Library Patron Data and Privacy: Cycles and Strategies

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Housekeeping

Resource list available in the handout

IANAL; Consult legal staff for legal advice

Exercises and Discussions - what to expect

Privacy measures are only as strong as the least-knowledgeable person working with patron data

Library Patron Data

Libraries and Patron Data

- Integrated Library Systems
- Database backups
- Print management systems
- Server logs
- Reference chat logs
- Public computer/wireless traffic logs
- SIP logs
- Security camera footage
- Card reader logs
- Library programs
  - Attendance logs
  - Feedback responses
- Staff email
- Vendor systems
- Paper documents

Personally Identifiable Information [PII] and Library Data - NIST

PII 1 - Data about a patron

- Name
- Physical/email address
- Phone number
- Date of birth
- Patron record number
- Library barcode

PII 2 - Activity that can be tied back to a patron

- Search & circulation histories
- Computer/wifi sessions
- Reference questions
- Electronic resource access
- IP Address
- Program attendance

Personal Information and Library Data - CO State

CRS Section 24-73-101 and 102

"Personal identifying information" w/r/t disposal and protection:

- Social security number
- Personal ID number
- Password or pass code
- Government-issued driver's license or ID number
- Biometric data
- Employer, student, or military ID number

CRS Section 24-73-103

"Personal information" w/r/t security breach (not encrypted):

- CO resident's first name or first initial & last name combined with one type of personal identifying info
- CO resident's username or e-mail address; password or security questions & answers

Library Patron Data And Regulations

“What happens if my library has…”

Medical-related data? HIPAA

Student data? FERPA

Data from minors (<13 years)? COPPA

CRS 24-90-119. Privacy of user records

(1) Except as set forth in subsection (2) of this section, a publicly supported library shall not disclose any record or other information that identifies a person as having requested or obtained specific materials or service or as otherwise having used the library.
(2) Records may be disclosed in the following instances:

(a) When necessary for the reasonable operation of the library;

(b) Upon written consent of the user;

(c) Pursuant to subpoena, upon court order, or where otherwise required by law;

(d) To a custodial parent or legal guardian who has access to a minor's library card or its authorization number for the purpose of accessing by electronic means library records of the minor.

Library Record Retention in Colorado

- Different libraries, difference schedules
  - Municipal Libraries - Schedule No. 70
  - Library Districts - SDRM Schedule 7 - 7.270 Program Records
- Both record retention schedules are optional - it is only legally binding if the library adopts the schedule as policy
- Retention periods in both schedules geared toward pre-automation libraries

Do we in Colorado need to worry about...

GDPR?

It depends.

CCPA?

Most likely not.

Library Patron Data Lifecycle

Library Patron Data Lifecycle

Collection

What data are we and our vendors collecting?

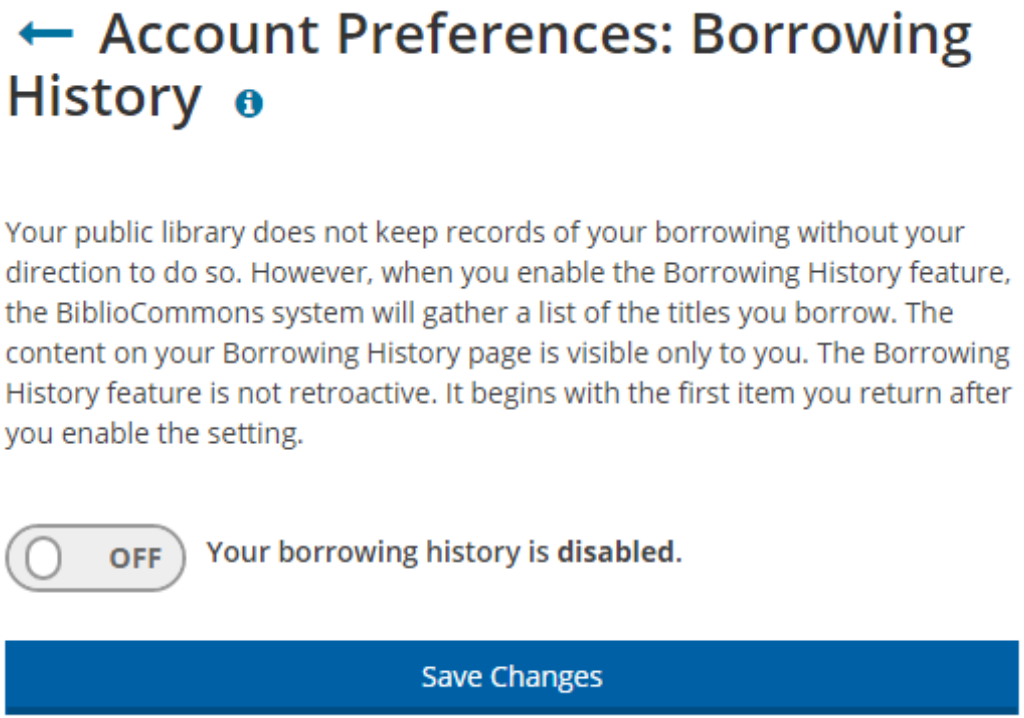
Some systems/processes:

- ILS
- Server logs
- Web analytic software
- Social media pages
- Survey software
- Program release forms

Data collection includes:

- Patron & circulation information
- IP address/UUID
- Timestamps
- Search history
- Link clicks on sites and in marketing emails

What data are our vendors collecting?



If you do not have a *demonstrated* business need to explain why you are collecting a data point, *then you should not collect that data*.

The Five Whys

- An investigative method from project management to determine the real need or cause of a problem
- Asking “Why” five times or until the person being asked cannot answer - whichever comes first
- Modified version with vendor can help with adjusting data collection practices with products or services

Collection Exercise - “Why’s that, again?”

“We need to collect Driver’s License Numbers!”

“Why?”

“We need to establish residency.”

“Why do we need to verify residency?”

“Otherwise they can’t use library resources if they aren’t residents in our service area!”

Are there alternative ways to achieve the business need of requiring patrons to verify that they live in the service area?

Library Patron Data Lifecycle

Storage and Retention

How long are we storing data?

... when no longer needed operationally?

... 1 year? Rolling year?

... in perpetuity?

... what about backups?

... what falls under Schedule No. 70? SDRM?

Where are we storing data?

Original systems, applications, and processes

Data extracted, exported, or otherwise taken from the original systems or processes

A VISUAL GUIDE TO PRACTICAL DATA DE-IDENTIFICATION

Produced by FUTURE OF PRIVACY FORUM
FPF.org

What do scientists, regulators and lawyers mean when they talk about de-identification? How does anonymous data differ from pseudonymous or de-identified information? Data identifiability is not binary. Data lies on a spectrum with multiple shades of identifiability.

This is a primer on how to distinguish different categories of data.

DEGREES OF IDENTIFIABILITY
Information containing direct and indirect identifiers.

PSEUDONYMOUS DATA
Information from which direct identifiers have been eliminated or transformed, but indirect identifiers remain intact.

DE-IDENTIFIED DATA
Direct and known indirect identifiers have been removed or manipulated to break the linkage to real world identities.

ANONYMOUS DATA
Direct and indirect identifiers have been removed or manipulated together with mathematical and technical guarantees to prevent re-identification.

	EXPLICITLY PERSONAL	POTENTIALLY IDENTIFIABLE	NOT READILY IDENTIFIABLE	KEY CODED	PSEUDONYMOUS	PROTECTED PSEUDONYMOUS	DE-IDENTIFIED	PROTECTED DE-IDENTIFIED	ANONYMOUS	AGGREGATED ANONYMOUS
DIRECT IDENTIFIERS Data that identifies a person without additional information or by linking to information in the public domain (e.g., name, SSN)	INTACT	PARTIALLY MASKED	PARTIALLY MASKED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED
INDIRECT IDENTIFIERS Data that identifies an individual indirectly. Helps connect pieces of information until an individual can be singled out (e.g., DOB, gender)	INTACT	INTACT	INTACT	INTACT	INTACT	INTACT	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED	ELIMINATED or TRANSFORMED
SAFEGUARDS and CONTROLS Technical, organizational and legal controls preventing employees, researchers or other third parties from re-identifying individuals	NOT RELEVANT due to nature of data	LIMITED or NONE IN PLACE	CONTROLS IN PLACE	CONTROLS IN PLACE	LIMITED or NONE IN PLACE	CONTROLS IN PLACE	LIMITED or NONE IN PLACE	CONTROLS IN PLACE	NOT RELEVANT due to nature of data	NOT RELEVANT due to high degree of data aggregation
SELECTED EXAMPLES	Name, address, phone number, SSN, government-issued ID (e.g., Jane Smith, 123 Main Street, 555-555-5555)	Unique device ID, license plate, medical record number, cookie, IP address (e.g., MAC address 68:A8:6D:35:65:03)	Same as Potentially Identifiable except data are also protected by safeguards and controls (e.g., hashed MAC addresses & legal representations)	Clinical or research datasets where only curator retains key (e.g., Jane Smith, diabetes, HgB 15.1 g/dl = Csrk123)	Unique, artificial pseudonyms replace direct identifiers (e.g., HIPAA Limited Datasets, John Doe = 5L7T LX619Z) (unique sequence not used anywhere else)	Same as Pseudonymous, except data are also protected by safeguards and controls	Data are suppressed, generalized, perturbed, swapped, etc. (e.g., GPA: 3.2 = 3.0-3.5, gender: female = gender: male)	Same as De-Identified, except data are also protected by safeguards and controls	For example, noise is calibrated to a data set to hide whether an individual is present or not (differential privacy)	Very highly aggregated data (e.g., statistical data, census data, or population data that 52.6% of Washington, DC residents are women)

De-identification of Library PII Data

Obfuscation

- PII 1
  - Date of birth vs age

Truncation

- PII 1
  - Full address vs zip code
- PII 2
  - Call numbers

Aggregation

- PII 1
  - Age vs age ranges
- PII 2
  - Very high level call number ranges

Exercise - Raw vs De-identified Data

Raw data

- Date of birth - 2/24/1977
- 27 43rd St, Town, WA 92471
- NX180.I57 M275 2015
- FIC HARRIS 2018
- 11 Apr 2019 9:24 - 10:24

De-identified

- 42 years old
- 92471
- NX180
- FIC
- 4/11/2019, 01:00

Obligatory Disclaimers about De-identification

Data de-identification methods do not provide adequate privacy protection for these types of data:

- **Outliers in service population**
- **Small overall service population or subset (degree program, etc.)**

Data de-identification methods are subject to varying re-identification risks, primarily through PII 2 data:

- **Identifying patterns**
  - **Example - AOL**
- **Fuzzy matching**
  - **Example - Taxi Cab Data**

Vendors and Third Party Apps Considerations

Data storage: What, Where, Who Has Access

Data sharing: What, Where, Who, Raw vs De-identified vs “Anonymized” vs Aggregated

Data privacy policy: what to negotiate, contract addendums

Library Patron Data Lifecycle

Access

Who has access to what data?

Physical Access

- Desktop computers
- Laptops
- Mobile devices
- Server room/data center
- Offices and desks
- Flash drives
- File cabinets

Electronic Access

- ALL the User Permissions!
- Administrator account information
- Vendor access to local systems
- System log and database access
- Administrator site access

Some Data Access Best Practices

- Lowest/most restrictive level of access to meet operational needs
- Lock everything –
  - Restrict access to hardware through physical barriers
  - Require login for systems and physical devices
    - Enable multi-factor authentication (MFA) if possible
  - Encryption
  - Remote wipe for mobile devices
- Regular audits of…
  - Account access to systems
  - Keys (physical and electronic)

Library Patron Data Lifecycle

Reporting

Do you really need access to all the data for reports?

Reporting and publishing through...

- Views in databases
- Connections to data through Data BI tools (Tableau, Power BI, etc.)
    - Related - restrict access to data used in the report when published
- Dashboards and canned reports

Sometimes the only choice...

... is to not release data.*

*except when required by law

Library Patron Data Lifecycle

Deletion

Evicting the Ghosts of Data Past

Electronic data

Scrub backups and logs

Deleting data vs wiping file/drive

Look out for data living “outside” local and vendor systems

Physical data

Paper - Shred → Proper disposal of shredded paper

Properly dispose of disks, drives, other hardware

Vendor considerations

How does the vendor delete physical and electronic copies of your patron data?

When you leave, can you take your data with you?

Can your patrons take their data with them?

Can your patrons request their data to be deleted with a vendor?

Exercise - What Would You Do?

Library kept computer reservation logs on paper

Patrons would sign name and barcode to reserve a specific computer at a specific time of day

Library kept paper logs for a month

Library needs to track who was at which computer to charge for broken equipment or possible patterns of misuse of computer equipment

What would you advise the library to do to better protect patron privacy while still meeting their needs for reservations tracking?

A Data Inventory Starter Kit

Pick one piece of technology or process that your place of work is using or has used in the past.

- What patron data are you collecting?
- How is the patron data being used?
- Where is the patron data being stored? Don’t forget backups, log files, paper documents, cloud/third-party products, etc.
- How long are you keeping patron data?
- How are you deleting patron data when it’s no longer needed?
- Who has electronic and physical access to the patron data?

Thank you

:-)

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