

Benchmarking of parental control tools for the online protection of children

2nd testing cycle Report Executive Summary The project is funded by the European Union, through the "Safer Internet Programme" http://ec.europa.eu/saferinternet

Prepared for: European Commission Directorate General for Communications Networks, Content and Technology

Prepared by: Cybion Srl and Stiftung Digitale Chancen, coordinated by Innova SpA [hereafter named as "the Consortium"]

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Executive Summary

This report contains the results of the study - Benchmarking of parental control tools for the online protection of children - SIP-Bench III. The study was commissioned by the European Commission, Directorate General for Communications Networks, Content and Technology, in the framework of the Safer Internet Programme, to Cybion Srl and Stiftung Digitale Chancen, under the coordination of Innova SpA. It is the second out of 4 reports that will be published on an eight-monthly basis.

The report aims to guide the end-users (notably parents) in an easy and comprehensive way through the assorted range of parental control tools currently available on the market in Europe.

In order to achieve this, a comparative experts' assessment of parental control tools was carried out. This process is vendor / supplier independent. 26 parental control tools were tested in the 2nd testing cycle. The results of the study are available online through a searchable database at: www.sipbench.eu.

PARENTAL CONTROL TOOLS IN A NUTSHELL

Parental control tools enable parents to carry out three types of actions to protect their children:

- <u>Customisation of web content filtering</u>: allows children / teenagers to view content according to a set of specific criteria defined during the configuration of the tool. Parents may ask the tool to block or show content indicating the topic, a list of URLs or some specific keywords;
- <u>Blocking the usage</u>: allows blocking the usage of a protocol / application notwithstanding the inappropriateness of the content (e.g. the tool might prevent the children to watch streaming through Media Player);
- Monitoring the application/protocol usage and the web content accessed: to be reported on if and/or when and/or for how long accessing a specific websites, entering/using a specific application/protocol.

A precise methodology was used to perform the benchmarking study. The selection of tools was carried out with the aim to address parents' needs in terms of devices (PCs, mobile phones, tablets) and operating systems (Windows, Mac,), languages, type of solutions (default systems like Microsoft Vista parental control, client software, ISP solutions).

The following parameters were identified according to which the selected tools were tested:

- The functionality test which aims at assessing whether the tool has the functions required to satisfy parents' needs;
- The effectiveness test which aims at assessing whether a tool is able to block or not a specific harmful page and if at the same time it is able to allow visualizing non-harmful pages;
- The security test which aims at verifying whether the tools prevent the user from by-passing or disabling the filter through a specific set of actions;
- The usability test which aims at assessing whether a tool is easy to install, configure and also to use.

PC parental control tools: results

PCs are the most common way to access the Internet. They enable children / teenagers to access Web pages, share experiences and contents through social networks and communicate with people.

Functionality

None of the 12 tested tools' reaches the complete functionality coverage. The most complete one covers 80 %. Seven tools are rated under 50 %. The 3 highest scoring products are: PURESIGHT OWL (77 %), TREND MICRO ONLINE GUARDIAN (60 %) and OPTENET PC / QUSTODIO (both 53 %).

The main findings can be summarized as follows:

- Most of the tools provide parents with a complete set of customization functionalities.
- 11 tools give the possibility to block access to social networks and 10 tools give the possibility to force the user to use the Safe Search functionality of the most common search engines.
- The tools rarely provide the option to block an entire protocol whereas blocking applications is more common.
- All tools enable parent to block the access specifically to the Internet.
- The majority of the tools are able to block Web based streaming provided by YouTube.
- Most of the tools are able to provide the parent with at least basic report on the users' web activity (visited websites or violations).
- Some tools present some security weaknesses. The most common is allowing access to a prohibited page through translation site or Google Cache. Few tools can be uninstalled without a password.
- English is the most frequent language whereas the tools' choice is limited for many other European languages.

<u>Effectiveness</u>

In general, tools have low effectiveness. The underblocking rate is higher than 30% for all tested tools. The overblocking rate is low for some tools but in these cases the underblocking rate is very high.

The main findings can be summarized as follows:

- The tools perform quite similarly with a configuration for the two age classes (≤12 and ≥ 13).
- Tools present lower effectiveness on Web 2.0 content. Tools have serious difficulties to deal with user-generated and Web 2.0 content. Concerning the qualitative tests on web 2.0, all the tools fail.

¹ Functionality results for NetNanny are not available as it was not possible to install the tool.

- The adult content is better filtered than the "other" content categories.
- Tools work better on English languages than other languages.

Usability

8 out of 12 tools gain better scores for installation and configuration than for usage. No product scores less than 2 points, thus not reaching the threshold of 50 % of 4 points, five products range between 2 and 2.50, Three products score in the top area and gain 3 points or more.

The main findings can be summarised as follows:

- In general, possibilities to customise the tool to one's own needs are poor.
- Only a few products provide additional information about filtering in general and about limitations and restrictions of the filtering procedures.
- About one third of the tools provide a web- or server-based configuration. This is an increasing number over the last test cycles.
- Most tools do not allow appropriate reaction to the alert message for a blocked web site.

Mobile devices parental control tools: results

Smart phones are one of the most trendy device used by children / teenagers (with a majority of teenagers) to access the Internet, to watch video streaming and to communicate with other people using specific applications such as Instant Messaging (e.g. Skype).

Functionality

Tools able to filter the web-pages content have limited functionalities compared to the tools available for PCs.

iPhone and iPad are equipped with an OS-embedded parental control tool which is able to restrict the usage of some protocols/applications such as Internet accessing by browser or YouTube and e-mail. Since this cycle Apple provides also content filtering function as out-of-the-box feature base on the OS. The other operating system, Android, does not provide an embedded tool for mobile phones or tablets. The only way to filter the Internet is to use an external tool.

Some tools give parents possibility to manage the tool online (from a PC or another mobile device). For some tools, it is possible to manage both the mobile tool and the PC tool (provided that user installed both tools on teenager's devices).

Concerning usage restriction and monitoring, the tools offer very limited functionalities, in particular for Skype or streaming which are very popular among teenagers. Many tools can be easily uninstalled. Many tools consist of a browser with Internet access; often it is easy to use another browser and in this way by-pass the tool. In many cases mobile devices tools are useless.

Effectiveness

Many of the solutions tested are also offered on PC with different interface and functionalities. The effectiveness of the mobile solutions is slightly lower than the one assessed for the similar PC products. The tools have similar results for children and teenagers. All tools perform better on web than on web 2.0. The tools are more positively assessed with reference to English content than with reference to other languages.

Usability

The scores for the mobile tools range between 1.7 and 2.74. The issue that most children consider their mobile phone as a very personal item is not sufficiently reflected in the tools functionalities, i.e. parents need to take the device from their children for monitoring their usage and to access the reporting. The tools tested come as an application that is installed nearly automatically with the download. Therefore, there is no installation process to be handled by the user. The complexity of the configuration process differs: most tools provide a web-based configuration, some tools provide a configuration on the tool and additionally a web-based configuration. As most parental control tools work 'in the background' of the mobile phones, there is less usage than with other computer software.

Game consoles parental control tools were not tested in the 2rd testing cycle due to the lack of updates.

Alternative tools: results

These are for example tools based entirely on white lists (so called "walled gardens") or child safe browsers etc, which are usually designed to create a safe environment for very young children. The alternative tools were tested for Win7 (Kinderserver and Magic Desktop) and for iOS [Surfgarten]. All tools allow browsing by white list only but their white lists differ concerning their quality and quantity.

Types of alternative tools

- Alternative tools can restrict access to the Internet completely or they can block Internet access for a defined application.
- Another option so called "Walled Gardens" these tools filter websites based on a white list only. Therefore, there is no problem of underblocking. In walled gardens no harmful content can go through the filter by accident and this method is recommended mainly for young children.
- A third category "Child Friendly Environment" aims at educating children and its design is tailored for the youngsters, Alternative tools tested under the 2rd cycle offer a good level of security. Their scores for effectiveness rank between 2,28 to 2,61.

Below you will find condensed results of the $2^{\mbox{\tiny nd}}$ cycle

For more detailed results available via searchable form, please visit www.sipbench.eu

	Effectiveness		Usability	Security
	≤12	≥13		
DANS GUARDIAN	0,7	0,9	2,1	0
F-SECURE INTERNET SECURITY	1,5	1,5	2,2	1
JUSPROG	N/A	1,8	2,6	4
K9 WEB PROTECTION	1,1	1,2	2,7	3
MAC OS X PARENTAL CONTROLS	1,4	1,3	2,8	2
MCAFEE ALL ACCESS	1,0	1,0	3,0	0
NET NANNY	0,7	0,9	n/a	4
NORTON ONLINE FAMILY	1,8	1,6	3,1	1
OPTENET PC	1,1	1,2	2,4	3
PANDA	1,3	1,1	2,0	0
PURESIGHT OWL	1,1	1,2	3,2	4
QUSTODIO	1,1	1,2	2,9	4
TREND MICRO ONLINE GUARDIAN	1,1	1,2	2,7	0
F-SECURE MOBILE SECURITY	1,5	1,5	2,7	1
IOS PARENTAL CONTROLS	1,4	1,3	2,4	1
K9 WEB PROTECTION BROWSER	1,1	1,2	1,7	1
KASPERSKY IOS SAFE BROWSER	1,6	1,2	2,1	0
MOBICIP SAFE BROWSER	1,1	1,2	1,7	0
MOBIFLOCK	0,3	0,6	2,1	1
MOBILE PARENTAL FILTER	1,2	1,4	2,2	1
NET NANNY FOR ANDROID	0,7	0,9	2,7	0
NORTON ONLINE FAMILY	1,5	1,5	2,7	0
SAFEBROWSER	0,6	0,7	2,3	1

Alternative tools - usability results

In case of alternative tools, experts tested usability only as these tools work in a different manner and full functionality / effectiveness tests are not possible. For the remaining criteria, qualitative information is provided in the Report.

Kinderserver	2,2
Magic Desktop	2,5
Surfgarten	2,6



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