Benchmarking
of parental control tools
for the online protection of children

SIP-BENCH III

Digital Single Market

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DISCLAIMER

Executive Summary

The Internet has grown quickly in recent years and young people and children are amongst the biggest user groups of online and mobile technologies in Europe[1]. One of the biggest concerns parents have when their children/teenagers go online is the type of websites they are browsing and which content they may be viewing[2].

Parents' supervision and monitoring of online activity of their children and youngsters is becoming more and more important, but appropriate support is needed.

Nowadays, the market offers a broad range of **parental control systems**. These systems allow parents to manage and restrict the content that their children may access while surfing the Internet, either through **PCs**, **mobile devices**, **game consoles** or other devices. Parental control tools can block, filter content and webpages, or simply offer control over youngsters' activity on the Internet.

The benchmarking Study

Within the framework of the Safer Internet Programme 2008-2012[3] the European Commission's DG CONNECT has assigned a study to conduct a benchmarking exercise on a selected list of parental control tools available in the market: '*SIP-BENCH III – Benchmarking of parental control tools for the online protection of children*'. The study is aimed at raising awareness of tools that help protect children/teenagers from Internet threats, provide the users (notably parents and caregivers) with an overview of the existing parental control tools, and support them in the selection of the most appropriate tools best matching their specific needs and requirements.

The benchmarking exercise was implemented over the period 2013-2016 through four consecutive testing cycles with a list of tools (on average, 25 in each cycle) allowing parents/carers to monitor their children/teenagers' activity on the Internet, accessed through either PCs, mobile devices, game consoles and alternative tools. Each cycle concluded with a summary of tests results showing the performance of each benchmarked parental control tool against **four main areas of performance**:

- **Functionality -** to assess the number of functionalities offered by the tool against a list of selected possible functionalities;

- **Effectiveness -** to check how well the tool blocks harmful content and allows non-harmful content; effectiveness has been measured with reference to: type of content, age, language, Web type, and social media used;

- **Usability -** to measure ease of installation and configuration processes and usage;

- **Security -** to check if the tool can be easily disabled or bypassed by young users.

The tools have been tested in 6 languages (English, French, German, Italian, Polish and Spanish) with settings for two age groups: **children aged 12 years** and **younger (≤ 12 years old)** and **young people aged 13 years and older (≥13 years old)**.

Results of the four cycles are publicly available online on the SIP-BENCH III web site at http://www.sipbench.eu/, where the tools can be found through a searchable database ('***Search for a tool'*** -

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[1] "*Being young in Europe today - digital world*", EUROSTAT - Statistics Explained, February 2017
(http://ec.europa.eu/eurostat/statistics-explained/index.php/Being_young_in_Europe_today_-_digital_world)

[2] "*Children and parents: media use and attitudes report*", Ofcom, October 2014

[3] Decision No 1351/2008/EC of the European Parliament and of the Council of 16 December 2008 establishing a multiannual Community programme on protecting children using the Internet and other communication technologies, published in the Official Journal L 348 of 24.12.2008, p.118.

http://sipbench.eu/phase8.cfm/secid.7). The database allows for the searching of tools according to device, operating system, age-group, language, price, content filtering, keywords, usage restriction, time and blocking message.

Main findings

- Performance **results** of the tested tools over the four cycles are quite **similar**. This suggests that no major improvements have been made over the three-year period and performance evolution presents a relatively steady trend.

- The **functionality coverage** is quite good for the tools tested (around 70 % of functionalities are covered by most tools), but it needs to be developed further to address new types of content and devices. Mobile tools have **limited functionalities** when compared to PC tools (see pages 29-30 in the Final Report).

- Mac, iPhone and iPad are **equipped** with a **parental control tool embedded in the operating system**, while the Android operating system does not provide an embedded tool for mobile phones or tablets.

- The **game consoles** have their own embedded parental control tool which can control chat, online gaming and content downloading/purchasing, but none of the game consoles' parental controls are able to filter web pages according to content.

- Installation is usually quite simple, but **configuration** is sometimes **complex** and requires specific skills and ability. The complexity of the **configuration** process differs: most tools provide a web-based configuration (especially for PC tools); some tools provide a configuration on the tool and, additionally, a web-based configuration. The likelihood of tools being customised to parents' needs are poor (see page 31 in the Final report).

- The overall **effectiveness** is low for PC and **slightly lower** for mobile tools. Over-blocking and under-blocking rates are linked but perform in opposite directions: tools with a low over-blocking rate have a high under-blocking rate where, in principle, the lower the level of both under-blocking/over-blocking, the better the tool (see page 30 in the Final report).

- **Security** is still **problematic** for many tools. Some of them may be uninstalled even without a password. Many mobile tools can be **easily uninstalled**. Many mobile tools consist of a browser with Internet access; often it is easy to use another browser and, in this way, bypass the tool (see page 32 in the Final Report).

- **User**-generated content is **badly filtered** (see page 34 in the Final Report).

- **Adult content** is **better filtered** than the "other" content categories (see page 30 in the Final Report).

- Tools work well with the most frequent language that is **English**, but are less effective with other languages; also the choice of tools is limited for other European languages (see page 30 in the Final Report).

- As for **usage restriction and monitoring**, the mobile tools offer **very limited functionalities**, in particular for Skype or streaming which are very popular among youngsters.

- Most of the PC tools are able to provide parents with at least **basic reporting** on the youngsters' web activity (visited websites or violations). Some PC tools allow **remote access for monitoring**. Some tools grant parents the option of managing the tool online (from a PC or another mobile device). With some tools, it is possible to manage both the mobile tool and the PC tool (provided that the user installed both tools on the teenager's devices). Most tools do not allow appropriate reaction to the **alert message** for a blocked web site.

Where/when do parental control tools work well?

As a result, it can be deduced that **parental controls work better for the younger age group**. This can be ascribed to several conclusions. the most important being the fact that all tools work better on adult content than on any other type of harmful content. Many parents are most concerned that their young children might come across unwanted sexual content online. For younger children too, a certain degree of over-blocking – as identified for several tools – might be acceptable as long as unwanted content is blocked sufficiently, and this was also reflected in the testing methodology (see pages 18-23 in the Final Report). In addition, a lower level of security of the tools is not as important for the younger age group as for teenagers, where one could expect that the teenagers will try to circumvent the parental control tool.

Parents as users of the tools bring varied needs to the table. Some might simply want to ensure that their children do not overuse their devices and spend too much time online. In this case, any tool providing a time-limit functionality might suffice for their needs. In other cases, parents require a simple solution for the filtering of content if they are not very computer-literate and do not want to deal with complex configuration procedures. Here, a simple tool with only few options may be best for them. For parents who are technically skilled and would like a choice of filtering by categories and/or black-and white-list in addition to some extended features, like social media monitoring, extended reporting functions and time limitations, a more complex tool would be best.

The growing **variety of tools** on the market ensures that there are tools to **meet a variety of parents' needs in respect to parental controls**. Tools always work best if the respective users make sure that the chosen tools are suited to their needs and possibly also anticipates future needs, for example, more children in a household or changing needs arising when children become older.

Recommendations

At the end of the testing phase, some recommendations can be determined, targeting parents, tool providers and policy makers. They have been informed by relying on major **lessons learnt** at the end of the SIP-BENCH III benchmarking study, **inputs and advice** from the Steering Board members and analysis of the **main findings** of other studies recently conducted in the same field.

RECOMMENDATIONS TO PARENTS

Parental control tools cannot replace communication with children and youths. It would be advisable to properly inform and educate youngsters on the opportunities and risks offered by online activities. Parental control tools can be **used in partnership** with children through an **open dialogue** and **transparent communication**. A **balance** between digital and non-digital activities of children during the day can be agreed.
From a more technical point of view, it is important to remember that **filtering** is only part of the solution and that it is essential to **learn** how to set restrictions in the browsers.
The use of a **combination of tools** with complementary functionalities and features may be a solution to enhance the overall control effectiveness.

RECOMMENDATIONS TO TOOL PROVIDERS

The main message is to make further efforts to **adapt** tools to the growing **expectations** of users. To this end, it is important to design the next generation of tools following an **e-safety design** approach which sees children as a **special group of users,** particularly for new devices, and with a focus on: **easing** parental control tools

handling, ensuring a **broader** range of tools' **functionalities**, defining **minimum functionalities** and blocking requirements, ensuring **security** in the operating system and allowing uninstallation prevention, **sharing datasets** between providers to increase protection, facilitating access to **instructions**, allowing for **content classification,** based on clear and consistent standards, which are applicable regardless of the platform and the device that provide access to the Internet. Configuration should be allowed based on the users' capabilities: more skilled users can easily deal with it whereas less skilled users may not be as adept and could skip configuration thus perhaps impairing the effectiveness of the filtering process. Particular focus should be directed toward **web 2.0** and **user-generated content** classification and filtering. To increase effectiveness, **more tools** can be **combined** to take advantage of diversified functionalities and features. **Mutual learning** and **joint engagement** with users should inspire the tools development approach by producers.

RECOMMENDATIONS TO POLICY MAKERS

It would be useful to further promote, at an EU level, **awareness-building** and **communication strategies** to boost the use of parental control tools, as done with the SIP-BENCH III and similar initiatives. Continuously updated **guidance** on tools could be beneficial to parents. More awareness and education, in fact, may increase the uptake of parental control tools. To this end, further studies aimed at **detecting** and **monitoring emerging needs** of families and users could be undertaken, together with **public-inclusive discussions** on online opportunities and threats. The uneven coverage of parental control tools for both geographical and cultural reasons should encourage research to better formulate suitable policy schemes and instruments, thus addressing such disparities. Policy-making may foster research and development on the emerging technologies and the **user-generated content-related issues**, thus boosting research on how to improve parents' supervision and youngsters' **resilience** and pursue **standardisation of content classification**.

Finally, to continuously track evolution and improvements in the market, it would be useful to have a **benchmarking exercise** as a continuous initiative to allow for the monitoring and comparison of performance of tools over time.

Conclusions

Based on the results which have emerged from the SIP-BENCH III benchmarking study, there is no one-size-fits-all control tool which meets all parents' concerns and it is necessary to make an **assessment on a case-by-case basis.**

The overall conclusion is that, among the tested tools, a **single perfect tool does not exist** and parents should look for the tool that best matches their needs adequately, balancing the areas of tools performance.

Parents' **selection** of the tool/s may be guided in principle by the following **criteria**:

- The ease of the **installation** process
- The range of **functionalities** offered by the tool
- The type and number of **features** incorporated
- The best **price** or a free subscription
- The option of complete monitoring of Internet activity
- The quality of reporting and feedback produced.

Furthermore, the beneficial effects of the adoption of a parental control system should be considered against the **risk of over-restricting children** and reducing learning and leisure opportunities offered by the Internet.

Using parental control tools is a **learning process**. Parents should be aware of this and should be ready to develop their skills along the usage and monitoring process.

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EXECUTIVE SUMMARY

Ad-hoc guidance could be useful to 'educate' parents on how to integrate the use of parental control tools with parenting and on how to inform and explain to kids how to use these tools properly.

In terms of future generation tools' development, it is important to emphasise that a **balance** should be achieved between **vendors' perspectives** and **parents' needs**.

On the industry side, the development of **safety features** appropriate to (very) young users and the provision of **easy-to-use** safety functions, alerts and blocking functions should be encouraged. Furthermore, development of tools which allow for more **transparency** and enable **productive parent/child interaction** should be favoured.

Production of better designed, age-appropriate and user-friendly tools and interfaces, informed by results of **usability** and **user experience** studies should be fostered in the future.

On a policy level, a **renewed focus** on the issue of online safety would be useful, with an view to what is really innovative in the market, concentrating efforts on emerging issues such as how to deal with the increasing mass of user-generated content, how to address the need for safety of very young children who are becoming frequent users of the Internet, how to ensure the protection of children's rights in this open and risky context, how to guide producers in developing products in line with users' needs whilst safeguarding user-friendly features, effective monitoring, affordable prices and usability across countries and user groups.

For future programmes, the Internet of Things and interoperability issues must be taken into account with regard to children's safety when using connected devices and toys. Furthermore, it would be useful to look again at game consoles, since the new generation of these products will be more interactive. Also, streaming services may be a target focus.

Furthermore, additional actions may be taken to continue the **awareness-building** and **knowledge dissemination** process aimed at target groups of users, together with initiatives that allow for continuing **discussion** and **debate** among tool providers and users and boosting a user-centred approach in the design and development of parental control systems.

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