

# ‘SERIOUS GAMES’

And how can children learn  
about digital literacy by  
playing them



## ESSAY

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Version: 1.0  
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## And how can children learn about digital literacy by playing them

Research report

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Cover page image: Laning, T. (2019), What Are Serious Games, From:  
<https://grendelgames.com/what-are-serious-games/>

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## 1. Introduction

Nowadays children (from 10 to 12 years old) are more affected by cyber threats than any other previous generation, according to (Łukasz Tomczyk, 2015). To make it clear, today's teenagers have an unlimited access to the internet, unlike their parents, who did not have anything similar to that. However, this advantage of being online became a serious problem recently, because youngsters are mostly not aware of the simplest cybersecurity rules, and what is worse, their parents do not want to teach them, mostly because they underestimate the aftermath of being online without any knowledge on how to protect yourself there.

My objective is to create a 'serious game' that will teach children the basic concepts of cybersecurity and digital literacy that will be appropriate and understandable for their level of knowledge. Also, it is necessary to make it exciting and entertaining for them, because if they do not perceive it as an actual 'game', the impact of this project will be minimal as children will think about it as one of the 'boring lessons' they have at school and would not learn anything from it.

In this essay I am going to answer the main question: "How can we teach children from 10 to 12 years old digital literacy when they play 'serious games'?" Also, some sub-questions, such as: "What is the purpose of digital literacy?", "What can be dangerous for children when they are online?", "What should developers focus on when creating a 'serious game' for children?" will be answered.

## 2. Theoretical Framework

So, what is the digital literacy? According to (Victoria, 2018) it means being able to understand and use technology. However, it also means understanding of all the danger that might appear while using it and precautions that needs to be done in order to go online. And that is what important in case of younger generation that just start making steps into digital world. So, to be more detailed, the task is to teach kids how the internet works and how to use it properly, so even if they face a problem while using technology, they will already have some fundamental knowledge of how things work and what they need to do to solve it. But what are the rules that can give the most common understanding of digital literacy for teenagers?

In fact, there is an awesome curriculum, created by (Google, 2022), that states 5 the most important things youngsters should know to “make the most of the internet”. There is the list:

- Be internet smart – share with care. Do not share any private information with a person you do not know.
- Be internet alert – do not fall for fake. Remember that sometimes people and situations online can not always be what they seem. It is important to learn what is fake and what is real.
- Be internet strong – secure your secrets. Personal privacy and security should always be on the first place.
- Be internet kind – it is cool to be kind. Talk to people using the concept of “treat others as you would like to be treated” creating positive experience for others on the Web and disempowering bullies’ comments.

These are the most basic instructions that should be followed. Although, to be fair there are a lot more of them, but they are used in less common situations and usually kids do not require them, so there is no need to tell about everything that exists in order to not overload their minds. So, there are a bunch of rules that youth must know and that are appropriate for almost all situations that can happen on the internet.

## 2.1 Dangers that children can face on the internet

As soon as the main rules were discovered, it is time to describe different situations that they could be used at. To start with a most prevalent threat online is, of course, cyberbullying. As soon as almost every teenager these days has a profile at minimum one popular social media or any online social area, he can easily become the target of bullies whose only goal is to act cruel to the victim. It happens mostly because they feel very brave as the conversation is not face-to-face, but behind the screen of a gadget. As states (ConnectSafely, 2020) one of the best tips to defend against bullying would be not to retaliate or respond to the nasty messages of bullies, because all they need to continue writing them is the respond of the victim. If a person does not text anything back, the persecutor will loose the interest in continuing the conversation.

Another dangers online are, of course, cyber predators and online scams. 'Predators' are adults that are trying to get any personal information from a child, such as bank accounts, home address, information about parents and so on. Furthermore, according to (Severen, 2020), they can use the technology to target children, which is a serious crime that carries incredible consequences. It is important to identify these types of people as fast as possible and not to give them any information or even block them. Scams is another way of stealing private data, but usually they do not require a conversation. There are different types of scams, for instance phishing messages that contain something like: "You won a million dollars, click on the link and get the money". Of course, a kid will not be able to recognize the deception and click on the link and probably fill in the bank account information of his parents, that hackers are going to use for their purpose.

## 2.2 The main focuses of the 'serious game'

To be able to introduce the main focuses of 'serious game' for children, it is required to know the definition of it. It is stated in (J. Allers, 2021) that the primary goal of these type of games is to combine fun and play with a serious or utilitarian aspect. In other words, serious games are video games that have the goal to not only be exciting and fun, but also have a serious purpose, such as teaching the player something or delivering an important message. Unlike other games, the expected outcome of playing serious games is learning a new skill or gaining new knowledge.

In case of the game that teaches kids digital literacy, the best outcome after playing it would be that the user would have the knowledge about basic rules of the behavior on the internet. However, It should also be entertaining and interesting to play, so the gameplay must be various. The final version of a project should demonstrate and explain all the dangerous situations that were already mentioned with an interaction of an actual player.

So, the most important features that developers should focus on when creating the game are:

- It should be entertaining with a various gameplay
- In the end the player has to gain some knowledge about digital literacy rules
- It has to be easily understandable for the target audience age (10 – 12 years old)

### 3. Conclusion

To conclude, the main purpose of digital literacy is to understand and use the technology. At the same time being aware of the dangerous side of it. It is required for the responsible internet user of the viewed age group to know at least a short list of rules that can be used in any situation online (Google, 2022). These are:

- Be internet smart
- Be internet alert
- Be internet strong
- Be internet kind

The reason for that is the amount of dangers waiting for children on the Web, such as cyber predators, online scams, data thieves, cyberbullying and a lot more. Without knowing anything about digital wellness, a child that has just started making first steps on the internet and on social media can become a victim of these dangers and deal with serious consequences.

However, a good and practical solution out of this problem is creating a video game that will teach kids how to behave online. Moreover, to make it more interesting for the kids, it will include some enjoyable gameplay that is perceived by their age. At the outcome children will get a very useful, amusing and easily understandable game that teaches them all the needed digital literacy instructions and will not be boring.



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## Appendix 1: Target Audience Analysis Mind Map



## Appendix 2: CARS CHECKLIST

### **(ConnectSafely, 2020):**

Reliability: 25 Well-structured, has background, well-known institution

Accuracy: 15 Up-to-date

Credibility: 19 Information described objectively, scientifically informative purpose, no opinion of the opponents

Support: 13 Contains contact information

I chose this article, because it is published on a website of a company that educates people about digital literacy and the article was written only 2 years ago.

### **(Google, 2022):**

Reliability: 25 Reliable organization, well-structured information

Accuracy: 15 Up-to-date

Credibility: 18 Information described objectively, scientifically informative purpose, no opinion of the opponents

Support: 15 Contains contact information, reliable sources

I wanted to use it for my report due to the name of the company (Google), which is well-known and can be trusted. Also, the article refers to different materials on the topic and organizations that teach users about digital wellness.

### **(Severen, 2020):**

Reliability: 25 9 Well-structured, has background, well-known institution

Accuracy: 15 Up-to-date

Credibility: 20 Information described objectively, scientifically informative purpose

Support: 13 No other sources, contains contact information

I chose to use the given article, because it is written by a verified organization with some experience with the topic.

### **(Victoria, 2018):**

Reliability: 25 The author is a specialist in the area, well-structured

Accuracy: 15 Up-to-date

Credibility: 20 Information described objectively, scientifically informative purpose

Support: 15 Refers to different reliable sources

This article is created by a specialist in the field of technologies. Also, the article is quite new, so the information there is more or less up to date.