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The Role of Age Verification Systems in Protecting Minors from Harmful Online Content in Australia.

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ABSTRACT

Currently, in Australia, there is no nationwide mandatory age verification system for all online content while discussions and proposal for stronger measures are ongoing. Teenagers often lack enough judgment while the content of the Internet is mixed. They are prone to addiction to online games and encounter risks such as online fraud or privacy disclosure. Age verification systems have the potential to significantly enhance online safety for minors, at the same time, their implementation must be carefully balanced against privacy concerns and potential limitations. This article discusses the role of age verification systems in protecting juvenile from harmful online content in Australia and outlines the benefits of such systems. It also addresses challenges, for example, balance accuracy with privacy concerns. By comparing with the UK, US, China and Japan, this paper emphasizes the need for a balance between safety and privacy and proposes solutions to improve age verification systems such as hierarchical validation systems, data minimization, decentralized authentication, privacy impact assessments, and international cooperation.

KEYWORDS

Age Verification; Online Safety; Minors; Privacy; Australia.

1. INTRODUCTION

Age verification is the process of confirming a user's age before allowing access to age-restricted goods, services, or content. In today's digital age, where more and more transactions take place online, age verification is becoming increasingly important, especially in industries such as e-commerce, gaming, and alcohol and tobacco sales [1]. The article "Response to the Online Safety Charter consultation paper" from the Alannah & Madeline Foundation, an Australia charity focused on protecting children from violence and bullying suggests that children need more protection online than adults [2]. This is based on society's fundamental responsibility to protect children and the fact that the Internet was not designed with children's needs in mind. Currently, in Australia, there is no nationwide mandatory age verification system for all online content while discussions and proposal for stronger measures are ongoing.

In this essay, I will argue that age verification systems have the potential to significantly enhance online safety for minors in Australia, at the same time, their implementation must be carefully balanced against privacy concerns and potential limitations. This article starts from the current situation of age verification in Australia, then illustrates benefits of age verification systems. The third section is about challenges and concerns. After that, comparing with other countries about the age verification systems. Finally, age verification systems should be improved and widely used, but should also pay attention to the protection of personal privacy, while not ignoring the potential challenges.

2. CURRENT SITUATION OF AGE VERIFICATION IN AUSTRALIA RGANIZATION OF THE TEXT

2.1. Current Situation of Age Verification in Australia

Australia is at a complex turning point in the implementation of an online age verification system. Currently, the legal framework, including the Online Safety Act 2021 [3] and the Online Safety (Restricted Access Systems) Declaration 2022 [4], lays the groundwork for protecting minors from harmful online content, but does not yet provide for specific methods of age verification. As the Internet has grown in popularity and growth, public concerns about children's online safety have increased, driving public discussion of stricter measures, but these discussions are also constrained by privacy protection and implementation challenges. For example, the eSafety commission submitted a roadmap on age verification to the Australia Government which includes complementary methods to protect children from online pornography in March 2023 [5]. On 31 August, the Australian Government responded to eSafety's roadmap. Pornography is legal in Australia and is regulated under the Online Safety Act, however, pornography is harmful to children who are not equipped to understanding its contents and context, and they should be protected from exposure to it online [6]. The Australia Government committed to an independent statutory review of the Online Safety Act, which will be completed before next term of government. Australia takes a relatively cautious, incremental approach compared to countries such as the UK and the European Union, which are pushing for more comprehensive age verification requirements.

2.2. Challenges and Public Concerns

In Australia, the current approach focuses on working with industry and leveraging existing legal frameworks, rather than introducing comprehensive new legislation specifically targeting age verification. In Australia, teenagers are in the midst of the greatest crisis of a generation because the toxic social media is affecting their health and costing lives. A polling conducted by Dynata in April 2024 surveyed over 3000 social media users revealed that 70 percent of teens have had a negative experience on social media. Australia parents and experts are pushing to raise the age for social media access to 16 [7]. However, with the reason of insufficient maturity among the current technological options, Australia's Albanese government refused to implement a mandatory age verification system for online pornography and other adult content last year [8]. Australia still has a long way to go in deciding which tools to use to restrict children's access to adult content online, while the nation's eSafety Commissioner said it is not possible that age bans for the accession of social media will happen any time soon [9].

3. BENEFITS OF AGE VERIFICATION SYSTEMS

3.1. Protection of Minors from Harmful Online Content

The protection of minors certification system significantly reduces minors' exposure to inappropriate or harmful online content, including pornography, violence, and gambling sites. This helps protect children's mental and emotional health during critical developmental stages. Spending too much time online is harmful for teens. For example, a study focusing on 12- to 15-year-olds in the United States which was based on data collected in 2013 and 2014 from more than 6500 participants indicated that spending three hours a day using social media increases the risk of mental health problems [10]. What's more, children are in the growing stage. Due to their limited cultural level and social experience, it is often difficult for them to make correct choices and judgments in the face of the mixed online information, such as addictive online games, evil cartoons, bad novels and Internet gambling, which have a negative impact on children's growth.

3.2. Enhancing Online Safety

Age verification is conducive to building a safer online environment by creating barriers for underage users. By setting quality standards for the age verification system and promoting the continuous upgrading of the age verification system, the online world can be made safer, just as the online world is equipped with more solid guardrails to create a more friendly online world [11].

3.3. Ensuring Compliance and Corporate Responsibility

Age verification systems play an important role in helping monitor companies' compliance with online age restriction laws to avoid penalties for companies or platforms. An effective age verification system uses methods of age assurance, which is a vital tool for any online services, especially those that offer age-restricted products such as alcohol, tobacco and adult content. Implementing a comprehensive age verification system can also show the businesses are dedicated to creating a safer online environment, which helps to establish a corporate image [12]. What's more, it is more critical than ever to verify the customers' age before letting them access certain products with the increase of online shopping. Businesses have a social responsibility to prevent underage consumers from accessing age-restricted products through their platform [13].

3.4. Customizing User Experience

People of different ages visit different products and content. Effective age verification allows the platform to customize content and experiences for different age groups. This can lead to more engaging and appropriate interactions for users of all ages, potentially improving user satisfaction and the overall quality of the online experience. By accurately determining a user's age, a platform can tailor the content it offers to limit underage users' access to potentially harmful or inappropriate content, thereby improving user safety. For example, the YouTube Kids provides curated educational videos, comics and family-friendly content for children, ensuring that young viewers are not exposed to inappropriate content.

4. CHALLENGES AND CONCERNS

Although the age verification system is necessity and important, its application faces difficulties.

4.1. Balance Accuracy with User Privacy

For Australia, this may be the main challenge. If users must upload documents of identification to every social media platform, each time they provide, the chances the data is leaked and released will increase. If the security of a major platform is breached, the exact information used to prove the identity of Australians could be compromised [14]. Improving the accuracy of age verification systems often means that more user information needs to be collected, and if the extent of information collection is not properly grasped, it may lead to an invasion of the user's personal privacy. For example, to meet the new requirements, an individual would have to show their entire ID, which contains a lot more information about a person's identity than just date of birth [15]. Compared to offline age verification, in the case of a bar, we forgive this minor invasion of privacy when a bar security officer manually checks credentials, in part because we think the bartender is less likely to write down our names and addresses, record our movements, and sell that information to others for a profit. While some bars use digital scanners to verify identity, many places have laws that dictate the purpose of the procedure, data retention and consent requirements. However, in a world where data breaches and

cyberattacks are commonplace, we generally encourage the collection of less, not more, sensitive information.

4.2. Easily Circumvented

In order to get around the age verification system, underage users often take various circumvention measures, such as using their parents' ID cards or using realistic filters to change the age of people in images and videos. In addition, some online platforms will also blur harmful information, which may lead to minors inadvertently accessing age-inappropriate content. Tech giant Tencent found that users can evade age verification by borrowing the device of a parent or adult or by buying, renting, or trading verified adult accounts [16]. For example, in China, on Taobao, an online shopping platform, after searching in the keywords like “video game ID”, a large number of such services will appear, providing accounts for popular games such as Honor of Kings, Game for Peace, CrossFire and Genshin Impact, with prices ranging from $77 to $310, by buying these ID cards, teenagers can enter the games without the age checking [17].

4.3. Difficulty of Cross-Platform Implementation

A wide variety of online platforms, including various websites, games, social media, etc., make it difficult to implement a consistent age verification system, and too strict an age check may result in inconsistent user experiences. As the digital landscape continues to evolve, the need for reliable identity verification services will only continue to grow. In my opinion, there is a need to use the cross-platform apps for identity verification services. The reason is that cross-platform apps is cost-efficiency. Instead of applying separate apps for each platform, businesses can save time and resources by creating a single app that can be used on different devices, which not only reduces development costs but also streamlines the maintenance and updates process [18]. In addition, cross-platform applications are easier to maintain and update. With a single code base, developers can make changes or add new features across all platforms simultaneously. This streamlined process helps reduce the time and effort required for maintenance, allowing organizations to focus on delivering a better user experience. However, because of the technology limitation, the cross-platform implementation is still a challenge.

4.4. Uniform Legal Provisions

Age verification systems must deal with a complex legal and regulatory environment, with different countries having different legal provisions for age verification, consistent legal provisions remain a dilemma to be faced up to now. For example, although the overarching goal of age verification system in the US and Europe remains consistent, their approaches to age verification online exhibit notable distinctions. In the US, the age verification system is multifaceted, with federal laws like COPPA [19] complemented by a patchwork of state-level statutes. Under this situation, legislation often leaves room for interpretation, allowing businesses flexibility in implementing suitable verification methods. In contrast, in Europe, age verification system is operated under a more centralized framework, with directives like the Digital Services Act (DSA) [20] setting standards across member states. By outlining specific tools and protocols for age assurance, European regulations tend to be more prescriptive [21].

5. COMPARISON

Different countries have difference on age verification

5.1. The United Kingdom (UK)

In the UK, there are some laws that specify age verification, include the Offensive Weapons Act 2022 [22], the Age Appropriate Design Code [23] and the Online Safety Bill [24]. These legislations and codes require online companies to operate age verification processes before consumers are allowed to make a purchase or subscribe to a service, which means that traditional age verification processes require immediate change. Furthermore, in the UK, some products are forbidden for persons under 18 years old, such as knives, fireworks, tobacco, alcohol and vape products. In addition, gaming and gambling, dating and adult entertainment, and retail are all industries and organizations where mandatory verification is required by law. In order to comply with laws and regulations, these industries must use age and date of birth verification tools and solutions to verify the age and date of birth of their customers. Age verification is important in the gaming and gambling industry to ensure the identity of users and protect vulnerable players [25].

5.2. The United States

There is no national online age verification system in the United States.

It mainly relies on industry self-regulation and domain-specific regulations. Although the distribution of pornographic content has been regulated for a long time, Louisiana's House Bill 142, enacted on January 1, 2023, known as Act 440, was the first groundbreaking legislation addressing the issue of minors' exposure to such content online, which has set a precedent for other states to follow [26]. Other states also have related regulations. For example, the California Legislature enacted the California Age-Appropriate Design Code Act (A.B. 2273) on August 30, 2022. Based on the Age Appropriate Design Code (AADC) of the United Kingdom, the bill aims to regulate the collection, processing, storage, and transfer of children's data [27]. It requires businesses to prioritise the best interests of children by implementing privacy and data protection measures, including data minimisation, defaulting to the highest privacy settings, providing clear information about data collection, ensuring reliable age verification, and avoiding designs that entice children to compromise their privacy.

5.3. China

In China, strict real-name and age-verification systems have been implemented, especially in the gaming and social media sectors. Under the age of 18 is considered a minor. On 24 February 2021, China's National Press and Publication Administration (NPPA) announced the implementation of a new system called the new Online Game Anti-Addiction Real-name Authentication System, for the prevention of indulgence in online games, which will be mandatory for all games operating in the country as of 1 June 2021. The system introduces a two-pronged approach, Chinese ID verification and playtime reporting. All players are supposed to use their Chinese national ID number, a unique 18-digit code that includes the individual's birth date to authenticate their identity. In order to ensure the authenticity of the player's identity, game developers must verify these IDs against official records. Moreover, there are strict restrictions on the time minors can spend online in China [28].

5.4. Japan

Japan has adopted the mode of online protection of minors, which is mainly based on cooperative regulation, showing two main characteristics: one is to advocate the cooperation between the government and the public, and strengthen the cooperation between the government and social groups, non-governmental organizations and citizens; The other is that

the policy is in line with international standards, especially with the protection of minors in Europe and the United States. Recognizing that minors' online protection not only requires legal protection, but also the joint efforts of families, schools and the whole society, the Japanese government has adopted legislation to clarify the responsibilities of all parties and established a multi-party cooperative regulatory system for minors' online protection. Japan's three major telecom operators have installed parental management software in mobile phones. Telecom companies have also developed special mobile phones for children, which cannot browse the Web or receive text messages, but can only talk to the number in the address book, and is equipped with GPS positioning function, which can alert the police in time. Under such circumstances, the Act on Development of an Environment That Provides Safe and Secure Internet Use for Young People was enacted in June 2008 and was put Page 7 2 into effect on April 1, 2009 [29].

6. BALANCE SAFETY AND PRIVACY

6.1. Privacy and Security Considerations

A consistent theme from the survey evidence is that any online age verification system must have strong controls over the safety, security and privacy of users. The eSafety Commissioner stressed the importance of data storage requirements.

Similarly, Equifax, a consumer credit agency, also highlighted that ‘strong privacy controls will be crucial’. It provided the following points to consider:

Minimize or, where possible, eliminate the retention of any records of age verification, including prohibiting the disclosure or reuse of any personal data related to the request for age verification;

18+ sites should not know who a viewer is, only know that a person viewing or using the site has been verified as 18+;

The entity verifying age should not know which site the user wishes to view, only that age verification has been requested;

The age verification process should be carried out using the minimum details necessary to achieve the match;

In a more mature identity environment, people have the option of acquiring reusable age verification tokens to provide when needed [30].

6.2. Solutions

1) Hierarchical risk assessment validation system

The system uses different levels of validation depending on the sensitivity and potential risk level of the service. For low-risk services, only simple verification procedures, such as self-declaration or basic identity checks, may be required. For high-risk services, such as platforms involving financial transactions or sensitive content, more stringent and comprehensive verification measures will be implemented, which may include multi-factor authentication or official identity document verification. The advantage of this approach is that it strikes a balance between security and privacy protection by strengthening security where necessary and ensuring adequate protection for minors while protecting user privacy as much as possible with low risk.

2) Data minimization and anonymization techniques

The core of this approach is to collect only the information absolutely necessary to complete age verification and avoid excessive access to personal data. When processing this information, the

system uses advanced encryption and anonymization technology to ensure the security of the data during storage and transmission. Further, once the verification process is complete, the system immediately deletes or anonymizes sensitive information, greatly reducing the risk of data breach.

3) Decentralized authentication system

Decentralized identity verification system represents an innovative direction of age verification technology, mainly using decentralized technologies such as blockchain to build distributed identity authentication architecture. The core advantage of this system is to give users full control of their own identity information, and users can independently decide when, where and how to share their identity information In the actual verification process, the system only needs to share the necessary verification results without exposing specific personal data. This approach significantly reduces the security risks associated with the centralized storage of sensitive information in traditional centralized systems. Through decentralized storage and verification mechanisms, decentralized systems not only improve data security, but also enhance user trust in the verification process.

4) Mandatory privacy impact assessments and third-party audits

This is a key measure to ensure the security and transparency of the age verification system to help identify and mitigate potential privacy risks. An independent third-party organization regularly conducts security checks and privacy audits on the system, monitors the operation of the system, and checks for non-compliance. At the same time, in order to enhance public trust and improve the transparency of the operation of the system, the audit results will be made public.

5) Public-private partnerships and international standardization

This approach emphasizes closer collaboration between governments, technology companies, and professionals. By integrating the knowledge and views of multiple professionals, a clear and comprehensive legal regulation and industry standards are formulated to provide legal support and protection for the age verification system. At the same time, due to the global nature of online services, it is also crucial to work with other countries to establish uniform international standards, which can help to address the complex challenges posed by cross-border online services. Australia can learn from the legislation and practices of other countries to develop standards tailored to its own circumstances.

7. CONCLUSION

Young people are the hope of a country's future, and their healthy growth is crucial to the sustainable development of a country. In the era of rapid development of information technology, attention should be paid to the Internet safety of young people. In Australia, there are more than 5 million children under the age of 18. The minds of minors are impressionable, and it is wise policy to prevent them from accessing bad content through social media. In my opinion, an age verification system is necessary, which helps young people stay away from all kinds of Internet junk information. In Australia, there is currently no specific law to make clear provisions on age verification. At the same time, due to technical limitations, there is still a lot of room for improvement in the online age verification system. However, age verification should not excessively collect teenagers' private information. Through 5 solutions, including hierarchical risk assessment validation system, data minimization and anonymization techniques, decentralized authentication system, mandatory privacy impact assessments and third-party audits and public-private partnerships and international standardization, to do the best to keep balance between safety checking and privacy protection.

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