

USE OF ARTIFICIAL INTELLIGENCE IN MODERN SCREEN TIME LIMITING APPLICATIONS

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Abstract: This article examines the role of artificial intelligence (AI) in creating screen time management applications for children, an overview of the current state of the industry, an examination of existing screen time management applications and ways in which AI can improve their functionality, as well as problems and ethical considerations related to the use of AI.

Keywords: *Screen time, artificial intelligence, children, parents, digital health, health behavior, app development, technology, education, parental control.*

Annotatsiya: Ushbu maqolada bolalar uchun ekran vaqtini boshqarish ilovalarini yaratishda sun'iy intellektning (SI) roli, sohaning joriy holati haqida umumiy ma'lumot, mavjud ekran vaqtini boshqarish ilovalarini tekshirish va sun'iy intellekt ularning funktsionalligini yaxshilash usullari shuningdek, sun'iy intellektdan foydalanish bilan bog'liq muammolar va axloqiy mulohazalar ko'rib chiqiladi.

Kalit so'zlar: *Ekran vaqti, sun'iy intellekt, bolalar, ota-onalar, raqamli salomatlik, salomatlik xulq-atvori, ilovalarni ishlab chiqish, texnologiya, ta'lim, ota-ona nazorati.*

Аннотация: В этой статье рассматривается роль искусственного интеллекта (ИИ) в создании приложений для управления экранным временем для детей, обзор текущего состояния отрасли, изучение существующих приложений для управления экранным временем и способы, которыми ИИ может улучшить их функциональность а также проблемы и этические соображения, связанные с использованием ИИ.

Ключевые слова: *Экранное время, искусственный интеллект, дети, родители, цифровое здоровье, поведение в отношении здоровья, разработка приложений, технологии, образование, родительский контроль.*

Introduction

With the increasing exposure of children to screen media and the negative effects this can have on their health and development, there is a growing need for effective tools to manage and monitor children's digital activities. AI has the potential to revolutionize the development of these tools by offering advanced features such as personalized recommendations, predictive analytics, and natural language processing. With advances in technology and increased use of screen time by children and teens, there is growing concern about the negative impacts of excessive screen time on children's health and well-being. The World Health Organization (WHO) recommends that children aged 5–17 years should spend no more than 2 hours a day in front of a screen, and children under the age of 1 should not spend time in front of a screen at all [10]. However, studies have shown that more than 80% of adolescents worldwide do

not follow these guidelines, with an average screen time of 3 hours per day [1]. Excessive screen time has been associated with negative mental and physical health outcomes, including obesity, poor sleep, and decreased social skills and academic performance [2].

To solve this problem, many parents are turning to screen time management apps to monitor and control their children's device usage. However, many of these apps are inefficient or difficult to use, and few of them offer engaging and educational experiences instead of screen time. This is where artificial intelligence (AI) comes into play, offering a solution to the problem of excessive screen time by creating state-of-the-art screen time management apps that are efficient, convenient, and engaging for kids [3].

The role of artificial intelligence in screen time management apps

AI has revolutionized the way we live, work and communicate, and it has the potential to change the way we manage screen time for kids. With the help of AI, developers can create intelligent screen time apps that can learn from children's behavior, adapt to their preferences, and offer personalized off-screen recommendations.

One example of an AI-powered screen time app is Screen Time Labs, which uses AI to provide parents with real-time data about their kids' device usage, including which apps they use most and how much time they spend for every application. [4]. The app also allows parents to set screen time limits and block certain apps and websites. In addition, the app offers personalized suggestions for off-screen activities based on the child's interests and preferences.

Another example of an AI-powered screen time management app is OurPact, which uses machine learning to analyze app usage patterns and provide information about their digital habits [5]. The app offers features such as time tracking, app lock, and family locator, allowing parents to track and manage their children's device usage in a more efficient and personalized way.

AI can also be used to create fun and educational activities to replace screen time, providing children with a fun and interactive way to learn and grow. For example, educational apps such as Duolingo and Khan Academy use AI to personalize learning for each individual user, tailoring the content and difficulty level to their abilities and learning style [6]. This approach can be applied to screen time management applications, providing children with fun and educational activities tailored to their interests and abilities [7].

Table 1

A Comprehensive Overview of Screen Limiting Apps and Their Features [11]

App Name	Number of Installations	Platforms	AI
Screen Time	1 million+	iOS, Android	No
OurPact	500,000+	iOS, Android	No
FamilyTime	100,000+	iOS, Android	No
Norton Family	50,000+	Windows, iOS,	No

		Android	
Qustodio	1 million+	Windows, Mac, iOS, Android	Yes
FamiSafe	500,000+	iOS, Android	Yes
Google Family Link	50 million+	Android	No
Kaspersky Safe Kids	1 million+	Windows, Mac, iOS, Android	Yes
Kidslox	100,000+	iOS, Android	No

A comparison of the different screen-limiting apps based on the information provided in the table:

Number of Installations: The number of installations can be an essential factor to consider when choosing a screen-limiting app. Apps like Google Family Link and Kaspersky Safe Kids have a significantly higher number of installations than other apps like Norton Family and Kidslox. This could indicate that more people trust and use these apps, making them potentially more reliable and effective.

Platforms: Another important factor is the platforms on which the app is available. Qustodio and Kaspersky Safe Kids are available on Windows and Mac, in addition to iOS and Android, which can be useful for families who use a variety of devices. On the other hand, apps like Google Family Link are only available on Android.

AI: Qustodio, FamiSafe, and Kaspersky Safe Kids are the only apps in the table that use AI. AI can help the app better understand the user's behavior and provide more accurate and personalized suggestions.

Screen Time: All apps in the table provide screen time management features. However, the specifics of these features may vary. For example, some apps may allow for more granular control over specific apps or types of content.

Overall, the choice of screen limiting app will depend on the specific needs and preferences of the individual or family. The factors outlined above, as well as additional features and considerations, should be taken into account when making a decision.

In a survey of parents that we conducted, one of the questions asked parents about their level of concern regarding the amount of screen time their children were getting [8]. The results (Table 2) showed that a significant percentage of parents expressed worry about this issue.

Of the respondents, 18.8% answered that they were only slightly concerned, indicating a level of one on a scale of one to four. Another 11.9% were slightly more concerned, indicating a level of two. A larger proportion of parents, 24.8%, answered with a level of three, indicating moderate concern. The largest percentage of parents, at 44.6%, answered with a level of four, indicating a high level of concern.

The results of this survey suggest that a significant number of parents are concerned about the amount of screen time their children are getting. This concern is reflected in the fact that almost half of the respondents indicated a high level of concern, with another quarter indicating moderate concern. This data may reflect a

growing awareness of the potential negative impacts of excessive screen time, including effects on physical health, mental health, and academic performance.

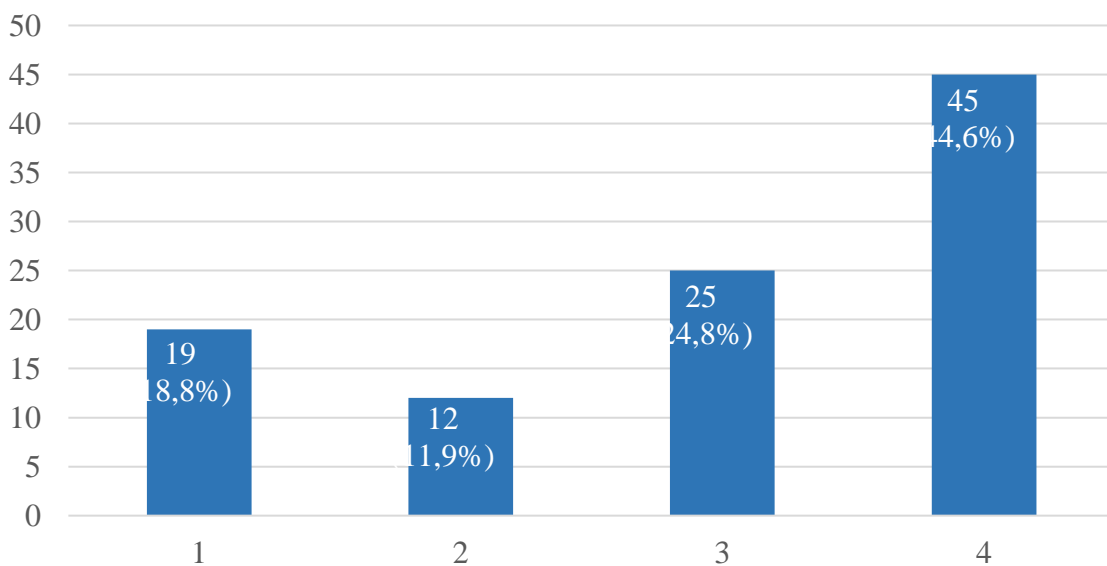
Parents who are concerned about their children's screen time may be interested in exploring the use of screen limiting apps, as these tools can help to regulate and manage device usage. Some of the apps listed in the table provided have features such as time management and app blocking, which can be useful for parents looking to limit their children's screen time. Additionally, the presence of AI in some apps, such as Qustodio and Kaspersky Safe Kids, may provide additional benefits in terms of personalized monitoring and management of screen time.

Overall, this survey highlights the importance of monitoring and managing screen time for children. The results indicate that many parents are aware of this issue and are actively concerned about it. As technology continues to play an increasingly prominent role in our daily lives, it is likely that the issue of screen time management will continue to be an important topic for parents and caregivers.

Table 2

Screen Time Management Survey for Parents

How concerned are you about the amount of screen time your child is getting
101 responses



Conclusion

In conclusion, the negative impact of excessive screen time on the health and well-being of children is a growing concern, and screen time management apps have become a popular solution among parents. However, many of these apps are inefficient or difficult to use, and few offer engaging and educational experiences instead of screen time [8]. The use of AI in screen time management applications offers a solution to these problems by creating intelligent and personalized applications that can adapt to children's behavior and provide fun and educational experiences instead of screen time [9]. With the help of AI, we can create state-of-the-art screen time apps that are efficient, convenient, and engaging for kids to help improve their health and well-being in the digital age.

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