Using Microsoft Family Safety
for parents and children

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Abstract—**The article discusses ways to ensure the information security of children and to organize a secure personal information space both at school and in the family. Describes the software for parental control Microsoft Family Safety, and its basic principles of setting up and managing this software for parents and children. The benefits of using parental controls on mobile devices are presented. The main possibilities for using the software for parents and children are described. Outlines the basic steps for creating a child's Google account with parents and managing it from any device on the Internet. Attention is drawn to the fact that children are increasingly looking for entertainment using mobile devices, sharing new products with their peers, and spending time together playing various online games, and parents cannot control this process. At the same time, teachers conduct lessons using mobile devices to draw attention to the subject being studied. In the process of using computer technology, students can form a special type of thinking, the so-called "clip consciousness", which leads to fragmentary thinking and the irreversibility of changes in consciousness. Therefore, the problem of excessive use of mobile devices by children requires constant analysis and coverage. The development, creation, and use of software for monitoring the presence of children on gadgets is one of the urgent needs of parents and teachers. In turn, teachers, in addition to teaching students, need to draw their parents' attention to the use of gadgets outside of school. To do this, parents are encouraged to use a variety of software, including Microsoft Family Safety, which provides parents with tools to monitor their child's mobile and Internet behavior, and helps parents choose child-friendly content and explain how to use their device and Internet resources.**

Keywords—Information Security, Parental Control, Microsoft's Account, Microsoft Family Safety.

I. INTRODUCTION

Problem statement and substantiation of urgency. In the process of technology development, it becomes necessary to use a certain environment for family members. Today, each of us, and especially children, have gained easy access to the Internet through the use of modern gadgets, which can quickly become addictive to the uncontrolled use of certain applications or due to exposure to unwanted content. Children are increasingly looking for entertainment using mobile devices, sharing new products with their peers, and spending time together playing a variety of online games.

Teachers began to conduct lessons using mobile devices to draw attention to the subject. It should be understood, that the informatization of education is not a panacea, there are risks of loss of cultural and creative thinking, live communication, and the illusion of accessibility of cognitive actions. In the process of using computer technology, students form a special type of thinking, the so-called "clip consciousness", which leads to fragmentary thinking and the irreversibility of changes in consciousness. This causes a bad mood, irritability, often general malaise, or fatigue. As a result, appetite is reduced, sleep is disturbed, and efficiency is reduced (reduced working capacity) [7].

However, with a harmonious combination, the educational process improves, because there is always a lively discussion between students. Researchers have shown that children of all ages memorize learning material best while playing. Therefore, motivated use of mobile devices during learning increases student activity [1].

Formulation of goals and objectives of the article. The problem of the overuse of mobile and stationary devices requires constant analysis and coverage. It is clear, that the development, creation,

and use of software to control the time spent by children on the devices is one of the urgent needs of parents and teachers to prevent the "collage of modern thinking" of children. Formation of awareness about the effective use of existing information technologies in order to self-organize the educational process for the use of various educational tasks through development programs, educational and game complexes, etc.

Purpose of writing the article: to acquaint teachers, parents, and children with the main possibilities of using the software for parental control Microsoft Family Safety.

II. RELATED WORK

Information technologies are increasingly integrated not only with production, but also with education, family life and upbringing. Expanding the age range of users and teaching "from the cradle" to work at a computer, you need to consider pedagogical and educational problems faced by each family. The acquaintance of the younger generation with the principles of working on a computer is not limited to the skills of working on it, but also captures the sphere of family upbringing and communication, as it is part of every family's life from the first days of a child's life. Parents' efforts should be aimed at creating a safe, socially useful, and critical attitude of the child to the computer and the Internet [8].

However, the issue of information and computer security in afterschool and family education is given insufficient attention. Particular attention should be paid to games using mobile and stationary devices. Uncontrolled use of such games affects the child's consciousness, causing cruelty, anxiety, emotional imbalance, and irritability.

However, due to a number of these dangers, a total ban on children using a gadget, tablets, computers, or the Internet is unjustified. These are just tools, and as a result, of motivated use, these devices can be useful assistants in the education and upbringing of the child. Therefore, the task is to teach children to use computers properly, including mobile devices and the Internet. One way to ensure such information security for children is to organize a secure personal information space both at school and in the family. It is possible to organize such a safe information space by implementing measures and information security for children. Among which:

- *legal means of information security of children on a legislative basis*, implemented for a unified state policy in the field of protection of children from malicious information materials, the revision of which harms their health and psyche;

- *ethical and moral measures,* including compliance with the norms and rules of behavior of children in the process of information activities, as well as network culture with the use of information technology;

- *software and technical measures* that involve the use of various hardware and software to prevent material and moral harm to children (parental control programs, technical means of data protection);

- *organizational measures to control* the use of online communities and services, which may preclude harm to the child's information environment;

- *educational activities,* the formation of which forms a culture of safety in children, responsibility for actions in the information space, strengthening spiritual and moral values, education of patriotism, the readiness of teachers and parents to accept the position of the child and respect for his independence [4].

III. METHODOLOGY

Before starting to write the article, various similar software tools should be researched. Their characteristics, demand and ease of use were analyzed.

Nowadays, there is various freely available parental control software, such as: Family GPS tracker KidControl, Kids Place, Kidslox, Kids Zone, Screen Time, Family Link [5] and many others. Among all these programs, we can single out the Microsoft Family Safety program, the use of which

will help monitor the activities of the child on their devices (phone, tablet, or computer), which run the Windows operating system without much effort.

An operating system is a set of programs that manage the resources of a computer, laptop, or any other gadget. According to statistics (see [9]), the use of the Android operating system is advanced for Ukraine in the mobile sector, while Windows is recognized as a desktop platform.

Table 1. Analysis of popular software for monitoring time spent on mobile devices and computers.

	Kids Place	Kidslox	Screen Time	Family Link	Microsoft Family Safety
Support operating system Windows	-	+	-	-	+
Support operating system Android	+	-	+	+	+
Content filtering	+	+	+	+	+
Program management	+	+	+	+	+
Control the time of use of the device	+	+	+	+	+
Geolocation	+	+	+	+	+
Lock device	-	-	+	+	+
Localization (Ukrainian)	-	-	-	+	+
Method of distribution	free	free	free	free	free

Based on the analysis, it was concluded that the Family Link [5] and Microsoft Family Safety programs are the most appropriate to use. Let us consider in more detail the features of the use of the Microsoft Family Safety software.

IV. RESULTS

By following these steps, you can ensure your child's safety while using the network and solve many other problems. The child should know these measures, and adults need to prepare it to consider into account psychological and age characteristics. After all, methods of ensuring the information security of children and educational impact should be adequate to the age and level of development of the child, to get the optimum result of educational activities and ensure safe socialization of the person in the information environment [8].

The education system plays an important role in ensuring children's information security, because of this a culture and a system of competencies in the field of information security are formed. No less important is the communication with parents to ensure the information security of children. There are specialized web resources and applications, the use of which allows even beginners to effectively use network resources and protect themselves and their child from unwanted content. It is the parents who must control this to prevent the undesirable effects of the overuse of certain devices.

In general, parental control applications are set to address two main tasks. First, create a safe play area for the child and protect the device from the chaotic effects the child. Second, control the list of programs, games, and the time of their use by the child.

Software tool Microsoft Family Safety from the company Microsoft – a free service that provides parental control (monitoring) devices running Windows 10 (Figure 2), Xbox and Android devices (Figure 1), running Microsoft Family Safety for users with a Microsoft account. Using the service settings on the resource https://account.microsoft.com/family (Family.Microsoft.com), you can get reports on your child's actions, set screen restrictions, check your child's location, restrict access to selected websites and games, and set restrictions and confirm purchases of software products from the Microsoft Store.
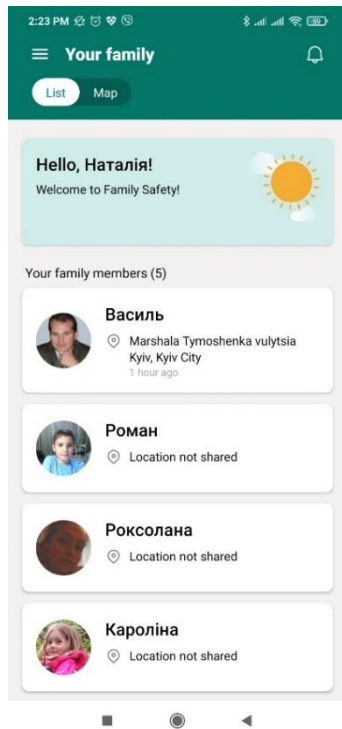
**Figure 1.** Manage accounts using a mobile application
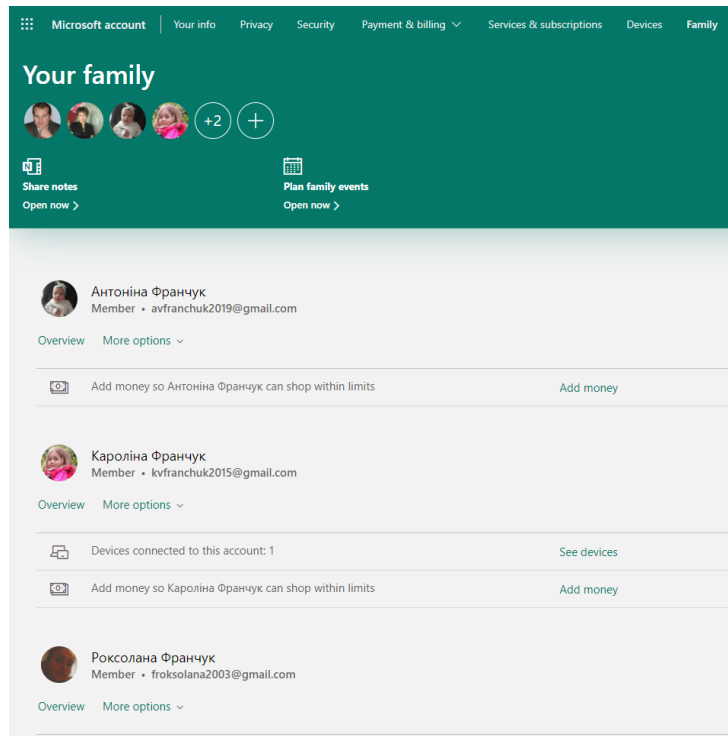
Figure 2. Manage accounts using a browser application

To use the Microsoft Family Safety software in the family, each member of the family must first have a Microsoft account. When you first log in to Family.Microsoft.com, you need to create a group for one of the family members (father or mother) using the Create Family resource. Then follow the instructions (see [10]) you can invite participants to join the Family group and start customizing controls. You can also use family groups on Xbox to add family members [3].

You can manage accounts using a mobile software tool (Figure 1) or a browser application (Figure 2).

There are many benefits to using Microsoft Family Safety software, such as:

- *Receiving reports on action* (*Activity*). This email receives weekly reports of your child's online activity on Windows 10 and Xbox devices, as well as on Android devices with Microsoft Family Safety installed. You can also view actions at family.microsoft.com at any time. You can see the websites that children visit, their browser logs, the programs, and games they use, and how long they have used a particular device. Action reporting is a great way to keep track of events and adjust family settings accordingly (Figure 3).
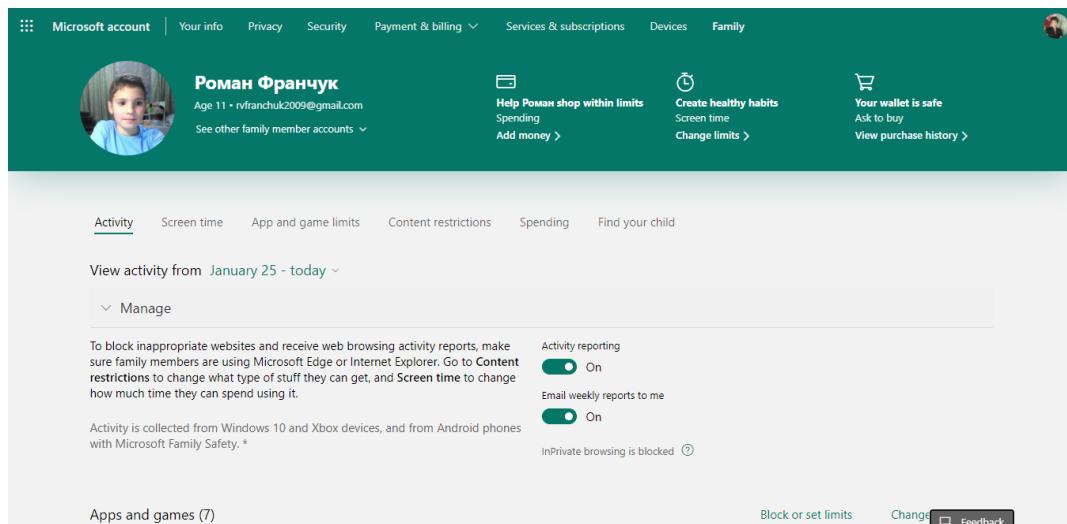

Figure 3. View user activity.

- *Planning for the time of the devices* (*Screen time*). If desired, you can schedule a time when the child should use a particular device. This way you can be sure that your child has a good balance between the time spent in front of the screen and other activities. You can even set a time limit for certain programs or games (such as Minecraft). To do this, select a limit (device or application) and set the time. The child can ask for more time, then an e-mail arrives and can be easily answered, in the Microsoft Family Safety program or on Family.Microsoft.com (Figure 4).
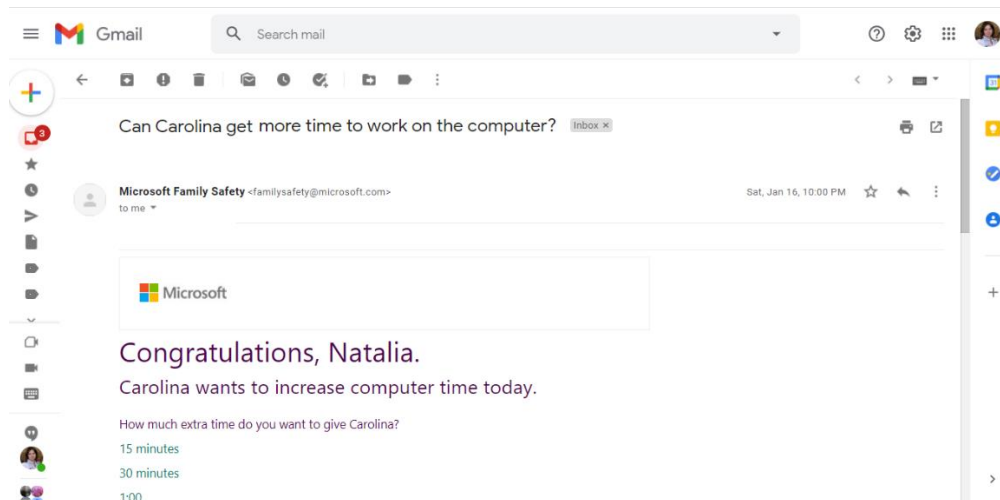
**Figure 4.** Request to extend the working hours.

- *Setting limits on the use of applications and games*. If a child spends too much time on certain programs or games, you can set limits on their use to achieve balance. Restrictions on apps and games are available on Windows 10 and Xbox devices. Once the restriction is set, it will apply to all the child's devices. (For example, giving a child two hours on YouTube, will consider the total time on YouTube with Windows 10, Xbox, and Android.) (Figure 5).
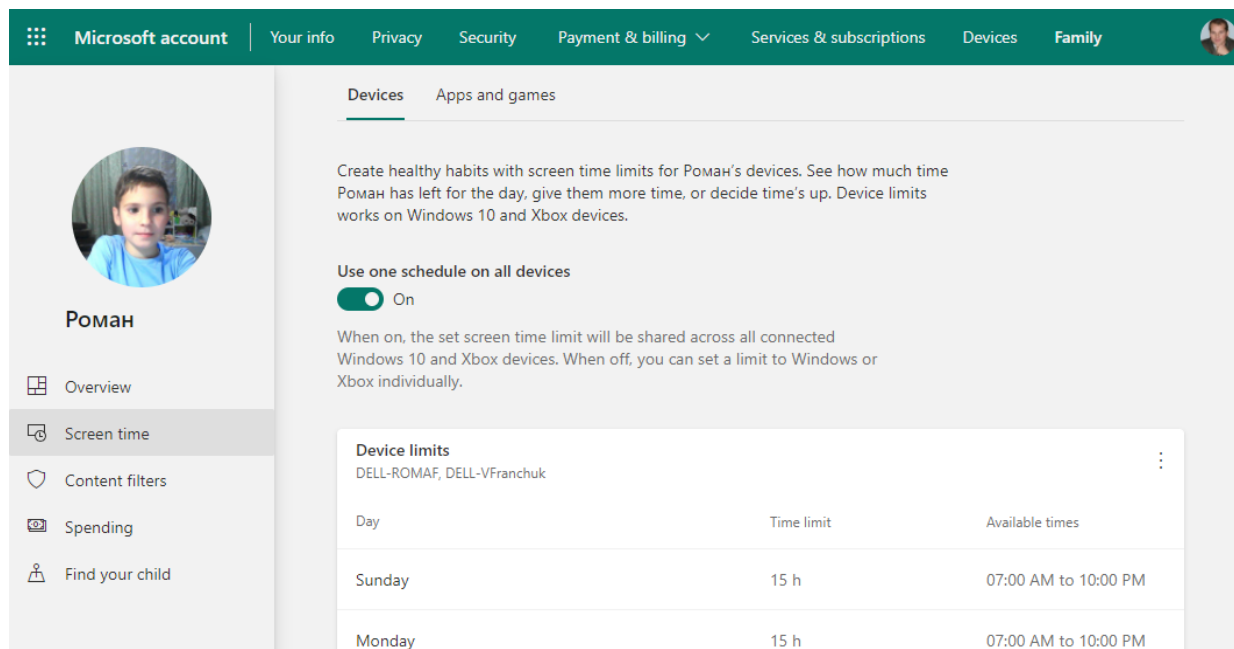
**Figure 5.** Time spent on devices.

- *Setting content filters* (*Content Filters*). Content filters can be used to determine which websites a child visits and which games they can play. To do this, you need to set rules and decide under what conditions they can be violated. To set restrictions for children on the Internet, you can filter out inappropriate programs and games (set age limits for filtering) on devices running Windows 10, Xbox, and Android. Also, after setting age limits, many websites are blocked automatically. Exceeding the age limit will require an adult's permission. The child can send requests to view the

content. These requests will be sent to you by e-mail. They can be approved or rejected in the Microsoft Family Safety web application or on Family.Microsoft.com (Figure 6).
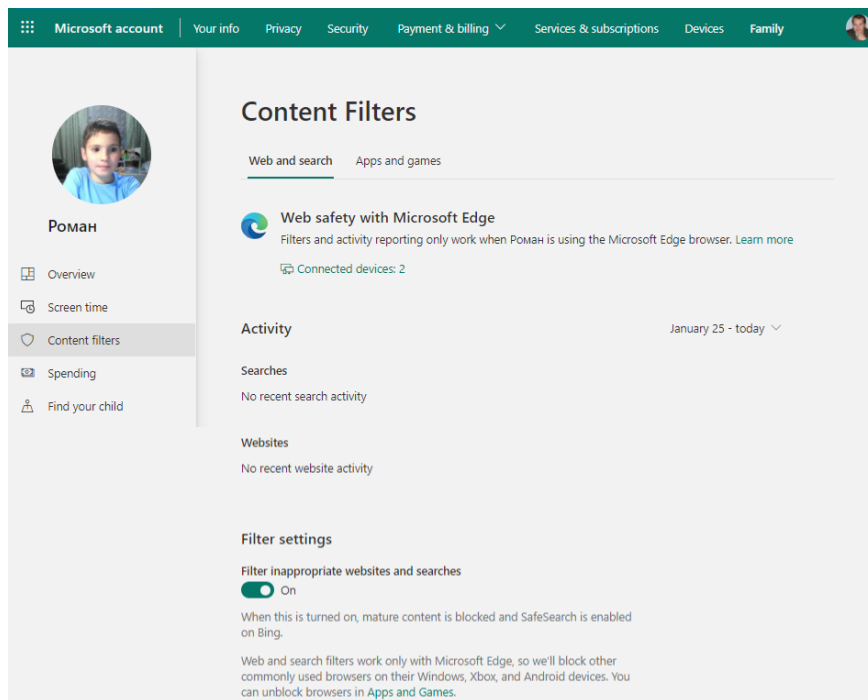

Figure 6. Setting content filters

- *Cost management of the child* (*Spending*). You can view your child's recent purchases, add funds to your Microsoft account, and decide if users need to be able to purchase something from the Microsoft Store (Turn on "Ask to buy") (Figure 7).
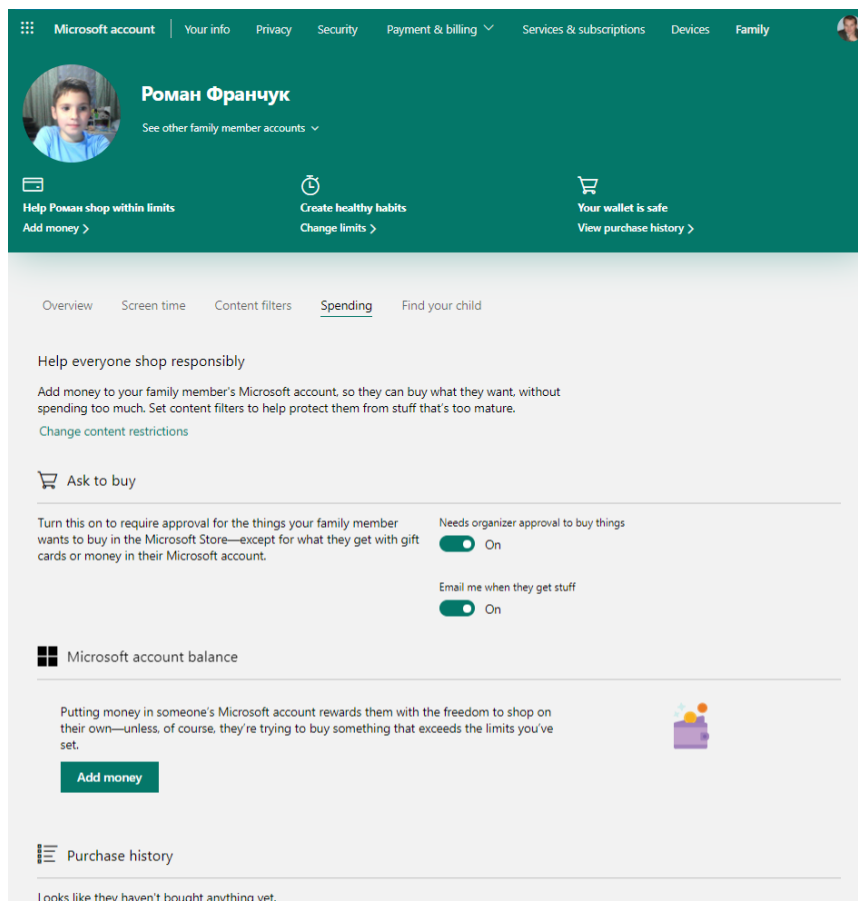
Figure 7. Cost management child

• *View the location of the family on the map* (*Find your child*). You can view where family members are at any time. Make sure your child gets home safely after school or review their location when she is with friends. To do this, open Microsoft Family Safety and look at the shared family map (see Figure 8).
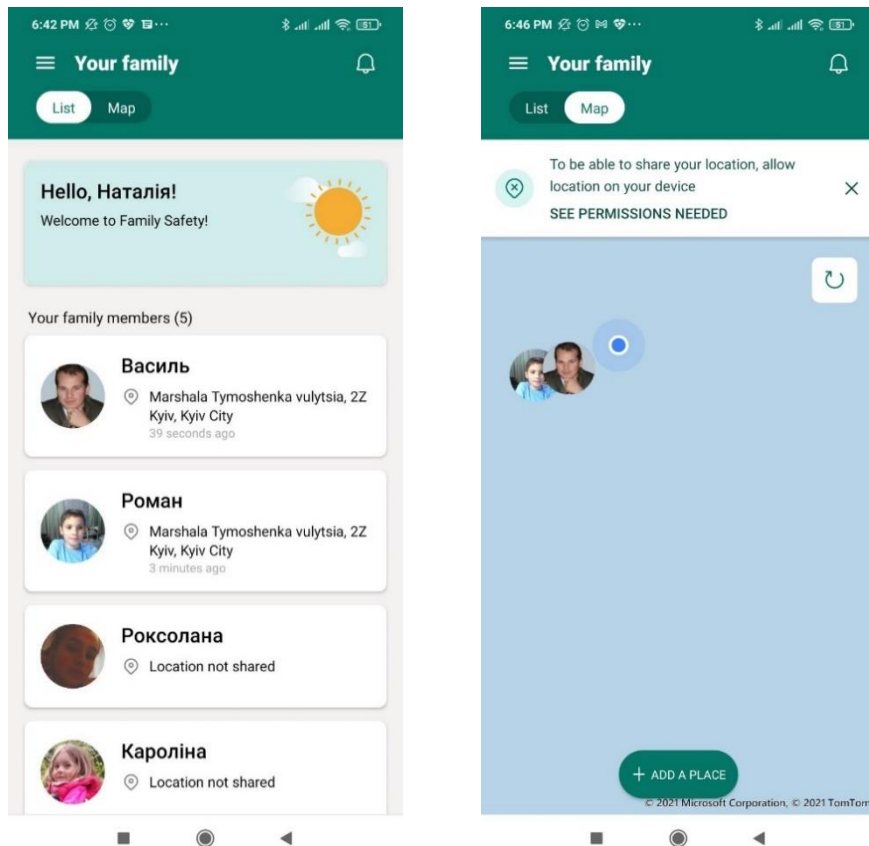
Figure 8. View the location of the family on the map.

When using Microsoft Family Safety, you must first consider the need to help children learn technology safely. By the way, this is one of the main goals of Microsoft. In particular, in many countries around the world there are various provisions: the law on the protection of children's privacy on the Internet (COPPA – USA), the General Data Protection Regulation (GDPR – European Union), the law on personal data protection (PIPA – South Korea).

V. Discussion

This study examines one of the aspects of children's information security, namely monitoring children's work on mobile and personal devices. This study can be used by teachers and parents for the development of information culture.

Using Microsoft Family Safety provides parents with tools to monitor their child's actions on devices and the Internet, but this does not make the World Wide Web safer. The main task of using the application is to help parents choose child-friendly content and explain to them how to use their devices and Internet resources.

VI. Future research

In further research, we plan to pay attention to the vulnerability of such software programs. And to study the negative and positive impact, as well as psychological state of children when using parental control software.

VII. Conclusions

Therefore, the problem of the overuse of mobile devices requires constant analysis and coverage. It is clear, that the development, creation, and use of software to monitor the stay of children on the devices is one of the urgent needs of parents and teachers. The use of such software is just one of the tools to prevent the "collage of modern thinking" of children.

Solving these problems requires a comprehensive solution for the use of devices in the educational process, and teachers, in addition to teaching students, need to draw parents' attention to the use of mobile and stationary devices by children outside the educational institution. One of the tools for such parental influence can be the Microsoft Family Safety software.

VIII. Acknowledgment

IX. Disclosures

The authors declare that there are no conflicts of interest related to this paper.

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