

Externalities of TPMs

Access to Digital Content, Repair & Interoperability

ABC Copyright Conference

Anthony D. Rosborough & Katherine Silins | 21 June 2024

Overview

(1) A (quick) refresher on TPMs and anti-circumvention law

(2) *Content* TPMs (copyright works)

- Report on current research project (**Katherine Silins**)

(3) *Device* TPMs (embedded software)

- Repair (Bill C-244)

- Interoperability (Bill C-294)

(4) Some takeaways from the *Blacklocks Reporter decision*

(1395804 Ontario Ltd. (Blacklock's Reporter) v Canada (Attorney General), 2024 FC 829)

(5) **Q&A**

(1) A (quick) refresher on TPMs and anti-circumvention law

digital locks

copy controls

technological protection measures

copy protection

digital rights management

access controls

copy prevention

secure content delivery systems

electronic rights management

digital access management

content lock

The Origins of Anti-Circumvention Law

WIPO *World Copyright Treaty* (1996), Article 11

“Contracting states shall provide adequate legal protection and effective legal remedies against the circumvention of effective **technological measures** that are **used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention** and that restrict acts, **in respect of their works**, which are not authorized by the authors concerns or permitted by law.”

Ambiguities left by the WCT's Article 11

what kinds of activities constitute “circumvention”?

does “adequate legal protection and effective legal remedies” include criminal penalties?
can legal protections come from other areas of law (e.g., competition law)? **Japan**

should circumvention be treated as copyright infringement, or a *sui generis* offence?

UK / US

what are “effective technological measures”?

does “...used by authors in connection with the exercise of their rights...and restrict acts, in respect of their works...which are not authorized...” mean that TPMs must *prevent infringement* to be “effective”? **Switzerland**

is there a *mens rea* (knowledge/intent) requirement? **Australia, Cyprus, Germany, etc**

how do exceptions and limitations or fair dealing apply? **EU vs. DMCA approaches**

do rightsholders have to give notice of their use of TPMs? **Slovenia**

Technological Protection Measures

Canada's implementation of the WCT's Article 11

According to the Act (s. 41)

“technological protection measure” means

“any effective technology, device or component that, in the ordinary course of its operation...controls access to a work...”

Prohibitions

- circumvention,
- offering circumvention services; or
- manufacturing, distributing circumvention tools.

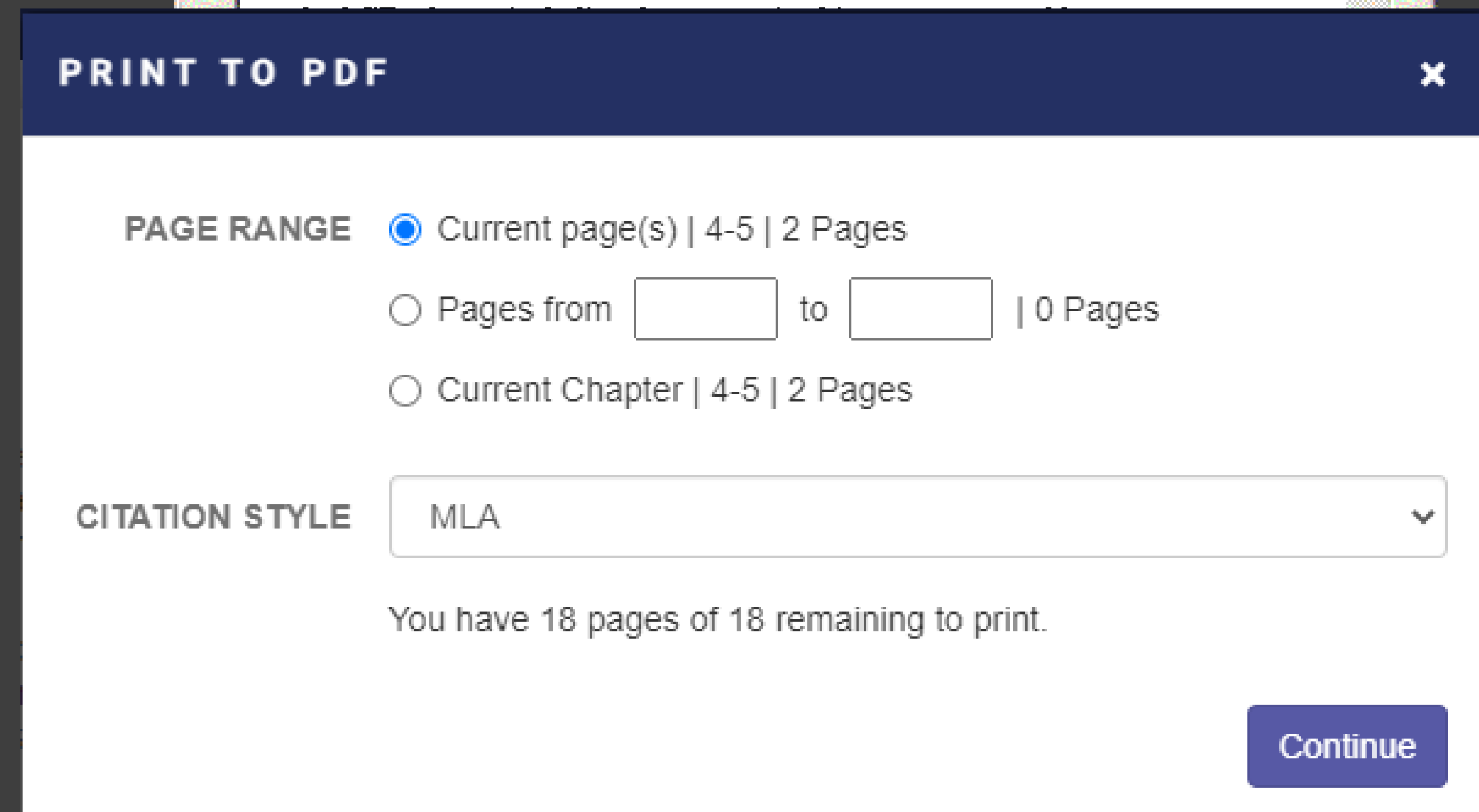
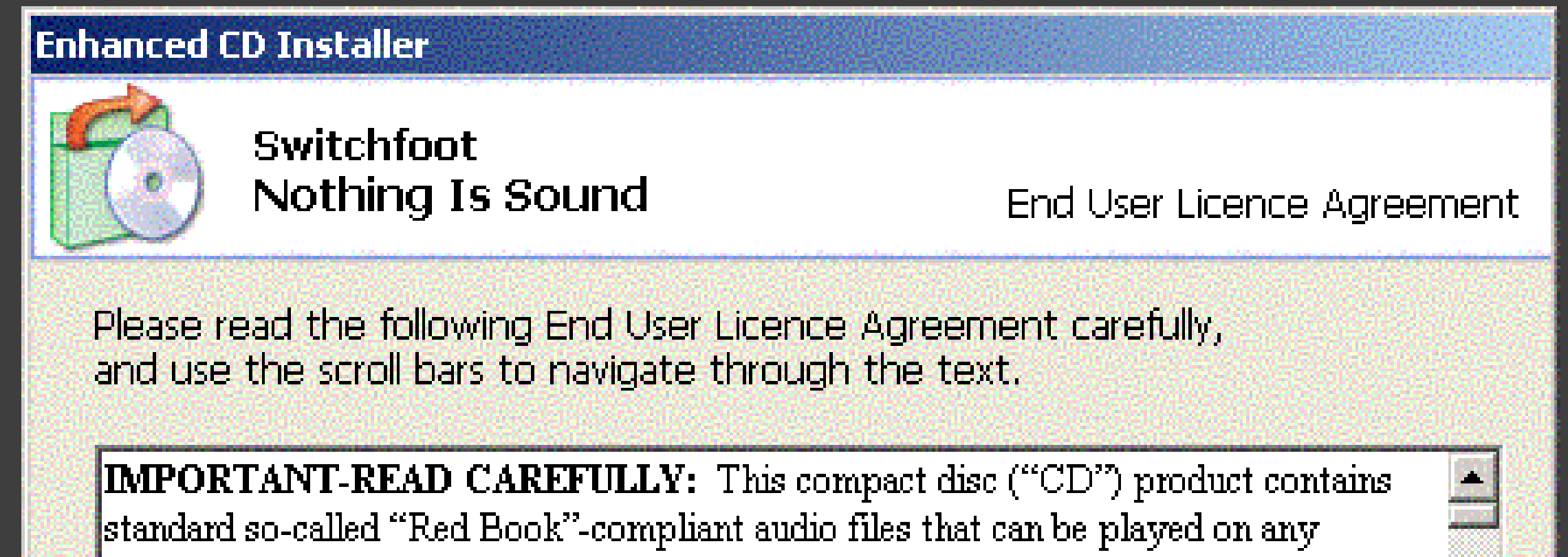
“Circumvent” means “...to descramble a scrambled work or decrypt an encrypted work or to otherwise avoid, bypass, remove, deactivate or impair the technological protection measure”

Exceptions permitting TPM circumvention

s.41

- (1) Law enforcement for the purposes of national security
- (2) “interoperability” (more on this later on)
- (3) encryption research
- (4) to prevent personal information collection
- (5) to aid persons with perceptual disabilities (to allow accessibility)
- (6) broadcasting a protected work
- (7) to access a telecommunication signal using radio equipment

(2) Content TPMs



Common Externalities of Content TPMs

Barriers to digital archiving & preservation	e.g., original media deteriorates or becomes obsolete, format shifting may be restricted by TPMs
Inaccessibility of content for persons with disabilities	Conversion of digital content into accessible formats may be restricted by TPMs
Interference with fair dealing	TPMs may practically impede users from engaging in fair dealing activities
Obsolescence of TPM technology or devices used to access purchased content	TPMs or proprietary formats themselves may no longer be supported, resulting in premature obsolescence and inaccessibility
Fragmentation of content access	Lack of standardisation of TPM technologies may create challenges for providing access to digital content, leading to increased costs and inefficiencies

Report on current research project

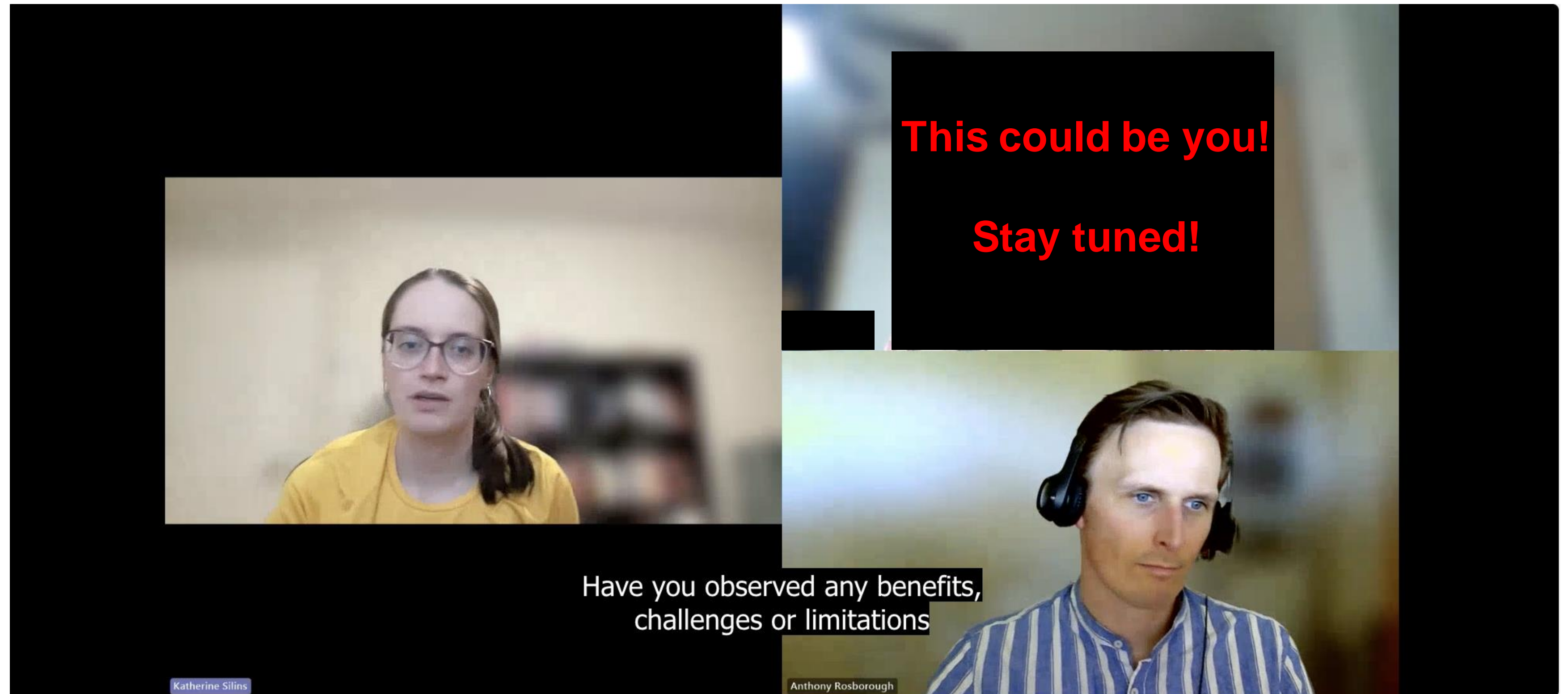
Katherine Silins

Overview

Research Project

- Semi-structured virtual interviews via MS Teams
- Canadian participants, no international participants
- Interviews March 2024 – July 2024

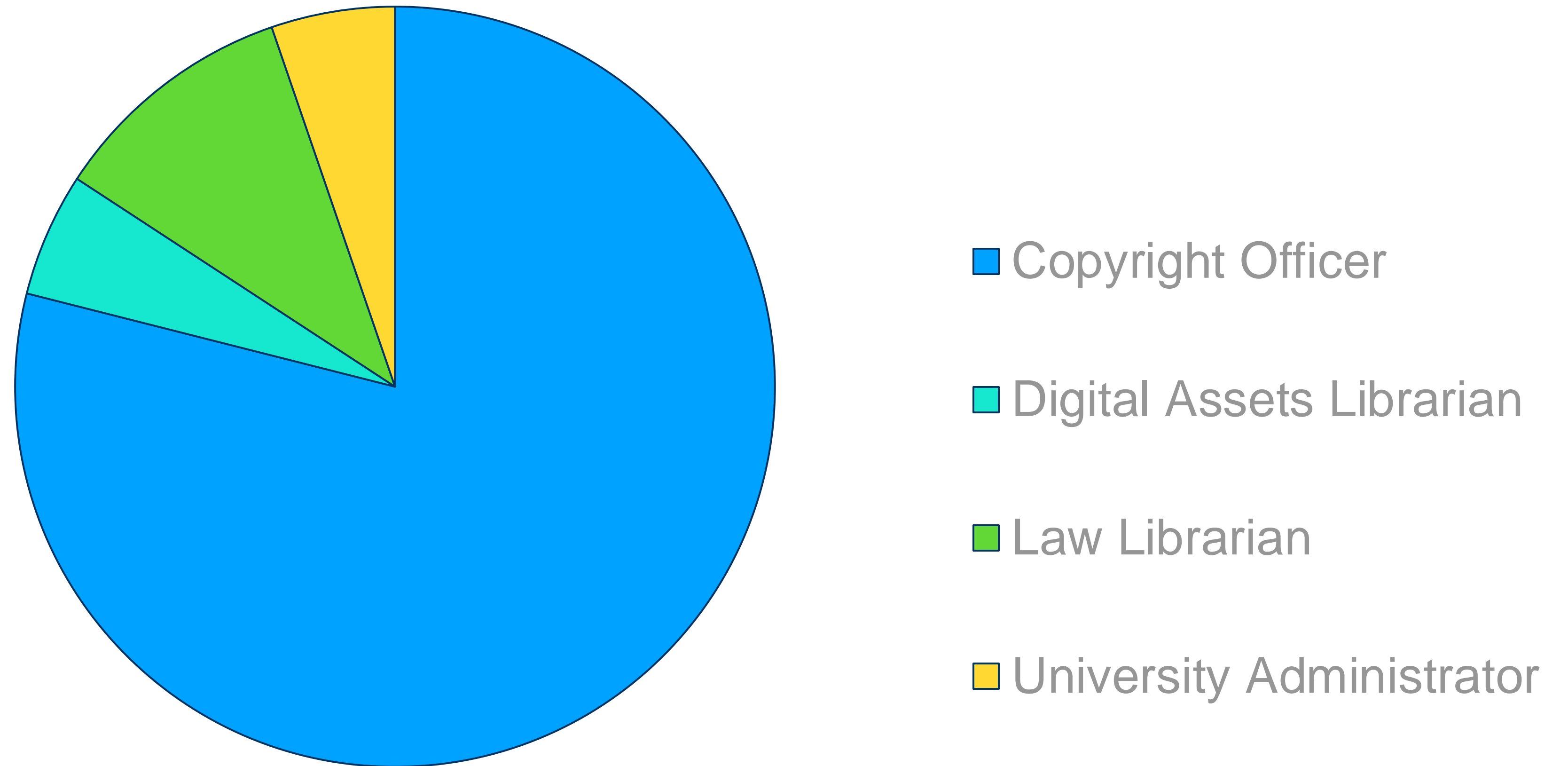
How do you perceive the balance between copyright protection through TPMs and the promotion of public-interest uses, such as research and education?



Interview Subjects

Research Project

- Mostly people at this conference!

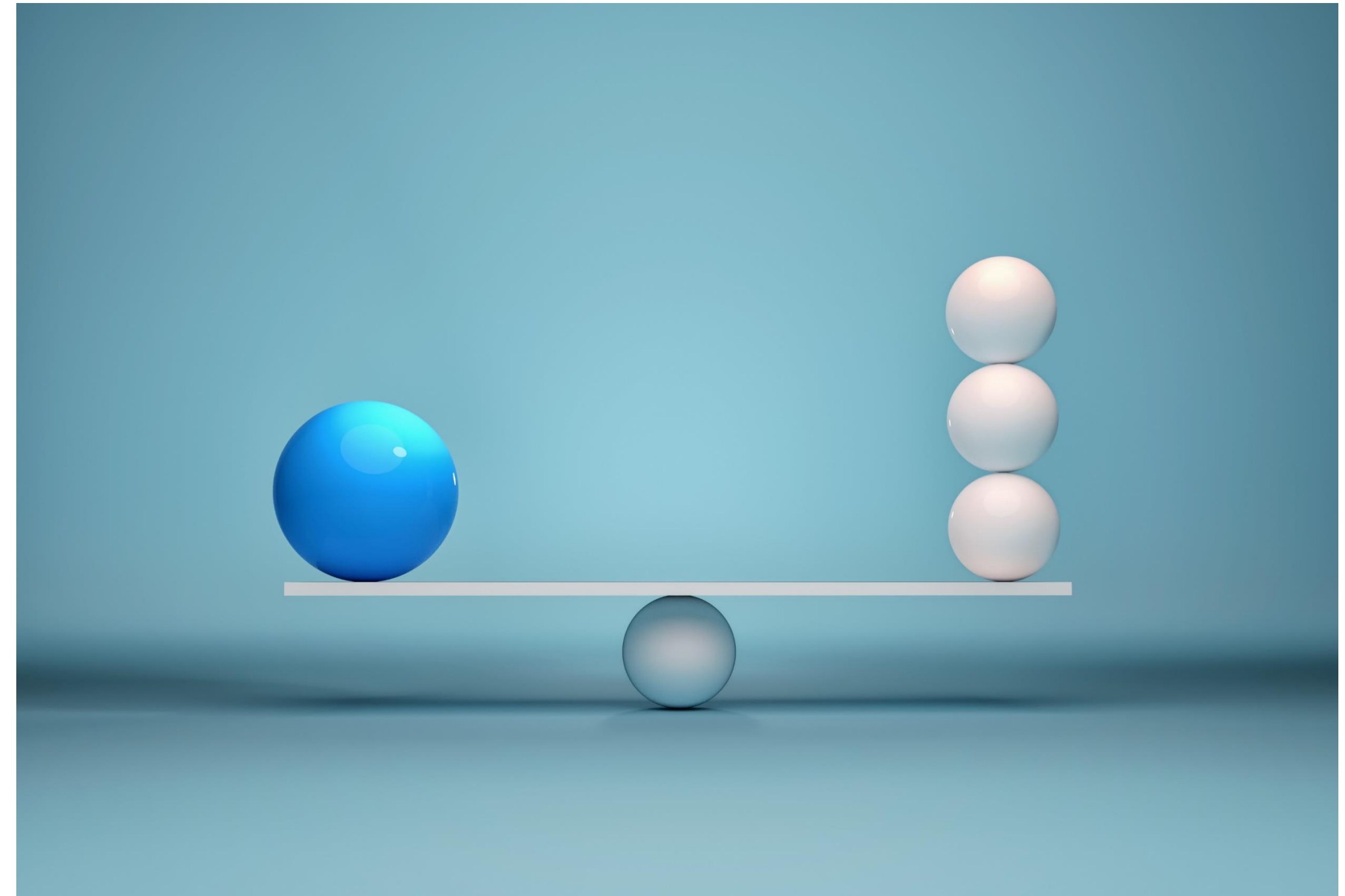


Research gap: information technology professionals!

Question Areas

Research Project

- Participant Background
- Familiarity and Experience with TPMs
- **Impact on Access, Use and Preservation**
- **Social and Educational Implications**
- Navigating Challenges
- **Circumvention**
- Suggestions for Improvement



How would you define a technological protection measure?

Common Threads

Research Project

- Frustrations with contracting out of a lawful use of copyright works
- There are “bad” TPMs (can’t print) and “good” TPMs (enabling CDL)
- Preference for unlimited access instead of limiting temporal or concurrent users
- Marrakesh Treaty assists providing accessible content for perceptual disabilities
- Gradual return to analog material for preservation
- Students are in the know about circumvention!
- Harvard Business Review heavily inaccessible due to extreme TPMs



Emerging Threads

Research Project

- COVID-19 pandemic as an accelerant for CDL (Hathi Trust, Internet Archive, Open Library)
- Technical ability to circumvent TPMs exists pending institutional go-ahead
- Circumvention is human-powered instead of software solutions
- More journals becoming subscription-based, textbooks becoming rentals
- Challenges with inter-library loans with digital content
- Encounters with TPMs to prevent text and data mining



Interested in Participating?

Research Project

You still have two weeks!

- Conducting interviews until 5 Jul 24

Schedule at:

<https://calendly.com/katherinesilins/>

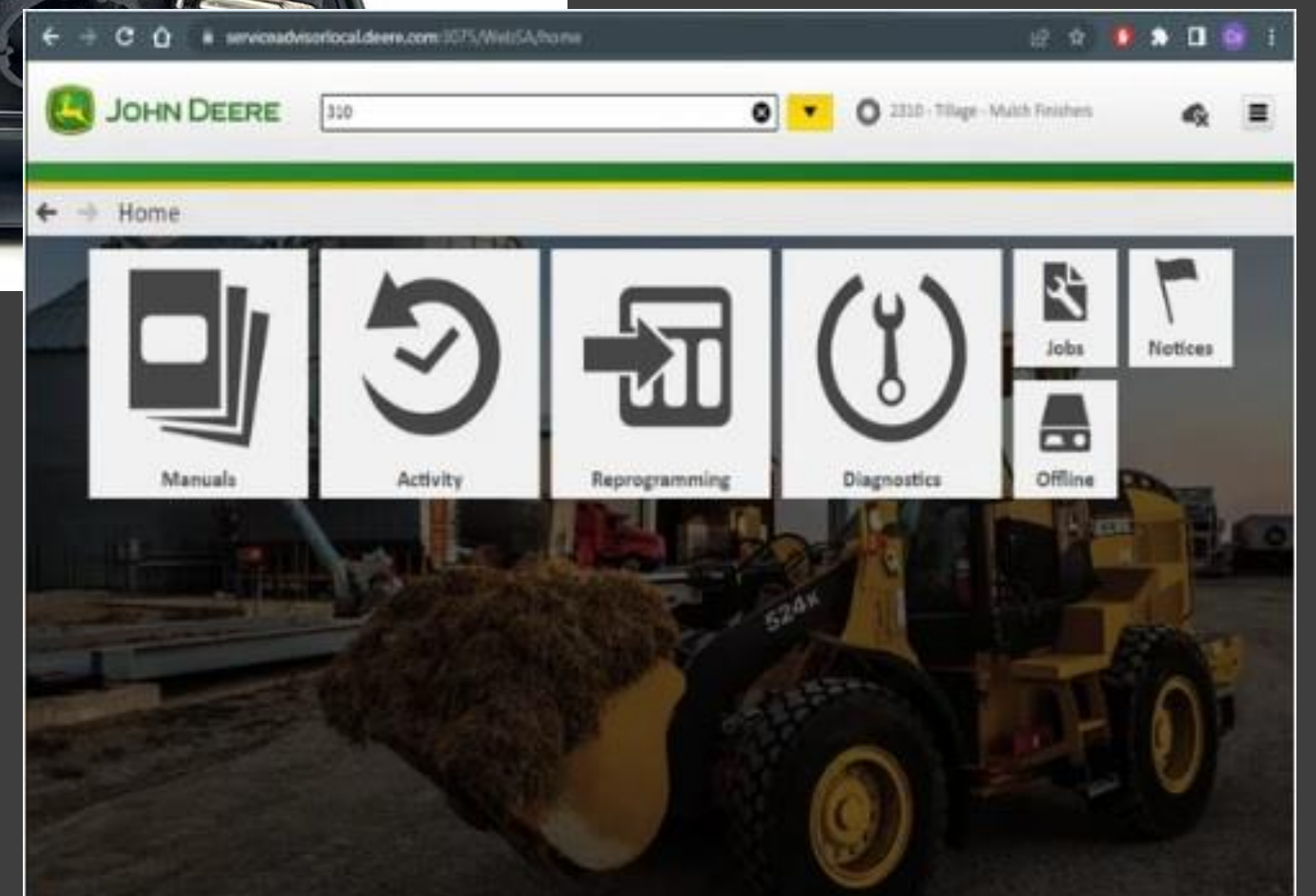
or send me an email at

Katherine.Silins@dal.ca

There is only one “L” in my last name!



(3) Device TPMs



Device TPMs

What is the connection to copyright?

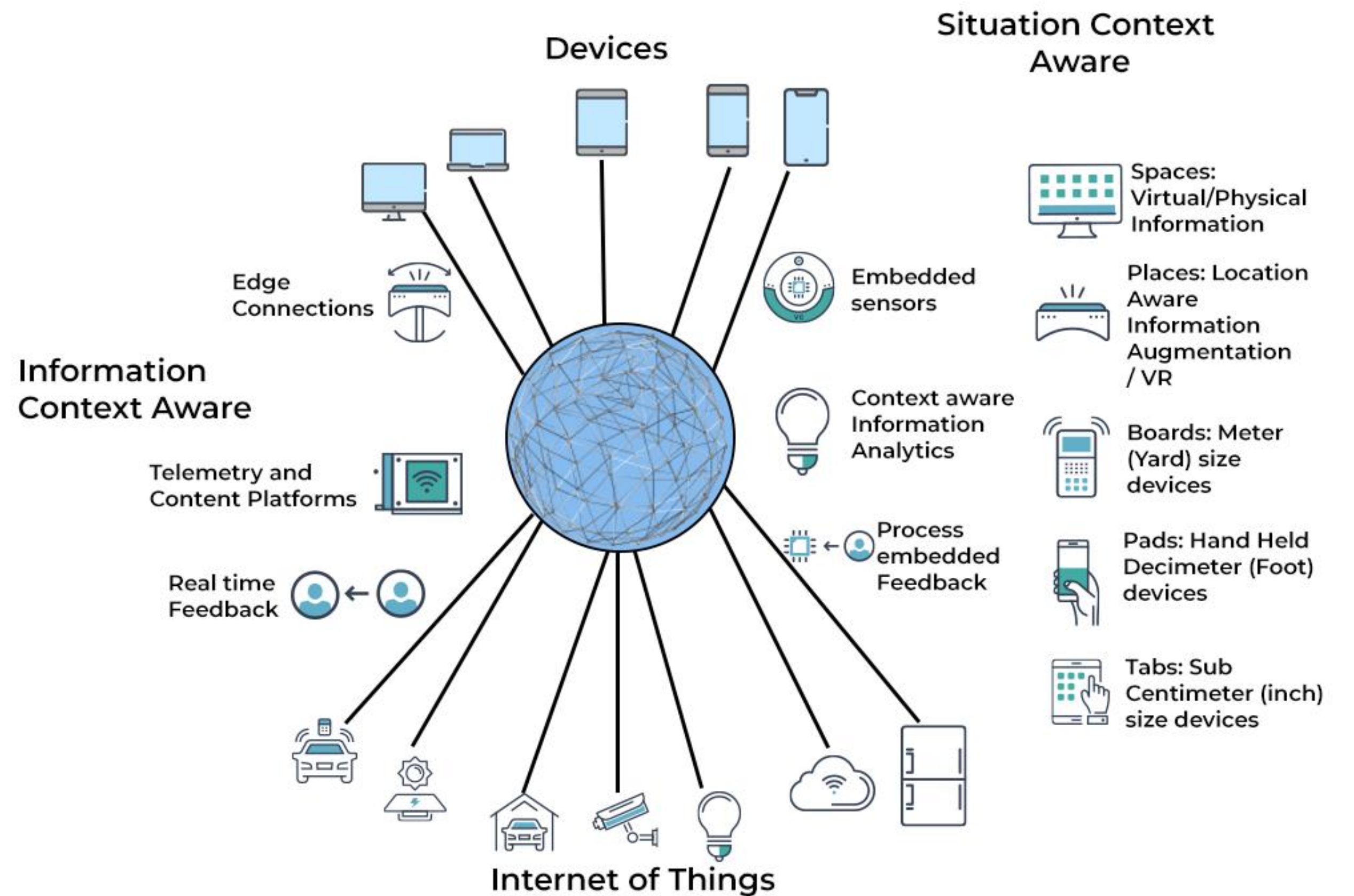


Device TPMs

What is the connection to copyright?

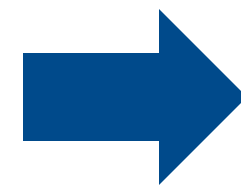
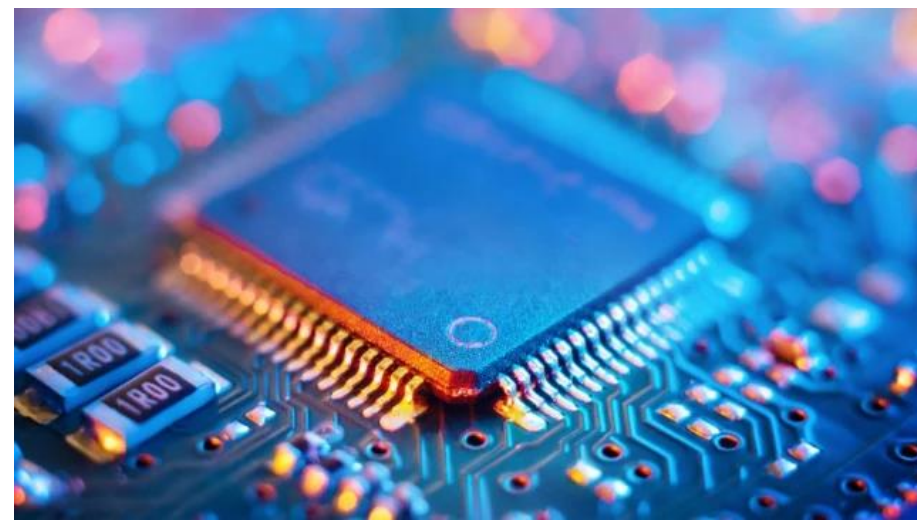


HOW UBIQUITOUS COMPUTING WORKS

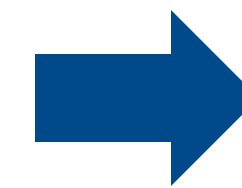


Device TPMs

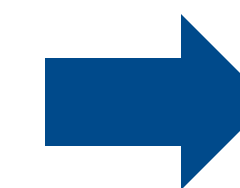
TPMs and access to device software



```
1 /*
2  * This line basically imports the "stdio" header file, part of
3  * the standard library. It provides input and output functionality
4  * to the program.
5  */
6 #include <stdio.h>
7
8 /*
9  * Function (method) declaration. This outputs "Hello, world\n" to
10 * standard output when invoked.
11 */
12 void sayHello(void) {
13     // printf() in C outputs the specified text (with optional
14     // formatting options) when invoked.
15     printf("Hello, world!\n");
16 }
17
18 /*
19 * This is a "main function". The compiled program will run the code
20 * defined here.
21 */
22 int main(void)
23 {
24     // Invoke the sayHello() function.
25     sayHello();
26     return 0;
27 }
```



©opyright



(3) *Device* TPMs: Repair

TPMs and the #RightToRepair

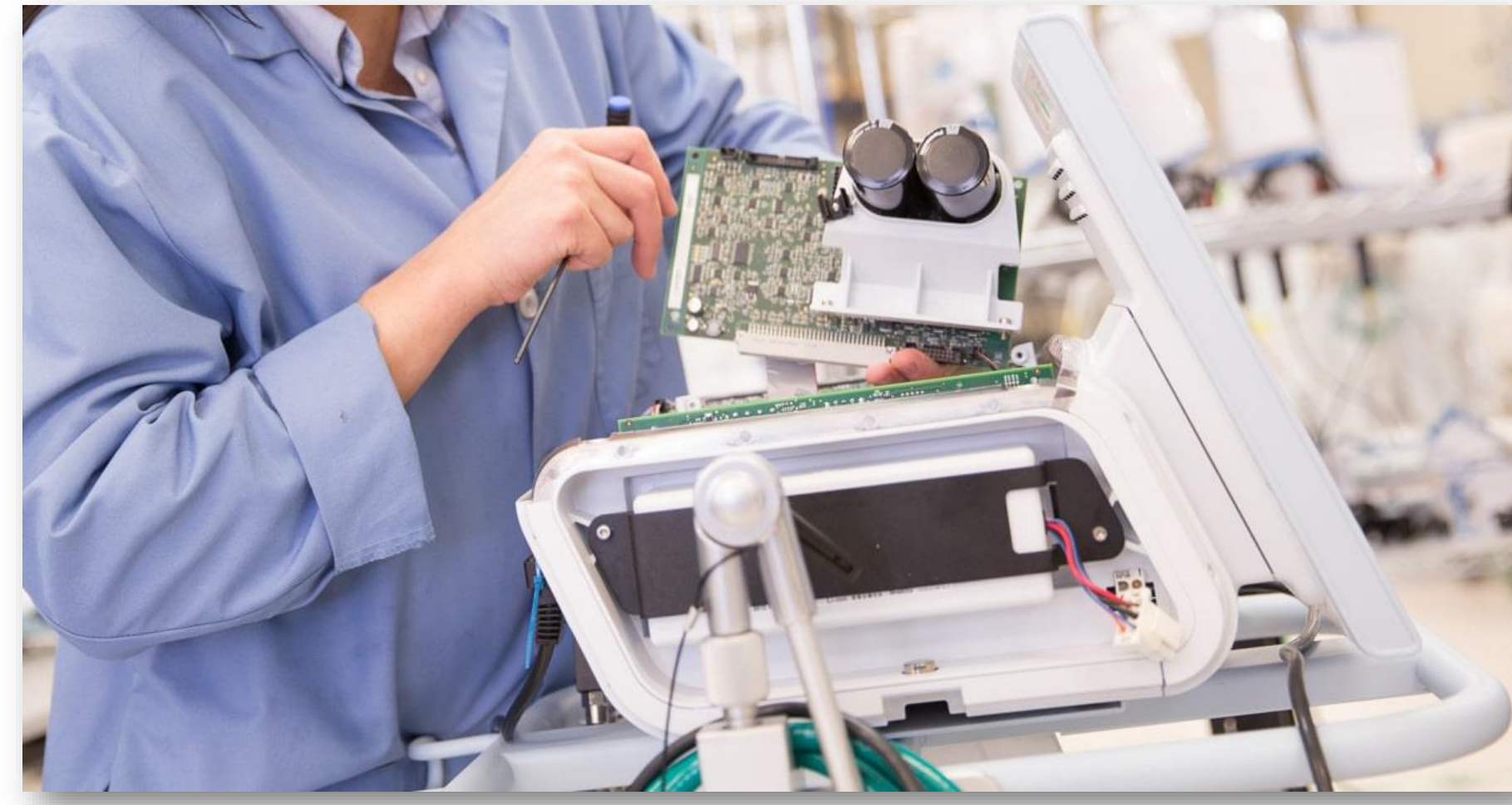
Impacts

- Circumventing TPMs protecting embedded system software may be necessary for a number of repair activities, such as:
 - To obtain diagnostic information;
 - Co-verification or “activation” of replacement parts;
 - To enable non-OEM components to operate with the device; and
 - To correct software errors which prevent proper functioning of the device.
- Rarely do these activities require **reproduction** or **distribution** of software.



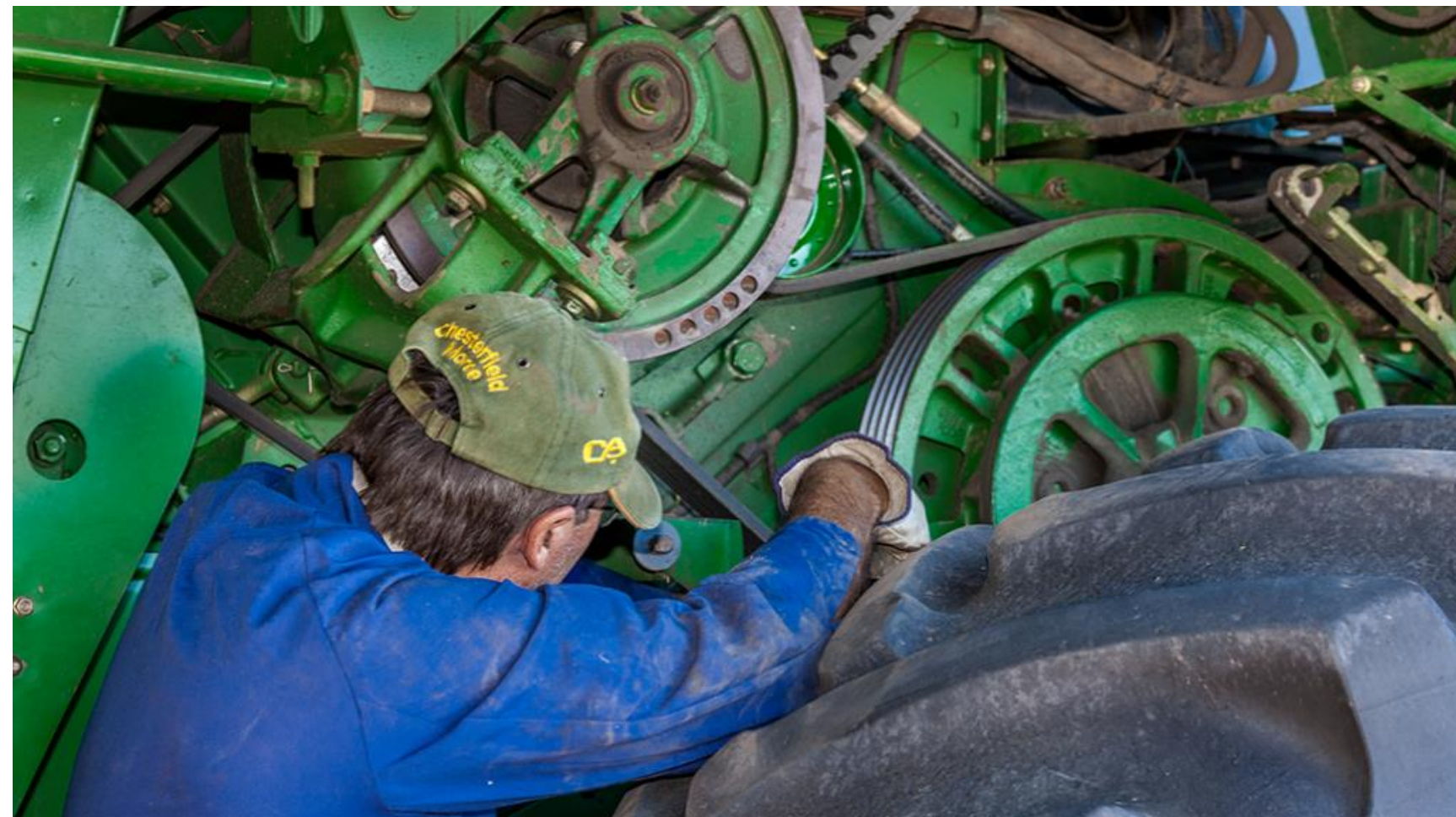
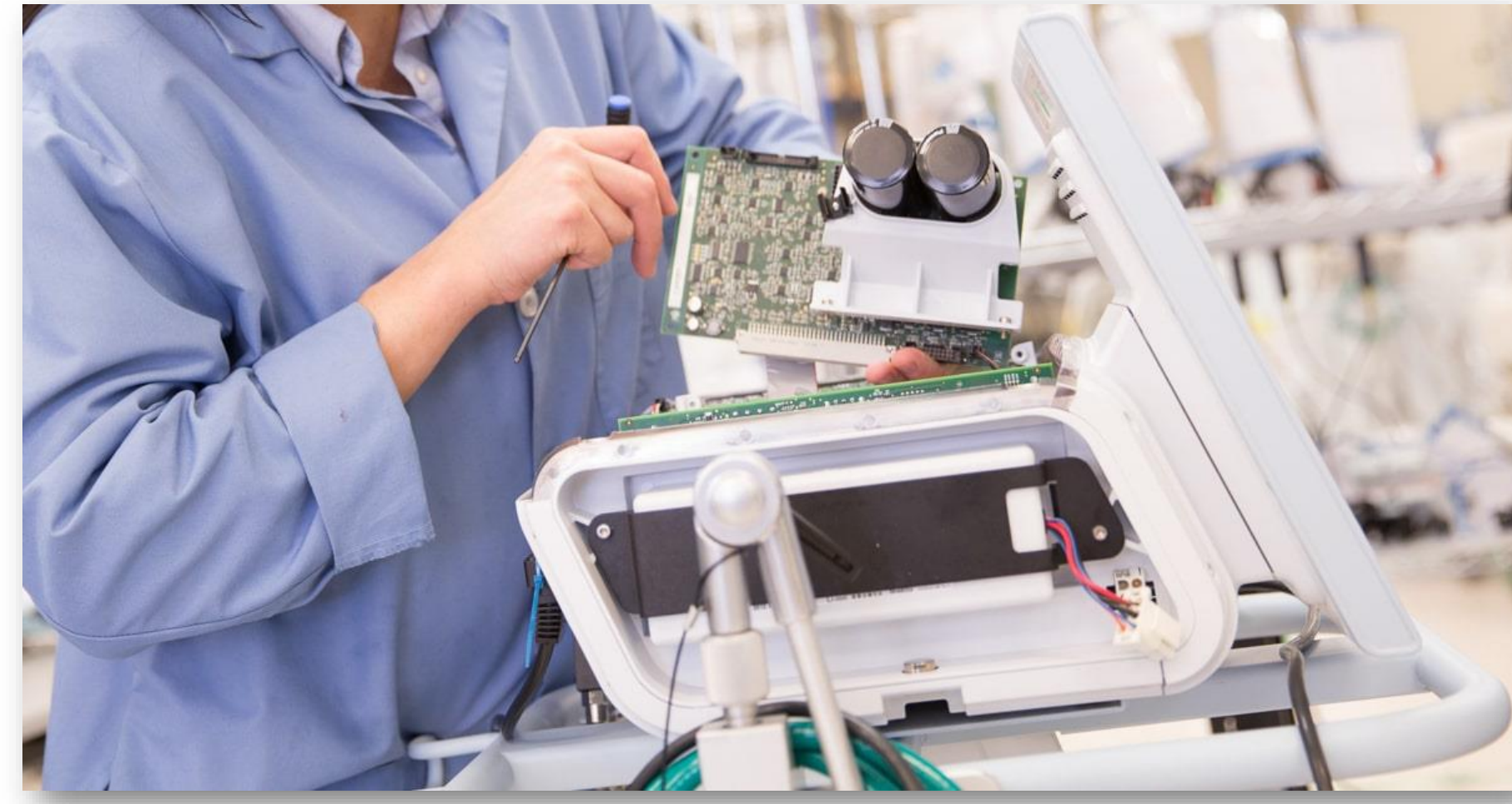
TPMs and the #RightToRepair

Scope of devices and industries



TPMs and the #RightToRepair

Scope of devices and industries



Copyright (TPMs)

Bill C-244, *An Act to amend the Copyright Act (diagnosis, maintenance and repair)*

“Paragraph 41.1(1)(a) does not apply to a person who circumvents a technological protection measure that controls access to a computer program **if the person does so for the sole purpose of diagnosing, maintaining or repairing a product in which the computer program is embedded.**”

Status: Currently before Senate committee. Bill will be studied further, reported on, and a final reading will take place before Royal Assent (likely Fall/Winter 2024).

Copyright (TPMs)

Bill C-244, *An Act to amend the Copyright Act (diagnosis, maintenance and repair)*

“Paragraph 41.1(1)(a) does not apply to a person who circumvents a technological protection measure that controls access to a computer program if the person does so for the sole purpose of diagnosing, maintaining or repairing a product in which the computer program is embedded.”

Statutory prohibitions

- **circumvention,**
- ~~offering circumvention services; or~~
- ~~manufacturing, distributing circumvention tools.~~

(3) *Device* TPMs: Interoperability

Nintendo v King, 2017 FC 246

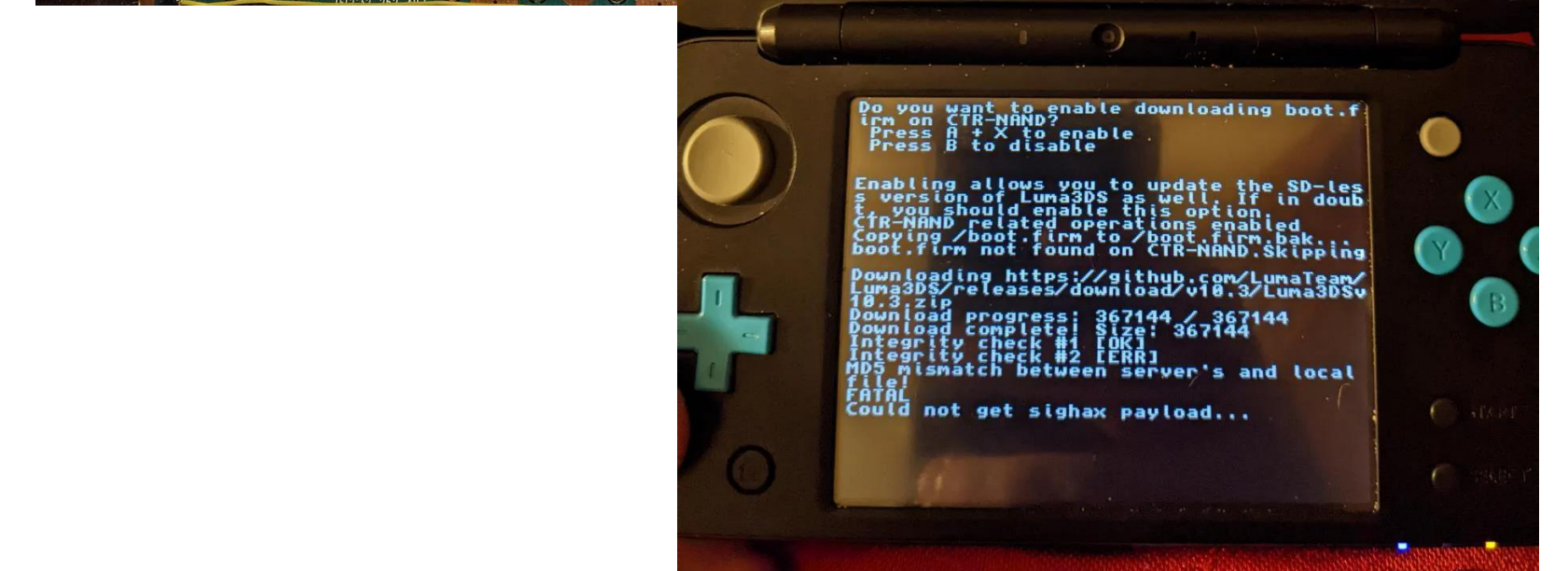
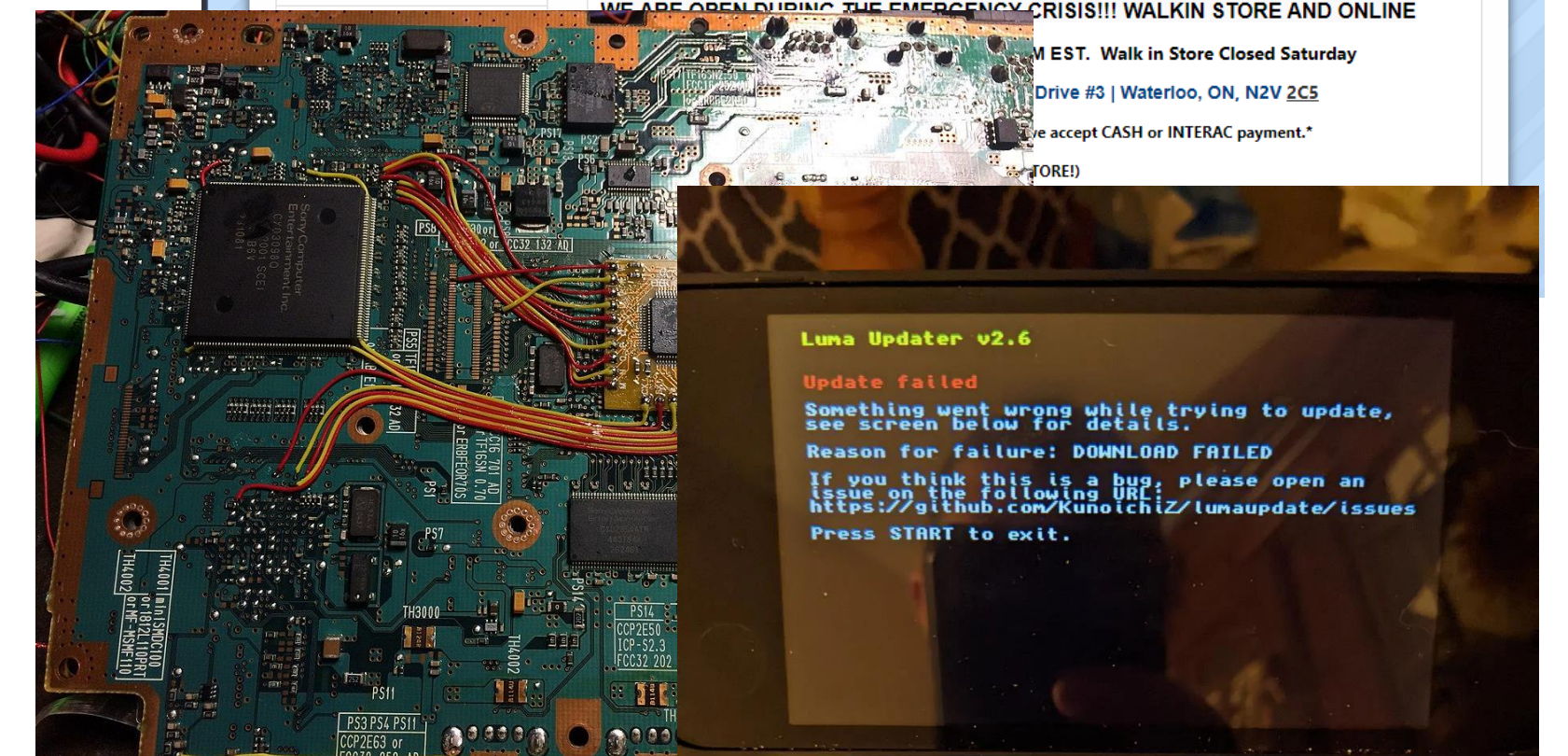
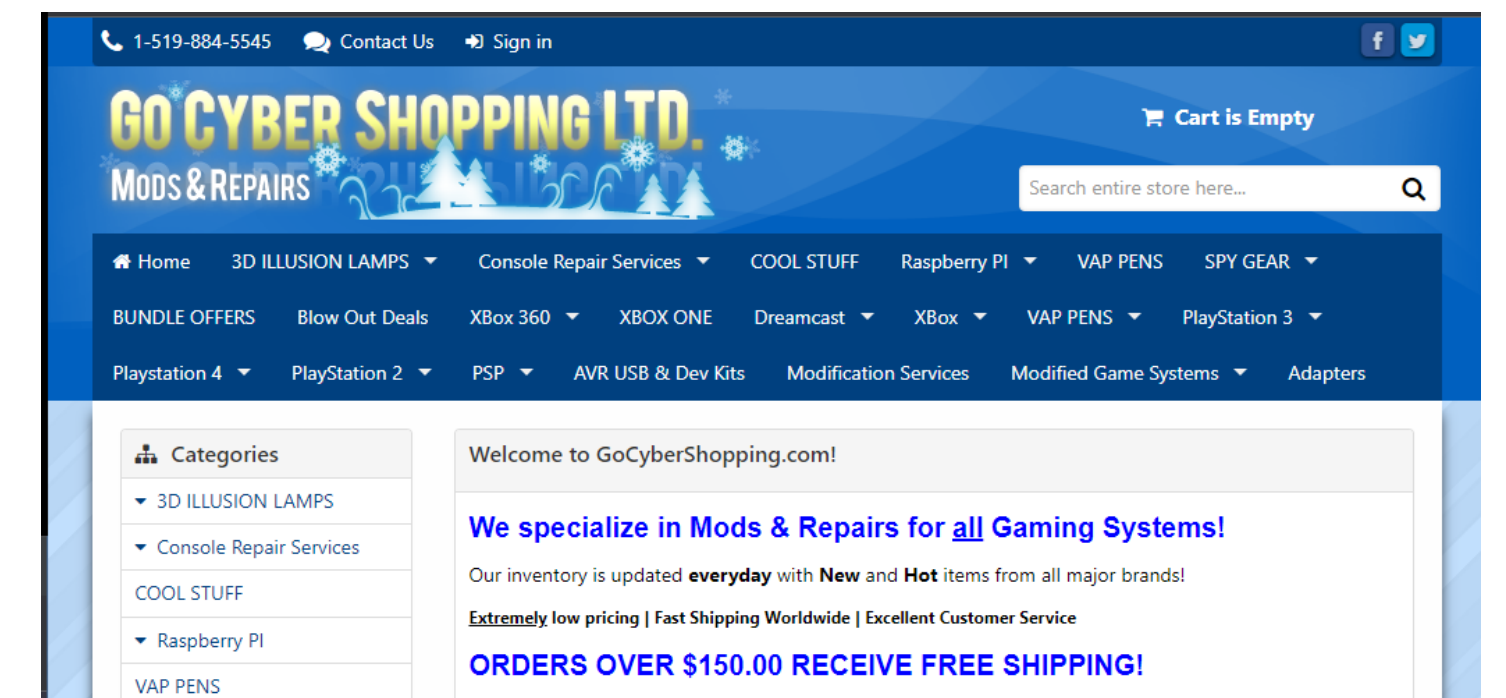
Unlawful circumvention & interoperability

Defendant “GoCyberShopping” is a retailer of game consoles and offers “mod chip” installation services

“Mod chips” allow some Nintendo consoles to play games and content unauthorised by Nintendo, including infringing copies of games

GoCyberShopping did not directly infringe any of Nintendo’s games or software

Nintendo successfully sued and received \$22-million CAD in damages, including statutory, special, and punitive damages for unauthorised circumvention of TPMs



Nintendo v King, 2017 FC 246

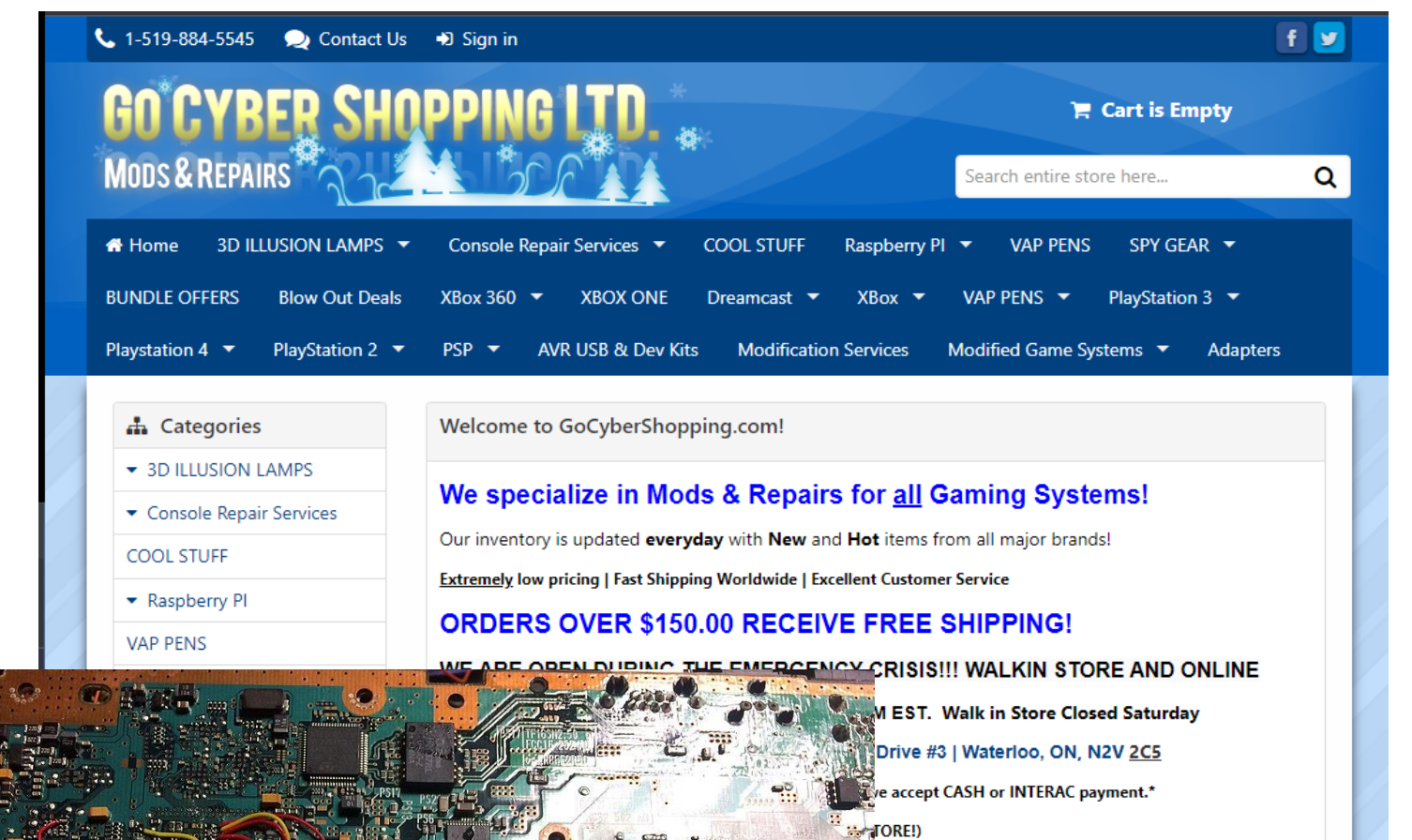
Unlawful circumvention & interoperability

“[T]here are legitimate paths for developers to develop software on its consoles without circumventing the applicant’s TPMs. There is no need for any TPM circumvention to achieve interoperability.”

- High bar (necessity?) for interoperability exception to apply

“It is apparent that Parliament intended access control TPMs to extend beyond TPMs that merely serve as barriers to copying.”

- Broad definition of TPM; not limited to a transformation of the work. “...shape of Nintendo’s game cards is an effective measure for controlling access to the [works].”

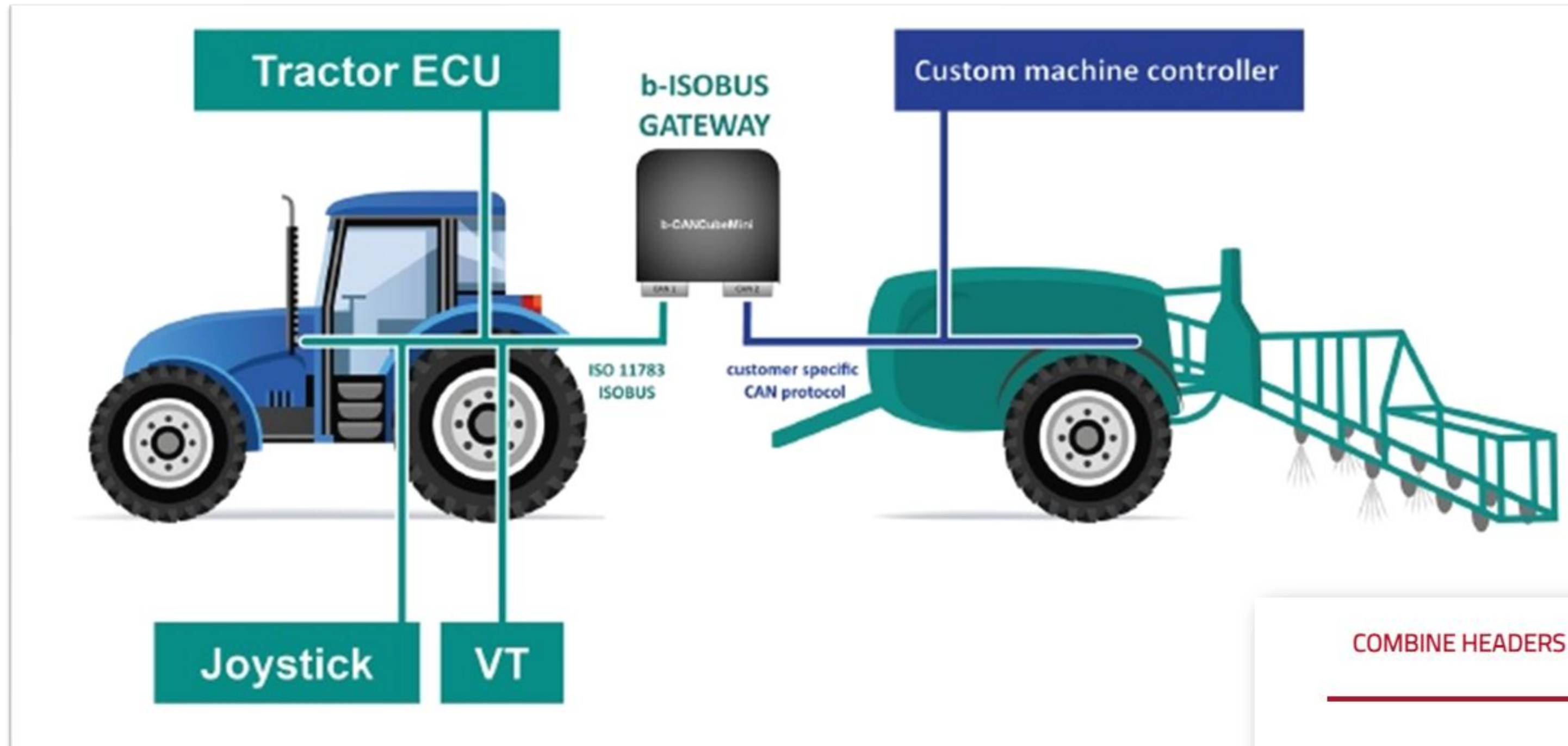


(Existing) TPM Interoperability Exception

s.41.12

“Paragraph 41.1(1)(a) does not apply to a person who owns a computer program or a copy of one...and who circumvents a technological protection measure that protects that program or copy for the sole purpose of obtaining information that would allow the person to make the program and any other computer program interoperable.”

TPMs & Interoperability



AirFLEX™ FEATURES TESTIMONIALS VIDEO SPECIFICATIONS MANUALS

Fully Flexible Cutterbar, Adjustable Air Suspension and Optimized Header Height System
The AirFLEX can be used in flex or rigid mode with a simple push of a button in the cab. In rigid mode, the cutterbar is inflexible; the ideal setting for cereals. In flex mode, the AirFLEX shaves the ground and is ideal for soybeans, peas and lentils. The air suspension is light, fast-reacting and infinitely adjustable. The Optimized Header Height System always keeps the header at the perfect height in all terrains and in both cutting modes.

Easy to Operate
The AUTOMATIX system is an advanced control panel delivering simple and complete control of the AirFLEX.

High Performance Rigid Mode
The non-compromise rigid cutterbar is optimized for off-ground cutting. No gauge wheels are required.

Precision Gauge Wheels
A pneumatic gauge wheel design adjust quicker in the field, from the cab of the combine, and functions better in rough and soft terrain.

Transport System
The AirFLEX transport wheels are designed to be there when you need them and off for harvest. They're self-aligning and can be mounted in five minutes.

Honey Bee Draper Shield
The draper shield efficiently provides and promotes unrestricted crop flow to the centre deck without power, moving parts or adjustment.

Cross Auger
A hydraulic cross auger is available to assist in material flow from the drapers to the feed auger. It replaces the draper shield and adjusts for bulky and tangled crops like peas and mudflats.





Speed
The AirFLEX allows greater precision at higher speeds. You'll pick up the entire crop while covering more acres at a pace that will surprise you.

Fully Synchronized, Centrally Driven Knives
The smooth operating knife drive provides powerful cutting action and increased durability, while enabling a lighter and more streamlined crop divider.

Honey Bee High Performance Reel
The custom built, fully adjustable reel ranges from gentle to aggressive with unlimited finger spacing options to leave no crop behind.

Reversible Mechanical Drive
For maximum convenience and efficiency, you can remove plugged crops directly from the cab of your combine.

High Performance Drapers
The new draper tensioning system provides smooth, consistent operation regardless of what crop you're harvesting.

COMBINE HEADERS	WINDROWERS & HEADERS	TRACTOR ATTACHMENTS	MORE
			
FlexDraper® Headers	Draper Headers	Corn Headers	Pick-Up Headers
VIEW MODELS ▾	VIEW MODELS ▾	VIEW MODELS ▾	VIEW MODELS ▾

Proposed device TPM interoperability exception

Bill C-294, *An Act to amend the Copyright Act (interoperability)*

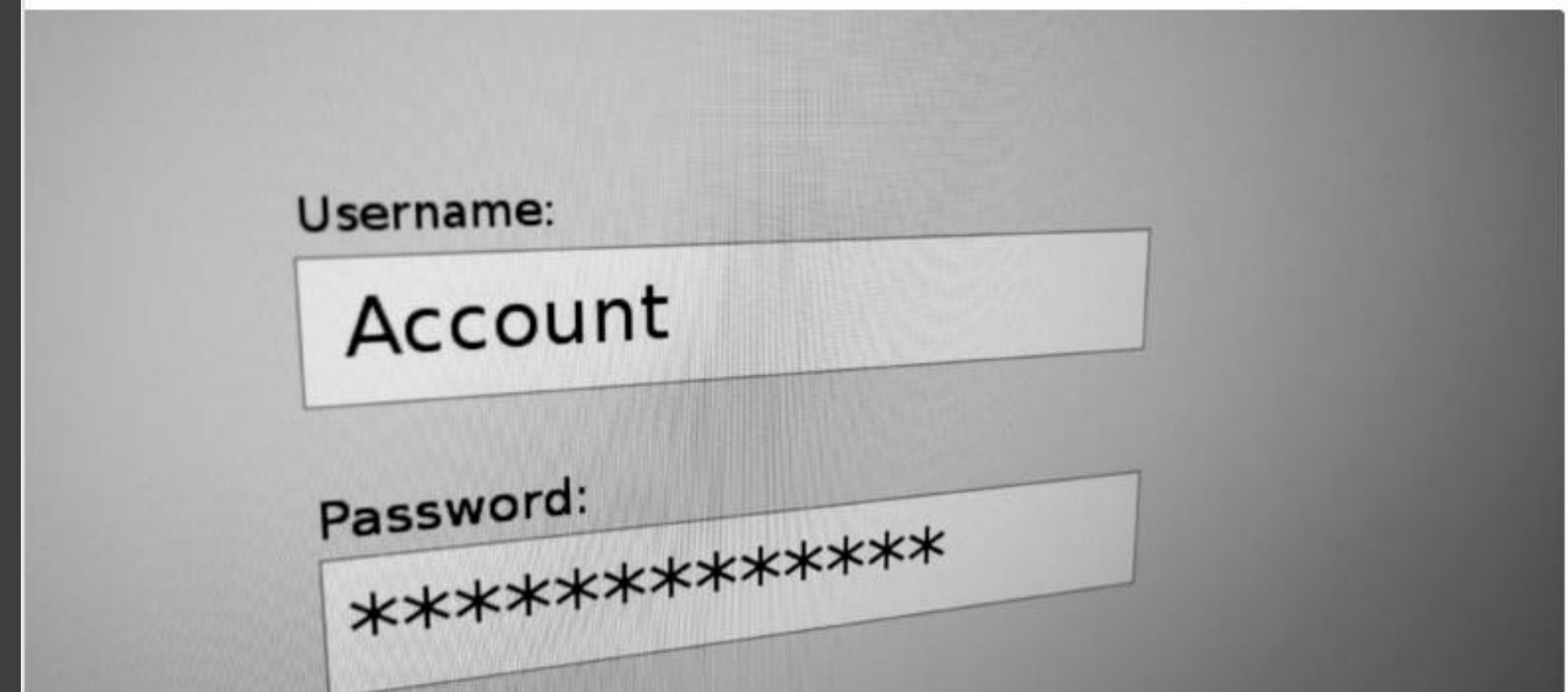
“Paragraph 41.1(1)(a) does not apply to a person who circumvents a technological protection measure that protects a lawfully obtained computer program for the purpose of...obtaining information that would allow the person to make the program or a device in which it is embedded interoperable with any other computer program, device, or component...”

Status: Currently before Senate committee. Bill will be studied further, reported on, and a final reading will take place before Royal Assent (likely Fall/Winter 2024).

(4) Takeaways from the *Blacklocks Reporter* decision

Michael Geist

About ▾ | Writing ▾ | Teaching ▾ | Speaking ▾ | Tech Law Topics ▾ | Podca



Username and password 20170626, Santeri Viinamäki, CC BY-SA 4.0 , via Wikimedia Commons

News

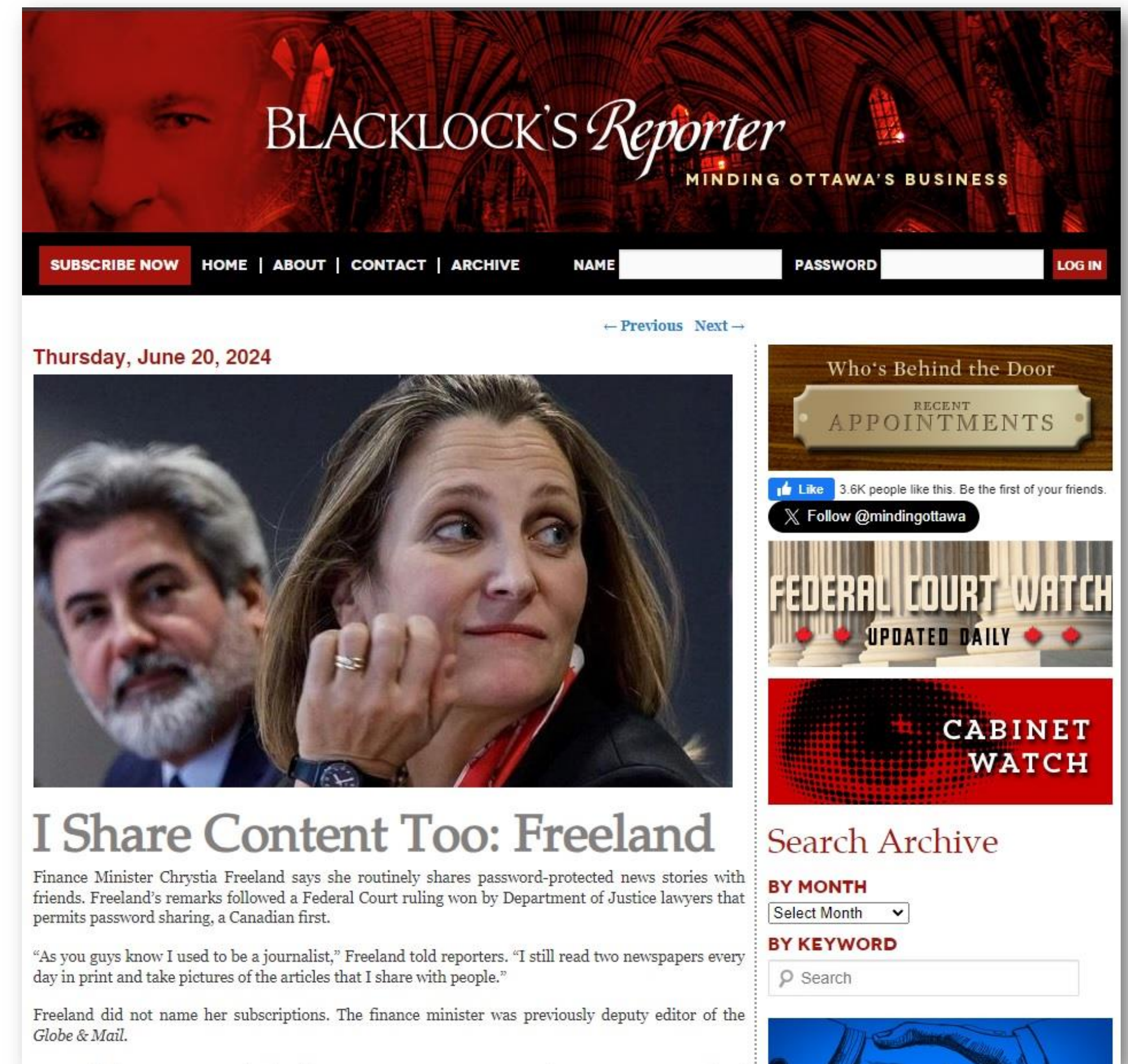
Huge Win for Copyright User Rights in Canada:
Federal Court Rules Digital Lock Rules Do Not
Trump Fair Dealing

June 1, 2024

Blacklock's Reporter v Canada (AG), 2024 FC 829

Overview

- BR is a subscription-based news company focused on the Ottawa political scene
- A Parks Canada employee purchased a subscription using an institutional credit card
- Only one type of subscription was available
- User was not asked to acknowledge Terms & Conditions when subscribing
- Parks Canada employee shared the password within their office and other employees accessed articles
- BR sued in part for unauthorized circumvention of their TPM (i.e., a password)



The screenshot displays the Blacklock's Reporter website interface. At the top, there is a navigation bar with a "SUBSCRIBE NOW" button and links for "HOME", "ABOUT", "CONTACT", and "ARCHIVE". A login form with "NAME" and "PASSWORD" fields and a "LOG IN" button is also present. The main content area features a date "Thursday, June 20, 2024" and a large image of Finance Minister Chrystia Freeland. The article title is "I Share Content Too: Freeland". The text of the article begins with "Finance Minister Chrystia Freeland says she routinely shares password-protected news stories with friends. Freeland's remarks followed a Federal Court ruling won by Department of Justice lawyers that permits password sharing, a Canadian first." Below the article text, there is a quote: "As you guys know I used to be a journalist," Freeland told reporters. "I still read two newspapers every day in print and take pictures of the articles that I share with people." The article concludes with "Freeland did not name her subscriptions. The finance minister was previously deputy editor of the *Globe & Mail*." On the right side of the page, there are several widgets: "Who's Behind the Door" with "RECENT APPOINTMENTS", a Facebook-like button for "@mindingottawa" with "3.6K people like this", "FEDERAL COURT WATCH" with "UPDATED DAILY", and "CABINET WATCH". At the bottom right, there is a "Search Archive" section with "BY MONTH" and "BY KEYWORD" filters and a search input field.

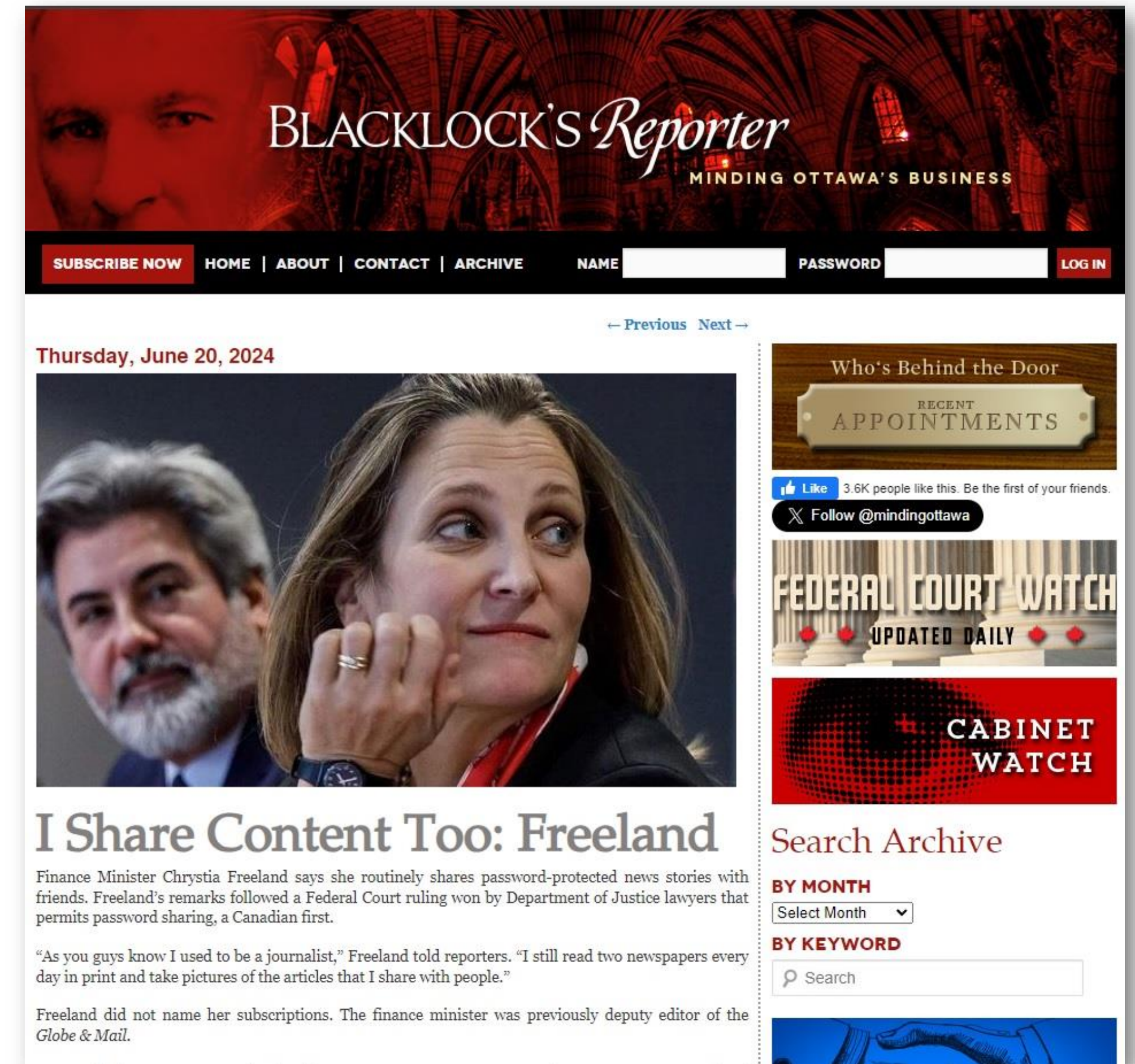
Blacklock's Reporter v Canada (AG), 2024 FC 829

Judgment: 31 May 2024

On whether passwords are TPMs:

The Court (Roy J):

- “[T]here is no circumvention of a TPM...because the password was not circumvented; it was properly obtained and used for a legitimate purpose.” (para 120)
- “[T]he Court declines to address [the issue of whether] a password, as such, is a technological protection measure...because...the password was in fact used.” (para 70)
- “...there was no ‘hacking’...the password was not discovered by force, whether that be trial and error or otherwise” (para 111)
- “...using a validly obtained password to access content is not circumvention” (para 125)



The screenshot shows the Blacklock's Reporter website interface. At the top, there is a navigation bar with a "SUBSCRIBE NOW" button and links for "HOME", "ABOUT", "CONTACT", and "ARCHIVE". A search bar with "NAME" and "PASSWORD" fields and a "LOG IN" button is also present. The main content area features a large image of Finance Minister Chrystia Freeland and a man, with the headline "I Share Content Too: Freeland". Below the headline, there is a short paragraph of text. To the right of the main content, there are several sidebar widgets: "Who's Behind the Door" with "RECENT APPOINTMENTS", a Facebook-like "Like" button with "3.6K people like this", a "Follow @mindingottawa" button, "FEDERAL COURT WATCH" with "UPDATED DAILY", and "CABINET WATCH". At the bottom right, there is a "Search Archive" section with "BY MONTH" and "BY KEYWORD" filters and a search input field.

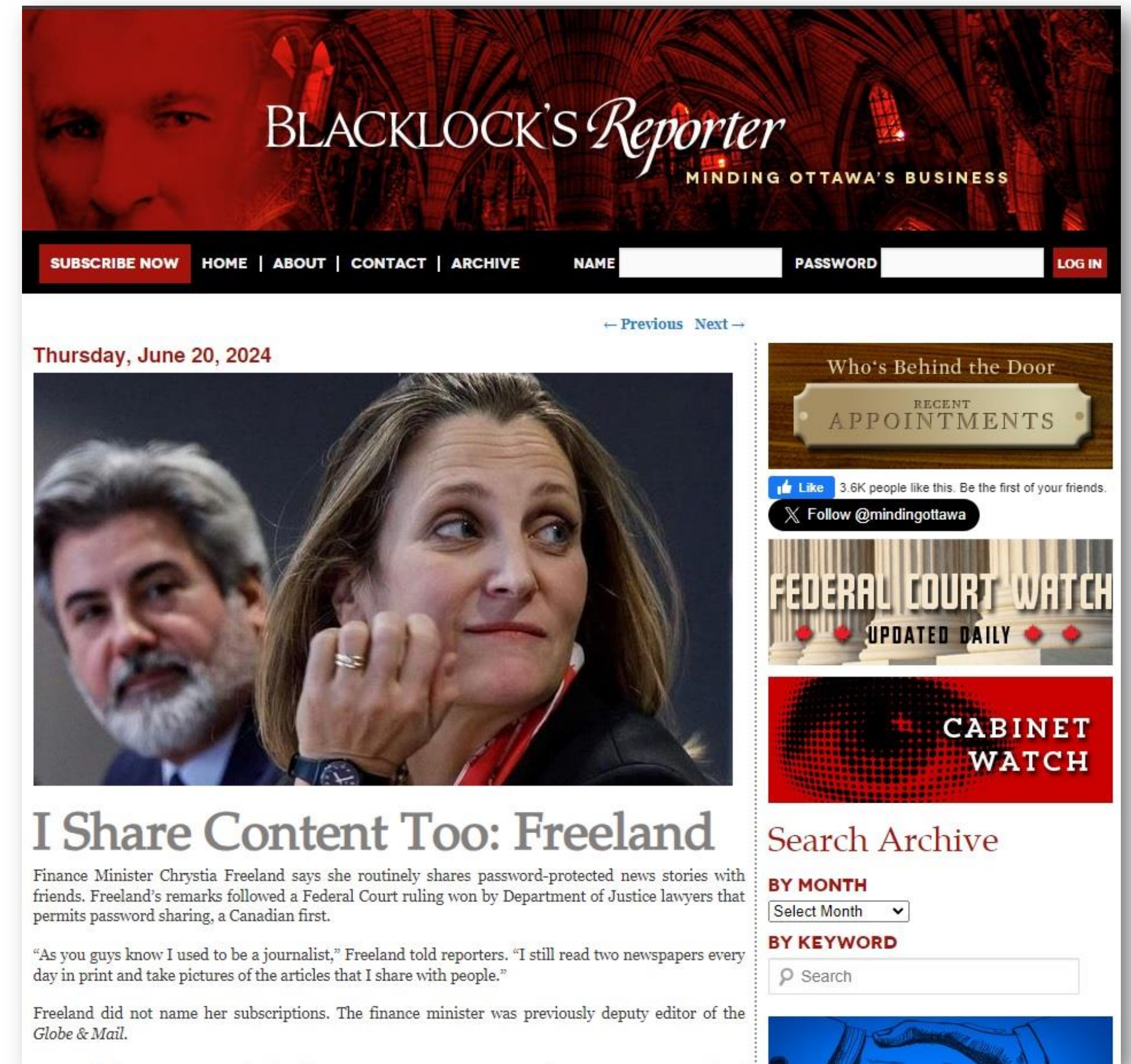
Blacklock's Reporter v Canada (AG), 2024 FC 829

Judgment: 31 May 2024

On the status of fair dealing:

The Court (Roy J):

- Fair dealing and TPMs co-exist “in some harmony so long as the dealing is fair”, which includes... “how access to the work has been accomplished and the use of the content that followed” (para 131)
- “[H]ow the password was obtained is significant as this may prevent a user from invoking the fair dealing provisions of the Act. Obtaining content by descrambling a signal or decrypting a communication may render invoking fair dealing very difficult to establish successfully” (para 125)



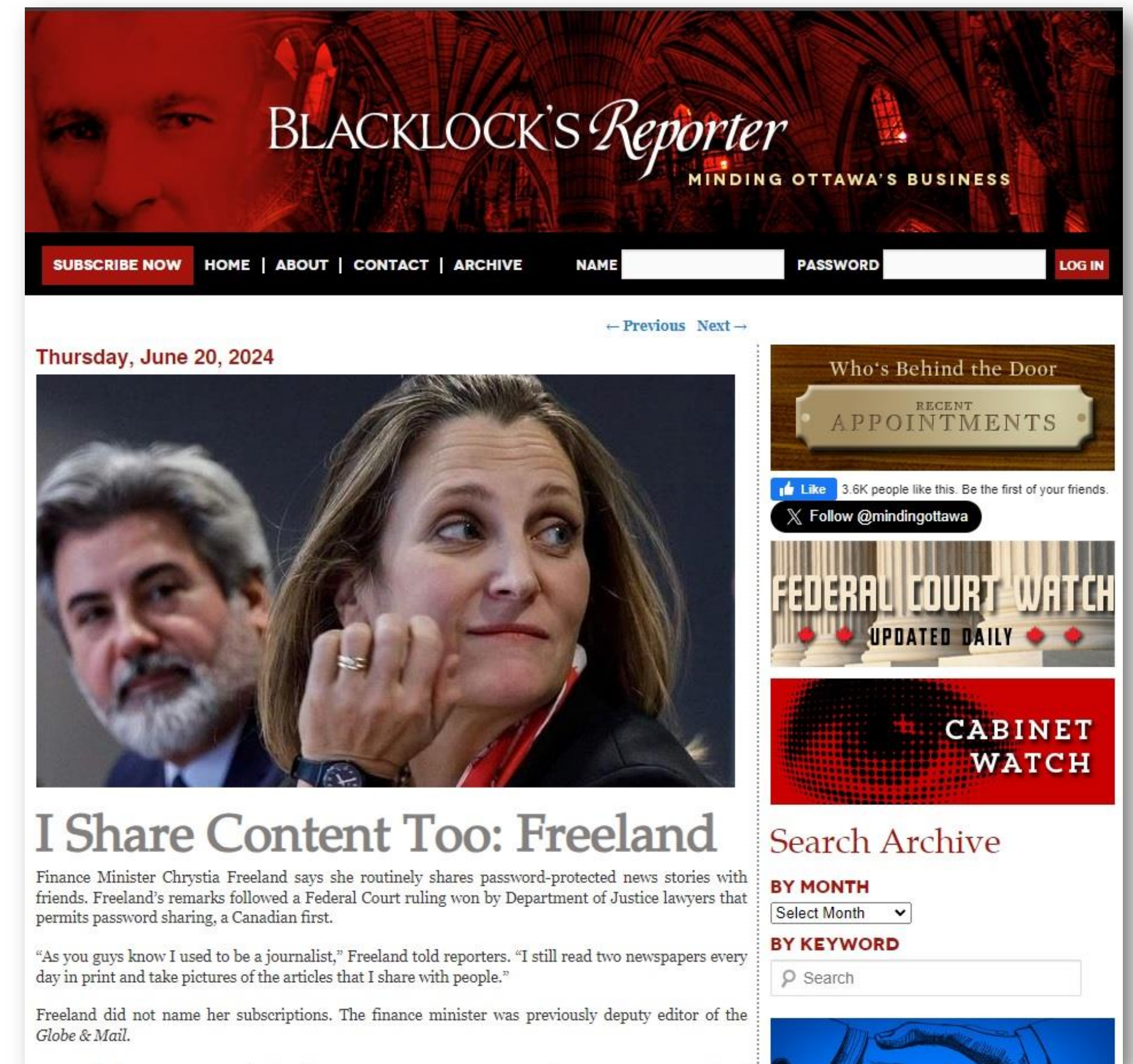
The screenshot shows the Blacklock's Reporter website interface. At the top, there is a navigation bar with a "SUBSCRIBE NOW" button and links for "HOME", "ABOUT", "CONTACT", and "ARCHIVE". There are also input fields for "NAME" and "PASSWORD", and a "LOG IN" button. The main content area features a large image of Chrystia Freeland and a headline "I Share Content Too: Freeland". Below the headline, there is a short paragraph of text. To the right of the main content, there is a sidebar with several sections: "Who's Behind the Door" with a "RECENT APPOINTMENTS" button, a "Like" button with "3.6K people like this", a "Follow @mindingottawa" button, "FEDERAL COURT WATCH" with "UPDATED DAILY", and "CABINET WATCH". At the bottom of the sidebar, there is a "Search Archive" section with a "BY MONTH" dropdown menu and a "BY KEYWORD" search input field.

Blacklock's Reporter v Canada (AG), 2024 FC 829

Judgment: 31 May 2024

Main takeaways:

- Sharing a validly obtained password to protected content is not “circumvention”
- Fair dealing must be “accounted for” in considering TPM provisions (big win!), but deliberate circumvention/hacking may prevent users from invoking fair dealing to begin with
- No clarity on whether a password may be considered a TPM
- Offers guidance for unsophisticated TPMs where alternatives to circumvention exist, but presence of Terms & Conditions will be highly relevant
- Unlikely to have any impact on negative externalities of device TPMs (activities not covered by fair dealing)



The screenshot shows the Blacklock's Reporter website interface. At the top, there is a navigation bar with links for 'SUBSCRIBE NOW', 'HOME', 'ABOUT', 'CONTACT', and 'ARCHIVE'. Below the navigation bar, the date 'Thursday, June 20, 2024' is displayed. The main content area features a large image of Finance Minister Chrystia Freeland and a headline 'I Share Content Too: Freeland'. The article text begins with 'Finance Minister Chrystia Freeland says she routinely shares password-protected news stories with friends. Freeland's remarks followed a Federal Court ruling won by Department of Justice lawyers that permits password sharing, a Canadian first.' To the right of the main article, there are several sidebar widgets: 'Who's Behind the Door' with 'RECENT APPOINTMENTS', a social media 'Like' button for '@mindingottawa' with 3.6K likes, 'FEDERAL COURT WATCH' with 'UPDATED DAILY', and 'CABINET WATCH'. At the bottom right, there is a 'Search Archive' section with a dropdown menu for 'BY MONTH' and a search input field for 'BY KEYWORD'.

Thanks.

Q&A.