Canada should not fall behind on implementing safety measures for children online, says researcher

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Recent legislation about age verification for adult content sites has sparked an interesting scenario in the Canadian parliament. On Dec. 13,

Bill S-210, An Act to restrict young persons' online access to sexually explicit material, passed the second reading in the House of Commons with a vote of 189 to 133.

Surprisingly, most Liberal MPs voted against it, as the government has been working on its own online harms bill. The online harms bill was first promised in 2019 but has yet to be tabled due to the broader complications it is dealing with.

With full support from the Conservatives, NDP, Bloc Québécois, and some Liberal MPs, Bill S-210 managed to proceed for a committee review. The bill had successfully passed the Senate in the spring of 2023.

Bill S-210 proposes that, before accessing sites with adult content, all users have to go through a mandatory age verification process to prove they are adults. Age verification has been compulsory for accessing gambling sites and those that sell products like alcohol, tobacco, and cannabis.

Protecting minors

Similar legislation to Bill S-210 has been successfully passed or implemented in various parts of the world, including the European Union, the United Kingdom and several states in the United States.

Yet Canadian lawmakers have divided opinions on this bill. Critics of Bill S-210 have raised strong concerns about privacy and freedom of expression.

My Ph.D. research focuses on anonymous age verification systems to protect users' privacy. I also voluntarily consult with the Digital Governance Council of Canada to develop technical standards for age-verification technologies.

When discussing privacy and security during online age verification, we need to consider some key factors.

Online age verification

While different mechanisms exist for online age verification, the more popular methods are ID document matching, facial recognition, and third-party verification.

ID document matching is a common method for age verification during in-person transactions. For instance, individuals are required to present government-issued ID documents, such as a driver's license or health card, when purchasing alcohol from a physical store. Similarly, in online transactions, users can upload an image of their ID.

Then optical character recognition technology is used to extract data from the document, particularly the date of birth. Additionally, a liveness check may be conducted by comparing the photo on the document with an instant photo of the user to ensure authenticity.

Users may also verify their age through authorized third parties, such as their credit cards or bank accounts. This method leverages existing relationships and information held by these trusted entities to confirm the user's age.

Biometric-based age verification has been an emerging field during the last decade, thanks to artificial intelligence. Researchers are exploring different biometrics for estimating age, including facial images and videos, speech, fingerprints, heart signals and irises.

During facial analysis, users are requested to provide a live selfie in the form of an image or video, which is then analyzed by AI-based tools to estimate their ages. This method has been extensively tested and is now

deployed by various entities in different countries, including Google and Meta.

Less invasive option

When different options are available, users can choose the options with which they feel most comfortable with. The euCONSENT project is a network founded by the European Commission to protect children online. The network recently ran a comprehensive pilot on online age verification among 2,000 children and adults across five European countries.

Participants' feedback showed that facial estimation was the top choice, preferred by 68 percent of the participants. They considered it as an easy, fast and less invasive option. Third-party verification (through credit card) was the least chosen option, preferred by only three percent of the participants.

Users' personal data (ID documents, facial images or bank information) needs to be protected by enforcing strict regulations, similar to the EU's General Data Protection Regulation policies.

Bill S-210 proposes to implement reliable age verification methods that will collect users' personal information solely for verification purposes, and the data will be destroyed immediately after verification.

Challenges posed by VPNs

Virtual Private Networks (VPNs) are often used to evade age verification. Users route internet traffic through servers in different locations, making it appear as if they are accessing content from a region without age restrictions.

This challenge can be tackled by IP geolocation services, which compare a user's claimed location with their actual IP address, helping to identify any discrepancies.

Protecting children

Along with technological readiness, social awareness is also crucial to ensure proper adoption of age-verification measures, which takes us back to the legislative aspects.

The number of online sexual luring cases involving children has increased 10-fold in the last five years in Canada. We have experienced tragic incidents of kids dying by suicide after being victimized online. Last October, a 12-year-old B.C. boy died by suicide after falling victim to online sextortion.

So, the question is: how long do we need to wait before measures are in place to protect children? Canada cannot afford to trail behind any longer. It is now time to move forward and make online space safe.

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