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AGENCIA
ESPAÑOLA DE
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DE DATOS

Age Verification for Children: A Survey of Tools and Resources

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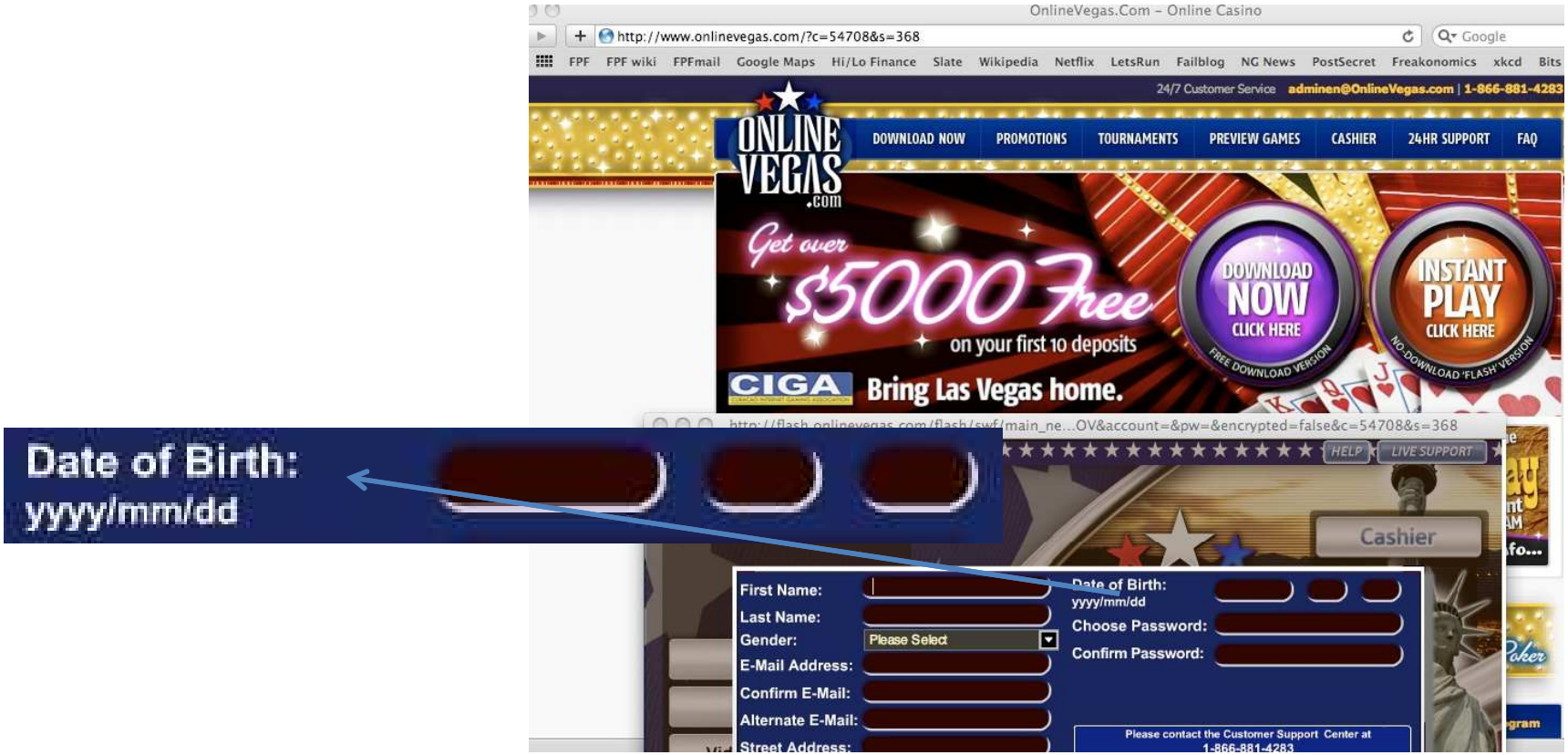
Self Verification



The site asks the user to input their birth date in a neutral way, and if the user is underage, a session cookie is placed in their browser preventing access for the duration of their web browsing session.

Peer-Based Verification

Many web sites and online social networks employ some aspect of peer review to determine whether a user's participation in an online environment is appropriate.

Peers may vote, recommend or rate an individual based on personal knowledge established offline or elsewhere other than their profile itself.

Parents, Guardians or Schools

Credit Cards are widely available in many countries and commonly used as an adult verification tool. The verified adult then represents the age of the minor and provides consent.

In the U.S., Credit card companies maintain that they are not the proper entity to confirm age. FTC does allow use for verification under the standards of the Children's Online Privacy Protection Act, but insists card be charged in manner that parent will be aware.

In Denmark, Certified Kid can confirm a child's age based on physical verification in schools, confirmed by teachers and parents, to permit access to child-friendly chat rooms.

PRIVO is an American company through which parents in the U.S. can complete an ID verification process themselves in order to maintain a record of verifiable consent for their children.

Semantic Analysis

Semantic Analysis works on the principle that people of a certain age will employ different and identifiable levels of sophistication when constructing, for example, a social networking profile.

Technology is used to analyze a Facebook or a MySpace profile, determine users' age-range, and flag users to administrators if the content they have posted indicates that they are underage. This is in accordance with the "Joint Statement on Key Principles of Social Networking Sites Safety," which was signed in January 2008 by social networks in coordination with a coalition of US State Attorneys General.

Publicly Available Data

INTEGRITY

"Integrity is a versatile, cost-effective and popular identity and age verification tool. It works by verifying standard issue driver license or other government-issued ID of citizens of 157 nations."

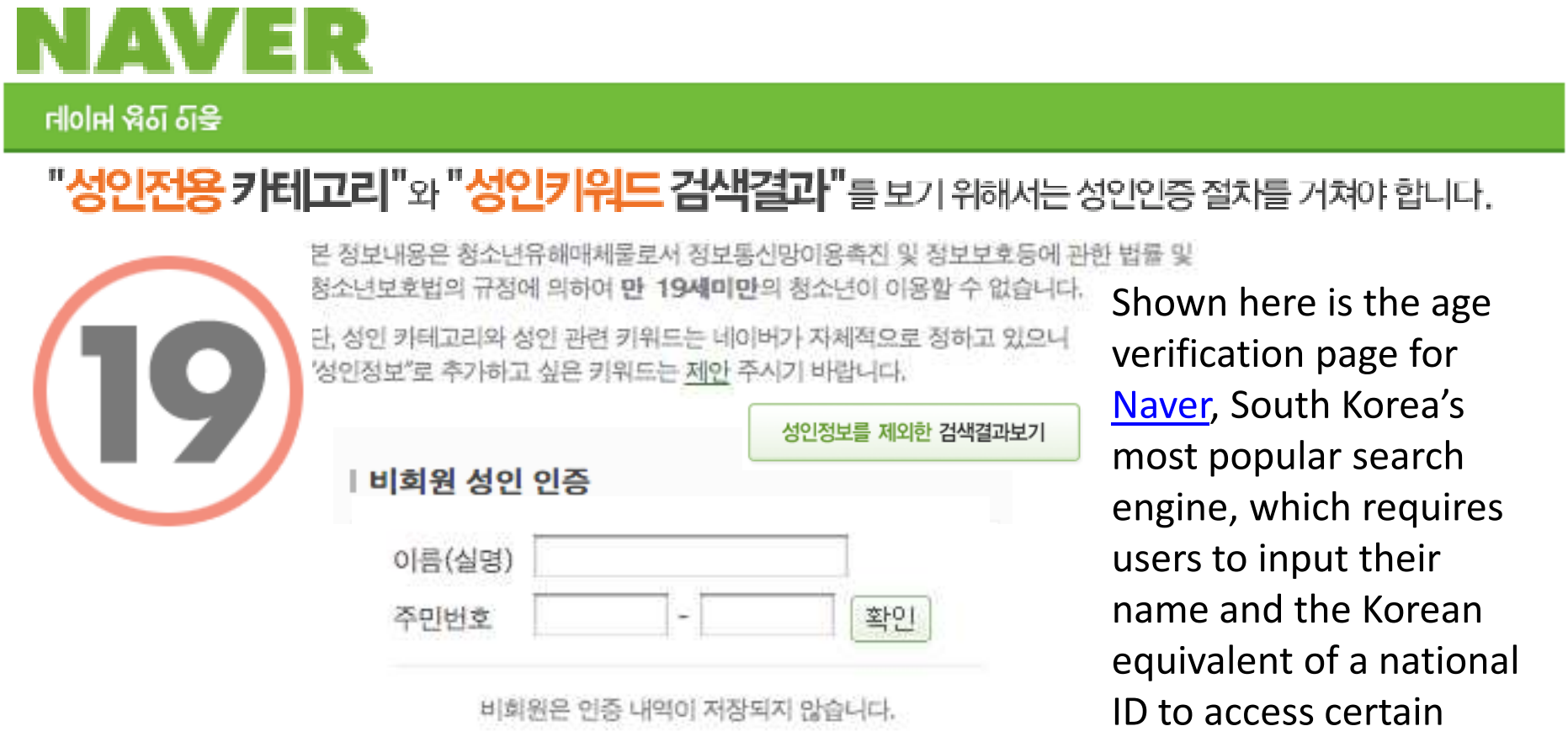
Veratad
Age and Identity Verification Solutions

"Our system responsibly compares an online visitor's data entry against billions of records from multiple trusted data sources empowering you to verify visitor age."

Forms of data about adults that are publicly available, or available to certain businesses in some countries, can include information from credit reports, criminal history, real estate transfers, and voter registration. Such data can be compiled to produce a database against which users can be verified to ensure proper ID.

SSN or Similar Identifiers

A site or service requests an SSN or other unique identifier which can be verified against a government database to verify one's age and identity. Driver's license and passport information are also commonly used.



Shown here is the age verification page for Naver, South Korea's most popular search engine, which requires users to input their name and the Korean equivalent of a national ID to access certain content.

eID

An eID card is some form of data authentication code which allows individuals access to certain web sites or data based on information stored and verified by a third party.

Pictured is the eID card from the Kids-ID project in Belgium, an official electronic identity and travel document that contains identity data and the child's photo stored on an electronic chip. The parents' names are also featured on the card.

The Kids-ID card can also be used on the Internet for access to on-line chat rooms and for services requiring ID. An integrated PIN code automatically identifies the child and is intended to grant access only to those internet services that the child is allowed to use.

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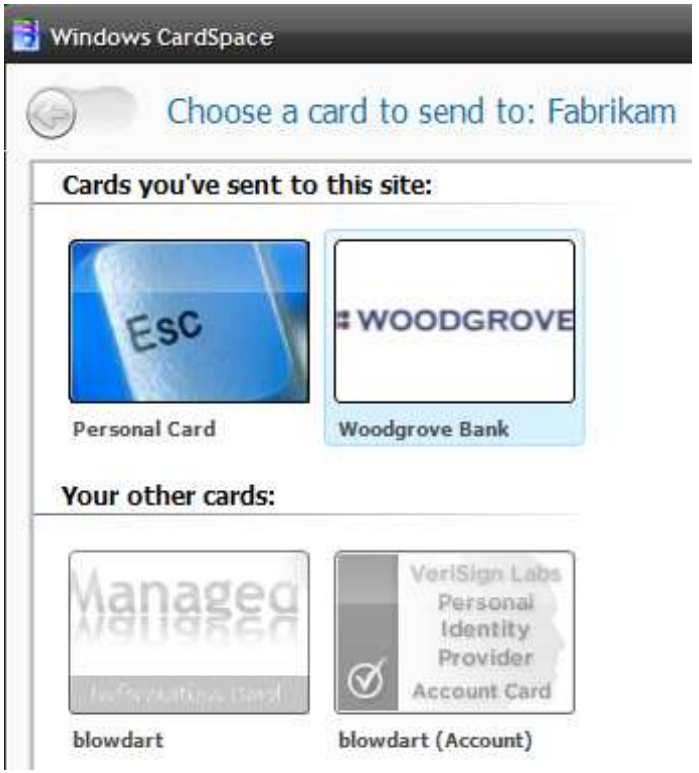
Broad-based Identity Authentication Technologies

A new method of ID authentication is being built on a platform known as the Identity Metasystem. It allows users to authenticate online by selecting from a collection of digital identities known as Information Cards.

There are two components: the first is a selector, which stores a user's Info Cards and allows them to choose a particular one in response to an authentication request from a site they have navigated to. Shown here is Windows Cardspace.



IDOLOGY VERIFIED OVER 18

The other component of the ID Metasystem is the collection of Info Cards. Users can choose from Info Cards containing varying degrees of PII about themselves. For example, in response to a web site's age verification request, a user could send this IDology-verified card, which contains only a unique identifying number and the information that the user is over 18.

Biometrics

Different ways of measuring can determine a user's age through analysis of fingerprints, bone density, iris scan or other biologically unique identifiers.

In a July 2009 decision, the French data protection authority CNIL approved the GMAT's use of PalmSecure ID authentication technology. PalmSecure uses a near-infrared light to captures a palm vein pattern, thereby generating a unique encrypted biometric template. The CNIL noted in its approval, "It is not likely to be captured without the knowledge of the person concerned and therefore presents very little risk for the civil liberties and fundamental rights of the individuals."

Verificage has developed a USB device which can determine a user's age through an ultrasound analysis of the bone density of a user's hand. The device is accurate up to the age of 13, and does not need to obtain any personally identifiable information to determine a user's age.

Age Verification on Mobiles

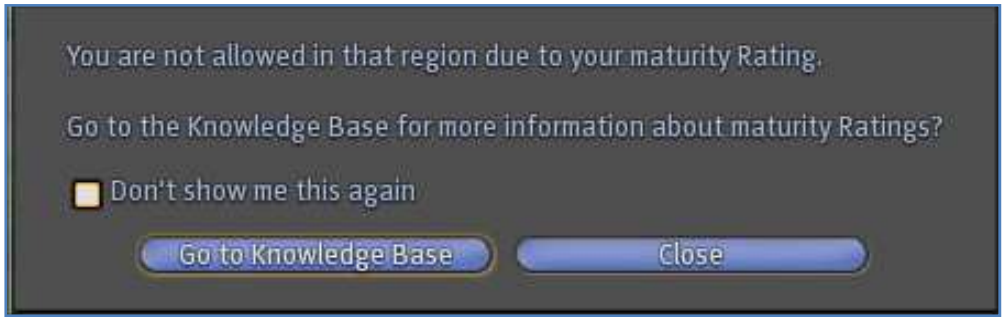
Mobiles represent a new frontier in the incorporation of the digital world into our everyday lives, and also present new issues concerning the protection of personally identifiable information, for children especially.

Many mobile providers already perform age verification checks at the point of sale and provide Parental Controls, including Internet content filters, for parents who would like to ensure appropriate usage for their children.

Challenges in Virtual Worlds

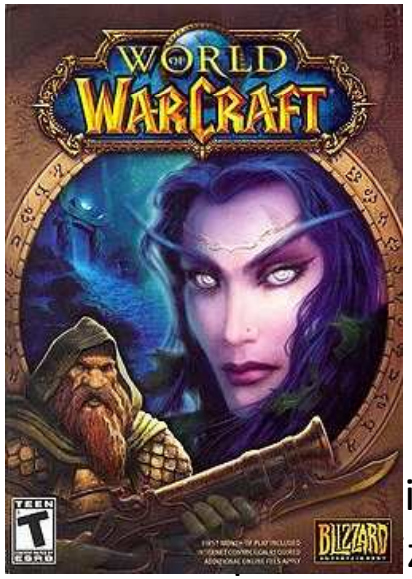
The magnitude and flexibility of emerging virtual worlds represents new challenges in keeping children safe from inappropriate content and environments.

Linden Labs, makers of the popular virtual world Second Life, have sequestered all adult-themed content of their virtual world on a new continent called “Zindra.” Users must verify their age before they can access this continent through either a credit card transaction or Aristotle’s age verification service



MMORPG's

World of Warcraft, the world's largest Massively Multiplayer Online Role Playing Game, now claims over 14 million subscribers. Users work to develop the strength of their character, complete tasks and missions, and collaborate with other users online to form organizations or to fight battles.



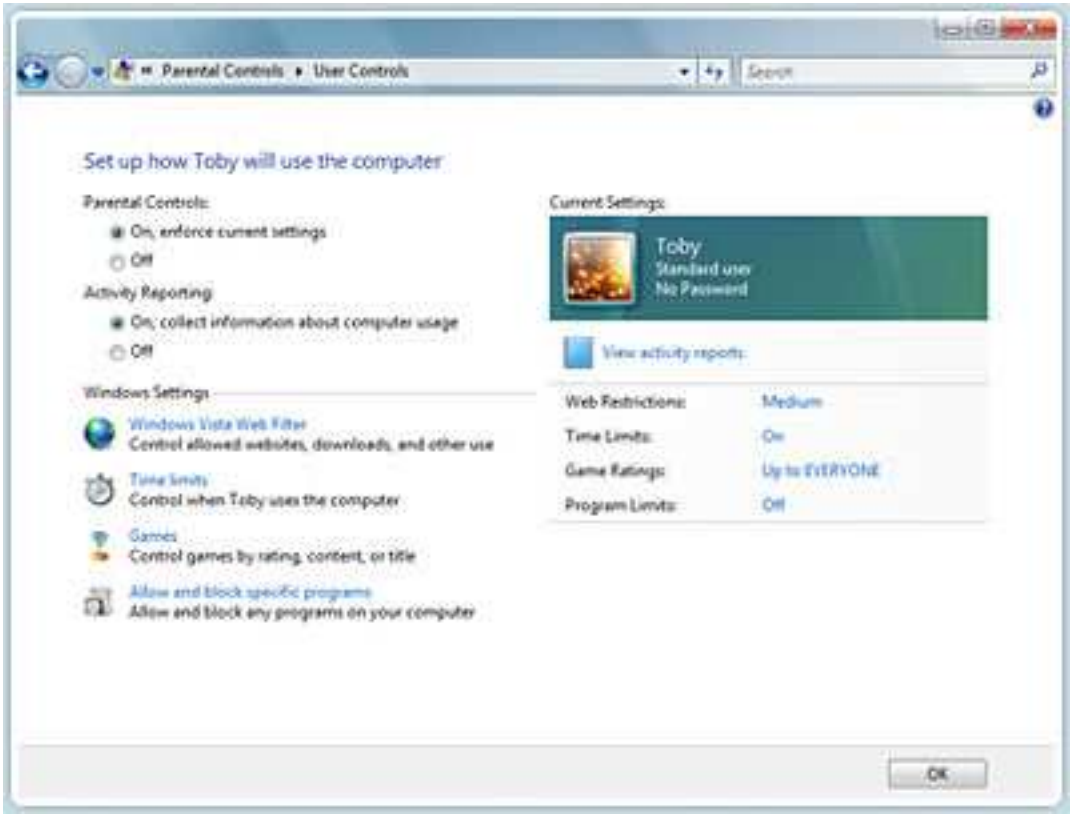
In 2005, a virtual disease later known "Corrupted Blood" ravaged the World of Warcraft. Its behavior so closely resembled the effects of a real-world plague that scientists later used the incident to conduct an epidemiological study published in the *Lancet Infectious Diseases* journal in 2007. A recent market research report estimated that the total real-world value of virtual goods would surpass $1 billion in 2009.

The immense and increasing participation in MMOG's underscores importance of having secure age verification mechanisms in zzard Entertainment, creators of World of Warcraft, require a valid government-issued document for ID as part of their registration process. For minors to participate, Blizzard requires their parents to register and provide government-issued ID for themselves.

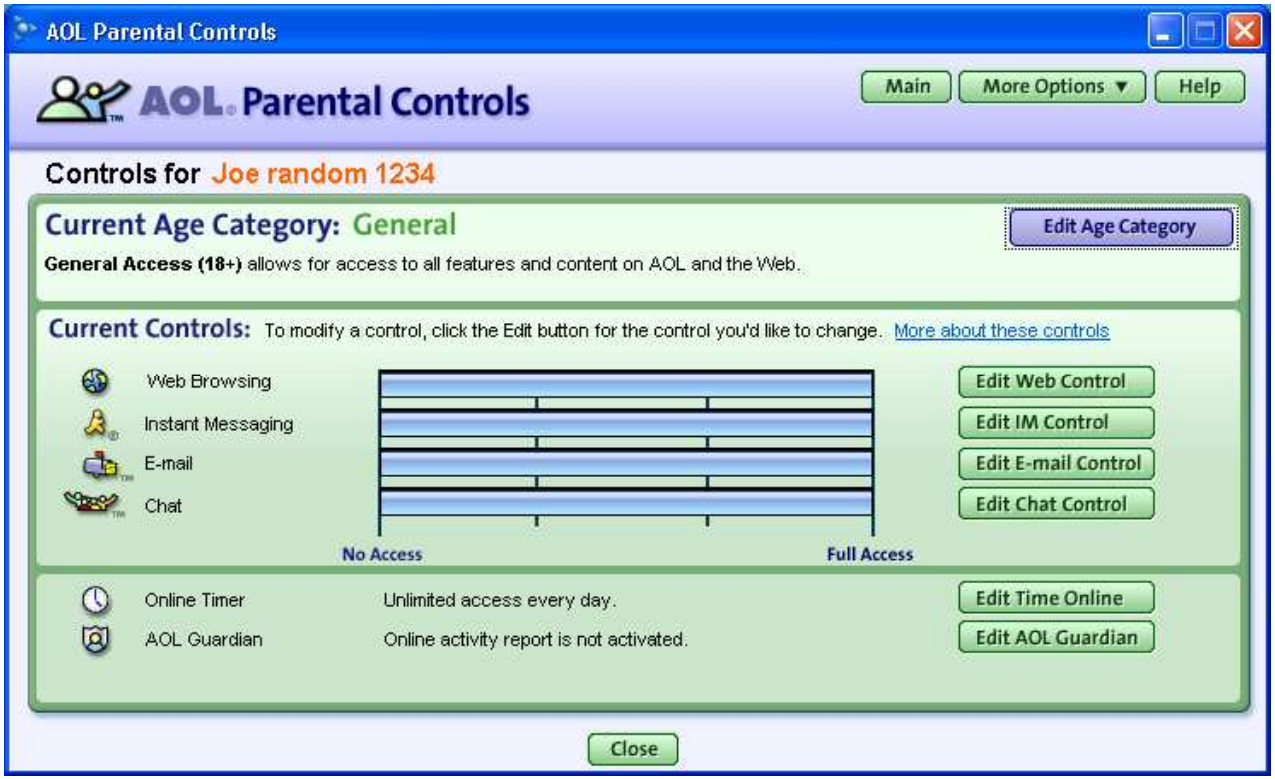
Verified to be a child – now what?

Parent who has purchased or installed the “Parental Controls” software sets boundaries. Access to sites or services is often all or nothing.

Filtering: Client-side Software



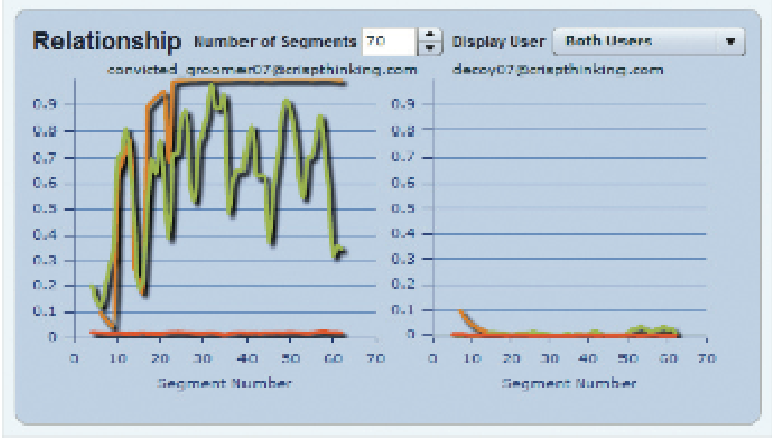
Filtering: Server Side Approaches



These are systems in which filtering of content takes place before content reaches the user's computer and is bounded by the standards of the website or service platform itself.

Filtering: The Next Generation

Monitoring tools on the network- or client-side can allow children to access environments where PII is shared or where contact with strangers is possible, but still prevent or alert parents about certain forms of data sharing.



Pattern recognition software can be used to identify potentially predatory behavior. Shown here is a graphical output from software developed by Crisp Thinking, which displays the level of inappropriate interaction between two users within a certain network.

Software developed by Chat S.O.S seeks to monitor IM and chatrooms in real-time and prevent inappropriate messages from reaching their intended recipient.

Some Concerns

All methods of age verification and identity must be balanced against potential privacy and data security concerns. In many cases, verification efforts require additional collection of data about minors.. Other concerns regarding more robust forms of online age verification and parental controls include:

- A reliance on data originally collected for purposes other than age verification – Fair and lawful processing?
- The ease with which some methods might be circumvented
- An potential increase in the detrimental effects of fraud, including phishing
- Some technologies might give parents a false sense of their child's security online
- Subversion of the technology for illegitimate purposes, such as monitoring one's spouse
- In the name of protecting children's privacy, parents may be required to divulge more personal data about their children.

Though many emergent technologies have shown promise in being able to protect our children from the risks of the Internet, it is important to remember that each also has its shortcomings. Most systems are good at proving someone is an adult, not that they are a child of a certain age.

There is no all-encompassing single solution, no silver bullet.

Any realistic solution must include a focus on educating both parents and children. We must find a way to provide parents with the resources to make this new world of technology more understandable, and help them get more involved in their children's online experience.

From the Report of the Berkman Center's Internet Safety Technical Task Force:

"The Technology Advisory Board and the Task Force note that almost all technologies submitted present privacy and security issues that should be weighed against any potential benefits. Additionally, because some technologies carry an economic cost and some require involvement by parents and teachers, relying on them may not protect society's most vulnerable minors."

"The Task Force remains optimistic about the development of technologies to enhance protections for minors online and to support institutions and individuals involved in protecting minors, but cautions against overreliance on technology in isolation or on a single technological approach. Technology can play a helpful role, but there is no one technological solution or specific combination of technological solutions to the problem of online safety for minors. Instead, a combination of technologies, in concert with parental oversight, education, social services, law enforcement, and sound policies by social network sites and service providers may assist in addressing specific problems that minors face online. All stakeholders must continue to work in a cooperative and collaborative manner, sharing information and ideas to achieve the common goal of making the Internet as safe as possible for minors."

From the "Background Report on Cross Media Rating and Classification, and Age Verification Solutions," by the European Commission's Information Society & Media Directorate-General:

A number of Age Verification Solutions are available for the protection of minors within the EU, some of which were presented at the Safer Internet Forum. In some Member States there are legal requirements for their use. There is an overall consensus, however, that existing technologies are not sufficiently effective and should not be used to replace educational efforts, parental control and other means of protecting minors online. Despite the shortcomings, there is a certain market acceptance for their use. Concerns were also raised about the false sense of security that might be provided and the adverse effects on safety this might have. Privacy and data protection were also raised as important issues. Additional research is needed, and a standard for Age Verification can be pursued.

For the full report please visit
www.futureofprivacy.org

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conferencia internacional de autoridades de protección de datos y privacidad