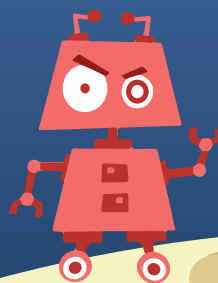
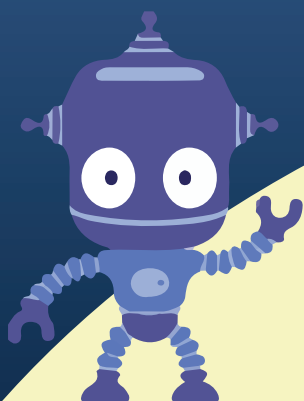


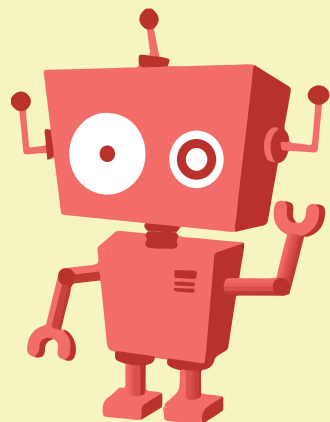


CONTENT FILTERING
IN CHILD-FRIENDLY SEARCH ENGINE:
A DILEMMA
BETWEEN FREEDOM AND PROTECTION
IN THE CASE OF

Kiddle



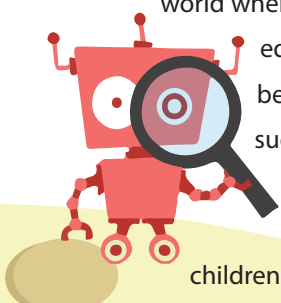
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SUMMARY

The internet is growing at the rate that is unstoppable. It does not only grow in terms of contents and adaptability, but most importantly, it also grows in terms of users. Children, in particular, have begun to access the internet, and they might be exposed to 'unsafe' information swarming all over the internet. Search engines with content filtering features then began to emerge, as a way to 'protect' the children. However, this drew backlashes from the proponents of freedom and wise internet usage, claiming the effort to filter contents from children is taking away parts of the children's rights. This case study is solely dedicated to cover the controversy and will be concluded with where the controversy is heading.

INTRODUCTION



The unceasing development of information technology has created a world where the internet becomes an integral part of a child life. Whether for educational purpose or sole entertainment, children nowadays have become increasingly literate in the usage of internet service. Terms such as 'digital native' and 'net generation' are being used to emphasize the importance of new technologies within the lives of young people.ⁱ When it comes to education, the internet is valuable for children both because it enhances the class environment and it introduces children, from early stages of their lives, into today's information society.ⁱⁱ One of the most essential services of the internet that are used the most by children is the Internet Search Engine (ISE).

Nevertheless, assimilating search engine literacy in educational activity during early childhood is not a simple task. While the use of search engines for the enhancement of learning tasks is widespread, they are not initially designed with children in mind, causing numerous hatches when used by this particular group of audience. There are at least two major problems with the use of search engine by children. The first is that children have the knowledge, cognitive abilities and finemotor skills that are different from those of adults.ⁱⁱⁱ This means that a specially designed information retrieval algorithms and search interfaces are required for an effective search engine experience. Secondly, most societies share the view that the

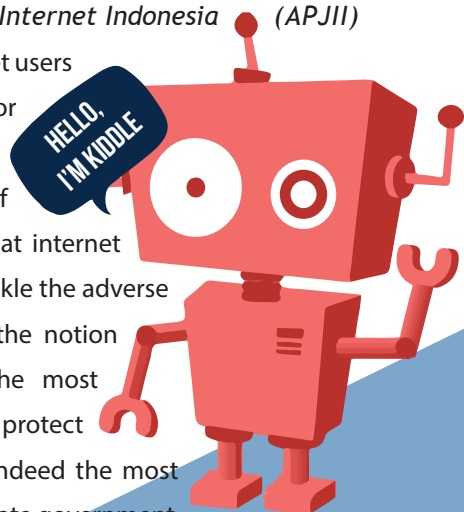
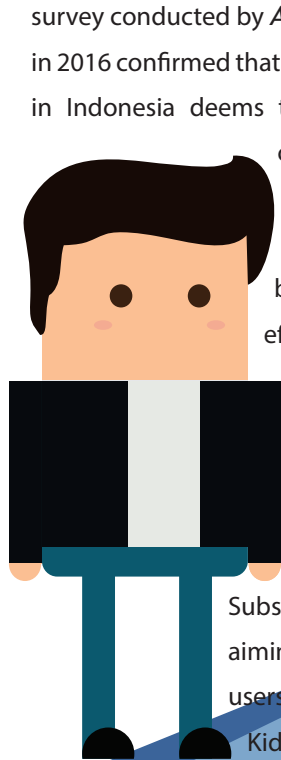
internet contains threats to children such as ‘inappropriate’ contents and activities (e.g. gambling) or contact with the ‘wrong’ people.^{iv} Given that between one in three internet users worldwide being a child, global society is at a tipping point in the growth of the online child population.^v Therefore, measures to protect children from being exposed to harmful contents are regarded as indispensable.

THE RISE OF CHILD-FRIENDLY SEARCH ENGINE

Global Kids Online research project conducted by the London School of Economics and UNICEF found that children nowadays look for information via internet search engine. This finding generates global concerns for children’s safety on cyberspace, especially on search engine platforms. As a result, the global trend shows that most state government has implemented a mechanism specifically designed for children that are embedded into the national internet policy and regulation, some of which includes content blocking. A similar concern is also widespread in Indonesia. A survey conducted by *Asosiasi Penyelenggara Jasa Internet Indonesia* (APJII) in 2016 confirmed that 76.4 % or 101,3 million internet users

in Indonesia deems the internet to be unsafe for children.^{vi} The same survey also showed that majority of Indonesian (69.2%) thinks that internet blocking is not sufficient to tackle the adverse effects of the internet. While the notion that content filtering is the most effective mechanism to protect children is debatable, it is indeed the most feasible measures both for state government and search engines platforms.

Subsequently, several developers have designed search engines aiming to fit children’s need as part of the effort to integrate minor users safely into the service. Search engines such as GoGooligans, KidRex, KidzSearch and most recently Kiddle claim to provide





children with a safer alternative in their internet surfing experience. Nevertheless, the presence of these search engine platform was not received by the society without resistance. Content filtering, which is a method most commonly used by search engines to block certain contents to be retrieved by the user, has recently sparked debates among the society worldwide.

This writing is going to present a case study of internet filtering as a method to ensure children's safety online. Extensive literature references, in addition to data derived from surveys on children's online behavior, are utilized to illustrate trends on children's tendency when surfing online. As the global survey revealed, the search engine is one prominent tool that is being operated by children in the cyberspace. In the rise of content filtering developed by these child-friendly search engines, a question then arises regarding the downsides of internet filtering as a safeguarding mechanism. In an attempt to answer this question, the controversy surrounding the outburst of Kiddle will be elaborated in detail to demonstrate a real-life example in which pros and cons in the discourse of child-safe search engine arise among society. Before exploring further to the issue, a basic understanding of what methods are used on search engines as well as the challenges that it needs to overcome will be elaborated.

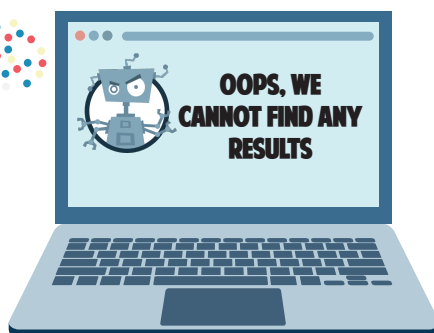




CONTENT FILTERING IN A NUTSHELL

One of the most common approaches used by search engine platforms to tackle inappropriate contents is content filtering, or also called web filtering. Most of the existing search engines designed for children utilized the system called 'internet keyword blocking,' which restricts access to websites based on the words found in requested URLs, or blocks searches based on a list of blacklisted terms, which is a sophisticated technique that these web services are employing.^{vii} However, the majority of the safe engine services do not develop their system of keyword blocking. Instead, platforms such as Kiddle and KidRex are powered by other search engine platforms such as Google and Yahoo respectively. This technique of content filtering is expected to strain the queries before they are being presented in the children's computer screen.

There are several types of contents that are subjected toward web filtering. In the case of most search engines for children, the Internet contents blocked are predominantly for social reasons—commonly pornography, information about gay and lesbian issues, and information about sex education.^{viii}



THE PROBLEM WITH INTERNET FILTERING

As expected, the standard to which a particular subject can be considered as ‘inappropriate’ has sparked heated debates among different groups worldwide. The issue is contentious because there is no single universal ‘guideline of appropriateness’ on which search engines platforms can rely upon. This is mainly because cultural and geographical differences exist, both regarding the idea of childhood as well as the perspective of can be defined as suitable or tolerable practices for children, which makes it difficult for a globally operating search engine platform to conform to all these differences. When it comes to content, more specifically “inappropriate content,” population of children cannot be treated uniformly. Each child is different – different ages, education, language, culture, religion, maturity, experiences, interests, etc. – and children change rapidly as they mature and develop.^{ix} It is easy to argue that the determination of what content is appropriate for a child is best left as the concern of the parents, guardians, and educators who personally know the child.

This problem is exacerbated by the lack of uniform national legislation or global controls explicitly outlawing inappropriate material, making child protection online an even more difficult task. A technical report by UNICEF suggests that the mere lack of a clear agreement at the governmental level about the dimensions of the problem and the appropriate legal response only serves to emphasize the importance of providing parental and educational guidance to children.

In addition to disagreement and lack of universal standard in the perception of appropriateness, technical issues were also found in content filtering practice. Different studies have indicated that web filtering can never be entirely effective.^x Filtering technologies found in various search engines are vulnerable to two simple fundamental weaknesses: under-blocking and over-blocking. Under-blocking can be defined as the failure of filtering to block access to all the targeted content.^{xi} On the other hand, it is vulnerable to the problem that the filtering technologies block content they do not intend to block, which is known as over-blocking. Both of these shortcomings occur because several blacklisted keywords are produced through a combination of manually designated websites

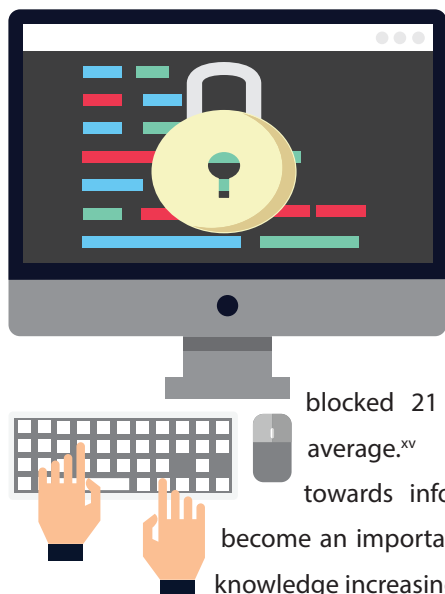
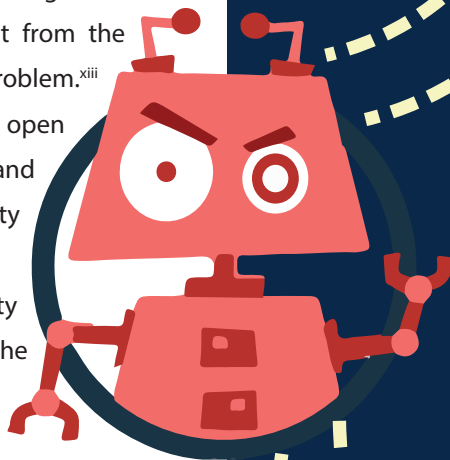
and automated searches, and therefore often include websites that have been incorrectly classified.^{xii} Furthermore, filtering methods also do not completely remove the illegal content from the Internet, and thus are prone towards bypassing the problem.^{xiii} They also have the potential to restrict free and open communications inadvertently or deliberately, and thereby to limit the rights of individuals or minority groups.^{xiv}

At least two factors challenge parents' ability to control their children's Internet access and use. The first is that while parents are responsible for their children's safety, they must also respect their children's growing independence and rights to privacy. The second is the fact that few parents fully understand their children's Internet culture.

As many journalists and civil libertarians have speculated, filters are not a particularly effective technique for protecting children

from objectionable Internet content. Further, such programs also block a substantial percentage of web pages with no offensive material. Overall, filters failed to block objectionable content 25 percent of the time, while on the other hand, children search engine improperly

blocked 21 percent of benign content on average.^{xv} This threatens children's right towards information, in which internet has become an important mean for children in obtaining knowledge increasingly.



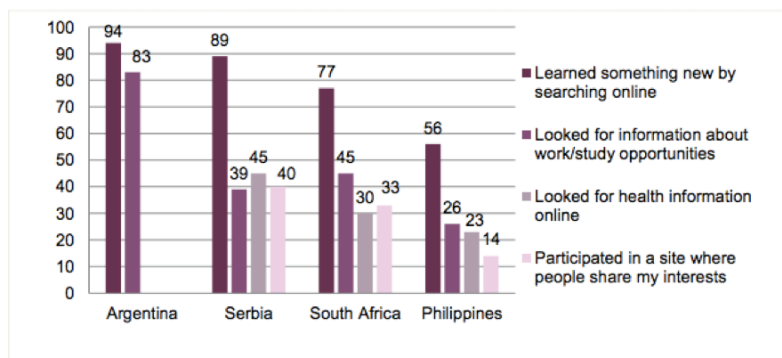


Figure 1: How often have you done any of these activities online in the past month? (% responding 'At least every week')

Batch suggested that over-blocking content as a mean to protect children from offensive materials will automatically limit exposure to complex and thought-provoking websites and that curtailing the use of interactive platforms has numerous unintended consequences for students.^{xvi} Schools that over-filter content are effectively limiting the acquisition of digital literacy, which increasingly is recognized as a fundamental requirement for all citizens to participate fully in a globally competitive and democratic 21st-century society. As a response, educators, academicians, as well as various advocacy groups have been actively demanded search engine developers improve their content filter policies, which, despite some progress, continue to deprive children from becoming knowledgeable digital consumers—with the hardest hit apparently being the most disadvantaged students.^{xvii}



CASE STUDY: KIDDLE

The 'Google for kids' search engine called Kiddle is the most recent and controversial instance, to-date, showcasing the case in which internet filtering can pose some problematic distress. Briefly, Kiddle claims to provide a children-safe browsing environment. The search engine explains the mechanism of content filtering through its website, in which it mentioned that the results are either handpicked and checked by editors or filtered by Google safe search to acquire kid-oriented results without any explicit content. The website makes use of an embedded Google custom search bar which blocks certain content search results. Google designed its custom search bar as code that can be embedded in any website.^{xix} In other words, Kiddle is basically borrowing Google's search results, in addition to the editor-handpicked contents. Another distinctive feature of the web-service is that it encourages users to participate in the filtering process by enabling parents or educator to submit a form with suggestions of additional key words they consider should be restricted.

Information acquired through the website shows that the web service returns results of each search task in a particular order according to the suitability of the results. Kiddle categorizes the query into three groups as shown in the diagram below:

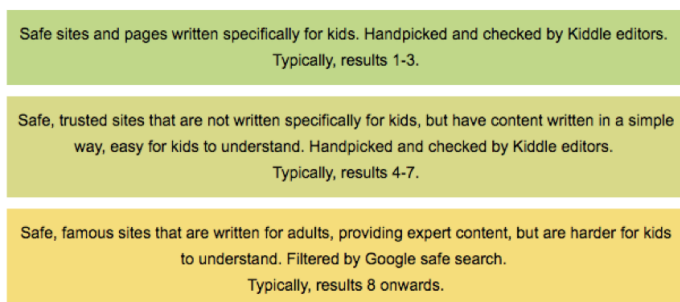
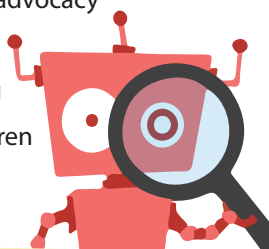


Figure 2: Kiddle's Category of Queries

At a glance, Kiddle might seem like the answer to every parent's dream. The truth is, it hasn't existed without controversy. The problem began with the fact that some commentators and news websites have been mistakenly recognizing Kiddle as a new Google product. The fact is, although being powered by Google Custom Safe Search, there is no indication or notice on Kiddle website that it is officially owned by or affiliated in any way to Google.^{xx}

The biggest attack directed towards the search engine is the accusation that it is guilty of content over-blocking. During the early period of its establishment until the public rage emerges in 2016, words such as, "lesbian," "gay," "transgender," "menstruation," "circumcision," and "sex education" were on its list of blocked searches.^{xxi} As a result, some parents have been questioning if the search engine's blocks are overly severe, while others wonder if the editors have the right to decide what is okay for their child to see. Again, differences in perception towards content appropriateness for children might be the core of this dispute. In addition to the inadvertent over-blocks that occur as a result of keyword filtering, some advocacy groups suggest that filters can be used to intentionally limit students' access materials of educational value because the viewpoint expressed is disagreeable to certain political group.^{xxii}

Among the controversies is the statement made by LGBT advocacy group Stonewall in 2016, which expressed disappointment that terms like lesbian, gay, bisexual and transgender are being constrained. Corresponding to the studies on the shift on children user behavior, Stonewall spokesperson suggested:



“Young people regularly use the internet to find information on LGBT issues. Attempting to stop young people finding the safe and age-appropriate content of this nature will force many young lesbian, gay, bi and trans people to seek it elsewhere. This can take individuals down inappropriate avenues, which might put them at risk. Kiddle should rethink its approach to blocking valuable LGBT advice and information.”^{xxiii}

In response, Kiddle claims that the blockage is due to the site not being able to guarantee the safety of such searches, as explained by one representative of Kiddle that "what is OK for a child of 12 may not be OK for a child of five."^{xxiv}

The controversy is rather expected when we look at the findings in children's shift in regards to their perception towards the internet. Amanda Third et al.'s multinational consultation with children living in 16 countries concluded that children now regard access to digital media as a fundamental right and, further, they recognize that digital media are increasingly becoming the means through which they exercise their rights to information, education, and participation. Subsequently, some suggest that restricting media and information literacy, as well as limiting information access as a consequence of unnecessary content filter means that children may lack opportunities to develop their critical, evaluative and digital literacy skills, or that they may rely on problematic or misleading information. This shows that structural shift in children's view on the internet might play a major role in the existence of Kiddle and other children's search engines.



CONCLUSION

After a year of dispute, the service decided to conform to advocacy groups' demand by lifting off the ban on the previously blocked keywords. Regardless, Kiddle still encountered the old over-blocking problem of internet filters. Recent independent observation reveals that queries of the keyword 'LGBT' return to results that link to some irrelevant resources as well as websites to immensely limited LGBT support groups. This prompts one of the website users to write: "Kiddle seems to be trying so hard to be safe; it is sacrificing relevance for vigilance."^{xxvii}

The fact that Kiddle still encountered the old over-blocking problem of internet filters emphasizes that Artificial Intelligent (AI) is not sufficient to independently weigh what constitute to be appropriate contents for children, even when it is combined with editor-handpicked resources. The Internet contains a massive amount of data that needs complex consideration to sort, which means that human aspect remains to play an imperative role to improve the performance of kids-friendly search engines to ensure children's safety on the cyberspace.

As shown in the case of Kiddle, content blocking on children safe engine showcases the dilemma between children protection and their rights for information. Due to the high level of divergence, most experts agree that the determination of what content is appropriate for an individual child is best left as the responsibility of the parents, guardians, and educators who understand the child on a personal level.^{xxviii} In short, parents and educators working with children alike must not forget the role of empowerment and resilience building, which requires the provision of information to children that will allow them to make informed decisions and have knowledge about the harmful risk of the internet.

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