list by querying all holdings located in our Government Documents collection, then narrowing this list down by looking only for call numbers classed with “other schemes” (as indicated by the MARC 852 first indicator “8”). We also wanted to populate our database with other useful information such as title, control number, and OCLC number, so this was added to our query. The results of this query are shown in figure 5 below.

To make this data more usable, we edited the results of our query in Microsoft Excel. This involved stripping out some local prefixes and breaking apart the call numbers into structurally relevant pieces: agency (or class stem), subagency, serial designation, and item number, as shown in figure 6.

Compound Layout

Title

Table

Location Name	Permanent Call Number Type	Permanent Call Number	MMS Id	OCLC Control Number (035a)	Title
Gov Docs	Other scheme	DOC. IL A 1.2:A 167/2	991001749505870	11950849	Elder abuse demonstration project : interim report to the Illinois General Assembly on Public Acts 83-1259 and 83-1432.
Gov Docs	Other scheme	DOC. IL OE1.2:W956	991001759505870	12046482	"Write on Illinois!": a users guide to scoring student essays.
Gov Docs	Other scheme	DOC. IL OE1.2:R332	991003089505870	12046446	Focus on reform : state action to improve schooling in Illinois.
Gov Docs	Other scheme	DOC. IL OE1.6:S741/2	991003099505870	12046469	Special education certification and approval requirements and procedures.
Gov Docs	Other scheme	DOC. IL Y3.H67/2.2G326	991003109505870	12046687	A generation too precious to waste : an investigative report submitted to the Illinois General Assembly /
Gov Docs	Other scheme	DOC. IL NR 1.24.1/	991003119505870	12046758	Conceptual models of erosion and sedimentation in Illinois /
Gov Docs	Other scheme	DOC. IL G 105.2:C 517	991003129505870	12047591	Report of the Governor's Chemical Safety Task Force.
Gov Docs	Other scheme	DOC. IL NR1.3:85/01	991003229505870	12125105	The economic effects of underground mining upon land used for Illinois agriculture /
Gov Docs	Other scheme	DOC. IL RE6.2:EC18/	991005299505870	3880059	Economical geology of Illinois.
Gov Docs	Other scheme	DOC. IL RE5.9:123	991008949505870	12253756	The life history of the shorthead redhorse, <i>Moxostoma macrolepidotum</i> , in the Kankakee River drainage, Illinois /
Gov Docs	Other scheme	DOC. IL Y4.L52.13/170	991012709505870	9189209	Directory of executive agencies and legislative liaisons.
Gov Docs	Other scheme	DOC. IL EP 3.13:978-985	99101279505870	8324150	Final water pollution control program plan /
Gov Docs NoCirc	Other scheme	DOC. IL IC 1.2:T 255 FICHE	991013039505870	11822459	Technology and the emergence of competitive market structures in regulated industries /
Gov Docs NoCirc	Other scheme	DOC. IL IC 1.2:E 38 FICHE	991013049505870	11823062	Structural solutions in the electric utility industry : a discussion of three approaches /
Gov Docs NoCirc	Other scheme	DOC. IL IC 1.2:T 772 FICHE	991013059505870	11823086	Distributor transportation tariffs for customer-owned gas /
Gov Docs NoCirc	Other scheme	DOC. IL IC 1.2:C 755 FICHE	991013069505870	11823100	Utility-sponsored conservation programs : a commission investigation /
Gov Docs	Other scheme	DOC. IL Y4.AG26/2:H434	991013189505870	12124074	Speaking out on health care : what they said, what they fear, what they believe, what they need /

Selection Steps

Figure 5. Results of a query in Alma for materials in the State Documents collection

This was achieved by locating various elements in the call number string such as the first digit, period, or colon. Breaking up the call numbers ensured that our database could be correctly sorted. Because the Nakata-Strange Classification System is similar to SuDocs we employed literature on sorting SuDocs to inform this process.²² The resulting data was then uploaded into our database.

Our database was structured to be as flexible as possible, yet required only three tables, as shown in the data model in figure 7. The “depts” table contains information about departments—their stem classes, names, and fields for potential future use, such as relator terms to indicate name changes or mergers of departments. The “subag” table is related to the “depts” table and contains information about subagencies. This table can also accommodate future information about name changes or mergers. The “il_titles” table contains information about all the titles in our Illinois Documents collection. Because we broke apart our call numbers before entering them into the database, we can relate this table to the other two by matching the class stem to the “depts” and the subagency number to the “subag” table. All tables have fields for notes.

Once our database was set up and the bulk of the data from our LMS was entered, we compared the list of agencies, subagencies, and serials with the documentation on our cards. This ensured that any uncataloged or withdrawn material would still be represented in our documentation. Titles and series entered from the cards were marked as such in the database to ensure that staff and patrons understood that these materials might not be held by the library. Although

comparing the cards to the database required some manual data entry, it was significantly less time consuming than entering all of the cards.

Having created our database, we now needed to make a functional platform that could be consulted when creating new call numbers or searching for titles. We added a directory to the web server that hosts our database (<https://neiuiinfo.org/ilgov/>) and created a website to display all this information within that directory. We designed this website around four goals:

1. To enable staff to create call numbers for newly received materials
2. To allow for browsing of publications by agency
3. To view the organizational structure of agencies
4. To provide information about the Nakata-Strange Classification System as an artifact of library history

To achieve this, we divided the website into three main sections. The “History” section provides a brief overview of government documents classification systems with specific attention to the system devised by Nakata and Strange. The “Structure” section provides information about the elements that compose a properly formed call number. And the “Departments & Agencies” section allows users to see a list of top-level agencies, then click through to see subagencies and all print publications of that agency. Using PHP to query the database every time it is visited ensures that the viewer receives the most current information, rather than a snapshot from a given time. It also means that given a variable (such as an agency name),

	A	B	C	D	E	F	G	H
1	Permanent Call Number	Class Stem	Call_minus_stem	Subagency	Call_minus_subag	MMS Id	OCLC	Title
2	A 1.1/2:	A	1.1/2:	1	1/2:	9992159505870	8197256	Communi
3	A 1.1:	A	1.1:	1	1:	993194539505870	29040487	Annual re
4	A 1.10/2:	A	1.10/2:	1	10/2:	99784319505870	7235896	Aegis /
5	A 1.10:	A	1.10:	1	10:	994524299505870	7235633	News /
6	A 1.11:	A	1.11:	1	11:	991150079505870	5035179	State plan
7	A 1.11:1984/1985	A	1.11:1984/1985	1	11:1984/1985	991827649505870	10240951	State plan
8	A 1.11:1989/91-	A	1.11:1989/91-	1	11:1989/91-	992819699505870	21478296	Illinois Sta
9	A 1.12:	A	1.12:	1	12:	991621419505870	9504735	Plan for D
10	A 1.12:989/PH.I	A	1.12:989/PH.I	1	12:989/PH.I	992223559505870	18037820	1989 plan
11	A 1.13:	A	1.13:	1	13:	994524319505870	9472700	An Annual
12	A 1.14:	A	1.14:	1	14:	99905499505870	10733616	Network r
13	A 1.15:	A	1.15:	1	15:	991098199505870	13337010	Senior ne
14	A 1.17:	A	1.17:	1	17:	994524269505870	22188257	Elder Abu
15	A 1.18:	A	1.18:	1	18:	993205529505870	23676431	Report on
16	A 1.19:	A	1.19:	1	19:	994524279505870	26060320	Eldercare
17	A 1.2:A 165	A	1.2:A 165	1	2:A 165	991536839505870	17302934	Elder abus
18	A 1.2:A 167	A	1.2:A 167	1	2:A 167	994518849505870	7994299	Abuse and

Figure 6. Illustration of the procedure for breaking call numbers into their constituent elements

only the information relevant to that variable is displayed.

Thanks to the lessons learned from similarly derived classification systems, we knew that we did not need to start from scratch when crafting the text describing the Nakata-Strange Classification System. In the “History” section, for example, we provided a very brief overview, then supplied links to FDLP histories, to Nakata and Strange’s original text, and to similar classification systems used in other states (such as Arizona’s AzDocs, Wyoming’s WyDocs, and California’s CalDocs systems) to provide a reference for comparison. We likewise adapted much of the wording in the structure section from Nakata and Strange. Rather than go into detail regarding the formation of Cutters, we deferred to a third-party website that constructs Cutter-Sanborn numbers for the user.²³ Strategic links to outside sources significantly reduced the amount of documentation that we needed to produce, saving both time and effort while taking advantage of the benefits of web-based documentation.²⁴

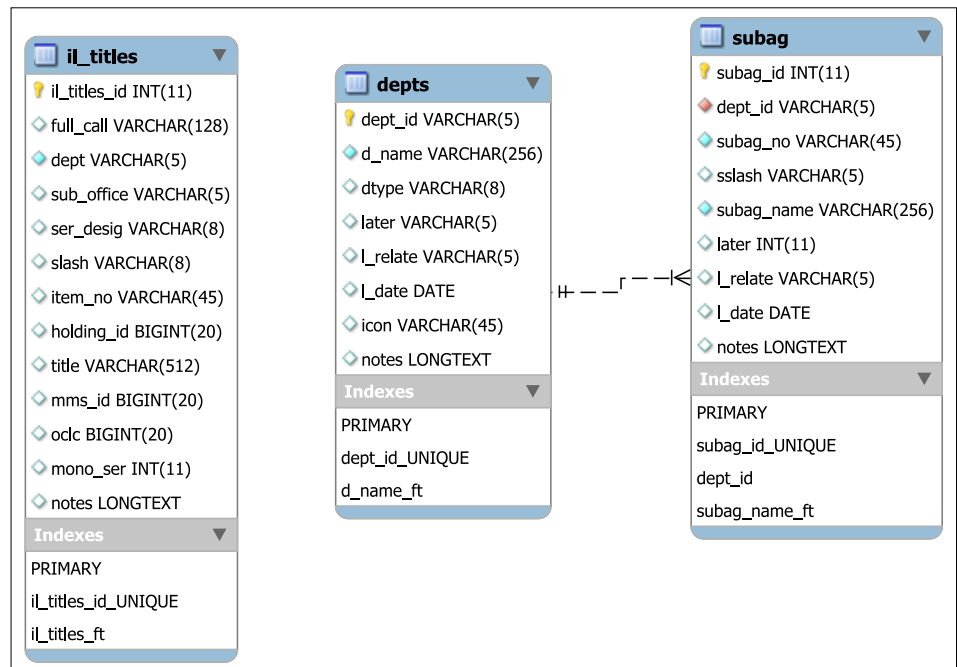


Figure 7. Data model for the database containing information about the Nakata-Strange Classification System

We included two other sections that are not necessarily helpful in creating new call numbers, but which provide context for other researchers who may find themselves in a similar situation to ours. The first is an “About” section, which

provides a brief outline of our goals and how we created the website. The second is a “Reports and Documents” section. This contains a dump of the raw data as well as downloadable PDF copies of the information in the database. Although the PDF data is not as easy to use as the web-based data, it allows users to have offline access to the data and encourages preservation of this data by making it available in an easily shared format.

A final feature implemented on the website is a search function, which, like other features of the website, uses PHP to connect to the database. This function has options for searching both agencies and titles. The agency search enables users to search for agencies, departments, and other governmental entities, many of which have similar or variable names. Subagencies often move between departments during periods of governmental restructuring, so this feature is an important tool for creating properly formed call numbers. The title search allows users to search monographic, serial, and series titles, preventing the creation of duplicate records and ensuring that titles within the same series are classed together.

Upon completion of the website, we gave library staff a brief introduction and tutorial so they could assist patrons with relevant research questions. A link was added to the NEIU Libraries’ Government Information LibGuide to provide easy access to patrons.

Presently, new titles and agencies need to be manually entered into the SQL database. Future work on the website may include a data-entry feature to ensure that staff who are less familiar with SQL will be able to contribute.

Findings

In creating documentation for our implementation of the Nakata-Strange Classification System, we encountered several unexpected benefits. Had we anticipated these benefits, we could have incorporated them into our planning stages. Fortunately, our database-based system of documentation was flexible enough to incorporate these benefits as we encountered them.

One benefit was the creation of a relatively complete listing of the print publications of the State of Illinois from 1968—the point at which Northeastern Illinois University became a print repository for the state of Illinois—onward. Although there are eighteen other libraries that collect Illinois’ publications, there is, as far as we know, no comprehensive listing of all state publications. The Illinois State Library’s *Publications of the State of Illinois* is the closest we have to this sort of list,²⁵ but it is issued between one and three times per year and there is no way to concatenate these lists into a single document. While assembling our documentation, we discovered a number of titles that were

never included in *Publications of the State of Illinois*. Because the Nakata-Strange System is based on SuDocs, it employs series designations. This means that our documentation lists monographic series, something that the *Publications of the State of Illinois* lacks. As our documentation not only included data from our ILS, but also additional data from the printed cards, we have records for many items which were ephemeral, uncataloged, or have since been withdrawn.

Another benefit is the creation of an outline structure of Illinois government from 1968 onward. Because the Nakata-Strange Classification System is provenance-based, each agency and sub-agency are assigned unique identifiers. By examining the years in which these agencies published, we can surmise that they were in existence during at least those years. The typed cards that were the basis for our database included some information about the creation and dissolution dates of some agencies. This information was included when available for potential future use. For example, the Department of Conservation (class “Co”) became the Department of Natural Resources (class “DNR”) in July 1995, and this was noted in our database. The information in our database could be combined with information from other sources to expand upon the basic structure we already have. The *Illinois Blue Book*,²⁶ for example, summarizes the state of government for each year, often noting changes to agencies and sub-agencies. Authority records, agency histories, and legislative and executive records could also contribute valuable information toward this end. Our website does not currently display information about agency creation, dissolution, or reorganization, but could be added later thanks to the built-in flexibility of our documentation.

A final benefit is providing staff with a broad overview of our state documents collection. Because we included not only cataloged materials, but titles from printed cards, we now have a sense of which portions of the collection need retrospective cataloging. Titles without catalog links are presumably uncataloged or missing. This information, combined with usage information, allows us to prioritize the areas of the collection that require further work and discover which areas our patrons value the most.

Conclusions

Planning for documentation is as important as creating documentation. This planning stage should determine the rationale for creating documentation and establish the intended audience. The intended audience, in turn, influences the level of detail required. An experienced audience—such as library personnel—will likely need less detailed documentation than patrons, for example. This will also assist in determining the platform that will host the documentation and whether it is public or private.

Researching similar types of documentation should also be a part of the planning process. It is very unlikely that any classification system (or, indeed, any other system) is wholly unique. Therefore, any documentation process should attempt to incorporate information from similar processes via copying or linking. There is rarely any need to reinvent the wheel. In our documentation of the Nakata-Strange Classification System we included links to Nakata and Strange's original documentation and to an outside Cutter table. We likewise drew inspiration from the FDLP's documentation of SuDocs. Doing so saved a considerable amount of time, and by relying on tested documentation we were able to be confident that our documentation would be equally useful.

We were able to save time by extracting as much data as possible from our library management system. The alternative, which was entering data from the preexisting notecards, was not a reasonable one. This also ensured that our documentation matched our catalog and, presumably, the material on the shelves. Unless practices and standards need to be updated, documentation should reflect the current situation, rather than an ideal one.

When creating documentation, the platform or technologies used to create this documentation should have a considerable amount of flexibility built in. This will ensure policies and procedures that were not discovered during the planning process can be accommodated. Likewise, benefits discovered during the creation of the documentation can be leveraged. In creating our documentation, we had not planned for the possibility that our documentation could be used to research the history of Illinois government. Because we used a well-designed SQL database, we were easily able to add new data columns that allowed us to link together various state agencies, creating a new way to look at Illinois' history.

This same flexibility can improve both access and longevity. As different users have different needs, the flexibility of our system allows users to look at the call number system from either an aggregate perspective or a very granular one. For example, a library user may only wish to see a list of classes and some information on interpreting call numbers, while staff may wish to examine lists of titles and series to determine how to classify new materials. The inherent flexibility of our system allows for that. Another way we built in flexibility was by providing regular dumps of our data in both PHP and PDF format.²⁷ Providing access to static documents that can be downloaded improves access to users working offline or who may prefer a print format. These documents are also simpler to archive and preserve, and having "multiple copies of files across different storage media and architectures, combined with geographic distribution, provides the greatest risk mitigation."²⁸ The nature of our call number system (or, indeed, any call number system) and the fact that many Illinois agencies are producing only digital documents means that our documentation is unlikely to substantially

change. This means that even an outdated PDF version of our documentation will likely remain useful, even if interactive data on the website is somehow deleted.

Documenting a call number system is not substantially different from documenting any other policy or procedure. Proper planning, research of similar documentation, and building flexibility and longevity into the documentation process can ensure that documentation is accessible and that the documentation process is not too arduous.

References and Notes

1. Corinne Bacon, *Classification* (Chicago: American Library Association, 1925), 1.
2. Lois Mai Chan, "Classification, Present and Future," *Cataloging & Classification Quarterly* 21, no. 2 (1995): 5–17, https://doi.org/10.1300/J104v21n02_03.
3. Rachel Ivy Clarke, "Library Classification Systems in the U.S.: Basic Ideas and Examples," *Cataloging & Classification Quarterly* 59, no. 2–3 (2021): 203–24, <https://doi.org/10.1080/01639374.2021.1881008>.
4. Yuri Nakata and Michele Strange, *Classification Scheme for Illinois State Publications: As Applied to the Documents Collection at the Library, University of Illinois at Chicago Circle, Chicago, Illinois* (Urbana: University of Illinois Graduate School of Library Science, 1974), <http://hdl.handle.net/2142/3824>.
5. "Depository Programs," Illinois State Library, accessed August 22, 2022, https://www.ilsos.gov/departments/library/depository_programs/.
6. Cf. Office of the Superintendent of Documents, *Legal Requirements & Program Regulations of the Federal Depository Library Program* (Washington, DC: US GPO, Office of the Superintendent of Documents, 2018), <https://purl.fdlp.gov/GPO/gpo89707>.
7. Cf. *An Explanation of the Superintendent of Documents Classification System* (Washington, DC: Depository Administration Branch, Library Division, Library Programs Service, US GPO, 1990).
8. Library of Congress, "Library of Congress Classification and Shelving Manual," last modified November 19, 2021, <https://www.loc.gov/aba/publications/FreeCSM/freecsm.html>.
9. Federal Depository Library Program, "Introduction to the Classification Guidelines," last modified August 25, 2022, <https://www.fdlp.gov/cataloging-and-classification/classification-guidelines>.
10. State Documents Collaborative Group, "State Agency Collections," GODORT, last modified July 28, 2020, <https://godort.libguides.com/c.php?g=1035038&p=7547038>.
11. National Library of Medicine, "Classification," 2022 winter ed., accessed July 28, 2022, <https://classification.nlm.nih.gov/>.
12. *Class PS8000: A Classification for Canadian Literature*, 4th

- ed. (Ottawa: Library and Archives Canada, 2004), https://publications.gc.ca/collections/collection_2016/bac-lac/SB4-31-2014-eng.pdf.
13. Kayla Willey, *Mormon Classification Schedules* (Provo, UT: Harold B. Lee Library, 2019), <https://cataloging.lib.byu.edu/wp-content/uploads/2013/04/Mormon-Classification-Schedules-complete-2019.pdf>.
 14. Roger Brisson, "Online Documentation in Library Technical Services," *Technical Services Quarterly* 16, no. 3 (1999): 1–19, https://doi.org/10.1300/J124v16n03_01.
 15. Hollie C. White, "Documentation in Technical Services," *Serials Librarian* 49, no.3 (2005): 48, https://doi.org/10.1300/J123v49n03_04.
 16. Kristi Bergland, Kalan Knudson Davis, and Stacie Truill, "CatDoc HackDoc: Tools and Processes for Managing Documentation Lifecycle, Workflows, and Accessibility," *Cataloging & Classification Quarterly* 57, no. 7/8 (2019): 463–95, <https://doi.org/10.1080/01639374.2019.1680470>.
 17. Anna R. Craft, "Online Documentation Portals in Library Technical Services: Shedding Light on Local Practices and Procedures," *Serials Review* 45 no. 3 (2019): 171–75, <https://doi.org/10.1080/00987913.2019.1645531>.
 18. Sandra Gall Urban, "Internal Documentation of Library Policies and Practices with LibGuides: A Survey and Analysis," *Journal of Electronic Resources Librarianship* 32 no. 3 (2020): 182–94, <https://doi.org/10.1080/1941126X.2020.1790947>.
 19. Martin D. Tomasi and Brad Mehlenbacher, "Re-Engineering Online Documentation: Designing Examples-Based Online Support Systems," *Technical Communication* 46, no. 1 (1999): 55–66.
 20. Silvio Peroni, David Shotton, and Fabio Vitali, "Tools for the Automatic Generation of Ontology Documentation: A Task-Based Evaluation," *International Journal on Semantic Web and Information Systems* 9, no. 1 (2013): 21–44, <https://doi.org/10.4018/jswis.2013010102>.
 21. Tomasi and Mehlenbacher, "Re-Engineering"; Peroni et al. "Automatic Generation."
 22. Jameson F. Conley and Lee Ann Nolan, "SuDoc Stem Call Number Sorting in Excel," *Earth and Mineral Sciences Library* (2013), <https://scholarsphere.psu.edu/resources/9f9856ad-30ba-4503-9a06-df5ebec702be>; Bert R. Boyce, J. Stuart Douglass, and Lloyd J. Rabalais, "A Sort Procedure for the Superintendent of Documents Classification," *Government Information Quarterly* 6, no. 2 (1989): 175–82, [https://doi.org/10.1016/0740-624X\(89\)90026-9](https://doi.org/10.1016/0740-624X(89)90026-9).
 23. "Cutter-Sanborn number," <http://cutternumber.com.ar/>.
 24. Tomasi and Mehlenbacher, "Re-Engineering."
 25. *Publications of the State of Illinois* (Springfield: Illinois State Library, 1961–).
 26. *Illinois Blue Book* (Springfield: Illinois Secretary of State, 1903–).
 27. "The Nakata-Strange Classification System," Northeastern Illinois University, accessed January 24, 2023, <https://neiu.info.org/ilgov/>, see "Reports & Documents" section.
 28. Leslie Johnston and Bonnie Lawlor, "Challenges in Preservation and Archiving Digital Materials," *Information Services & Use* 40, no. 3 (July 2020): 193–99.