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Technology that Empowers Parents

On behalf of LibraryGuardian and the entire staff of developers that have dedicated thousands of hours to the creation of new and unique technologies for enhanced Internet services, it is a profound pleasure to present this testimony to the COPA Commissioners today.

I can vividly remember the President on June 26, 1996 as he closed his press conference on the Supreme Courts' decision to rule certain portions of the Communications Decency Act as unconstitutional "...we must give parents and teachers the tools they need to make the Internet safe for children."

What needed to be accomplished was an Internet server-based solution that provided libraries and schools with the ability to provide unrestricted access to the Internet while in the same environment, also empower parents with the ability to request Internet access for their children in a manner that reflected their own unique values.

Problem #1: Access Management.

Our development team developed a product called "GuardiaNet", a first of it's kind Internet access management software program that allowed a parent to give different access rights to each of their children independently on the same computer. We had extensive experience with SmartCard technology and realized that the integration these two emerging technologies (server-based solutions integrated with SmartCard authentication), we indeed had the beginnings of the technological tools that could make a difference to schools, libraries and of course parents.

We initially built the prototype server-based products around our GuardiaNet technology and selectively showed the SmartCard solution to librarians in 1997. By December 1999, we had completely reinvented the

technology and applied for multiple patents for the LibraryGuardian toolbox software.

The evolution of GuardiaNet to LibraryGuardian was significantly influenced by research of community needs and listening to literally hundreds of professional librarians from just about every walk of life.

By observing the "pitfalls" of certain Internet solutions and listening to what we learned from librarians and parents, we realized that a "one size fits all" approach could not a viable solution. We looked at the problem on a more global scale and decided for a solution to be effective, the rules and terms of engagement would have to be very different from community to community. In other words, we needed to provide a custom community based access solutions for every installation.

So in essence, we believed that the answer was right in the President's 1996 statement. We must give the "tools" that allow communities and parents to work hand in hand.

LibraryGuardian is a "toolbox" approach to Internet access management. As a matter of fact, we have not nor will we anytime soon, build or develop technology that is used as a "control list" of Internet content. Rather, we built a toolbox that allows any control list, filtering agent, white or black list to be included and selected by the user. Virtually speaking, any technology listed on "getnetwise.org" could be included for parental choice within the LibraryGuardian toolkit. Currently LibraryGuardian uses Secure Computing Corporation's SmartFilter as the control list default, as well as Awesome Library and KidsClick! white lists for a safe harbor offering. All of these are managed, maintained and continually updated as a part of the service provided by LibraryGuardian.

SmartFilter was selected due to the way it categorize the Internet into 27 definable groups. We found their criteria to be remarkably similar to the way a librarian catalogues physical collections. Not selecting what is "good and bad", but simply placing web pages into categories based around published criteria. This is not completely perfect, but an easy to understand starting point. On top of this, we overlay the administration tools that give the library or school the instant ability to override elements of the SmartFilter control list to best fit the standards of each local community without defeating the core technology.

Thus, the local library or school can have the toolkit that allows it to offer many different access levels based upon their own local standards. LibraryGuardian can be installed in a public facility with one of the access levels “unrestricted” or completely “unfiltered” access, while other levels can be created locally to provide safety to small children, with several levels available in between.

Other locally defined access levels can be created for the community as needed. In other words, a library can select only one filter level that is intended to block access to pornographic web sites or the library could select as many access levels they feel are necessary to meet the needs of a diverse community. We have found that both school and public librarians have a keen sense in determining what content to present to their students and community. We are also seeing that they can create easy to understand Internet access rules based around easy to understand criteria that empowers parents with choices.

By way of example, Library “A” installs LibraryGuardian around these rules:

- Level 1 Completely Unrestricted Internet Access
- Level 2 blocks Graphic and Extreme Pornography
- Level 3 blocks Graphic and Extreme Pornography, Sex, Hate Speech
- Level 4 blocks Graphic and Extreme Pornography, Sex, Hate Speech, Criminal Skills
- Level 5 blocks Criminal Skills
- Level 6 allows KidsClick! and Awesome Library only

Where Library “B” installs LibraryGuardian around these rules:

- Level 1 Completely Unrestricted Internet Access
- Level 2 blocks Graphic and Extreme Pornography
- Level 3 Library own created list of Web Sites.

Of importance is that the library did its job in providing information on the Internet usage policy and what is expected from each level and then

handed the responsibility to the parents for them to decide what they wanted for their own children.

The parent or guardian has the ability to select a level that they believe is in the best interest of their children. The librarian understands the diverse cultures in their community. Tools that allow the two to work hand in hand are a viable solution to true community based Internet access management.

LibraryGuardian is architecture is designed to facilitate for certain checks and balances. Within the public system, LibraryGuardian does not block returns to a standard search engine like Yahoo!, Excite, Lycos, to name a few. Depending on the access level as selected by the parent, the child may not be able to access the links from the search. This "feature" insures both library and patron that all addresses and links to web content can be identified and challenged against the policy if necessary. If a site is wrongly blocked, the librarian has the tools to make the correction immediately without turning off the system or disrupting others currently online.

Problem #2: Patron delivery of web content without segregation of computer assets or password sharing.

Enter the SmartCard: A credit card-sized card with an embedded microprocessor chip. The SmartCard is at the heart of LibraryGuardian and provides secure IP independent authentication of a card user anywhere on the Internet. Other than the SmartCard, an inexpensive SmartCard reader is the only other required device to access the Internet.

When a patron registers for Internet access, they receive a SmartCard. This card can also serve as the library's patron card or school ID; for example imagine your current library card with a small brass contact on one of its sides. When the card is registered with the LibraryGuardian system, the LibraryGuardian servers will associate a unique secret serial number on the SmartCard with the cardholder's self-made password.

The LibraryGuardian registration is instant and the patron can access the Internet immediately.

The Patron may go to any Internet terminal in the facility designated for public usage. Upon first sitting down to the terminal, the patron may find several pages of web content that can be accessed without using the card.

We discovered that many libraries and public facilities have home pages that include links to areas like, “Crime Stoppers”, “Contact your city or county elected officials”. We felt it would be in the patron’s best interest to access such pages without having to authenticate or even register. Suppose you have a creative idea for your Mayor, we felt that the message would be diluted if you first had to register. So the library has the ability to designate Internet usage that is accessible without use of a SmartCard.

The SmartCard comes into play when the user attempts to access the “open” Internet. On each page request, the servers carefully check the control lists against the access rules of the current user. If the site is accessible for the level prescribed by the SmartCard - Access Rules combination, the site is viewed on the terminal. If the site is not allowed, a simple text screen is displayed with a message provided by the local library. LibraryGuardian keeps no lists, and does not report on either access granted or denied. It is our opinion that keeping this information private is of utmost importance to both the patron and to the growth of the publicly accessed Internet. It should also be noted that the patent filed for LibraryGuardian in 1999 covers the methodology of handling this rule and is able to accomplish this objective without diminished speed of the Internet connection.

With the SmartCard solution, the Library patron is free to use any Internet connection that has the LibraryGuardian client software (approximately 150k in size). In other words, with all systems and databases residing securely on the Internet, the “parental rules” are completely portable from the Main Library to other branches, school, home or other places of public Internet access.

Problem #3: Handling other “pitfalls” in public access areas.

The public library is also confronted with problems such as patrons leaving “Adult Content” present on computer screens at the completion of a session. In many instances, this has been intentional to the dismay of parents approaching public terminals with small children. In discussion with several libraries, this was one of the deciding factors to filter patrons.

The LibraryGuardian SmartCard must remain present in the SmartCard reader for the entire Internet session. When patrons are finished, they must remove their SmartCard, which initiates the computer shutting down all open browsers, clearing the cache and restarting a fresh browser window. In essence, each new patron, irrespective of the time of day, will access a “clean computer”. This feature assures administrators of public machines that they will have less worries about the content viewed by adults, which in turn helps with the policy decision to allow “Unrestricted Access” as a manageable asset to their patrons. This feature facilitates a better sense of privacy for all patrons in public areas due to the staff not having to follow behind each and every patron to check computers.

Having a required SmartCard present means that patrons can’t authenticate themselves and then simply hand the card to another person to gain access to the Internet. With what we refer to as “secure two factor authentication”, LibraryGuardian helps to remove the “warm fuzzy” feeling of protection where people simply share passwords and other methods of authentication.

LibraryGuardian also enforces other critical policy matters such as the total amount of time per day a patron can access a public terminal, cash to card features that include paying for printing and other services in a private manner as well as delivering digital signatures to open up new opportunities for a safer Internet for those that use public access. We are constantly improving and enhancing LibraryGuardian to be a toolkit that assists parents in providing value-based Internet rules for their children and helps bridge the digital divide by providing a server based service that causes a public terminal to have a more “home-like feel” for the user.

In closing, I believe that child safety is but one important issue for the global usage of the Internet being accessed in public facilities. What we have tried to accomplish with this technology is to empower parents with the tools to help them “parent” in this emerging digital age and provide a way for a community to offer a viable service to all ages. In creating LibraryGuardian, we had confidence that through technology we could provide an Internet solution that is not just an answer for families, but also a solution that could forge the integration of tools that enable public facilities to bridge the technology divide for those that rely on public access as their only means to the rich content of the World Wide Web.

Respectfully Submitted,
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