

# Generation Z and the Age of Technology Addiction

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**Abstract:** What is most important for our digital natives? Be relevant, create significant content and real experiences. But most of all, Generation Z wants to have fun and play. Connectivity is their way of living, they do absolutely everything online, from expressing themselves to experimenting and, of course, playing. We have an army of multitasking little robots, humanoids whose thinking and behavior have been shaped in a very special way by new technologies. They are the ones who will shape, in their image and likeness, the humanity of the coming years. But, despite all of this, we have to understand their technology addiction and to face with their loss of innocence.

**Keywords:** Virtual Reality, Technology Addiction, New Technologies, Digital Innovations, New Generations, Games

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## INTRODUCTION

Day after day, a new social network seems to be emerging. From this point of view, users are pampered because they have a variety of networks to choose from, to create their own corner of cyberspace and to expand their social networks. However, there is a new online phenomenon that is growing and is addressing, in particular, to the new generations. We are now talking about virtual worlds and their mirage that transposes children into a wonderful, enchanting and idyllic world.

Those from Generation Z are born in the midst of the digital age and they are accumulating

much more knowledge than any other generation in the past. They can connect anytime, anywhere, with absolutely anyone, with instant access to all the information available online around the world. The new way of socializing is connectivity and children's choices are ruled by influencers on various digital platforms. What exists in the digital world is their filter and they go through it their whole real life, from their tastes to their interpersonal relationships. The virtual world is the place where „you” is made up entirely of your words and actions.

We try to teach our children the rules to cross the street safely, but it seems that most of the

streets they will cross will be virtual and we will have to go through them together.

## **VIRTUAL REALITY – A SHORT PRESENTATION**

The term “virtual” implies the absence of visual, palpable limits, it is basically only about imagination and mind. Thus, virtual reality could be translated into imaginative reality or dreams that come true.

Human beings discover the world through their senses and perception. We know that we have five senses: taste, touch, smell, sight and hearing. The truth is that people have much more senses than that - examples could be balance or intuition. The sensory system helps the brain to collect a rich flow of information that starts from the environment and reaches the mind. Our entire perception about reality is a combination of sensory information and the brain mechanisms that process it. If you present fabricated information to your senses, you will also alter the way that reality is perceived. You will receive a reality that is not actually there, but you will perceive it as real, this is what we can call virtual reality.

What makes the development of virtual reality so unique? The potential for fun is obvious, immersive movies or video games are great examples. But virtual reality has a number of more varied and serious application like architecture, sports, medicine, entertainment, education etc.. Virtual reality can lead to new and exciting discoveries in areas that have a direct impact on our daily lives. Anything that can be considered too dangerous, expensive or impractical in today's reality can be transposed into virtual reality. From pilot trainings to medical applications for surgery students, virtual reality allows us to take some risks in order to gain useful experience in the real world. As the cost of virtual reality decreases and becomes more commercial, we can expect more serious ways to use it. Virtual reality, together with augmented reality, could substantially change the interface we have with digital technologies.

There are many types of virtual reality systems, but they all have the same features, such as the ability to allow a person to see three-dimensional images. These images are life-size and change when the person walks through the environment corresponding to the change in the visual field. The goal is to have a perfect match between the brain, the eye movements and the perception of what is happening in that environment. This reinforces the idea that the virtual environment must be both realistic and enjoyable.

A virtual world can be described as a simulated environment for users who want to interact through avatars. These avatars are usually described as textual, two-dimensional or three-dimensional graphical representations, although other forms are possible (auditory and tactile sensations for example).

Today's virtual worlds are created specifically for entertainment, social, educational, training and other purposes.

The first virtual worlds were indeed fantasies. Places like “The Palace”, which was opened in 1995, offered users a chat room where they could connect with each other, in graphic locations („palaces”) that they themselves created. Within the limits of technology, you could have and could do whatever you wanted. It was an utopia and it was boring. People prefer virtual worlds where there are brutally strict resource constraints and where they have to work hard to get these resources, they are actually willing to pay money to spend a lot of time in these digital worlds.

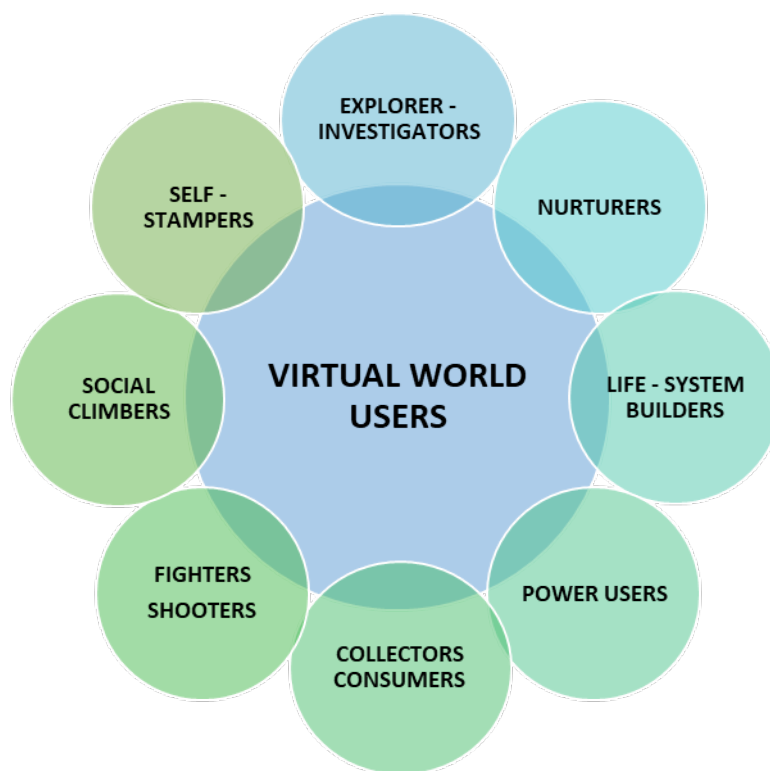
Taking into consideration the research conducted at the University of Westminster (Jackson, Gauntlett, Steemers, 2008), eight types of virtual world users were identified (Figure 1) and, as a result, we can notice that sometimes children are just explorers, other times they are eager to socialize and they want to connect with other players, and some of them are powerful users looking for more information on how this virtual world really works.

Each type of user has its own interests and characteristics:

- the explorer - investigator examines the details, is curious and communicative;
- the self - stamper wants to put his mark on his avatar and to express through the creation of a home;
- the social climber is competitive and concerned about exhibiting his social position within the game;
- the fighter/shooter express frustration when he doesn't have a mean to express himself, he is violent, he wants to see death, destruction, violence and he wants to use superpowers to win;
- the collector – consumer accumulates anything of perceived value within the game, he

seeks gift-giving opportunities, an economy and a place to put his belongings;

- the power user gives the benefit of his knowledge and experience to everyone, he spends several hours playing and exploring the game, with a deep interest in how the game works;
- the life - system builder creates new lands, new elements to the environment and populates the environment;
- the nurturer takes care of his avatar and virtual pet, he wants to meet and play with others, to teach his avatar new skills and to have a place to sleep for his avatar or pet.

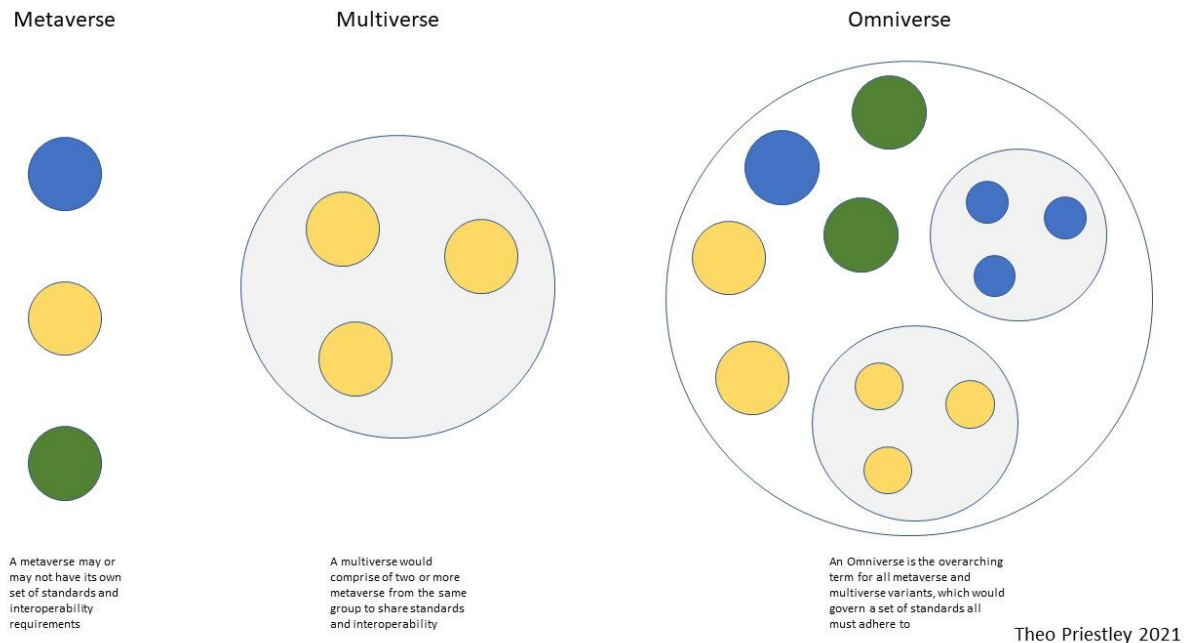


**Fig.1:** Types of virtual world users  
(Jackson, Gauntlett, Steemers, 2008)

In the virtual worlds, children can try all sorts of things without fear of the consequences of trying them in the real world. They acquire many useful social skills and play with their identity in ways they could not do in real life.

But this is not the limit of the virtual reality, it is just the beginning, we will get to the next

level very soon. Right now, we are in a Multiverse era, we have a variety of applications, websites and virtual games and each of it involves a different set of rules.



*Fig 2: A proposed hierarchical structure of the Metaverse (Priestley, 2021)*

At the same time, we are witnessing the beginning of the Metaverse era. But what is Metaverse and why does everyone think that this is the future of the IT industry? The metaverse is the convergence of two ideas that have existed for many years: virtual reality (VR) and a second life, a digital one. It is barely outlined, and there is no singular definition of it. The explosive interest in the Metaverse is a combination between technological, economic and social drivers, because COVID -19 has normalized the online engagement and communication and it has accelerated the virtualization of our lives (Vermaak, 2022).

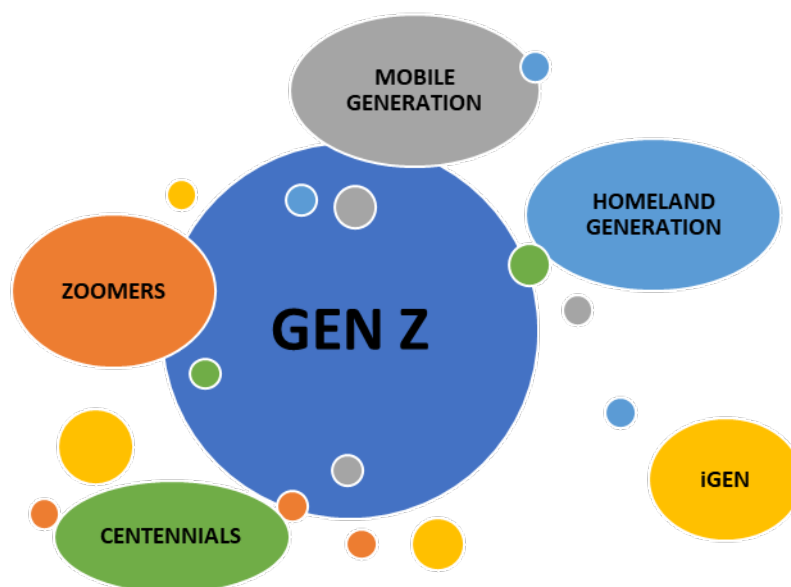
For decades, engineers have been projecting an era in which people's virtual identities will play an important role as their physical realities do. Thanks to faster internet connections, increasingly complex VR equipment and a growing number of users, it will be possible for people to live more in a rich, animated, realistic 3D simulation. Practically we will have a virtual community where we can work, play, relax, transact and socialize.

Omniverse represents the umbrella under which the Metaverses and the Multiverses are falling. It is a platform that connects 3D worlds to a shared virtual universe. Omniverse is used across industries for projects that involve connection and simulations of real-world infrastructure. It is like creating a digital twin of our real world, because NVIDIA wants to build unique virtual worlds that feel, look and behave like the real physical world (Vermaak, 2022).

Taking all of these into consideration, members of the Generation Z, these digital zombies, are living in the shaping era of the new digital worlds.

## HUNGRY FOR VIRTUAL WORLD

Members of Generation Z are born using smartphones, everything around them is connected to the Internet and their daily lives are completely saturated with the digital environment. They are the generation with digital literacy skills, multitasking skills and technology is their first language. Most of them believe that the Internet is as important to the human condition as air, water, food, and shelter.



*Fig. 3: Nicknames of Generation Z*

Members of this generation have an affinity for socializing, learning online, consuming and producing digital information. Generation Z members are true digital natives who can't imagine the world without the Internet. One of the key elements defining this generation is widespread access to digital communications technology. Given the spread of Wi-Fi and mobile technology, Generation Z perceives this constant connectivity as a utility such as electricity, rather than a luxury. They prefer not only to consume media, but also to create media. They are authentic, always in line with their own values, pretentious and almost impossible to please. Informed and creative, always looking for unique experiences, they are interested in experiment and play.

Increased knowledge of digital technologies offers to Generation Z a good way to find solutions with existing resources. From an early age, they learned to manage their time between the platforms and applications they participate in, giving them a special ability to organize time and space. This context has produced a hypercognitive generation, very comfortable with the collection and correlation of several sources of information, with the integration of virtual and offline experiences.

They have radically changed the dynamics and typology of communication, which is achieved almost entirely through social media and texts. Z is the first generation to associate the Internet with the daily routine. Moreover, most of the young people have grown up in a world where Social Media is an inseparable part of their lives. They have never known an existence other than follow-ups, likes and views.

Even if Generation Z spends a lot of time watching content, there is a fundamental difference in the way the information is accumulated and, implicitly, in the typology of content. In other words, Generation Z no longer reads content, just looks at content. Increasing the use of smartphones worldwide contributes not only to the transformation of online activities into a natural habit (the best example is the verification of Social Media every free minute), but also to the change in the type of content produced and assimilated. Generation Z is leaving Facebook in favor of Instagram, Youtube and TikTok, showing a preference for pictures, snaps and videos, they are enjoying to consume and create visual content, leaving behind boring texts (Tudor Gădălean, 2018).

We are about to lose a certain kind of innocence that came from the lack of continuous connectivity, direct access to information, innocence that was consequently fueled by the free time when boredom and total inactivity could be an impetus for exploration or an engine for creativity. Those days are long gone, as children nowadays have a variety of electronic devices that have become an “extension” of the human body and it is easier for them to access information from all libraries around the world. Also, they have at least ten smart digital assistants (Siri, Google Now, Amazon Echo – Alexa, Cortana, Facebook M, Blackberry Assistant, Brina, Teneo, Speaktit Assistant, Hound) that can always lend a helping hand. And what’s amazing? Young people do not think this is extraordinary. And finally, why would they think so? To be amazed, they put on a virtual reality headset, a modern and high-tech gadget, and they are transported in a world of all possibilities. Until now, this century has been marked by digital innovations that have radically changed childhood.

They are called “mutants” by scientists who are fascinated by the almost complete fusion with the digital world. But this fusion is bringing new phobias, young Z suffers from FOMO (Fear of Missing Out) and hates not being constantly connected to the internet. FOMO is a powerful and current phenomenon, it represents the uneasiness that people feel at the thought of interesting opportunities or events happening without them being there, it is their desire to stay connected to what others are doing and the greed to do, have, know or feel everything. The fear of missing out is so intense that as soon as they decide to disconnect from technology, quickly they connect again, just to make sure that nothing new has come up in the meantime.

Another current phenomenon is called – Nomophobia (No Mobile Phobia) or the disconnect syndrome which is the fear of running out of phone. It represents the anxiety that occurs when the cell phone battery is almost discharged, when they have no signal or when they are involved in an activity that prevents them from looking at their phone. Some of the

signs of nomophobia are checking the phone to see if there are missed messages or calls and picking up the phone everywhere. Thus, we can even say that their entire life is concentrated in their mobile phone and this is why the fear of losing it, appears. Very often, even the simple idea of not having a smartphone or a technological connection device can lead to anxiety, panic attacks and aggression.

At the opposite pole, there are the shy children from the real world, it seems that they have the same shyness in the virtual world. This phenomenon is called FOJI (Fear of Joining In) and it appears when they are not quite sure what to post on social media applications and when they think that nobody will like or comment on their posts, photos or content. In this way they are left behind the social connectivity. In fact, they might opt out of social media altogether for fear that nobody will want to connect, follow or be friends with them.

On the other hand, most of them have a motto – “Broadcast Yourself!”. The members of this generation feel that they have a voice, but a global one (Hughes, 2017). They are posting content because they know that they have as much to say as anybody else in this world. Their voice is as valid as everyone else is, no matter if you are poor or rich, famous or just a normal teenager, their opinion counts too.

## CONCLUSIONS

The possibility of individual expression and free information has never been greater. Connectivity has become global. There have never been fewer obstacles. The real world has never been doubled by a virtual world created with the help of communications technology.

Supporters of the virtual worlds recognize that the skills and capabilities offered by them are invaluable. On the other hand, where those who support the virtual worlds see concentration, opponents see addiction, and where supporters see intense competition, opponents see social dysfunction and isolation. According to this idea, Generation Z is lost in a virtual world of imagination, exactly at the age when the previous



generations were losing the notion of time beating the streets long and wide for playing.

Virtual worlds provide opportunities for children to develop educational and emotional skills in a variety of ways. Young people are encouraged to collaborate in many virtual worlds and to participate in group competitions. These competitions and events build team skills and develop their creativity.

With an extraordinary speed of information processing, those in Generation Z are dependent on feedback and connectivity.

Paradoxically, we have before us the generation that, although it reads more than any other generation (it is not about reading books in the classic way, but about the audio-visual information) has difficulties in communication,

reasoning and reflection. A wired generation that can communicate at any time with anyone, but at the same time a generation of loneliness and total dependence on technological artifacts.

In addition to the importance of cybersecurity that automatically comes into play when we think at Internet, virtual worlds bring into question the importance of children's mental health and real-world social relationships that are becoming non-existent.

This is just the beginning of the rapid development of these virtual realities, Generation Alpha is knocking at our doors and Metaverse is the new topic on our lips. Gen Z might be driving the car, but the road ahead is very much Alpha and the technology addiction will be greater.

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## REFERENCE LIST

- Abeele, M. M. V., Van Rooij & A. J. (2016). Fear of missing out (FOMO) as a predictor of problematic social media use among teenagers. *Journal of Behavioral Addictions*, 5(1), 4–5.
- Anderson, M. & Jiang, J. (2018). Teens, social media & technology 2018, 1673-1689. Pew Research Center.
- Anshari, M., Alas, Y., Hardaker, G., Jaidin, J., Smith, M., Ahad, A. D. (2016). Smartphone habit and behavior in Brunei: Personalization, gender, and generation gap. *Computers in Human Behavior*, 64, 719–727
- Argumosa-Villar, L., Boada-Grau, J. & Vigil-Colet, A. (2017). Exploratory investigation of theoretical predictors of nomophobia using the Mobile Phone Involvement Questionnaire (MPIQ), *Journal of Adolescence*, 56, 127–135.
- Barnes, S. J., Pressey, A. D. & Scornavacca, E. (2019). Mobile ubiquity: Understanding the relationship between cognitive absorption, smartphone addiction and social network services. *Computers in Human Behavior*, 90, 246–258
- Betz, C. L. (2019). Generations X, Y, and Z, *Journal of Pediatric Nursing*, 44, A7-A8. Available at <<https://doi.org/10.1016/j.pedn.2018.12.013>>.
- Beyens, I., Frison, E. & Eggermont, S. (2016). I don't want to miss a thing: Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress, *Computers in Human Behavior*, 64, 1–8.
- Chicca, J. & Shellenbarger, T. (2018). Connecting with Generation Z: Approaches in Nursing Education. *Teaching and Learning in Nursing*, 13, 180-184. Available at <<https://doi.org/10.1016/j.teln.2018.03.008>>.
- Enisa (2008). Children on virtual worlds - What parents should know. Available at <<http://www.enisa.europa.eu/>>.
- Gădălean, T. (2018). Generația Z, tehnologia și Social Media. Available at <<https://klain.ro/blog/generatia-z-tehnologia-si-social-media/>>.
- Hughes, K. (2017). Forget Millennials, Gen Z is the future: 5 things to think about. Available at <<https://kenhughes.info/generation-z/>>.
- Jackson, L., Gauntlett, D. & Steemers, J. (2008). Virtual worlds – Users and producers. Case study: Adventure Rock, Communication and Media Research Institute (CAMRI), University of Westminster, UK. Available at <[http://www.childreninvirtualworlds.org.uk/pdfs/Gauntlett\\_and\\_Jackson\\_May\\_2008.pdf](http://www.childreninvirtualworlds.org.uk/pdfs/Gauntlett_and_Jackson_May_2008.pdf)>.
- Moy, C. (2022). Opportunities in the metaverse, How businesses can explore the metaverse and navigate the hype vs. reality. Available at <[https://www.jpmorgan.com/content/dam/jpm/treasury\\_services/documents/opportunities-in-the-metaverse.pdf](https://www.jpmorgan.com/content/dam/jpm/treasury_services/documents/opportunities-in-the-metaverse.pdf)>.

- Priestley, T. (2021). The Metaverse, the Multiverse and the Omniverse. Available at <<https://www.metapunk.co.uk/metablog/7-2021-the-metaverse-the-multiverse-and-the-omniverse>>.
- Raiu, S.L. (2021). Generațiile X,Y și Z pe piața muncii. Caracteristici specifice, strategii de implicare în învățarea activă și abordări ale relației managerilor cu angajații. *Sociologie Românească* (2), 89-121. Available at <<https://revistasociologieromaneasca.ro/sr/article/view/1735/1657>>.
- Ross, H. (2019). Ask a teen: What's more important — Comments or likes?. Available at <<https://repeller.com/teens-instagram-comments-likes/>>.
- Turner, A. (2015). Generation Z: Technology and social interest. *The Journal of Individual Psychology*, 71(2), 103-113.
- Twenge, J. M. (2017). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy - and completely unprepared for adulthood and what that means for the rest of us*. New York, NY: Atria Books.
- Vermaak, M. (2022). Metaverse, Multiverse, Omniverse: What's the Difference?. Available at <<https://coinmarketcap.com/alexandria/article/metaverse>>