



Benchmarking of parental control tools for the online protection of children

SIP-Bench III

3rd CYCLE STUDY REPORT

Executive Summary

SAFER INTERNET PROGRAMME

Empowering and Protecting Children Online

In the framework of the SIP-BENCH III project (**Benchmarking of parental control tools for the online protection of children**), funded by the European Union, through the “Safer Internet Programme” <http://ec.europa.eu/saferinternet>, a 3rd Study Report has been elaborated by Cybion Srl and Stiftung Digitale Chancen, coordinated by INNOVA Srl for the European Commission Directorate General for Communications Networks, Content and Technology.

This document reports a concise summary of the results of the 3rd testing cycle carried out during the year 2014 and more broadly reported in the 3rd Study Report.

At this stage, considering the period of the testing, some of the findings may be outdated. We apologise for this inconvenience.

However, we would like to inform that, after a long interruption of project activities, due to a suspension required by the European Commission, the project has been re-opened and a new testing cycle is now on-going on an updated list of tools.

The main results of this 4th testing cycle will be released in early 2017 to the European Commission and published online by April 2017.

NOTICE

The study aims to benchmark the main functionalities, effectiveness and usability of most currently used filtering software from a technical and ‘fit-for purpose’ point of view, without any commercial or profit-related concern. The European Union, the European Commission or any person acting on their behalf are not responsible for the accurateness, completeness, use of the information contained in this study, nor shall they be liable for any loss, including consequential loss, that might derive from such use or from the findings of the study themselves.

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Executive Summary

This report is the Executive Summary of the 3rd Study Report published in the framework of the *SIP-Bench III – “Benchmarking of parental control tools for the online protection of children”* project, funded by the European Commission in the framework of the Safer Internet Programme in the period 2013-2017 and conducted by INNOVA Srl, Cybion Srl and Stiftung Digitale Chancen.

The report guides the end-users, notably parents, through the various parental control tools currently available on the market in Europe, providing a comparative experts' assessment through a vendor/supplier independent process.

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

- Customisation of web content filtering: 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;
- Blocking the usage: 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.

25 parental control tools were tested in the 3rd testing cycle (10 PC/MAC parental control tools, 10 parental control tools for mobile devices, 5 so called “Alternative” parental control tools – see the list below). The selection of tools was made to address parents' needs in terms of devices used (PCs, mobile phones), operating systems (Windows, Mac), languages, and type of solutions (default systems like Microsoft Vista parental control, client software, ISP solutions).

A specific methodology has been applied to perform the benchmarking study to measure for each tool the following parameters:

- **Functionality** to assess whether the tool fulfil the functions required to address parents' needs;
- **Effectiveness** to assess whether a tool is able to block a specific harmful page allowing, at the same time, to visualize non-harmful pages;
- **Security** to verify whether the tool prevents the user from by-passing or disabling the filter through a specific set of actions;
- **Usability** to assess whether a tool is easy to install, configure and be used.

The complete results of the study are available online through a searchable database at: www.sipbench.eu.

List of Parental Control Tools tested in the SIP-BENCH III 3rd cycle

Device	Tool Name	Test-OS	Download URL
PC / MAC	F-Secure Internet Security	Win7	http://www.f-secure.com/en/web/home_global/internet-security#trial
	K9 Web Protection	Win7	http://www1.k9webprotection.com/getk9/download-software
	Mac Os X Parental Controls	Mac OS X	integrated in OS
	McAfee All Access	Win7	free-trial">http://home.mcafee.com/store/all-access-security->free-trial
	Norton Online Family	Win7	<a \"premier\""="" family="" href="https://onlinefamily.norton.com/familysafety/loginStart.fs->\" now\"->norton="" ohne="" sign="" up="">https://onlinefamily.norton.com/familysafety/loginStart.fs->\"Sign up now\"->Norton Family ohne \"Premier\"
	Optenet PC	Win7	http://www.optenetpc.com/parental-control.html
	Panda	Win7	Kostenfreie-Test-Version-herunterladen">http://www.pandasecurity.com/germany/homeusers/solutions/global-protection/->Kostenfreie-Test-Version-herunterladen
	Puresight Owl	Win7	http://puresight.com/download-free-trial.html
	Qustodio	Win7	http://www.qustodio.com/download/
Trend Micro Online Guardian	Win7	http://www.trendmicro.com/us/home/products/internet-safety/online-guardian/	
Mobile	AVG Family Safety	iOS	http://www.avg.com/eu-en/avg-family-safety
	F-Secure Mobile Security	Android	https://play.google.com/store/apps/details?id=com.fsecure.ms.dc
	K9 Web Protection Browser (Mobile)	Android	https://play.google.com/store/apps/details?id=com.bluecoat.k9.android&hl=en
	Mobicip Safe Browser	Android	https://play.google.com/store/apps/details?id=mobicip.com.safeBrowser&hl=en
	Mobiflock	Android	https://play.google.com/store/apps/details?id=com.mobiflock.android&hl=en
	Mobile Parental Filter	Android	http://www.profiltechnology.com/en/home/mobile-parental-filter
	Net Nanny For Android	Android	https://play.google.com/store/apps/details?id=com.contentwatch.ghoti.cp.browser&hl=en
	Norton Online Family (Mobile)	Android	https://play.google.com/store/apps/details?id=com.symantec.familysafety
	Parentsaround (Mobile)	Android	http://www.parentsaround.com/
Xooloo (Mobile)	Android	http://www.xooloo.net/en/mobile-parental-control	
Alternative Tools	Care4teen	Win7	http://www.care4teen.com/download
	Kidzui	Win7	http://www.kidzui.com/
	Magic Desktop	Win7	http://www.magicdesktop.com/en-US/Download
	Famigo	Android	https://play.google.com/store/apps/details?id=com.famigo.sandbox
	Xooloo (Mobile) [younger age group]	Android	http://www.xooloo.net/en/mobile-parental-control

PC parental control tools

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 10 tested tools¹ for PCs reaches the complete functionality coverage. The most complete one covers 80 %.
- ✓ 7 tools reached 77 % functionality coverage.
- ✓ 6 tools are rated under 50 %.

The 3 highest scoring products are:

- ➔ PURESIGHT OWL (77 %)
- ➔ Norton Online Family, OPTENET PC and QUSTODIO (53 %), and
- ➔ TREND MICRO ONLINE GUARDIAN (47 %).

The main findings of the tests can be summarised as follows:

🔗 Customisation of Web content filtering

- Most of the tools provide parents with the **complete set of customisation functionalities** (topic and URL black/white lists)
- **Keywords filtering option is uncommon**: only 3 tools offer this option. 9 tools give the possibility to block access to social networks, and 7 tools give the possibility to force the user to use the Safe Search functionality of the most common search engines.

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

- ☞ **Protocols and Applications** The tools rarely provide the option to block an entire protocol whereas blocking applications is more common.
- ☞ **Management of users' profiles** Most of the tools enable parents to create and manage different profiles for users with different needs. One tool can be used only with one profile. Remote Management is possible in 5 tools.
- ☞ **Restricting Web access** All tools enable parents to block the access specifically to the Internet (whether using a specific functionality or using the “time restrictions”).
- ☞ **Streaming** The majority of the tools are able to block Web based streaming provided by YouTube, if not with a specific option, at least by adding it to a black list. Blocking the specific application which allows streaming such as Windows Media Player is possible for seven tools.
- ☞ **Communication activities** One tool is able to block Windows Live Messenger and two are able to block Skype. If tools are able to block Skype and/or MSN, they block it with respect to the whole application and it is not possible to limit the blocking to Voice Over IP (VoIP) or Video chat only.
- ☞ **Monitoring** Most of the tools are able to provide the parent with at least a basic report on the user's web activity (visited websites or violations). Four tools allow remote access to monitoring.
- ☞ **Security** Some tools present some security weaknesses. The most common is allowing access to a prohibited page through translation sites or Google Cache. Few tools can be uninstalled without a password.
- ☞ **Language Interface** English is the most frequent language whereas the choice of tools is limited for many other European languages.

Effectiveness

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 summarised as follows:

- ☞ The tools perform quite similarly with a configuration for the two age classes (≤ 12 and ≥ 13).
- ☞ The tools present lower effectiveness on Web 2.0 content. In particular, the tools which achieve better results than the others have generally higher discrepancy between the underblocking rate on Web and Web 2.0. It is an indicator of the difficulties of tools to deal with user-generated and Web 2.0 content.
- ☞ As for the qualitative tests on Web 2.0, all the tools fail.
- ☞ The adult content is better filtered than the “other” content categories.
- ☞ Tools work better on English languages than other languages.

Usability

- ✓ **9 out of 10 tools gain better scores for installation and/or configuration than for usage.**
- ✓ Overall, no tools score less than 2 points, thus not reaching the threshold of 50 % of 4 points, two tools range between 2 and 2.50, three tools from 2.50 up to 3. **Five tools score in the top area and gain 3 points or more.**

The **main findings** can be summarised as follows:

- ☞ Some of the tools keep the installation and configuration procedures very simple. However, 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.
- ☞ A high percentage of tools keep the installation process very simple.
- ☞ For several tools there are very few configuration options. For other tools, configuration is very exhaustive and comprises a lot of functionalities. Some products compensate complexity by good explanations and a well-structured user interface. The range of customisation options is broad.
- ☞ Most tools do not address the alert message to children and youth but to adults only.
- ☞ Most tools do not allow appropriate reaction to the alert message for a blocked web site.

Mobile devices parental control tools

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

- ✓ iPhone are equipped with an OS-embedded parental control tool which is able to restrict the usage of some protocols/applications such as accessing Internet, browsing YouTube or sending/receiving e-mails. Apple provides also content filtering function as out-of-the-box feature based on the OS. The other operating systems do not provide embedded parental control tools for mobile phones as comprehensive as the ones provided by Apple. Actually, the only way to filter the Internet is to use an external tool.
- ✓ 8 out of the 10 selected tools give parents the opportunity to personalise the filtering process by choosing filtered topics.
- ✓ Some tools give parents the possibility to manage the tool online (from a PC or another mobile device). For some tools - Norton for example - it is possible to manage both the mobile tool and the PC tool (provided that user instal both tools on the children/teenager's device).
- ✓ As for the usage restriction and monitoring, the selected 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 interfaces and functionalities. The effectiveness of the mobile solutions is slightly lower than the one assessed for the similar PC products.
- ✓ Age classes. The tools have similar results for children and teenagers. Indeed, the results of underblocking are almost the same for the two age categories.
- ✓ Web and Web 2.0. All tools perform better on Web than on Web 2.0.
- ✓ Topics. Other categories are badly filtered, with a very high underblocking for both tools. The tools perform better on adult content.
- ✓ Languages. The tools are more positively assessed with reference to English content than to other languages' content.

Usability

- ✓ The overall score for the mobile tools range between 1.96 and 3.19.
- ✓ The issue that most children/teenagers 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/teenager 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.

Alternative tools

There are different types of Alternative tools:

- Alternative tools that restrict completely access to the Internet or that block Internet access for a defined application.
- Tools filtering websites based on a white list only (the so called “Walled Gardens”). In these cases, 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 of tools is “Child Friendly Environment” aiming at educating children; their design is tailored to the youngsters.

The alternative tools tested in the 3rd cycle were the following:

- for Win7 (Care4teen, KidZui and Magic Desktop) and
- for Android (Famigo and Xooloo_Mobile).

Effectiveness

- ✓ Care4teen, KidZui and Magic Desktop allow browsing by white list only, but their white lists differ as for their quality and quantity.
- ✓ Famigo and Xooloo (Mobile) are similar. They are closed systems with their own entertainment choices to buy. It is not possible to search the internet like with a web browser. It differs from the intended purpose to protect children’s activities on the internet and to learn how to use the computer.
- ✓ It was not possible to calculate the effectiveness score on the Alternative tools tested in the 3rd cycle as these tools work in a different manner and full functionality/effectiveness tests are not possible.
- ✓ In general the tools offer a good level of security.

Usability

In the “classical” usability rating the alternative tools achieve quite close scores. Care4teen reached the highest score (2.4) closely followed by Magic Desktop (2.3), Kidzui and Famigo with the same score (2.2) and Xooloo (Mobile) (2.1).

Table 26 - ALTERNATIVE TOOLS USABILITY results

Usability Alternative	Care4teen	Famigo	Kidzui	Magic Desktop	Xooloo (Mobile) [younger age]
I	2,97				
C	2,53	2,56	2,59	2,85	2,84
U	1,86	1,63	1,42	1,4	0,75
Usability	2,4	2,2	2,2	2,3	2,1
Hedonic Quality	2,8	1,9	2,4	2,5	1,0
overall UX / Usability	2,5	2,1	2,2	2,4	1,7

In the overall usability, Care4teen reaches the highest score (2.5), followed by Magic Desktop (2.4) that benefits from the high hedonic quality, and by KidZui (2.2) and Famigo (2.1). Xooloo (Mobile) reached the worst rating with the lowest hedonic quality score.

Game consoles parental control tools

Game consoles parental control tools were not tested in the 3rd testing cycle due to a lack of updates.

Below an overall view of results of the 3rd testing cycle on tested parental control tools for PCs and mobile devices.

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

Device	Tool Name	Effectiveness		Usability	Security
		≤12	≥13		
PC / MAC	F-Secure Internet Security	1.5	1.5	2.93	1
	K9 Web Protection	1.1	1.2	2.90	3
	Mac Os X Parental Controls	1.0	1.0	2.94	2
	McAfee All Access	1.0	1.0	3.00	0
	Norton Online Family	1.8	1.6	3.28	1
	Optenet PC	1.1	1.2	2.44	3
	Panda	1.3	1.1	2.24	0
	Puresight Owl	2.2	2.4	3.09	4
	Qustodio	1.1	1.2	3.11	4
	Trend Micro Online Guardian	1.1	1.2	3.22	0
Mobile	AVG Family Safety	1.5	1.5	2.13	0
	F-Secure Mobile Security	1.5	1.5	2.84	1
	K9 Web Protection Browser (Mobile)	1.1	1.2	1.96	1
	Mobicip Safe Browser	1.1	1.2	2.22	1
	Mobiflock	0.4	0.8	2.93	0
	Mobile Parental Filter	1.2	1.4	2.90	4
	Net Nanny For Android	0.7	0.9	3.19	4
	Norton Online Family (Mobile)	1.8	1.6	3.10	0
	Parentsaround (Mobile)	0.7	0.9	2.80	4
Xooloo (Mobile)	1.4	1.3	2.06	4	

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 full report.

Device	Tool Name	Usability
Alternative Tools	Care4teen	2.5
	Kidzui	2.1
	Magic Desktop	2.2
	Famigo	2.4
	Xooloo (Mobile) [younger age group]	1.7

Recommendations to parental control tools user parents and providers are available in the full report at the link: www.sipbench.eu.