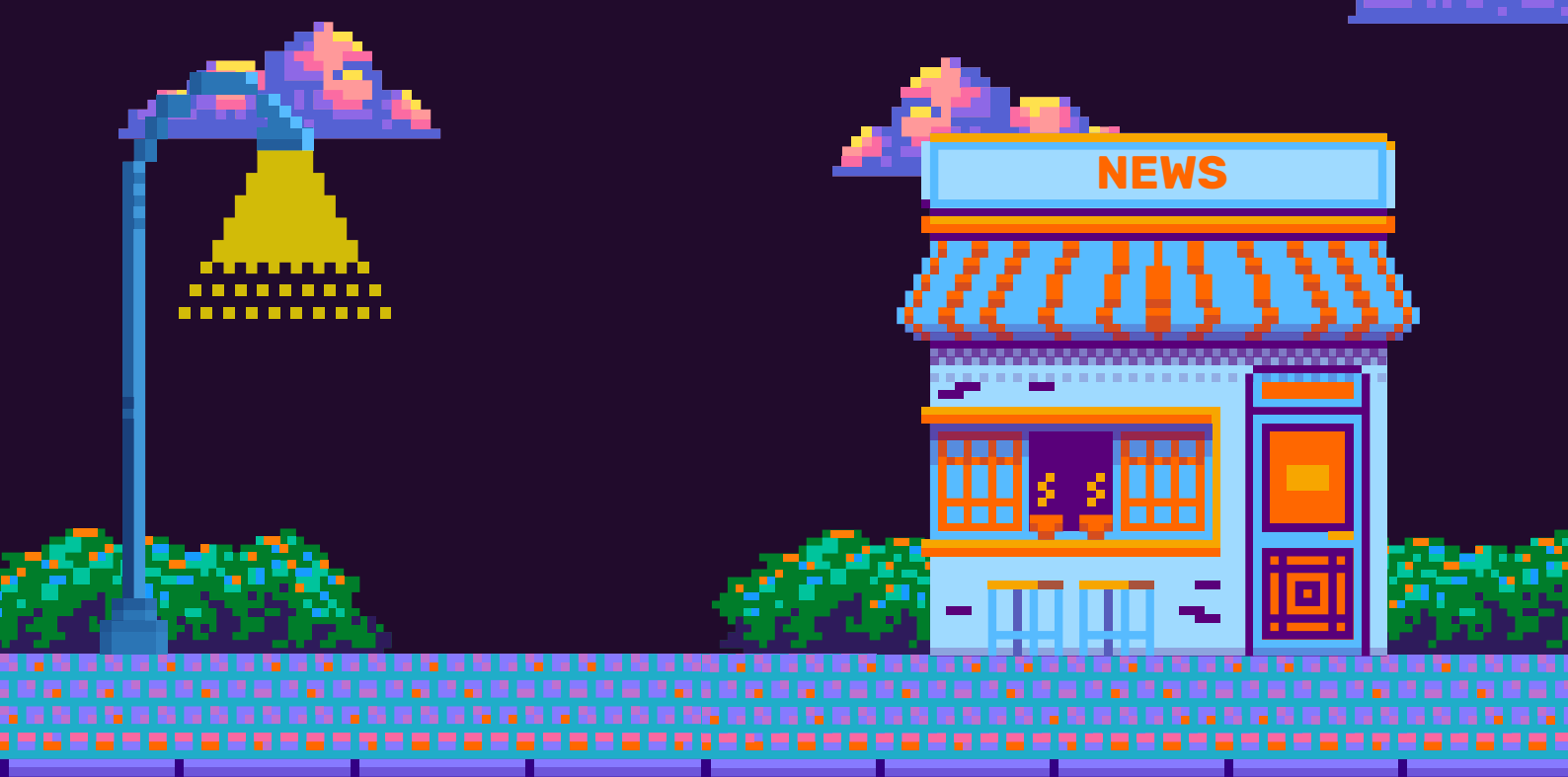
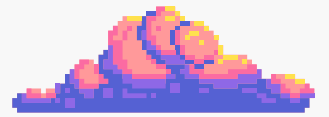


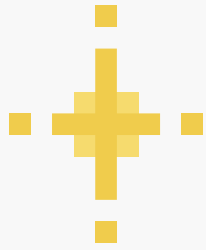


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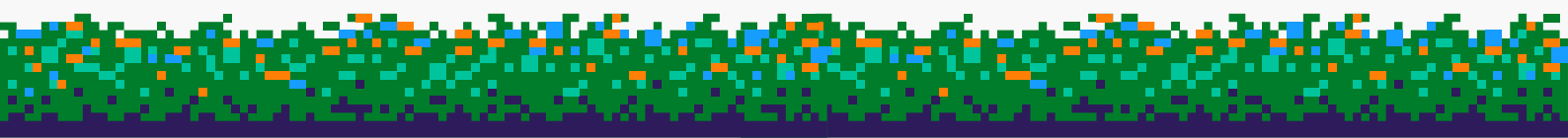


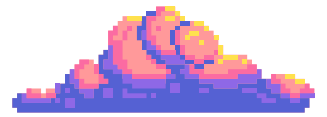


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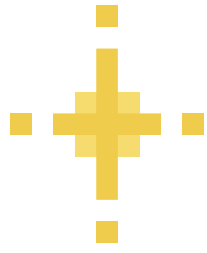


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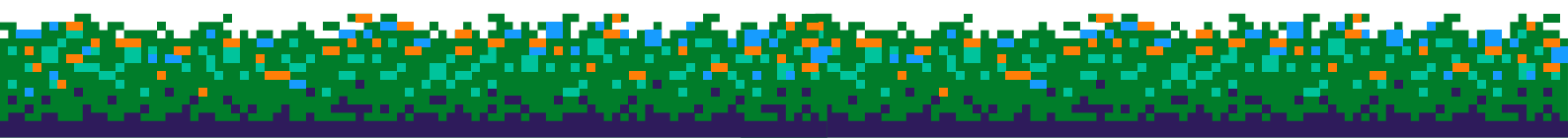
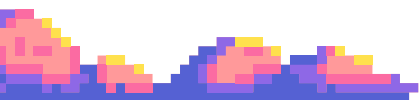
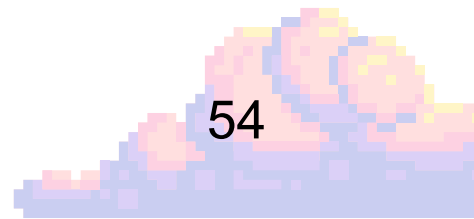


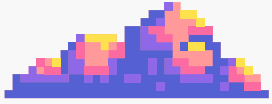
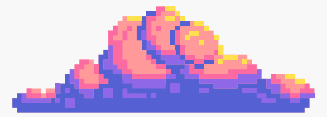


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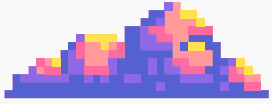
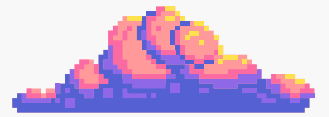
# Introduction

This Media Literacy Charter provides a comprehensive, structured, and collaborative framework for understanding and promoting media literacy. As the media landscape evolves rapidly and becomes more and more complex, the ability to interpret news, content, and media practices is becoming essential. By outlining key concepts, this Charter aims to empower young people across Europe to recognize the value of media literacy and to foster a shared understanding of the themes addressed in both the game and its supporting educational resources. To make learning more relatable and impactful, the Charter also features case studies and examples of existing games that successfully integrate media literacy principles. These references serve to inspire and guide the development of the Pixel Media project's own educational game, illustrating how interactive experiences can effectively engage learners and support critical thinking in digital environments.

Importantly, this Charter is not a "static" document. It represents an ongoing and participatory process. A process that values continuous dialogue, reflection, and collaboration across European partners. By actively involving a diverse range of stakeholders, it builds a strong sense of collective ownership and shared responsibility in addressing the complex and evolving challenges of media literacy.

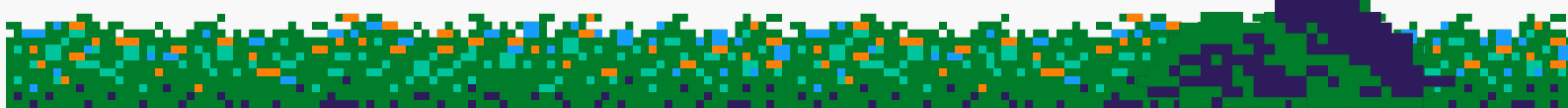
This Charter is divided into two interconnected parts, each designed to support learners throughout their media literacy journey. The first part lays the conceptual foundation, highlighting the importance of media literacy in today's society and examining how video games can serve as powerful educational tools. It also emphasizes the key role of educators in fostering media literacy through interactive, critical, and creative approaches.

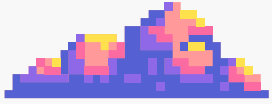
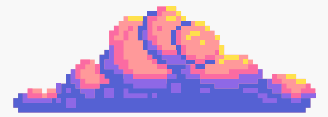




Building on this groundwork, the second part delves deeper into the complexities of the contemporary media landscape. It addresses a range of pressing themes and challenges such as fake news and disinformation, strategies to combat misinformation, and the growing issue of information fatigue. This second part also explores the impact of emerging technologies (e.g. AI) on media consumption and production. In addition, this section focuses on the development of digital citizenship and addresses important, yet often overlooked, aspects of media literacy: the dynamics of para-social interactions and the importance of digital well-being in an always-connected world.

By clearly defining the principles and objectives that guide the Pixel Media project, this Charter provides a solid pedagogical foundation for all deliverables. It supports the creation of cohesive and impactful educational experiences and empowers both educators and learners to engage critically and responsibly with digital media. Thus, contributing to a more informed, reflective, and responsible generation of media users.





# About this charter

## About Pixel Media:



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This charter is intended to be the theoretical foundation of 'Pixel Media: Video Game to Develop Media Literacy' (CREA-CROSS-2024-MEDIALITERACY 101186931). This project has been co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

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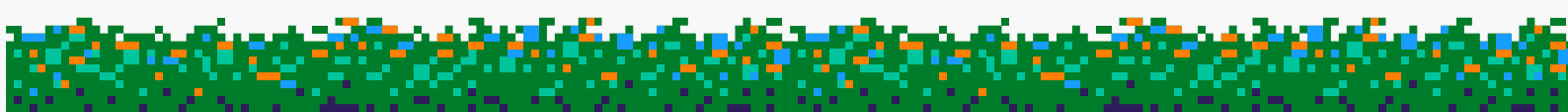
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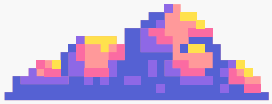
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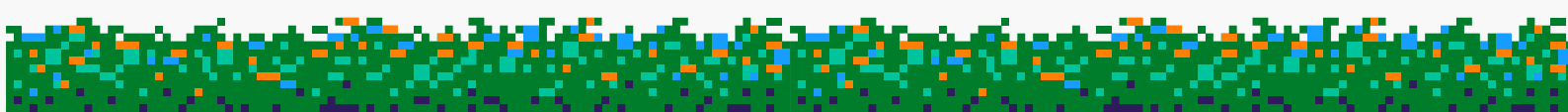
### Note on use of generative AI and writing assistant tools in the creation of this charter:

Team members from 6 European partner organisations collaborated to write this guide, none of whom being an English native speaker. An outline was created by the coordinating partner to collectively define the structure and share the work. Considering these factors, partners have used writing assistant tools, such as ChatGPT and Grammarly, to review the correctness of English, to organise their ideas, to share a common writing tone, and to ensure that no parts repeated one another. While most resources in the bibliography has been directly researched by staff members, any additional sources added by generative AI have been reviewed for validity.

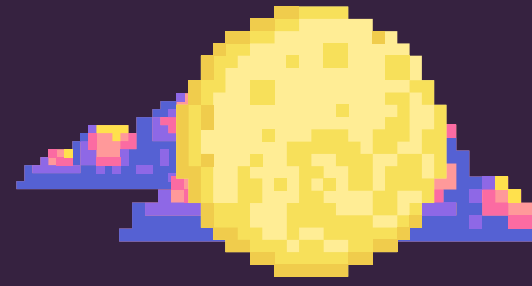
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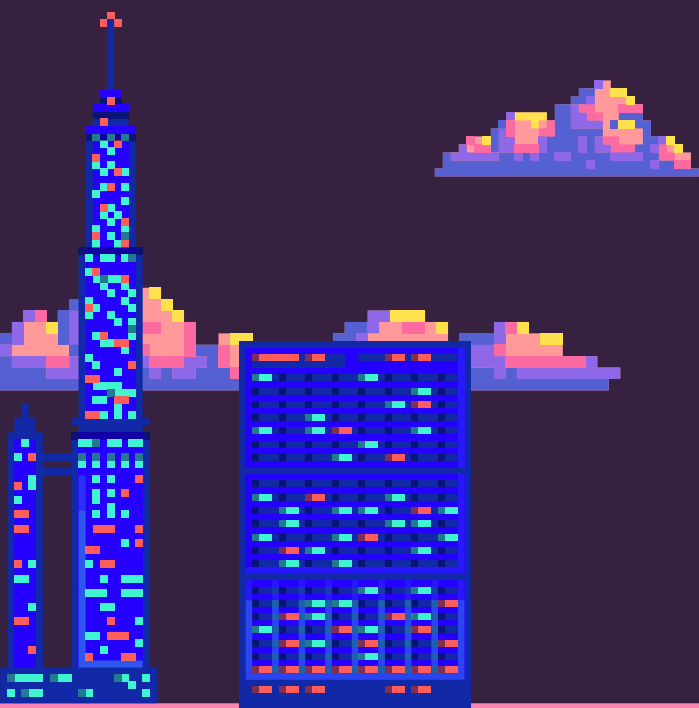
# Part 1

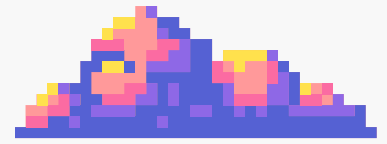
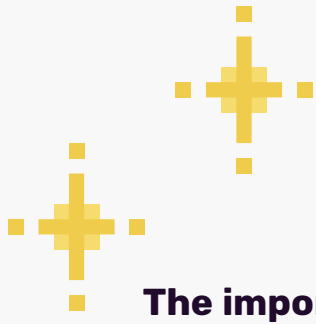


## 1. Pillars of media literacy

### Defining media literacy

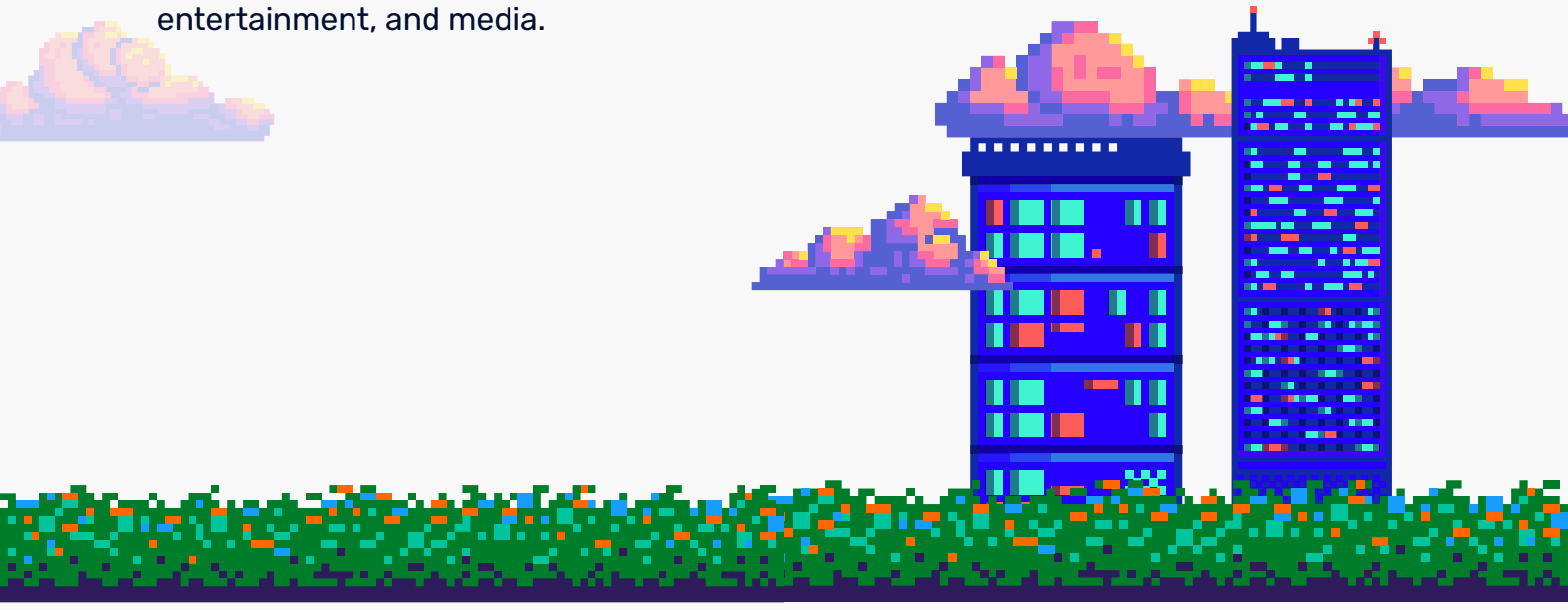
Media literacy is defined as the ability to access, analyse, evaluate and create content through different media (Aufderheide, 1993). This skill is not limited to simply understanding the messages conveyed by the media, but implies a critical awareness of their cultural, social and political implications. According to Livingstone (2004), media literacy is fundamental to enable individuals to navigate the contemporary media landscape, characterised by digital convergence and the proliferation of often unreliable information. Buckingham (2003) also emphasises that media literacy should not be seen as a mere technical skill, but as a social and cultural process that allows us to develop a critical attitude towards the media and their content. In an era in which digital platforms play a central role in the formation of public opinion, media literacy is an essential element for active citizenship and democratic participation (Hobbs, 2010).

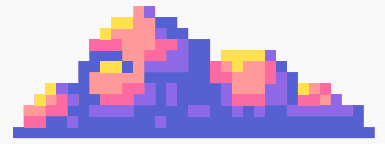
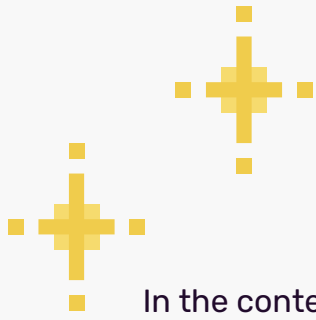




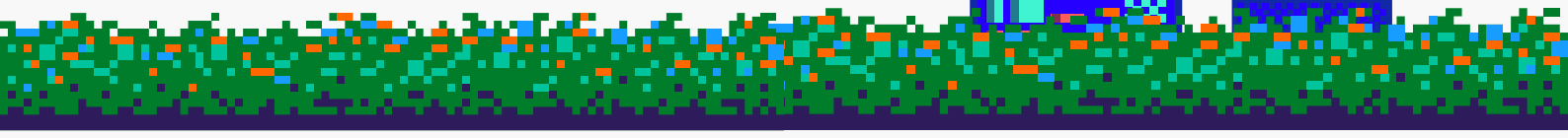
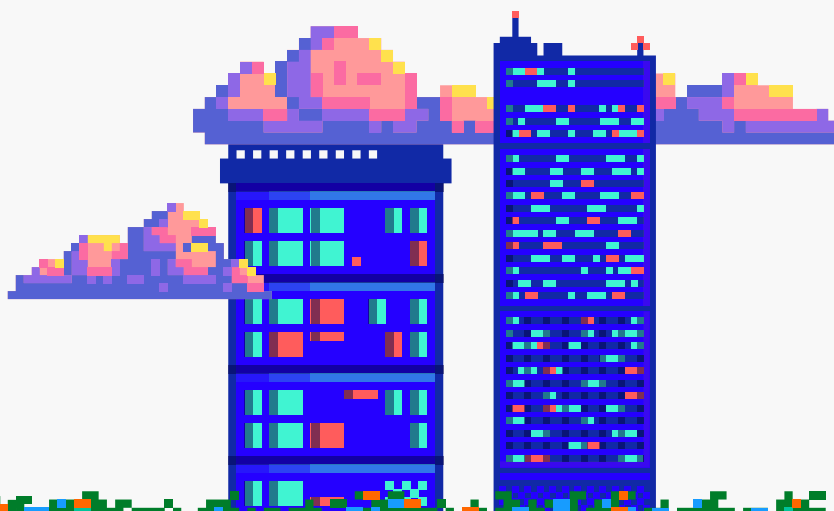
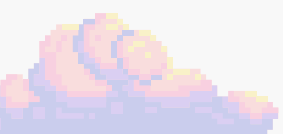
## **The importance of media literacy in contemporary society**

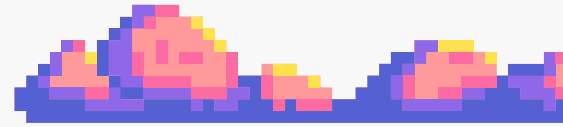
In contemporary society, media literacy is more crucial than ever, as it empowers individuals to navigate and critically engage with the vast digital landscape. The concept of onlife, as introduced by Luciano Floridi (2015), refers to the blurring of the boundaries between our online and offline lives, where the digital and physical realms are deeply intertwined. In this informational society, information is a key driver of economic, political, and social life, and individuals are constantly exposed to a barrage of data, often influenced by algorithms and digital platforms. Without proper media literacy, people risk being manipulated or misinformed, as digital environments are increasingly shaped by digital capitalism, where profit-driven platforms exploit user data for commercial gain. Digital capitalism is a complex and multifaceted concept that is central to understanding how contemporary economies and societies are shaped by digital technologies. The collection, analysis, and monetization of personal data have become key drivers of value creation. Shoshana Zuboff's work on surveillance capitalism (2019) is essential in understanding how these platforms commodify personal data and use it for targeted advertising, thus increasing profits. Zuboff argues that this new form of capitalism exploits individuals' behaviours, turning them into data points that are then used for commercial gain, often without full consent or awareness of the individuals involved. Digital capitalism operates in the informational society, where information and communication technologies (ICTs) serve as tools for communication and also as economic and political instruments. Manuel Castells (1996) notes that digital capitalism benefits from interconnected networks, promoting fast information exchange and creating digital economies without geographical limits. These networks have enabled global digital platforms to lead major sectors like retail, entertainment, and media.





In the context of digital capitalism, media literacy becomes even more important, as individuals are constantly interacting with platforms that shape their behaviours and perceptions. Media literacy can empower people (and this is even more relevant for young people, see Jenkins, 2006) to critically engage with the digital landscape, understand the economic and political forces at play, and make informed choices about the information they consume and share. By being aware of the ways in which platforms manipulate data and influence decisions, individuals can resist the exploitative practices inherent in digital capitalism. It also equips users with the tools to protect their privacy, recognize biased or misleading information, and navigate the complexities of the digital economy (Buckingham, 2003; Livingstone, 2004).





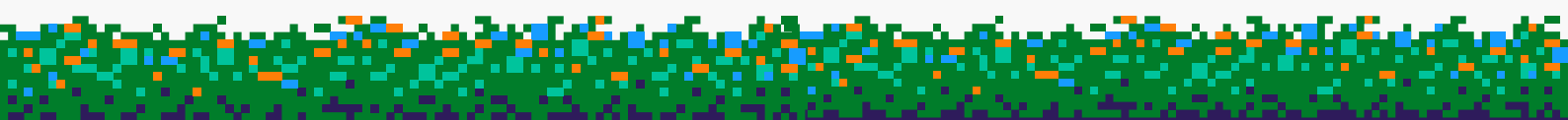
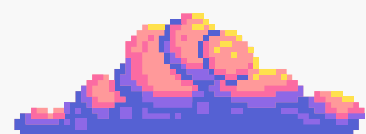
## **Moving forward? New Literacy Studies and the new challenges for Media Literacy**

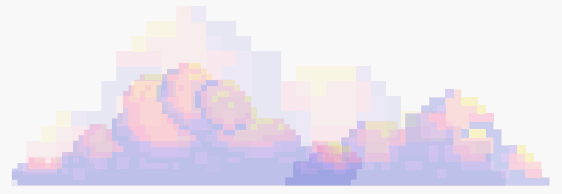
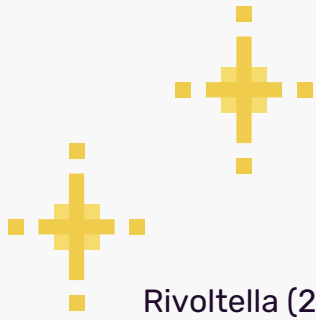
Expanding the idea of a deeper and more adequate literacy to interpret the complexity of current events, some authors such as Potter and McDougall have pointed out that it is necessary, rather, to speak of Dynamic Literacies and New Literacies (2017).

According to Potter and McDougall, there is the need to expand the concept of Media Literacy in the direction of New Literacy that includes not only a focus on the development of critical thinking, but also a focus on empowering users and building ethical awareness (Rivoltella, 2020).

The process of literacy and media literacy development is not to be understood as something solitary and related exclusively to the cognitive sphere (and thus exclusively to knowledge); rather, it concerns a social, dynamic, articulated dimension that embraces multiple modes of communication in a multimodality perspective (Potter & McDougall, 2017):

«The research field of New Literacies Studies (NLS) deals with a 'multiple' idea of Literacy (Media Literacy, Digital Literacy, Sociomaterial Literacy, Multimodal Literacy). Some of these meanings are centred on the socio-material context, others on the text: both risk being one-sided because they either forget the text or forget the context. Instead, dynamic literacies are all those perspectives that reflect on the forms of meaning in their constant socio-cultural change. The issue is not technology, but how meanings circulate in the digital culture, how they are produced and how they are received, and how this impacts on the future of teaching and learning models» (Rivoltella, 2020, p. 182).

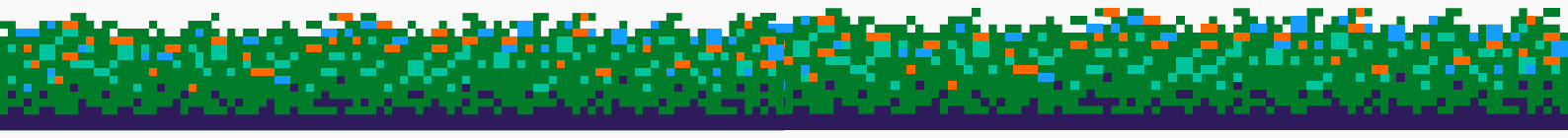




Rivoltella (2020) identifies three necessary steps (he calls them “overcomings”) that need to be done to move forward from a circumstantial and narrow interpretation of Media Literacy:

- the first identified is the **overcoming of the educational vocation** of media education. Being a discipline historically linked to the world of formal education (starting, as we have seen from its very name, education), it is important to insist on going beyond the walls of the school. Opening up to non-formal contexts, typical of socio-cultural animation, is essential to respond to the new needs of young people and citizens.
- the second is to **overcome the infantile vocation** of a field that too often focuses on children and adolescents. Instead, it is important to include all age targets (thus including adults and the elderly) in the logic of lifelong learning.
- the third and last is the **overcoming of critical thinking** and consists precisely in rethinking the role that education in this exercise has represented for the discipline. The intention is not to eliminate or downgrade it, but rather, to relocate it in a higher order of complexity: ‘[...] all this makes the task of critical analysis much more difficult than in the recent past. [...] this means that critical thinking must be accompanied by responsibility and ethical awareness’ (ibid., p. 192).

The need to go beyond the concept of media education in order to provide a pedagogical response that is better suited to the context in which we live can also be observed in the thinking of the American researcher Paul Mihailidis (2018), who suggests a rethinking of the concept of Media Literacy itself, understood as a discipline oriented towards the processes of education for access, analysis, evaluation, creation and reflection around media. In fact, Mihailidis proposes a **Civic Media Literacy** oriented towards an education in citizenship values such as: caring for the common good (caring), persistence and continuity in actions (persistence), imagining better, more inclusive and open community scenarios (imagination), emancipation from unfavourable contextual conditions (emancipation) and critical awareness (critical consciousness) (Fabbri, Soriani, 2021).



## To sum things up...

The concept of New Literacies Studies (NLS) refers to an interdisciplinary approach to the study of literacy, which goes beyond the traditional ability to read and write printed texts. This field of research emerged in the 1990s and focuses on the evolution of literacy practices in the digital and global era.

In summary: New Literacies Studies analyze how reading and writing practices are transforming in the digital age, emphasizing their social, cultural, and technological nature.

Key principles of New Literacies Studies:

### 1. Literacy as a social practice:

- It is not just an individual skill but is always situated within specific cultural and social contexts.
- The meaning of literacy changes depending on the environment in which it is used.

### 2. Multiplicity of literacies ("multiliteracies"):

- There are many forms of literacy, not just traditional textual literacy.
- It includes visual, digital, multimedia, and interactive literacies.

### 3. Impact of digital technologies:

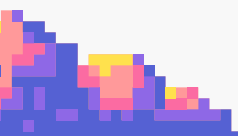
- New technologies are transforming the ways people read, write, and communicate.
- Social media, video games, blogging, memes, and online platforms are part of new literacy forms.

### 4. The idea of "new" in New Literacies:

- It is not only about new technologies but also about how literacy evolves with social and cultural changes.
- For example, the collaborative use of knowledge online (Wikipedia, forums, etc.) represents a new form of literacy.

### 5. The role of participation and identity:

- Literacy practices influence and are influenced by people's identities.
- Participating in digital communities (such as fandoms, discussion groups, etc.) requires specific literacy skills.




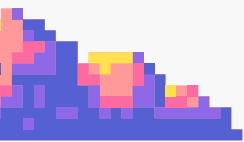
## 2. Media Literacy and video games in educational contexts

### Beyond serious games: a critique of the serious game concept

One of the central questions in the debate on the use of video games in educational contexts, and mainly at school, could be summarised by paraphrasing the famous Shakespearean question: serious game or not serious game: that is the question. This label is used to define those games that are created to explicitly and intentionally convey educational content, designed to «educate, train, inform, [...] with an explicit and well-calibrated educational purpose and are not intended to be played mainly for fun' as 'serious games', used as a synonym for 'educational games» (Abt, 1987, p. 21).

Also called “applied games”, which have even more specific purposes, beyond pure entertainment, such as learning a language, scientific knowledge, health/prevention, and also social awareness. These games use game design elements to achieve practical and applicative objectives, thus integrating playful dynamics in non-playful contexts. Examples of applied games, usually free or with a final mechanism of possible donation inherent to the themes, are simulation games in the 'Health Care' field, such as Foldit, a puzzle game produced by the Faculty of Game Science at the University of Washington on protein structures; as well as simulations in the environmental and sustainability fields, i.e. games that present ecosystem management dynamics and the likely consequences for the planet. The development of 'green' serious games is booming, so much so that the UN Environment Programme has launched an initiative called 'Playing for the Planet' to implement the Sustainable Development Goals through video games. The report states: «We summarised recent relevant developments in the video game industry, gathered the perspectives of over 50 industry thought leaders and extracted seven recommendations to stimulate new thinking, new collaborations, new games and real impact in the world» (Patterson, Trista & Barratt, Sam, 2019 p.8).



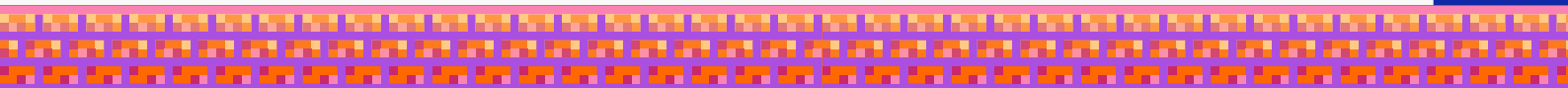
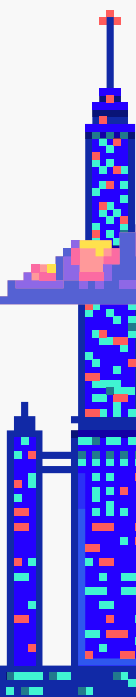


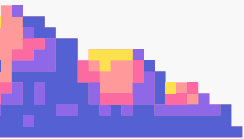
We could continue with many other examples, even in other fields of application where we want to stimulate a change in mentality, but in many other cases there is a risk of a race to this label, more for market interest[1] than for the real promotion and construction of a playful culture, which recovers the cultural, aesthetic and social value of playing as an act of simulating and representing relationships, worlds, stories, identities, possibilities, starting from traditional, pre-screen games. We must be careful, as the art and design historian Isabella Patti rightly states, «of the unethical drifts that the hyper-ludicised world seems to have generated, spreading distorted models of ludic processes in the simple disqualifying form of trivialisation of the fun associated with some human activity (economic, marketing, editorial, etc.). [...] game design is recognised as the design field where the contributions of the 'game' are not confused with the sometimes-exasperated contributions of gamification due to the simple commonality of the linguistic root» (2018, p.16).

The risk is a pure instrumentalization of the game, of which one of the major exponents is the scholar McGonigal, who claims that 'video games can save the world' provided that the category of subjects at risk formed by players gives up things like FIFA, Call of Duty and World of Warcraft. McGonigal's theory assumes that the practice of gaming is in itself useless, even harmful, insofar as it does not produce real consequences and concrete results. In other words, McGonigal only attributes value to playing a game when it is able to generate extrinsic gratification, thus denying the theories of authors such as Johan Huizinga (1949) and Roger Caillois (1958) who consider disinterest to be an essential prerequisite. It follows that McGonigal denies any aesthetic, moral and intellectual value to the game: the latter is in fact conceived as a tool to achieve something else: losing weight, quitting smoking, «saving the world' etc.» (Bittanti, 2016 p.13).

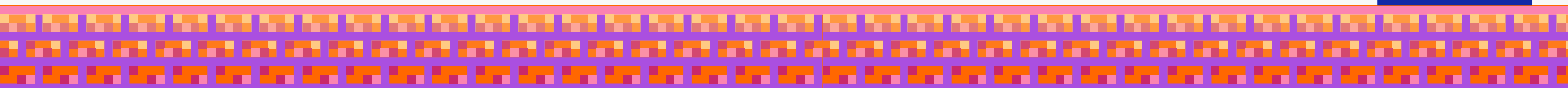
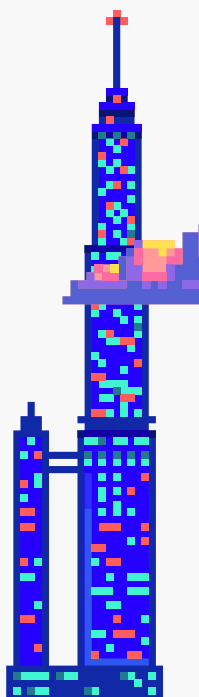
The debate on serious games is therefore complex and multidimensional, involving theoretical, practical, ethical, economic and even ideological aspects, as well as the aspects that define a game as a game. But at this point, the most correct question to ask is: *is it possible that there are non-educational, non-serious games?*

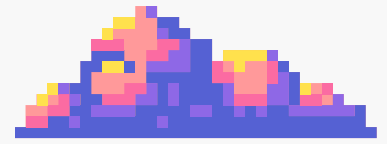
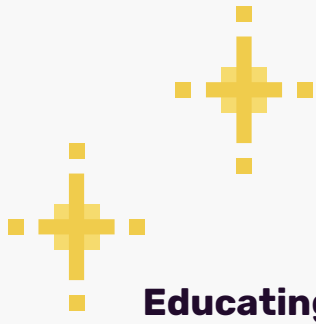
Chris Crawford, in his book *The Art of Computer Game Design* (1984), suggests that games are the oldest and most time-honoured vehicle for education. They are the original educational technology, the natural one, which has received the seal of approval of natural selection. [...] In light of this, the question: "Can games have educational value?" becomes absurd.





It is therefore believed that defining a video game as 'serious' is a misleading repetition because it is full of ambiguity and misunderstandings: all (video) games are serious games, regardless of their content and form, and they should be taken seriously, because they are cultural artefacts created to entertain, to create social interaction and participation. On the other hand, it takes on a positive and proactive meaning to talk not so much in terms of serious games, but, as Paul Gee (2005) suggests, of Good Video Games and Good Learning, where it is interesting to note that among the 'good' are also the so-called 'shooters', i.e. those in which you have to shoot and kill, or which in any case present violent aspects, therefore, certainly not 'serious'. So, good video games, according to Gee, are those designed according to the principles that make learning (of any content) effective and that teach you how to learn.





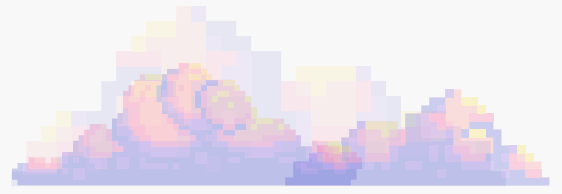
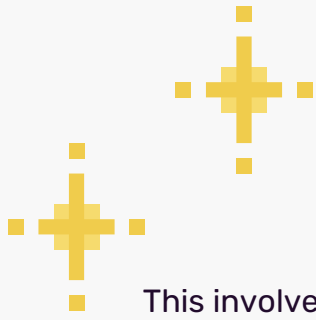
## Educating for a video game culture

Educating for a video game culture it means:

- consider the video game as an artistic, cultural and economic phenomenon worthy of being the subject of study and of an accurate and careful analysis of its characteristics, its mechanics, its languages, its economic, production, distribution and communication models;
- generate and nurture a pedagogical reflection on the medium that interests it in a transversal manner and that leads it to be considered as a tool capable of offering a significant stimulus not only to amusement and entertainment, but also to thinking, learning and the development of the person as a whole with a view to education for citizenship;
- stimulate, in the players, a meta-reflection on their own gaming practices and on the creative-expressive potential that the medium makes available (Soriani, 2021).

In other words, educating towards a video game culture involves a multidimensional approach that considers video games not only as a form of entertainment but also as a complex phenomenon with artistic, cultural, social, and economic implications. This means critically analyzing video games, studying their languages, messages, mechanics, and productive values (Soriani, 2024).



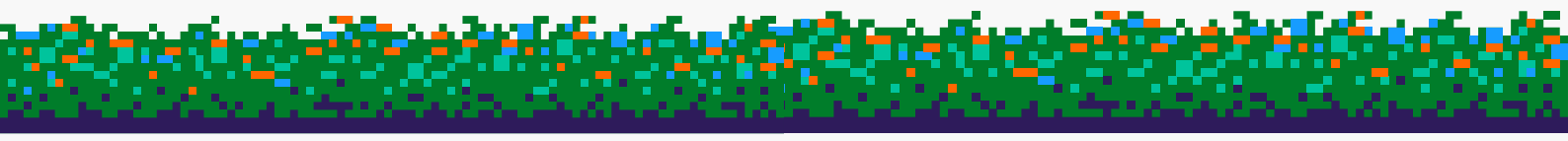


This involves a reflection in several fields:

- **Critical Analysis:** Disassembling the creation processes of video games to observe, analyze, and understand them better, gaining awareness of the medium, its mechanisms, and its productive values. This includes reflecting on how sensitive themes such as gender identities, cultural minorities, disability, and the conditions of migrants are represented.
- **Media Literacy:** Understanding the variety and diverse nature of the languages used in video games, including visual, auditory, textual, and interactive ones. Studying how these languages are used to create meanings and representations.
- **Pedagogical Reflection:** Considering video games as a tool that offers significant stimuli for thinking, learning, and personal development. This implies accompanying and supporting players, especially young people, so that they can explore these worlds freely, consciously, and profitably.
- **Meta-reflection:** Stimulating reflection on one's own gaming practices, one's "video game diet", and the creative-expressive potentials of the medium. Encouraging players to be aware of the time they dedicate to video games and the content they consume.
- **Digital Citizenship:** Promoting the responsible and conscious use of video games, developing critical thinking towards the messages and values conveyed. This includes education on digital identity management, online safety, prevention of hate speech, and many other things.
- **Parental Mediation:** Actively involving parental figures in empowering children, promoting attitudes of supervision, monitoring, negotiation, and comparison, rather than direct control.

Furthermore, educating towards a video game culture also means promoting awareness of the potential risks associated with video games, such as addiction, social isolation, and exposure to inappropriate content. It is essential to develop mediation strategies to manage these risks and ensure a positive and constructive gaming experience.

Finally, it is important to emphasize that education towards a video game culture is not a simple or unambiguous operation. There is no "perfect recipe" or "decatalogue" to follow blindly. On the contrary, it requires constant commitment, an open mind, and a willingness to understand and value the educational potential of the medium.





## Using video games in educational context

### Direct approach

Direct approach involves the use of video games in educational contexts to develop knowledge or skills in a specific subject area addressed directly in the video game. The video game becomes the main vehicle of the content to be transmitted or the skills to be developed. An example would be the use of the video game 'Elli's World' to train executive functions such as interference control, inhibition of impulsive responses, working memory or cognitive flexibility. However, a limitation of this approach is that serious games may be ineffective in terms of both learning and player involvement if they are not entertaining enough.

### Indirect approach

This approach is based on the use of commercial video games to stimulate players' interest and motivation, directing them towards self-regulated and metacognitive learning paths. In this case, the video game is a 'lure' to activate students' passions and interests. This approach is inspired by the concept of 'tangential learning', in which the player spontaneously begins to learn about and deepen a topic thanks to the narrative experience of the video game. The teacher facilitates the process by stimulating reflection on the game experience and providing in-depth materials.

### Critical/reflective approach

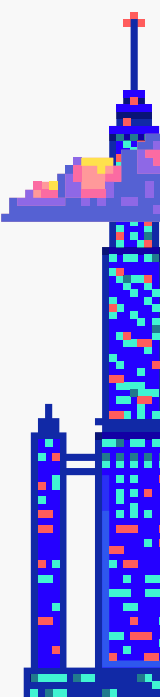
This approach aims to activate critical reflection paths in two main directions. The first is geared towards building students' greater self-awareness of their relationship with the medium. The second, to the critical analysis of the contents, messages, language, aesthetics and values conveyed by video games. The video game becomes a pretext for tackling difficult and delicate issues.

### Creative approach

This approach involves using video games as tools to stimulate students' creativity. Thanks to its ability to mix languages, narratives and game mechanics, video games offer great possibilities for working on the development of creative thinking.

### Clinical/therapeutic approach

This approach emphasises the use of video games to promote the player's psycho-physical well-being. This approach can be useful for activating the cognitive processes of imagination, reactivating the flow state and facilitating communication.



It is important to emphasise that the game experience must be accompanied by a moment of debriefing and reflection to help subjects place their experience within a frame of meaning. The teacher's mediation is crucial in this process.

	Direct approach	Indirect approach	Critical/Reflective approach	Creative approach	Clinical/therapeutic approach
<b>Pros</b>	<ul style="list-style-type: none"> <li>- the games used are products specifically created to support a learning</li> <li>- path that is more linear and therefore more in the chords of non-experienced teachers</li> </ul>	<ul style="list-style-type: none"> <li>- great leverage on fun and passion</li> <li>- if the video game appeals to the student, the learning process will be almost spontaneous: self-regulation</li> <li>- presence of numerous interesting titles that offer learning stimuli but do not sacrifice playful quality</li> </ul>	<ul style="list-style-type: none"> <li>- the possibility of using all video games: from those containing the most stereotyped and simplifying representations to those showing counter-narratives to be enhanced</li> <li>- great space for dialogue and discussion around the contents present</li> <li>- possibility of using the VG as a tool to increase one's awareness as a player</li> </ul>	<ul style="list-style-type: none"> <li>- games used as a tool to work on creative processes</li> <li>- the video game becomes a means of expression</li> <li>- creating a video game increases knowledge towards the medium itself and towards the subject matter of the title created</li> <li>- development of digital skills</li> </ul>	<ul style="list-style-type: none"> <li>- video game as a tool to promote psycho-physical well-being</li> <li>- possibility of using the video game as a facilitating element for traditional therapeutic approaches</li> <li>- use of VR technologies to foster rehabilitation processes</li> </ul>
<b>Cons</b>	<ul style="list-style-type: none"> <li>- potentially boring and therefore ineffective serious games</li> </ul>	<ul style="list-style-type: none"> <li>- process difficult to govern: a lot of work on the part of the teacher in terms of knowing the right titles, and gathering possible sources of insight</li> <li>- motivational trigger linked to serendipitous dynamics</li> <li>- the same game may be a stimulus for one student and not appeal to another</li> </ul>	<ul style="list-style-type: none"> <li>- the teacher cannot know all the right video games: why not ask the students directly?</li> <li>- most games might have potentially risky content or be unsuitable for a particular age group</li> </ul>	<ul style="list-style-type: none"> <li>- game creation platforms that are not always easy to use, or in any case require learning</li> <li>- long process: if not properly controlled, it risks becoming dispersive</li> </ul>	<ul style="list-style-type: none"> <li>- scarcity of facilities performing this type of work</li> <li>- cost of some equipment</li> </ul>




## The role of teachers and trainers



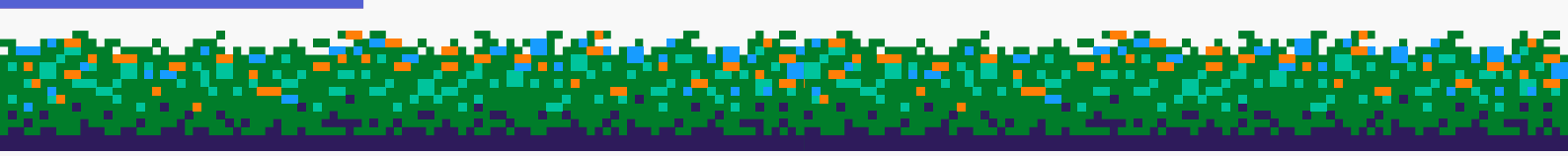

Teachers and trainers play a key role in helping students develop the skills needed to engage with video games critically. Video games are often rich with narratives, complex characters, and world-building that reflect broader societal themes. They can guide students in analyzing these themes, questioning how video games shape perceptions of gender, race, and power, and understanding the impact of violence or behavior modeled in games (Gee, 2003). For example, teachers can engage students in discussions about the portrayal of certain social issues in games (like racism, colonialism, or environmental issues) and encourage them to think critically about the messages these games convey.

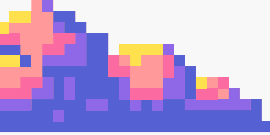
Many modern video games have multiplayer or cooperative elements that encourage teamwork and communication. Teachers can use these aspects of video games to foster collaboration among students. By guiding students in games that require teamwork, educators can help them develop interpersonal skills, such as negotiation, conflict resolution, and collaboration. Furthermore, online communities in gaming often represent diverse groups, so understanding digital communication and the norms of these communities is a crucial component of media literacy (Jenkins, 2009).

Teachers play a key role in educating students about the ethical implications of gaming, such as respecting others online, understanding privacy, and dealing with issues like cyberbullying or toxic behavior in gaming communities (Soriani, 2021). Video games are a medium of creativity, storytelling, and innovation. Educators can foster creativity by encouraging students to design their own games or create content within existing games (e.g., mods or game-based storytelling) (Schell, 2008). This not only taps into students' creative potential but also teaches them about the design and development processes behind games, from coding to storytelling to user experience.



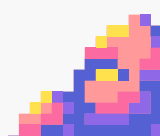
Teachers also have the responsibility to help students understand the cultural significance of video games. As video games become a central part of entertainment and pop culture, they influence music, fashion, art, and even political discourse. By educating students about how games reflect and shape societal trends, educators can help them better understand the cultural implications of this medium (Muriel & Crawford, 2018).



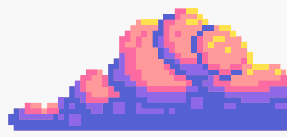


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Video game culture has sometimes been criticized for its lack of diversity and representation, particularly in terms of gender, race, and sexual orientation. Teachers can play an important role in advocating for more inclusive game designs and teaching students to value diversity (Richard, 2017). By encouraging students to engage with games that feature diverse characters or that promote inclusive themes, educators can foster a greater appreciation for diversity in the gaming world.



Teachers and trainers are essential in helping students develop a well-rounded understanding of video game culture. Through critical analysis, creative engagement, and ethical discussion, educators can not only enhance students' media literacy but also foster important life skills such as collaboration, problem-solving, and ethical decision-making. Video games are more than just entertainment—they are a powerful tool for education, creativity, and cultural understanding. By guiding students in their engagement with this medium, educators have the opportunity to empower the next generation of digital citizens who are critical, responsible, and innovative in their approach to technology and media.



A pixel art landscape with a dark blue sky, a green tree with orange and yellow leaves on the right, and a green field with orange and yellow flowers at the bottom. Three pixel art mountains are visible: one in the top right, one in the middle left, and one in the middle center. The mountains are rendered in shades of blue, purple, and pink.

# Part 2

## DIGGING DEEP INTO MEDIA LITERACY

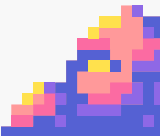


## 3. Information literacy

### Fake news and disinformation

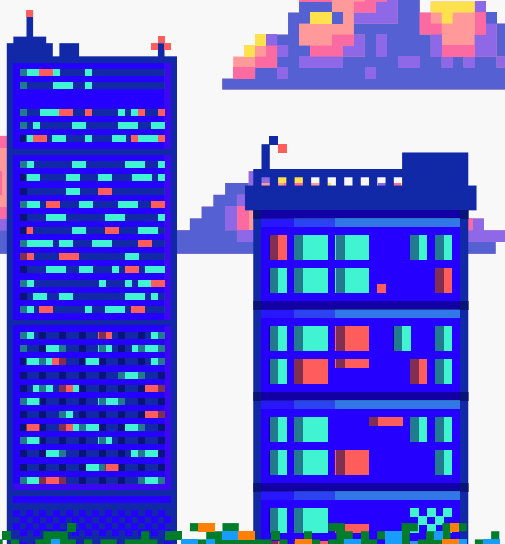
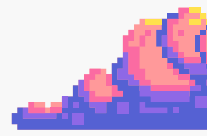
Disinformation can spread in various ways. While social media plays a crucial role, often fueled by bots and trolls, disinformation is not a new phenomenon. It has existed for a long time, circulating through traditional media such as newspapers, television, and radio.

According to the Standard Eurobarometer 102 - Autumn 2024 survey (European Commission: Directorate-General for Communication, 2024), 77% of Europeans agree that the spread of news or information that misrepresents reality or is outright false is a significant problem in their country.



Disinformation is false information intentionally created and disseminated to deceive people whereas misinformation is false information regardless of intent to deceive or mislead people. (European Commission, 2024)

The Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy through Education and Training (European Commission: Directorate-General for Education, Youth, Sport and Culture, 2022), a key initiative under the Digital Education Action Plan (2021–2027) by the European Commission, further clarify these definitions. Disinformation is "verifiably false or misleading information that is created, presented, and disseminated for economic gain or to intentionally deceive the public", whereas misinformation is "verifiably false information spread without the intention to mislead"

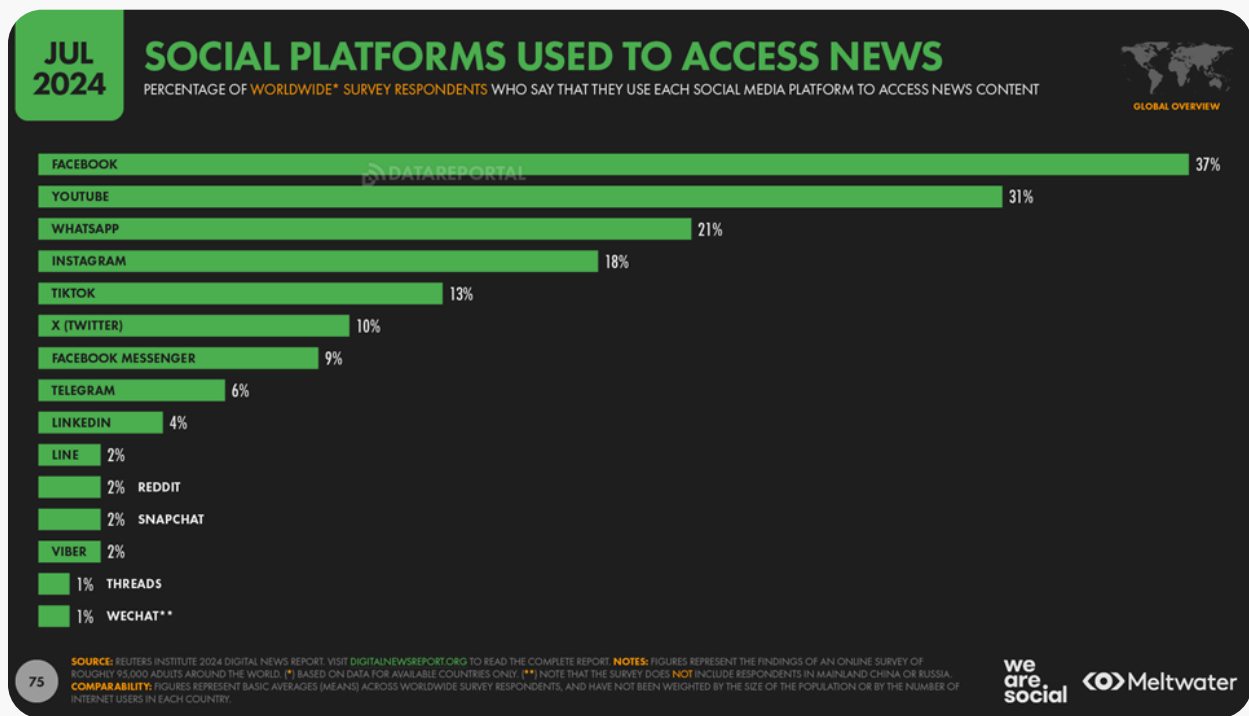


There are various reasons why false information circulates:

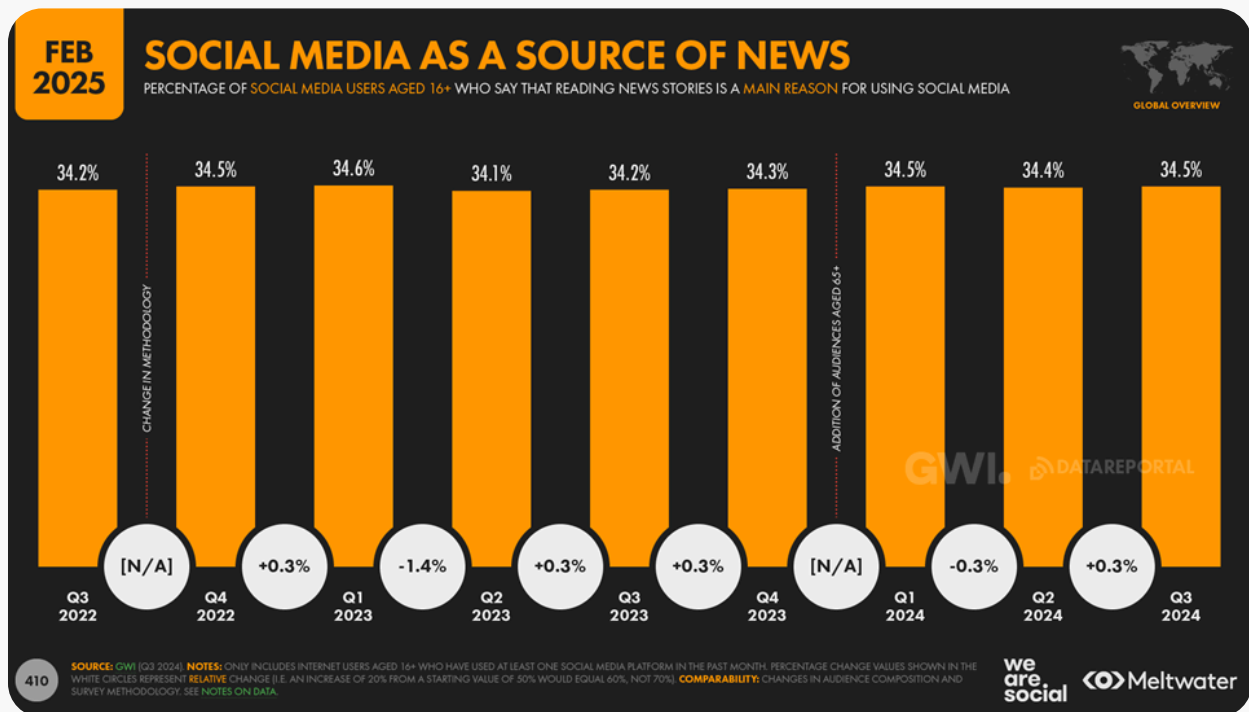
- **Satire/Humor:** Articles from satirical news outlets may be mistaken for real news, leading to confusion.
- **Misinformation:** False or misleading information is often shared by people who believe it to be true and do not intend harm.
- **Disinformation:** This refers to false information intentionally created and shared to deceive others or achieve political or economic objectives, often resulting in public harm.

Disinformation-spreaders use social media platforms to flood the information space. Their goal is not necessarily to convince people of a specific narrative, but rather to confuse or overwhelm them. By doing so, they can erode public confidence in mainstream media and democracy itself.

The Reuters Institute Digital News Report 2024 found that 37 percent of online adults across many of the world's largest economies use Facebook for news.



Furthermore, looking beyond individual platforms, more than 1 in 3 adult social media users (34.5 percent) say that reading news stories is one of the main reasons why they use social platforms.



The World Health Organization (WHO) defines an infodemic as the excessive spread of information, including false or misleading content, in both digital and physical environments during a disease outbreak. Often used as a tool to divide people, exaggerating internal conflicts, differences, or controversies, disinformation is a threat without the critical thinking skill, considering the advent of artificial intelligence (AI). Critical thinking involves «the objective, systematic, and rational analysis and evaluation of factual evidence in order to form a judgment on a subject» (Bailin, Case, Coombs & Daniels, 1999). This definition highlights the importance of assessing information critically to make informed decisions.



Media literacy and critical thinking are closely intertwined with AI tools and emerging technologies. Disinformation spreads rapidly on social media through clickbait, bots, fake stories, and other tactics. Now, consider the potential of large language models (LLMs), which can generate, manipulate, and understand various forms of data—text, sound, images, and code—in just seconds.

**Troll:** a person who deliberately tries to offend or directly attack people by posting derogatory comments. Troll farms or Troll factories are an institutionalised group of internet trolls that seeks to interfere in political opinions and decision making.

**Bot:** an autonomous software program on the internet that interacts with users and engages with predefined tasks (European Commission: Directorate-General for Education, Youth, Sport and Culture, 2022).

**Deepfakes** leverage artificial intelligence to create realistic images, videos, and voice recordings that depict events, statements, or actions that never actually took place (European Commission. (2024).

The findings of the Global Risks Survey 2025 (Elsner, Atkinson & Zahidi, 2025), which captures insights from over 900 experts worldwide for the second consecutive year identifies misinformation and disinformation as the foremost global risk to cause geoeconomic tensions for 2027.

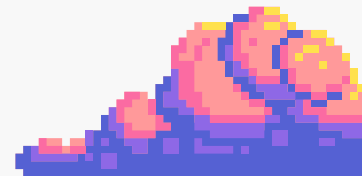


FIGURE C Global risks ranked by severity over the short and long term

*"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period."*

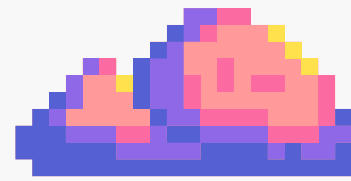


Source  
World Economic Forum Global Risks  
Perception Survey 2024-2025.

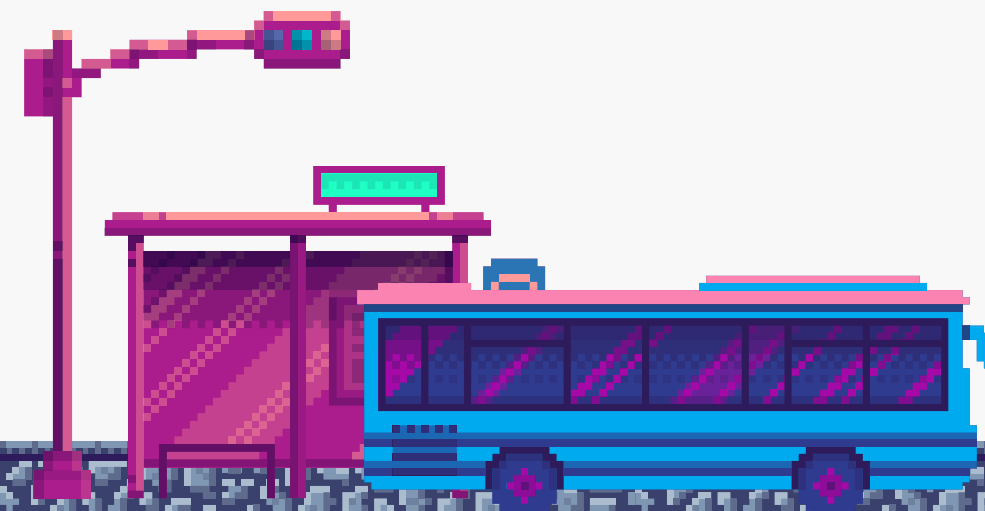
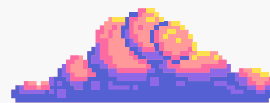
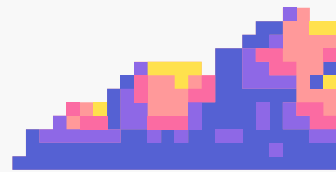
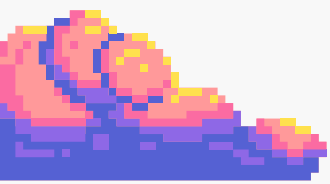
The spread of false or misleading content complicates the geopolitical landscape in several ways: it serves as a primary method for foreign entities to influence voter intentions; it can create global public uncertainty regarding events in conflict zones; and it may be employed to damage the reputations of products or services from other countries.

Due to the information overload and the open access to AI tools, people fall easily in the so-called by Michael Gerlich cognitive offloading. By exploring the impact of AI tool usage on critical thinking, he highlights that cognitive offloading involves "delegating cognitive tasks to external aids, reducing engagement in deep, reflective thinking" (Gerlich, 2025). The externalization of cognitive processes, often involving tools or external agents, such as calculators, or digital tools like AI, may foster cognitive laziness. Over time, this could lead to diminished problem-solving abilities and an increased dependency on external aids, especially if critical thinking skills are not developed or maintained. In result, the Digital Education Action Plan (2021-2027) covers two strategic priorities:

- to foster a high-performing digital education ecosystem;
- to enhance digital skills and competences for the digital age.



In addition, the European Digital Competence Framework for all citizens (Vuorikari, Kluzer & Punie, 2022) aims to establish a shared understanding and terminology regarding digital competence needs, with a focus on enhancing the critical thinking skills of young people to help build their resilience in the digital world. The framework emphasizes five essential aspects of digital competence: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving, aiming to foster a critical understanding of the digital media ecosystem. For additional details, visit: <https://ec.europa.eu/jrc/en/digcomp>.



## Tools and strategies to fight disinformation

### How to Address Disinformation

When faced with disinformation, it's crucial to pause before responding. Take the time to verify facts and reflect on possible explanations before engaging in any conversation or sharing the information further. This moment of consideration helps to prevent the spread of falsehoods and ensures a more thoughtful response.

**Fact-checking:** the process of verifying if information is true or false. (European Commission: Directorate-General for Education, Youth, Sport and Culture, 2022)

A solid fact-checking approach is essential when encountering potential disinformation. Begin by asking yourself key questions to assess the credibility of the information. Are the sources reliable? Does the information align with other trusted sources? Additionally, make use of reputable resources that specialize in debunking false claims. Many professional fact-checkers have already identified misleading or false information, and consulting these can help confirm whether what you've encountered has been previously disproven.

**Prebunking and debunking work for fighting disinformation** (Joint Research Centre, 2024)

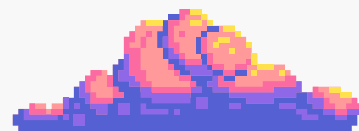
**Debunking:** an activity that takes place after the disinformation has been created and spread.

It aims to rectify already presented information and refers to the intention to clarify the primarily false information presented (European Commission: Directorate-General for Education, Youth, Sport and Culture, 2022). Basically to show that a piece of information is untrue and showing what is true.

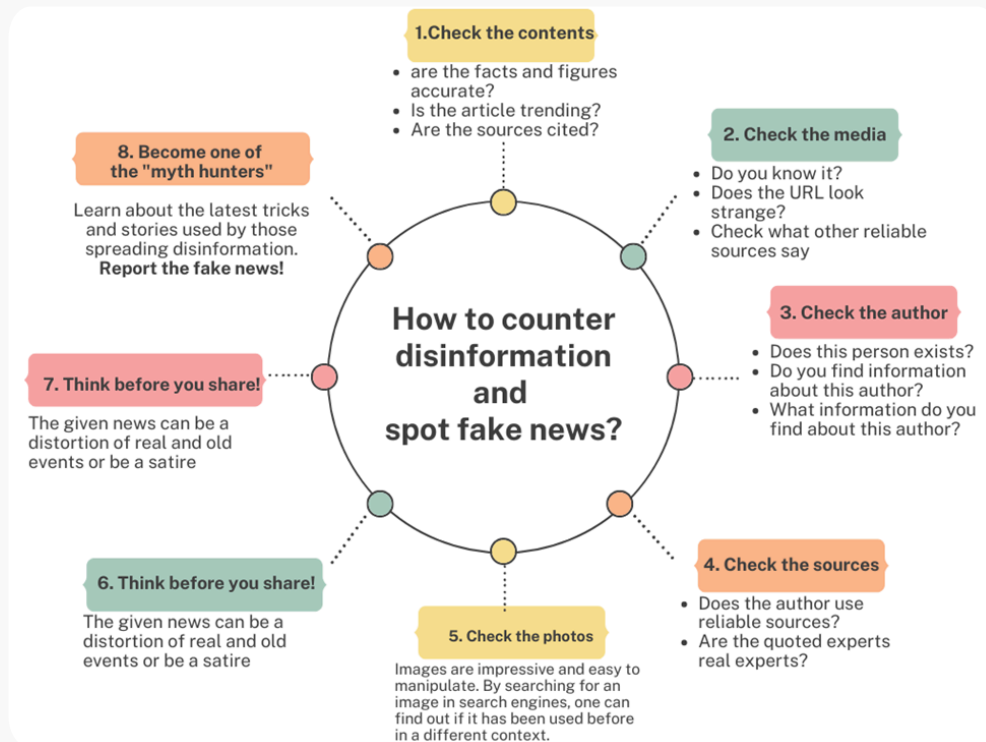
**Prebunking:** warning in advance about manipulation attempts or typical misleading strategies – is increasingly done by fact-checkers, authorities, or schools.

By following these steps, you can contribute to a more informed and responsible conversation.

Think before you share!



- Check the title and the content and if it make sense
- Is the author and the url or outlet reliable?
- Date of publishing
- Does the images depict what they say
- Are there other sources reporting the news?



- The International Fact-Checking Network provides a [list of fact-checking organisations](#) that have signed up to the [IFCN Code of Principles](#).
- [EUFACTCHECK](#) wishes to motivate fact-based debate in the EU and to stimulate media and information literacy. Through fact checking European political claims to tackle misinformation, this platform aims for the public to grow a deeper insight and interest in democratic processes, both on national and European level.
- [The European Fact-Checking Standards Network](#)
- Search online fact-checks about a topic or person with [Google's Fact Check Explorer](#)
- See debunks of disinformation on [EUvsDisinfo.eu](#)
- [EDMO](#) (the European Digital Media Observatory) monitors and reacts to disinformation through its hubs across the EU.



- EU Disinfo Lab is an independent non-profit organisation focused on tackling sophisticated disinformation campaigns targeting the EU, its member states, core institutions, and core values.
- The DBKE platform allows users to easily double-check whether a claim, image or video has already been verified by trusted sources, including by whom, when and how, using AI-powered technologies that go way beyond a keyword search. (source: <https://brodhub.eu/en/fact-checking/#tools-datasets>)

On a larger scale to address the risks of disinformation while safeguarding freedom of speech and promoting transparency, the Code of Conduct on Disinformation, integrated into the Digital Services Act (DSA) in 2025, brings together various stakeholders through commitments. These include online platforms, players in the advertising industry, fact-checkers, research organizations, and civil society groups. The commitments span several areas, such as demonetization, political advertising, fact-checking, user empowerment, and more. Initially established in 2018 and strengthened in 2022, the Code seeks to combat disinformation effectively while ensuring accountability and responsible online practices. (European Commission: Directorate-General for Communications Networks, Content and Technology, 2025). It now has over 40 signatories, including major platforms designated as Very Large Online Platforms (VLOPs) and Very Large Online Search Engines (VLOSEs), such as Google Search & YouTube (Google), Instagram and Facebook (Meta), Bing and LinkedIn (Microsoft), and TikTok.

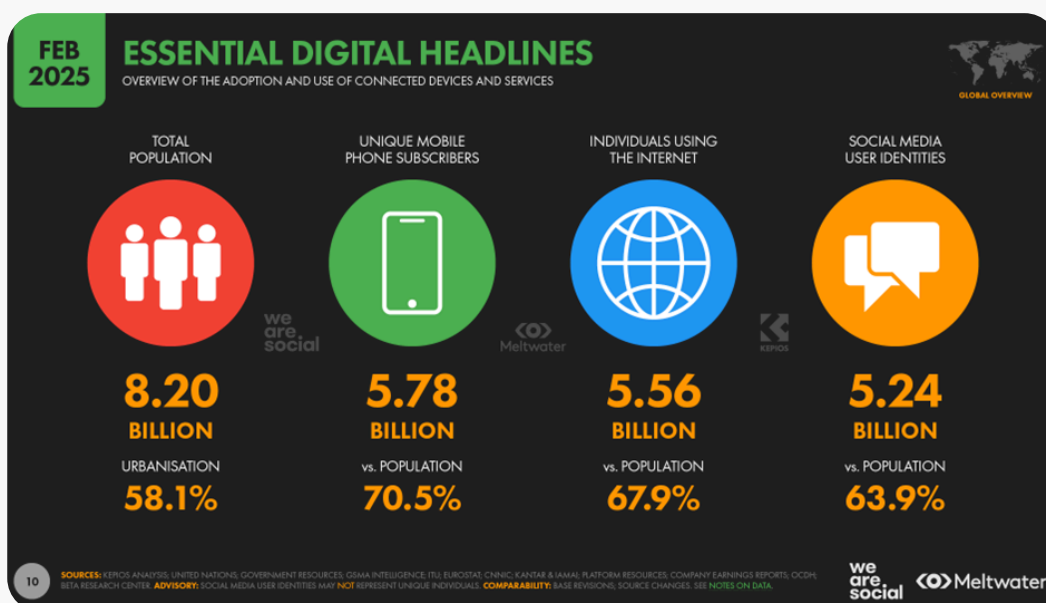


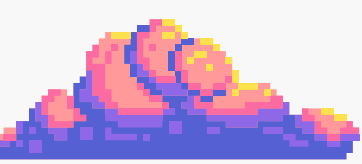
## Information fatigue and managing news anxiety

In today's world, information overload and constant digital stimulation contribute to digital burnout, a condition where prolonged screen time results in both physical and mental exhaustion. This condition is marked by symptoms such as apathy, indifference, and mental fatigue, which stem from being overwhelmed by excessive information. The stress of trying to process an overwhelming amount of data, especially from media sources like social media, the internet, or work, can harm our well-being by disrupting sleep, impairing concentration, and weakening our immune system (Savić, 2023).

Information Fatigue Syndrome is characterized by a range of symptoms that reflect both behavioral and mental changes. Individuals suffering from this condition often experience apathy and indifference, coupled with mental exhaustion resulting from exposure to an overwhelming amount of information. Poor concentration and short-term memory failure are common, as well as an inclination to multitask excessively, leading to incomplete tasks. Over-stimulation can cause physical symptoms such as headaches and nausea, along with increased tension and relationship problems at home. Those affected may also experience occasional irritability, frequent feelings of helplessness, and a compulsive need to stay connected to the internet.

The rapid advancement of technology, along with access to more powerful digital devices and the global expansion of the Internet, has allowed a growing number of individuals to adopt digital lifestyles (Erten & Özdemir, 2020). In organizational settings, digitization has not only enhanced the ability to address market challenges but also increased the speed at which tasks are completed. However, it has also led to mental, physical, and emotional exhaustion among employees (Staten, 2019).

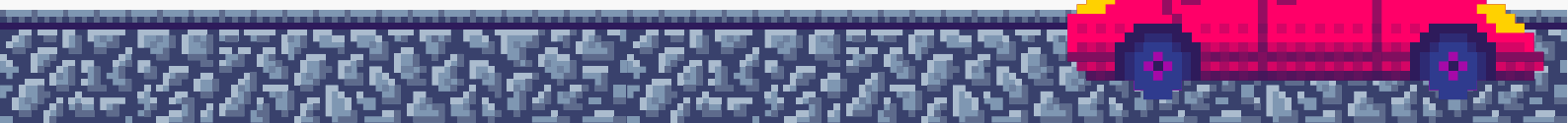
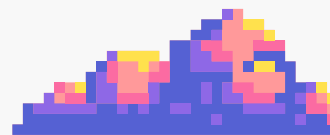




The constant flow of information is contributing to heightened levels of fatigue and increasing digital dependency. The Digital 2024: Global Overview Report (Kemp, 2024) shows that the typical internet user spends 6 hours and 38 minutes online each day. The main highlight of the report is that there are now over 5 billion active social media user accounts, with the global total reaching 5.24 billion at the beginning of 2025. The average social media user spends 2 hours and 23 minutes daily on social media platforms. Highlighting the significant amount of time people dedicate to social media, these statistics indicate that in 2024, humanity collectively spent a total of 500 million years on social media.

Digital burnout is defined as a state of exhaustion caused by excessive time spent on digital platforms, leading to symptoms like mental fatigue, stress, and decreased productivity. Michele Marius emphasizes that digital burnout stems from being constantly online and trying to process an overwhelming amount of information, which negatively affects both mental health and physical well-being.

Being intentional about how and when to use devices is crucial for personal well-being and maintaining balance in daily activities. There are several key actions to address Information Fatigue. It's important to filter the information that comes our way and avoid contributing to digital burnout by sharing unnecessary content. Prioritizing essential information over interesting information is crucial. Relying on trustworthy sources, delegating tasks, and asking for help are also essential strategies. Learning to shut down disruptive devices, and separating work from personal time are practical steps to manage digital overload. Taking offscreen time to relax and go for walks can help restore our focus. When it comes to information specialists, they can assist by helping with the filtering of information to further reduce the impact of information fatigue.





## 4. AI impacts on media consumption and production

### Introduction to AI

Artificial Intelligence (AI) can be defined as a machine-based system designed to operate with varying levels of autonomy and adaptability. It processes input to generate outputs - such as predictions, content, recommendations or decisions - that can influence both physical and virtual environments (European Union, 2024). AI is reshaping the landscape of media, affecting both how content is consumed and how it is produced. While these technological advancements offer significant benefits, they also present challenges that require careful consideration.

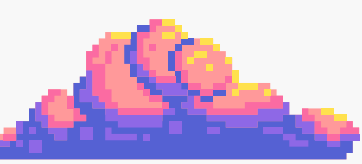
### Personalised content, filter bubbles and ethical dilemmas

The integration of AI into media consumption has fundamentally changed how audiences discover and engage with content. Streaming services employ AI-driven algorithms to assess user behavior and preferences, enabling the recommendation of content that aligns with individual tastes. This personalised approach not only enhances user engagement but also optimises the time spent on these platforms (Valor, 2025).

Beyond entertainment, AI-powered recommendation systems are used by social media platforms and search engines to tailor content based on users' interactions. While this customisation increases convenience and satisfaction, it also raises concerns about the reinforcement of existing viewpoints through 'filter bubbles' and 'echo chambers', which can limit exposure to diverse perspectives (Kang & Lou, 2022).

Moreover, ethical concerns surrounding AI-driven media consumption are growing. If left unchecked, these systems can perpetuate algorithmic biases, leading to unfair treatment of certain groups or reinforcing harmful stereotypes (Codina et al., 2024).





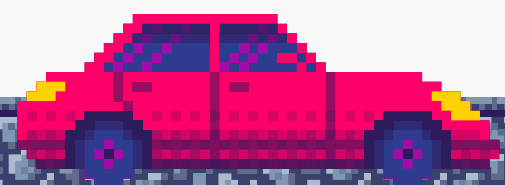
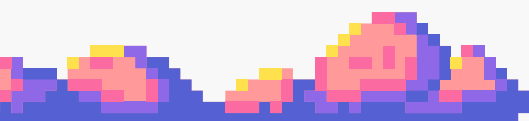
## **Redefining trust and creativity in the age of AI-generated media**

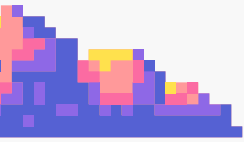
On the production side, AI has introduced new levels of efficiency, enabling faster and more scalable content creation. Advanced AI tools such as ChatGPT and DeepSeek can now generate written content, including articles, blog posts and scripts, with remarkable speed and coherence. These tools assist content creators by streamlining their workflow and reducing production time (Valor, 2025).

With the use of AI, the efficiency comes along with issues such as data bias, misinformation and the erosion of trust between media producers and consumers need to be addressed. This is because AI can create content that is false or misleading quickly and convincingly, making it difficult to detect and potentially eroding public trust in the media (Forja-Pena et al, 2024). Over-reliance on AI in media production may reduce originality and innovation by generating content that is increasingly similar and trend-driven. Studies suggest that AI-generated outputs often follow recurring patterns, potentially diluting human-driven creativity as media producers depend more on algorithms for storytelling, music, and visual content. (Doshi & Hauser, 2023).

## **Balancing AI's benefits and risks in the media landscape**

AI has undeniably transformed both media consumption and production. In consumption, it enables personalised experiences and increased engagement, yet it also fosters concerns over algorithmic bias, 'filter bubbles' and ethical dilemmas. On the production side, while AI enhances efficiency, it simultaneously raises risks related to misinformation, trust erosion and the potential homogenisation of creative content. Striking a balance between leveraging AI's capabilities and safeguarding media integrity requires a proactive approach, including regulatory oversight, ethical AI design and a continued emphasis on human creativity. As AI continues to evolve, ensuring that its integration enriches rather than diminishes media diversity and trust will be crucial.





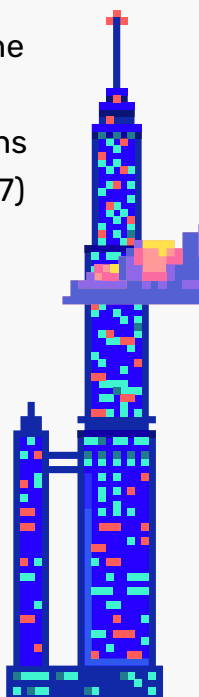
## 5. Algorithms and filter bubbles: how they shape our worldview

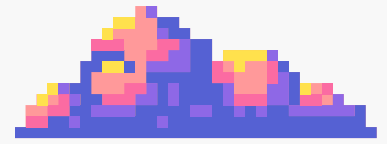
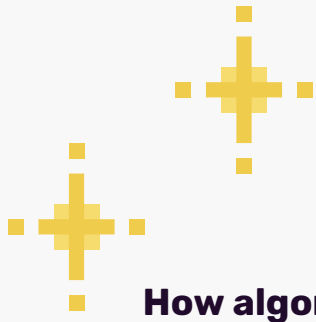
In an era of information abundance, algorithms play a crucial role in determining what content individuals see online. From social media feeds to search engine results, these complex sets of rules influence user experiences by curating and prioritizing information. While algorithms improve efficiency and personalization, they also contribute to the creation of "filter bubbles"—a phenomenon where users are increasingly exposed to information that aligns with their existing beliefs and preferences, potentially limiting diverse perspectives. Understanding these mechanisms is essential for fostering media literacy and ensuring a well-informed society.

### Understanding algorithms and filter bubbles

An algorithm is a set of mathematical instructions that guide digital platforms in sorting, ranking, and delivering content tailored to users (Pariser, 2011). Tech companies like Google, Facebook, and TikTok employ algorithms to enhance user experience by personalizing content based on past behavior, interactions, and preferences. While this personalization is often beneficial—helping users discover relevant information and products—it also raises concerns about the reinforcement of biases and the narrowing of viewpoints.

The term "filter bubble" was popularized by Eli Pariser (2011), who described it as the digital space in which individuals are primarily exposed to information that echoes their preexisting views. This occurs because algorithms prioritize content that aligns with user behavior, leading to an increasingly isolated media diet. As Sunstein (2017) notes, this selective exposure can reduce opportunities for encountering opposing viewpoints, thereby reinforcing ideological echo chambers and contributing to political and social polarization.

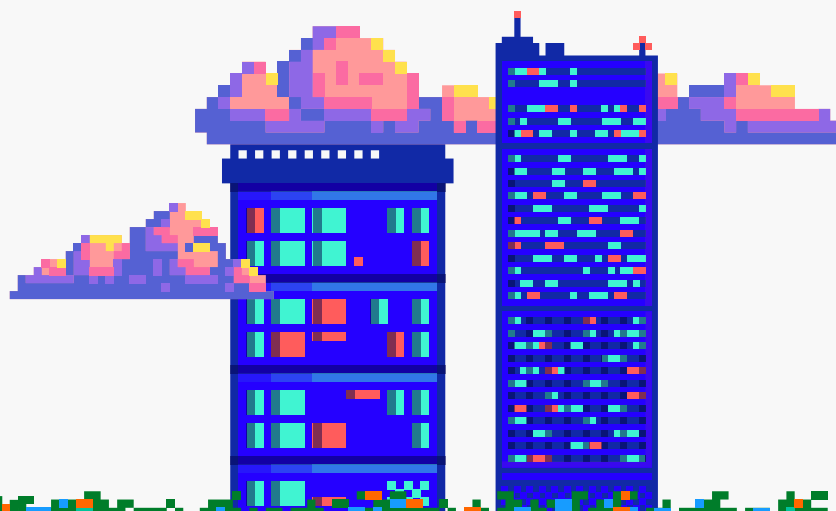
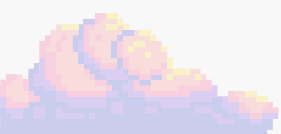


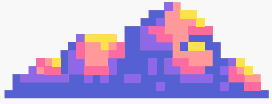
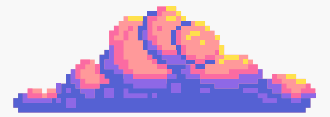


## How algorithms shape our perception of the world

The power of algorithms extends beyond simple content recommendations; they actively shape users' perceptions of reality. Social media algorithms, for instance, determine which news articles, advertisements, and discussions appear in a user's feed. Research by Bakshy, Messing, and Adamic (2015) found that Facebook's algorithm reduces exposure to cross-cutting political content, subtly influencing political discourse. Similarly, search engines employ ranking algorithms that prioritize certain sources over others, affecting which perspectives dominate online discussions (Introna & Nissenbaum, 2000).

This selective exposure can have profound effects. When individuals primarily engage with information that reaffirms their beliefs, they become less likely to critically evaluate alternative viewpoints (Sunstein, 2017). This phenomenon has been linked to increased political polarization and the spread of misinformation, as users are less exposed to fact-checking content or opposing arguments (Guess, Nyhan, & Reifler, 2018).



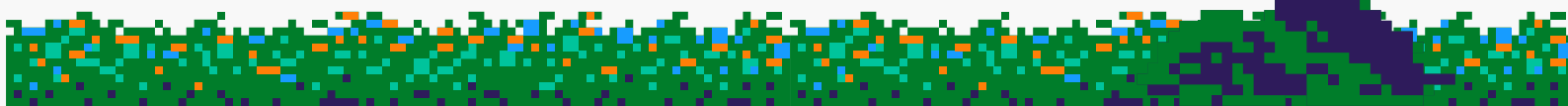


## **The role of media literacy in navigating algorithmic influence**

Given the pervasive role of algorithms in shaping online experiences, media literacy is essential for fostering critical thinking and awareness. Media literacy involves understanding how digital platforms function, recognizing biases in information consumption, and actively seeking diverse perspectives. According to Livingstone and Helsper (2007), individuals who are more media literate are better equipped to navigate digital environments critically, distinguishing between reliable and misleading information.

One of the most effective ways to counteract filter bubbles is to diversify information sources. Engaging with a wide range of media outlets, fact-checking sources, and being mindful of algorithmic influence can help individuals develop a more nuanced understanding of issues. Additionally, platforms can take steps to enhance transparency by providing users with more control over content curation and algorithmic decision-making (Napoli, 2019).

Algorithms and filter bubbles are integral to the modern digital experience, shaping how individuals perceive the world and engage with information. While algorithms improve efficiency and personalization, they also risk reinforcing biases and limiting exposure to diverse perspectives. Media literacy serves as a critical tool in mitigating these effects, empowering individuals to critically analyze digital content and seek out balanced viewpoints. As technology continues to evolve, fostering algorithmic awareness and promoting diverse information consumption will be essential in ensuring a well-informed and democratic society.



## 6. Deepfakes: navigating the double-edged sword of synthetic media

Deepfakes, a portmanteau of "deep learning" and "fake," are AI-generated media—typically videos or audio recordings—that convincingly depict individuals performing actions or speaking words they never actually did. This technology leverages deep learning algorithms, particularly generative adversarial networks (GANs), to fabricate content that is often indistinguishable from authentic recordings (Goodfellow et al., 2014). This phenomenon has sparked both intrigue and concern across various sectors, necessitating a comprehensive understanding of its origins, applications, ethical implications, and potential trajectory.

### A brief history

The term "deepfake" emerged around 2017 when a Reddit user began sharing AI-manipulated explicit videos featuring celebrity faces superimposed onto adult film actors. Since then, the technology has rapidly evolved, becoming more accessible and sophisticated. Initially confined to niche internet communities, deepfakes have now permeated mainstream media, politics, and entertainment (Maras & Alexandrou, 2019).

### Positive applications

Despite their controversial nature, the technologies used to create deepfakes can also serve for several beneficial applications.

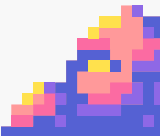
In entertainment and cinema, filmmakers utilize deepfake technology to de-age actors or resurrect deceased performers for new roles, enhancing storytelling possibilities. For instance, the de-aging of Robert De Niro in 'The Irishman' exemplifies deepfake utility in cinema. (Miller, 2020).

In education, deepfakes can create interactive learning experiences, such as bringing historical figures to life for educational purposes, thereby increasing engagement and understanding (Schick, 2020).

Regarding accessibility, AI-generated synthetic voices can assist individuals with speech impairments, providing personalized and natural-sounding communication aids (Ballard, S. 2023).

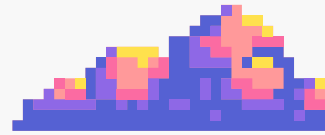


Conversely, deepfakes pose significant ethical dilemmas, in particular:

- **Misinformation and disinformation:** Deepfakes can fabricate political speeches or events, misleading the public and undermining democratic processes. The potential for such misuse raises concerns about the integrity of information (Chesney & Citron, 2019).
  - **Non-consensual explicit content:** A staggering 96% of deepfakes online are pornographic, often depicting individuals without their consent, leading to severe emotional and reputational harm (Ajder et al., 2019).
  - **Fraud and impersonation:** Cybercriminals employ deepfake audio to impersonate corporate executives, authorizing fraudulent transactions and causing substantial financial losses (Murugesan, 2025).
- 



## The future of media in the age of deepfakes



The proliferation of deepfake technology presents a paradox for the future of media:

- Erosion of trust in media: As deepfakes become more convincing, public trust in media content may erode, leading to skepticism towards legitimate news and information sources (Vaccari & Chadwick, 2020).
- Challenges in verifying information: Journalists and fact-checkers face increasing difficulties in authenticating media, necessitating advanced detection tools and methodologies (Paris & Donovan, 2019).
- Emerging regulatory responses: Governments and platforms are grappling with legislative and technological measures to combat malicious deepfakes, balancing the protection of individuals with freedom of expression (Citron & Chesney, 2019).

In conclusion, deepfakes embody a dual-edged sword in the digital era, offering innovative possibilities while posing profound ethical and societal challenges. As this technology advances, a collective effort from technologists, policymakers, and the public is imperative to harness its benefits responsibly and mitigate its risks.





## 7. Contribution of media literacy to active participation

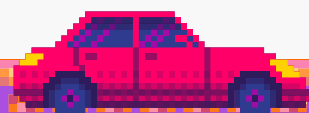
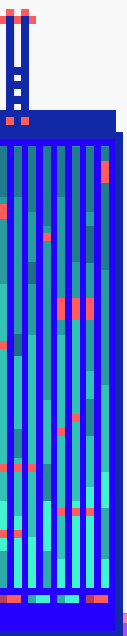
### Empowering citizens through media literacy

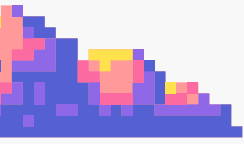
In an era when digital media is accessible anytime and anywhere, the need for robust media literacy skills has never been more pressing. Today's media literacy education isn't about limiting media use. It is about empowering individuals to engage with it critically and thoughtfully.

Media literacy fosters both empowerment and active participation. Empowerment is the process by which individuals build the skills, confidence and agency needed to influence their communities and shape public debate. Participation emerged as a response to hierarchical decision-making models, advocating for more inclusive approaches where individuals have an active role in shaping decisions that affect their lives (Claridge, 2004).

Contemporary research shows that when people develop critical media skills, they become better equipped to challenge dominant narratives and participate actively in civic life. For example, Martens and Hobbs (2015) demonstrated that higher levels of media literacy correlate with increased civic engagement, as these skills enable citizens to question prevailing narratives and make more informed decisions. Supporting this, Costa et al. (2025) reported that media literacy education among youth leads to heightened participation in community and political discussions, providing them with the tools needed to critically analyse and contest dominant discourses.

This foundation of critical media skills and active engagement sets the stage for exploring how these competencies enable citizens to navigate the complex digital landscape.





## **How media literacy enhances active participation**

### Critical thinking and informed decision-making

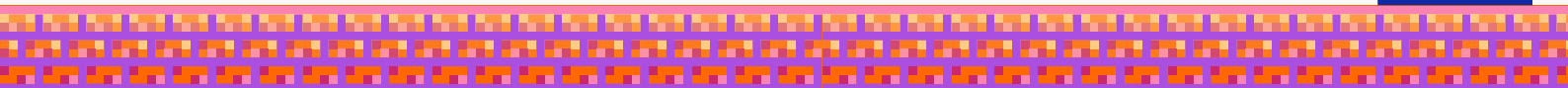
Media literacy nurtures critical thinking by equipping individuals with the skills to analyse, evaluate and interpret media messages. It enables them to assess the credibility of sources, understand media framing and recognise biases. This analytical approach encourages questioning, fosters independent thought and promotes the creation of media, which further enhances comprehension of content construction. Exposure to diverse viewpoints strengthens empathy and broadens perspectives, making critical thinking a fundamental component of informed civic participation.

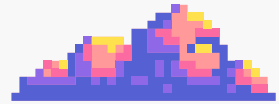
A study conducted in Portugal with 416 students across different grade levels found a consistent need for media literacy education, particularly regarding media use, content creation and engagement in societal discourse through media. The study further demonstrated that media literacy enhances individuals' ability to critically engage with media messages, equipping them to navigate and respond effectively to information, an essential skill for informed decision-making and active participation in public discussions (Fernandes et al., 2022).

### Social interaction and community building

Beyond individual skills, media literacy plays a vital role in fostering social cohesion and meaningful interactions. It equips individuals with the ability to critically engage with media, facilitating informed discussions and strengthening communal learning. Media literacy empowers people to produce and share their narratives, promoting self-representation and inclusion, particularly for marginalised communities. By enabling engagement with various media platforms, it fosters collaboration and collective action, encouraging citizens to participate in civic initiatives that enhance trust and social cohesion (Abellán & Mayugo, 2008).

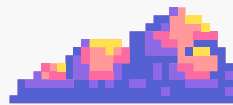
A review of multiple studies found that children's participation in media activities was primarily driven by social interaction, followed by civic engagement. A sense of community belonging emerged as the strongest motivator for young people to create and share content, with activism and social change as secondary drivers (Costa et al., 2025). This highlights the role of media literacy in strengthening community ties and equipping young people with the tools to become active participants in societal development.

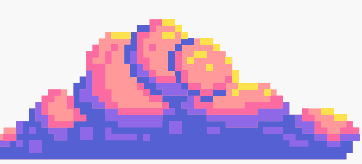




## **Towards a more engaged and resilient society**

Media literacy serves as a crucial enabler of active participation by fostering critical thinking, promoting meaningful social interactions and empowering individuals to make informed decisions. In today's digital landscape, where information is extensive but not always reliable, media literacy is more important than ever. It not only strengthens communities and combats misinformation but also fosters a more engaged and responsible society. Ensuring widespread access to media literacy education is essential in equipping individuals to navigate and contribute positively to an ever-evolving media environment.





## 8. Privacy, security, and digital footprint: navigating the digital landscape

«A digital footprint, or as it is less commonly called, a digital shadow or electronic footprint, refers to the trail of data we leave when using the internet» (Kaspersky)

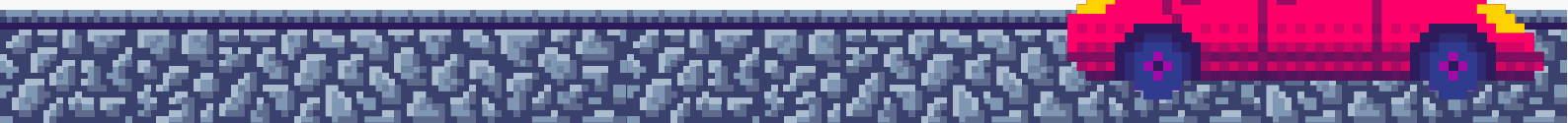
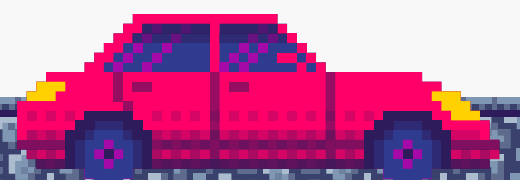
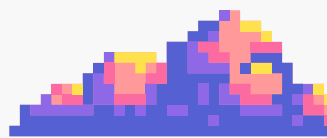
In today's hyperconnected world, our online presence extends far beyond social media interactions or email exchanges. Every action we take—whether it is a Google search, an online purchase, or a simple like on a post—contributes to our digital footprint. This reality underscores the importance of privacy and security, not just as abstract concerns but as fundamental pillars of responsible digital citizenship. Understanding how personal data is collected, stored, and used is crucial for safeguarding both individual privacy and the integrity of digital spaces.

### Active and passive digital footprints

A digital footprint consists of the traces individuals leave online, categorized into two types: active and passive. An active digital footprint includes the data intentionally shared—such as social media posts, comments, and online form submissions (Solove, 2013). In contrast, a passive footprint is generated without direct user input, such as tracking cookies, location metadata, and browsing history logged by websites and third-party entities (Zuboff, 2019). While these footprints can offer convenience, they also raise concerns about data exploitation and surveillance.

### Privacy concerns in the digital age

Privacy in the digital realm is no longer just about controlling what is shared; it is about understanding who has access to our data and how it is used. The Cambridge Analytica scandal (Cadwalladr & Graham-Harrison, 2018), when personal data of millions of Facebook users was collected by a consulting firm without prior consent, is a stark reminder of how personal information can be misused for political and commercial gain. Studies indicate that users often underestimate the extent to which their data is collected and analyzed (Acquisti, Brandimarte, & Loewenstein, 2015). This gap in awareness leaves individuals vulnerable to manipulative advertising, identity theft, and even psychological profiling.



## Security risks and best practices



With increasing cybersecurity threats, from data breaches to phishing attacks, individuals must take proactive steps to secure their online presence. The European Union's General Data Protection Regulation (GDPR) provides a framework for data protection, emphasizing transparency and user control (European Commission, 2016). However, personal security practices are equally vital. Implementing strong, unique passwords, enabling two-factor authentication, and regularly updating privacy settings can mitigate risks. Additionally, understanding encryption and secure browsing habits ensures a safer online experience.

## Striking a balance: digital literacy and ethical responsibility

Empowering users with digital literacy is fundamental in fostering a secure and ethical digital environment. Educational initiatives should focus on teaching individuals to critically assess online information, recognize data privacy policies, and understand the long-term consequences of sharing personal data. Governments, tech companies, and educators must work collaboratively to create transparent policies and accessible resources that promote informed digital engagement.

Privacy, security, and digital footprints are deeply interwoven aspects of our digital lives. By cultivating awareness and practicing responsible online behaviors, individuals can reclaim control over their personal data. At the same time, systemic changes—through stronger regulations, ethical corporate practices, and comprehensive digital literacy programs—are necessary to ensure a safer digital future. The choices we make today will shape not only our personal privacy but also the broader digital landscape for generations to come.





## 9. How video games represent otherness and diversity

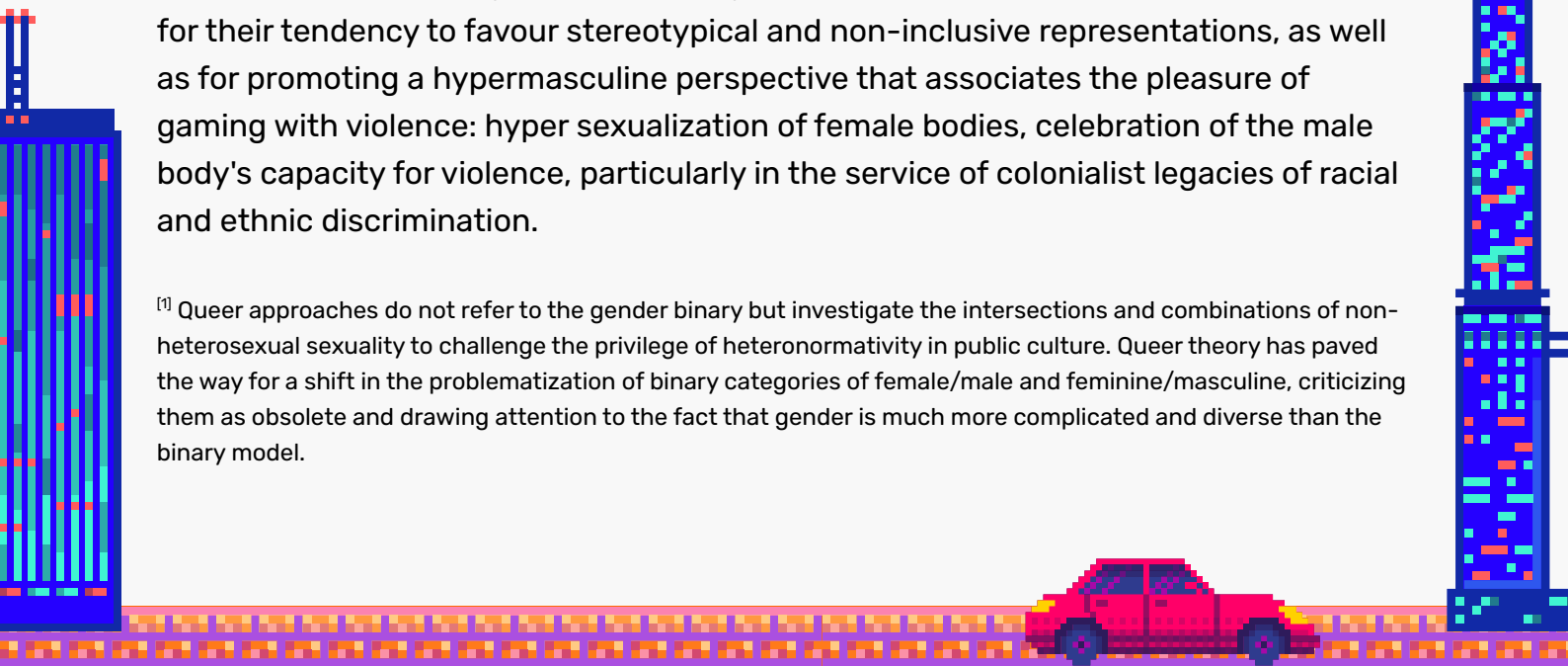
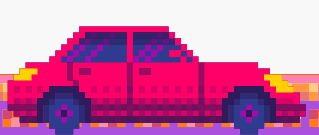
The video game industry is not exempt from being a mirror of the contradictions and paradoxes of our time, of overly simplified and simplistic representations of identities, of a social paradigm that sees disability as a physical, sensory, or cognitive limitation, as opposed to a uniform concept of ability, thus placing the disabled subject with responsibility for not being fit, adequate or normal, as well as a binary and heteronormative view of gender. It is an industry that was born with a strong male presence, both in terms of developers and the prevailing audience it initially targeted until recent years: it is characterized mainly by patriarchal machismo.

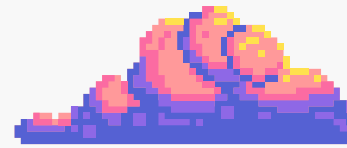
What do femininity and masculinity mean in the gaming universe? Does this medium, which historically originated as a product made by men and intended mainly for young men (heteronormative and white), in a single-perspective vision, both in terms of content and work, offer new possibilities for representation and transformation of gender stereotypes? (Nardone, 2023 a)

Feminist scholars and exponents of a queer culture <sup>[1]</sup> in gaming emphasize the existence of a sort of “video game machismo” found in the history of its production and consumption (Chess, 2020; Shaw, 2014).

The most iconic mainstream video games, which originated as an expression of the North American military-industrial complex, have been criticized, on a cultural level, for their tendency to favour stereotypical and non-inclusive representations, as well as for promoting a hypermasculine perspective that associates the pleasure of gaming with violence: hyper sexualization of female bodies, celebration of the male body's capacity for violence, particularly in the service of colonialist legacies of racial and ethnic discrimination.

<sup>[1]</sup> Queer approaches do not refer to the gender binary but investigate the intersections and combinations of non-heterosexual sexuality to challenge the privilege of heteronormativity in public culture. Queer theory has paved the way for a shift in the problematization of binary categories of female/male and feminine/masculine, criticizing them as obsolete and drawing attention to the fact that gender is much more complicated and diverse than the binary model.





Several studies in the 2000s analysed various video game covers of the three most popular consoles (Nardone, 2023 b):

- the majority depict men;
- the female character has a role in the game only because the presence of a male primary character serves as a protector, a guide to whom the woman acts as a sidekick;
- almost half of the female characters were classified as 'eye candy', i.e., of no use other than as pleasant visual stimulation.

In particular, the most worrying aspect of the representation of female characters is that, despite their lower frequency of representation, they are dramatically more likely to be portrayed negatively, from a relative lack of action to limiting physical representation. Female characters were rarely assigned action roles compared to their male counterparts. In the relatively rare cases where women have been portrayed as central characters or exercising the violent power offered by video games, this role has almost always been accompanied by exaggerated sexuality. The pairing of muscular men and violence is not surprising, as one can reasonably expect that strength is necessary to defeat superhuman enemies. On the other hand, the frequency of breasts of unrealistic sizes and shapes is difficult to interpret as anything other than sexist objectification, given the irrelevance of breasts to the tasks of video game characters (Burgess, Burgess & Stermer, 2012).

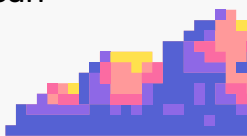
However, it is important to note a series of changes throughout the 21st century that show how the video game industry has become more receptive and is transforming regarding these stereotypes. National and international surveys have been showing a change in the target audience of gamers for years: the number of female gamers is constantly increasing. The market is therefore beginning to target a wider audience by diversifying its offering in terms of themes, characters, and narratives, and this is accompanied by a transformation of the user base.



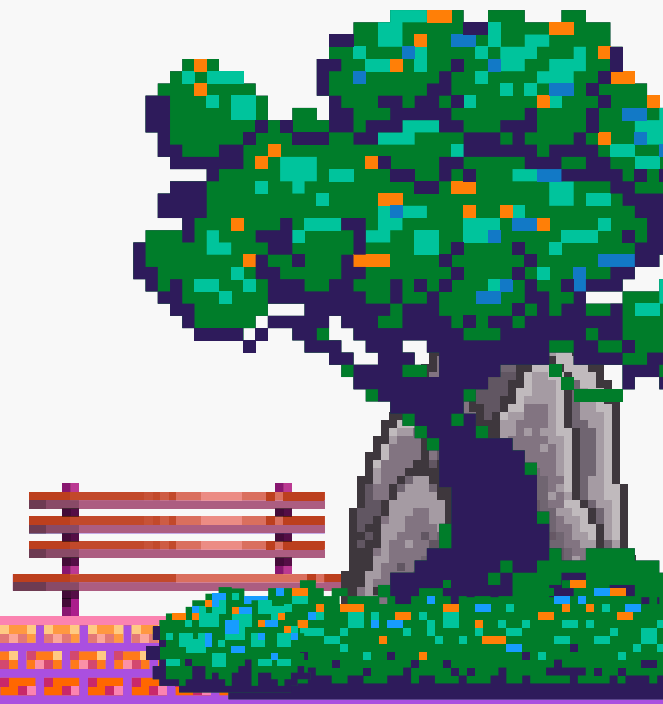


In addition, growing access to distribution platforms and the availability of free and easy-to-use tools for game development have made the independent sector a testing ground, open to non-professional developers and artists. Independent video games can tell autobiographical stories and addressing social, political, and cultural issues. In particular, the indie gaming scene offers a greater variety of titles with diverse representations, less limited by economic and socio-political issues.

Of course, it is not enough to include female characters in a video game narrative (as in other media) in order to be appreciated by a female audience, but representation in video games is important not for seeing oneself represented as a category, but because other people can see more identities within stories and with different roles, active, not labelled, and no longer marginalized (Shaw, 2014). But through gameplay designed with a more “open” perspective, new, more multifaceted experiences can be had, starting with the choice of the character to play the story and the customization of their appearance.



This is why representation in media narratives is valuable: it allows us to be present in the world, together. It confirms that representation is important on a social level and helps those on the margins feel accepted and understood. The video game industry is therefore undergoing a process of change, opening up to broader, more multifaceted and complex imaginaries, in which players can experiment with new roles and gender perspectives.





## 10. Para-social interactions and relationship with other users

The term “parasocial relationship” was first introduced by sociologists Donald Horton and R. Richard Wohl in 1956 to describe “a seeming face-to-face relationships between spectator and performer” (p. 215). Over the years, technological advancements have continuously shaped society, giving rise to what is now known as the “media landscape”. In today’s technological world, old media and new media are interconnected, yet “interactive new media provides a [more] immersive experience in comparison to audio or text alone” (Ratan, 2020). This evolving media landscape has transformed communication and social interactions, leading to the rise of parasocial relationships.

Bennett et al. (2020) defines these relationships as “one-sided relationships, where one person extends emotional energy, interest and time, and the other party, the persona, is completely unaware of the other’s existence.” In other words, an individual may feel a sense of intimacy with someone who neither reciprocates nor acknowledges their existence. Today, individuals not only admire public figures from a distance but also engage with their lives through social media, livestreams, and personal updates, deepening the illusion of “intimacy”.

For example, a person who follows an Instagram influencer may feel emotionally invested in their life, as they watch the influencer’s daily content—personal stories, opinions, and behind-the-scenes glimpses. However, despite this perceived closeness, the relationship remains one-sided and unidirectional (existing only from the follower’s perspective). The influencer, while sharing content with a broad audience, remains largely unaware of any individual follower’s existence or emotional attachment.

Moreover, as Giles (2010) highlights, parasocial interactions extend beyond real-life figures to fictional and even nonhuman characters. Thanks to narrative realism, “we respond to fictional characters at the same level as real people. There is plenty of evidence that this happens, and not just during the act of viewing.” A perfect example is actor Jack Gleeson, who was chastised by members of the public for the immoral actions of his character, Joffrey Baratheon in Game of Thrones. Fans who had spent years engaging with the show’s narrative transferred their hatred for the character onto the actor, demonstrating the power of emotional investment in fictional portrayals.





## The influence of parasocial relationships in media


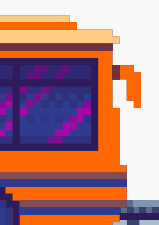
As mentioned before, parasocial relationships have evolved in the digital age where constant access to public figures and fictional characters amplifies their effects on audiences (Ratan, 2020). The media landscape, now dominated by social media, livestreaming, and interactive content, has strengthened these relationships, making media consumers more susceptible to the influence of the figures they admire (Lin et al., 2014).

### The role of trust and perceived credibility

A core mechanism of parasocial relationships is the perception of trust. Individuals who develop these emotional attachments often view public figures, influencers, or even fictional characters as credible sources of information (Sokolova & Kefi, 2020). Research suggests that people are more likely to accept opinions, advice, and narratives from media figures they consider trustworthy and with whom they share a parasocial connection (Chung & Cho, 2017; Wang et al., 2007). This trust significantly influences how individuals interpret media content, shaping their beliefs, attitudes, and even decision-making processes. As Kumju Hwang and Qi Zhang stated, “digital celebrities have become influential opinion leaders in the era of online or social media power” (Kumju Hwang, Qi Zhang, 2018).




However, this trust can sometimes lead consumers to adopt products that may not meet expectations or could even be harmful. A clear example of this phenomenon is the rise of dangerous beauty trends on social media. In her BBC article, Cristina Criddle (2020) warned about the risks of viral DIY beauty treatments on TikTok. Due to those viral trends, users attempt procedures such as at-home teeth whitening with hydrogen peroxide, fake freckles using henna, and even mole removal with chemicals. These trends, often promoted by influencers with large followings, have led to serious health complications including chemical burns and permanent skin damage. They emphasize the dangers of blindly trusting media figures, “[as research has shown] that parasocial interactions improved source trustworthiness toward consumer behavior” (Jean Paolo Gomez Lacap, 2023).



### The spread of misinformation through parasocial influence


One of the most concerning impacts of parasocial relationships is their role in spreading misinformation. Phillip Madison's study, titled "My Superpower is Being Honest: Perceived Credibility and Parasocial Relationships with Alex Jones" (2020), explored this dynamic and highlighted how media personalities like Alex Jones, through their parasocial bonds with their audience, contribute to the spread of misinformation. Again, it is the illusion of intimacy and trust within these parasocial relationships that causes audiences to often accept statements from admired figures without verifying their accuracy.

A striking example of this phenomenon is Donald Trump's influence over his supporters and his communication technique based on spreading false or misleading political narratives. The European Parliament itself addressed Trump's post-election framing in a report titled "Trump's Disinformation Megaphone", stating that his communication tactics resembled "the Kremlin's authoritarian playbook in using information to fan divisions and undermine trust in the electoral processes and democracy as a system". Throughout his presidency and beyond, Trump cultivated a devoted following through direct and unfiltered communication on social media platforms such as Twitter (now X) and Truth Social. His ability to engage his audience in a personal and informal manner strengthened their trust in him—making his statements appear more credible—regardless of factual accuracy. This parasocial dynamic played a pivotal role in amplifying misinformation on various topics, including election fraud and political adversaries (Collinson, 2024). After the 2020 U.S. presidential election, Trump repeatedly claimed—without evidence—that the election had been "stolen" through widespread voter fraud (Miller, S. & Culver, J., 2020). Despite numerous fact-checks and court rulings debunking these claims, many of his followers accepted them as truth and, driven by their parasocial loyalty, besieged the Capitol in January 6<sup>th</sup>.

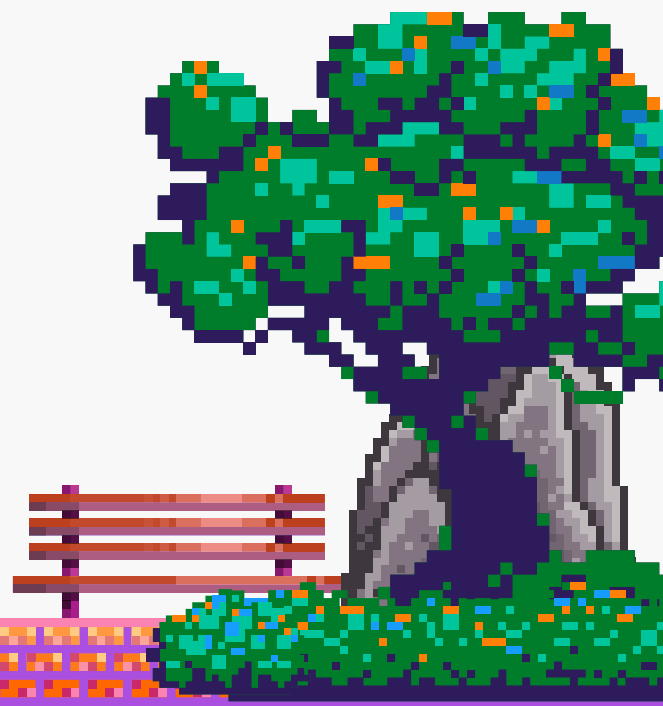


Parasocial relationships have become a defining feature of media consumption, profoundly shaping how people interpret and believe media information. Whether through social media influencers, political commentators, or fictional characters, these one-sided emotional bonds influence trust, perception, and behavior. While they can foster engagement and connection, they also pose risks—particularly in the spread of misinformation and uncritical belief formation. Recognizing the power of parasocial influence is essential in building a more informed, critically engaged society in the digital age.

As Phillip Madison observed, «The battle (...) is now a global phenomenon. Between viral conspiracy theories (...), the proliferation of fake news on social media, heightened divisions in Western civilization, automated bots, trolls, and fake social media pages, researchers can no longer ignore the functional power that parasocial relationships have in people’s lives. It is critical that researchers recognize the power of parasocial relationships in shaping public opinion among audiences.»



In this context, the need for media literacy and critical thinking is more urgent than ever. Parasocial relationships have become a defining feature of media consumption. Whether through social media influencers, political figures, or fictional characters, these one-sided emotional bonds profoundly shape how people interpret and believe media information. Recognizing their influencing power is crucial to ensure that emotional connections with media figures do not come at the cost of truth and reason in the digital age.

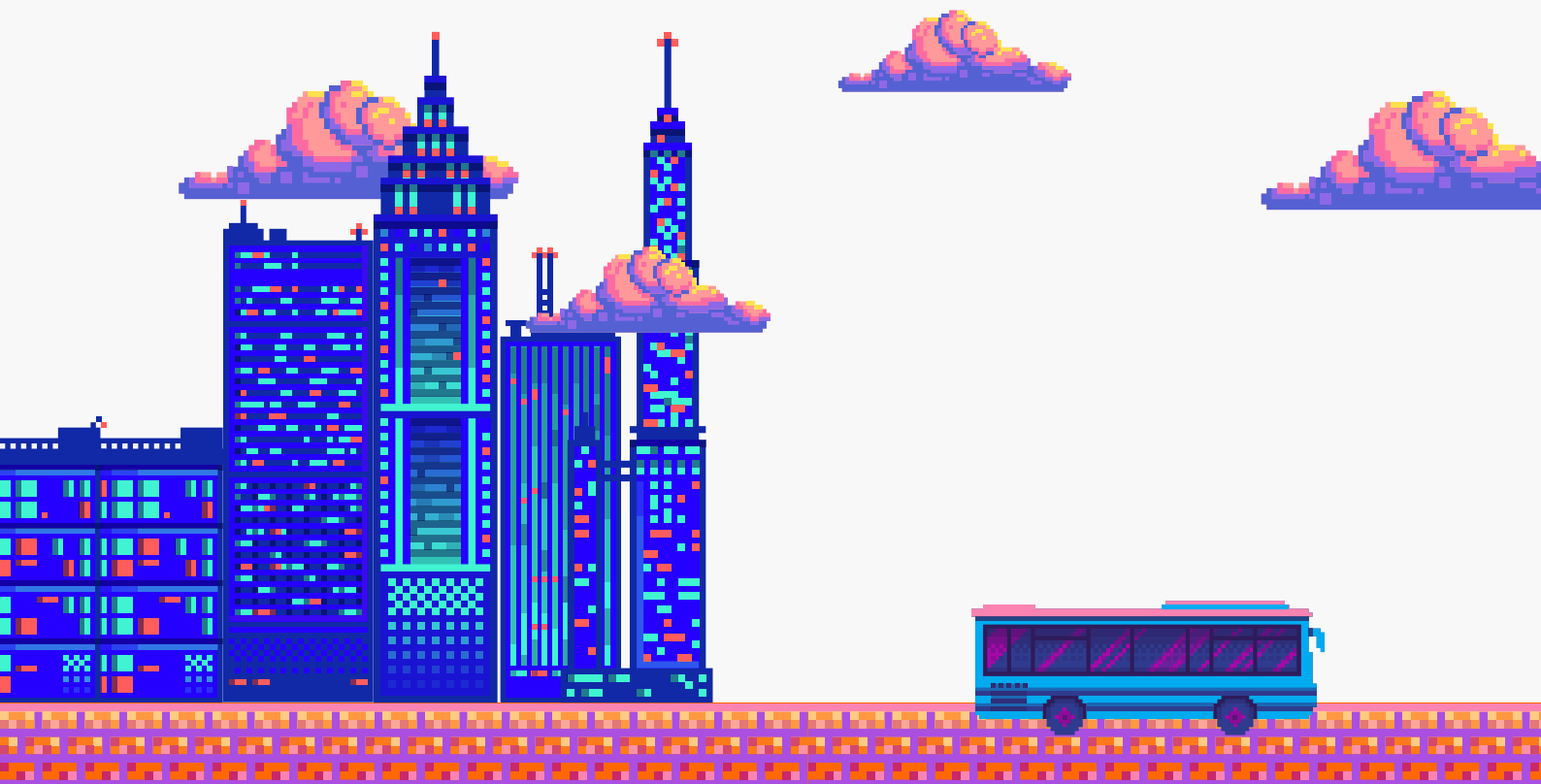


# 11. Digital well-being

## Defining digital well-being

The widespread integration of digital technology into daily life has brought both opportunities and challenges, making digital well-being an increasingly relevant topic. Digital well-being refers to a balanced and mindful use of digital tools that supports mental, emotional and physical health. It encompasses practices that help individuals maintain a positive relationship with technology while minimising its potential drawbacks. More precisely, it is defined as “mental, physical and emotional health in the digital realm” (Arroyo et al., 2023).

As technology continues to evolve, concerns related to excessive screen time, constant connectivity and information overload have become more prominent. Many individuals experience difficulties in managing their digital habits, which can lead to stress, anxiety and decreased overall well-being. Understanding digital well-being is essential in order to develop strategies that promote a healthier and more sustainable relationship with technology.



## Challenges in maintaining digital health

A lack of digital well-being has far-reaching effects on various aspects of everyday life. Excessive screen time is linked to negative mental health outcomes, including stress and burnout, as it disrupts work-life balance and reduces opportunities for physical activity and face-to-face interactions. Similarly, while digital tools provide unprecedented connectivity, they can also foster superficial online relationships and contribute to emotional isolation. Moreover, information overload hampers concentration and cognitive function, leading to decreased productivity and heightened anxiety (Twenge, 2019; Arroyo Moliner et al., 2023).

Maintaining digital well-being is challenging due to a pervasive culture of constant connectivity, where individuals feel pressured to be available and respond instantly. The temptation to engage with digital platforms, coupled with the flood of notifications, emails and online content, makes it difficult to establish a healthy balance (Arroyo Moliner et al., 2023).

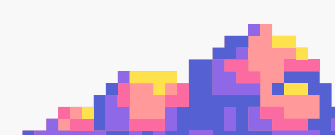
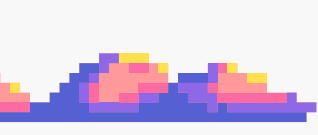
## Strategies for promoting digital well-being

Promoting digital well-being requires a versatile approach that leverages both technological tools and personal practices. By integrating these strategies, individuals can better manage their digital interactions and cultivate a healthier relationship with technology.

### Technological solutions: managing digital interactions

Technology offers a range of solutions to promote digital well-being, with many devices now including built-in apps designed to help users manage their screen time, limit distractions and maintain healthy digital habits. These built-in tools often allow users to track their screen usage, set daily limits, schedule focus periods and enforce breaks. Additionally, most operating systems and devices provide settings to customize notifications and restrict access to certain apps or content during specific hours, promoting a more balanced digital lifestyle.






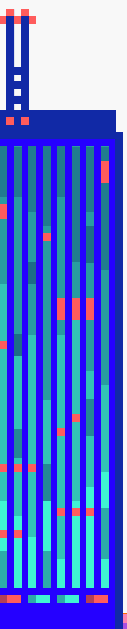
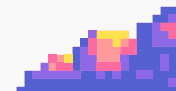
In addition to the built-in solutions provided by device manufacturers, there are also numerous third-party apps and services that can help individuals better manage their digital habits. These apps offer features such as screen time tracking, content blocking, mindfulness reminders, and time management tools, allowing users to take a more proactive approach to their digital health (DigiGuide, 2023). By utilising both built-in features and third-party apps, users have a wide range of options to tailor their digital environment to support their overall well-being.

### Individual Approaches: Cultivating a Mindful Digital Lifestyle

While technological tools offer an essential layer of support, personal strategies are equally important in achieving digital well-being. Research has shown that both modifying social media usage habits and taking periodic breaks from social media can contribute to improved psychological well-being (Mikami et al., 2025). Individuals can adopt several strategies to foster a healthier relationship with digital technology:

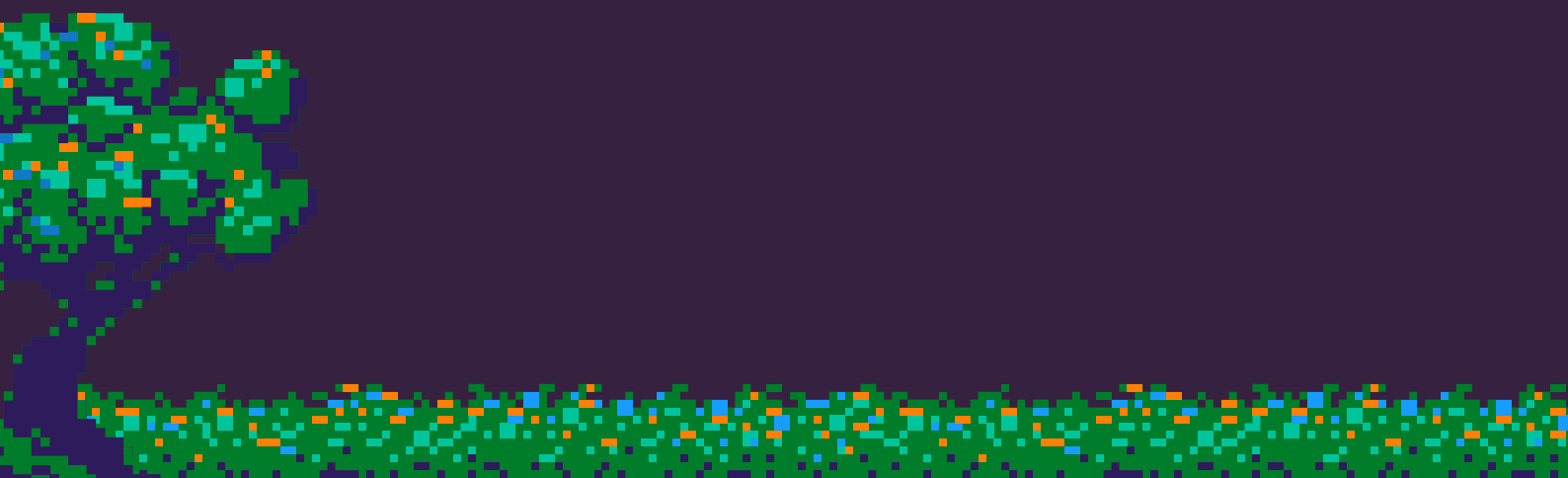
- Limiting usage time: Actively setting limits on daily screen time and scheduling specific periods for checking digital devices can prevent overexposure. This practice allows for dedicated time for offline activities and helps maintain a clear separation between work and personal life.
- Digital detox: Regularly disconnecting from digital platforms - whether for a few hours each day or for entire days - can refresh mental and emotional health. Digital detoxes help break the cycle of constant connectivity and reduce stress associated with information overload.
- Curating consuming content: Being selective about which social media accounts and digital channels to follow can significantly affect well-being. Following profiles that promote positive, enriching and supportive content reduces the risk of being exposed to negative or anxiety-inducing material.
- Fostering meaningful interactions: Prioritising quality interactions over superficial engagements is key. Instead of mindlessly scrolling through feeds, individuals can seek deeper, more thoughtful conversations online that enhance both personal growth and social connection.
- Practicing digital mindfulness: Developing an awareness of how digital media impacts emotions is crucial. This involves pausing to reflect on one's feelings during and after digital interactions, questioning the quality and credibility of the content consumed and making conscious decisions about digital engagement.

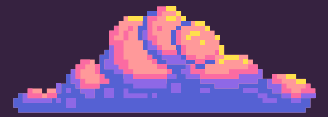
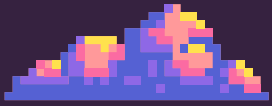
By applying these strategies, individuals can take control of their digital habits and foster a healthier, more balanced relationship with the digital world. As technology continues to evolve, developing a balanced digital lifestyle becomes increasingly critical for both personal fulfilment and overall societal well-being.



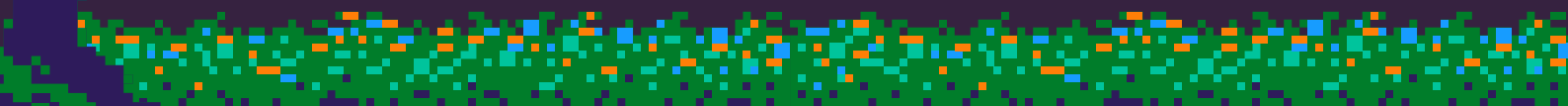


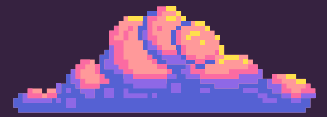
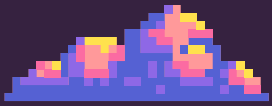
# Glossary

- Algorithm: A set of mathematical instructions that guide digital platforms in sorting, ranking, and delivering content tailored to users.
  - Artificial Intelligence (AI): A machine-based system designed to operate with varying levels of autonomy and adaptability, processing input to generate outputs.
  - Bot: An autonomous software program on the internet that interacts with users and engages with predefined tasks.
  - Civic Media Literacy: A type of media literacy oriented towards an education in citizenship values such as caring, persistence, imagination, emancipation, and critical consciousness.
  - Clinical/therapeutic approach (in educational use of video games): Emphasises the use of video games to promote the player's psycho-physical well-being, activating cognitive processes and facilitating communication.
  - Cognitive offloading: Delegating cognitive tasks to external aids, reducing engagement in deep, reflective thinking.
  - Creative approach (in educational use of video games): Involves using video games as tools to stimulate students' creativity through their mix of languages, narratives, and game mechanics.
  - Critical thinking: The objective, systematic, and rational analysis and evaluation of factual evidence in order to form a judgment on a subject.
  - Critical/reflective approach (in educational use of video games): Aims to activate critical reflection on one's relationship with the medium and on the contents, messages, language, aesthetics, and values conveyed by video games.
  - Debunking: An activity that takes place after disinformation has spread, aiming to rectify already presented false information.
  - Deepfake: AI-generated media (images, videos, audio) that realistically depict events, statements, or actions that never actually took place.
  - Digital burnout: A state of exhaustion caused by excessive time spent on digital platforms, leading to mental fatigue, stress, and decreased productivity.
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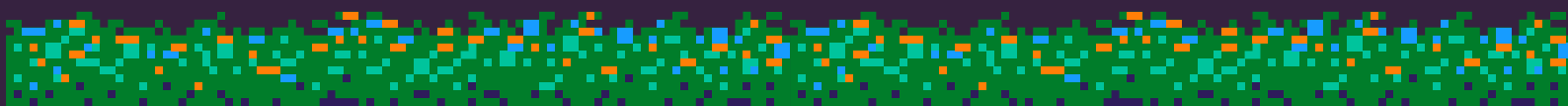


- Digital Capitalism: A complex and multifaceted concept central to understanding how contemporary economies and societies are shaped by digital technologies. It involves the collection, analysis, and monetization of personal data as key drivers of value creation.
- Digital footprint: The trail of data we leave when using the internet, categorized as active (intentionally shared) or passive (generated without direct user input).
- Digital well-being: A balanced and mindful use of digital tools that supports mental, emotional, and physical health.
- Direct approach (in educational use of video games): Using video games to develop knowledge or skills in a specific subject area directly addressed in the game.
- Disinformation: Verifiably false or misleading information that is created, presented, and disseminated for economic gain or to intentionally deceive the public.
- Dynamic Literacies and New Literacies: Concepts that expand media literacy to include not only critical thinking but also user empowerment and ethical awareness. They focus on how meanings circulate, are produced, and received in digital culture.
- Educating for a Video Game Culture: A multidimensional approach that considers video games not only as entertainment but also as a complex phenomenon with artistic, cultural, social, and economic implications. It involves critical analysis, studying their languages, messages, mechanics, and productive values.
- Fact-checking: The process of verifying if information is true or false.
- Filter bubble: The digital space in which individuals are primarily exposed to information that aligns with their existing beliefs and preferences due to algorithmic prioritization.
- Gamification: the application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service.



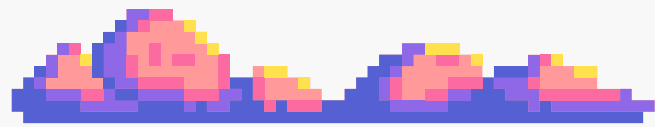


- Good Video Games and Good Learning: An approach suggested by Paul Gee (2005) that considers good video games as those designed according to principles that make learning effective.
- Indirect approach (in educational use of video games): Using commercial video games to stimulate players' interest and motivation, directing them towards self-regulated and metacognitive learning paths.
- Infodemic: The excessive spread of information, including false or misleading content, in digital and physical environments during a disease outbreak.
- Media Literacy: Defined as the ability to access, analyse, evaluate and create content through different media. It implies a critical awareness of their cultural, social and political implications. According to Livingstone (2004), it is fundamental to navigate the contemporary media landscape. Buckingham (2003) emphasizes it as a social and cultural process for developing a critical attitude towards media.
- Misinformation: Verifiably false information spread without the intention to mislead.
- New Literacy Studies (NLS): An interdisciplinary approach to the study of literacy, going beyond traditional reading and writing. It focuses on the evolution of literacy practices in the digital and global era, emphasizing their social, cultural, and technological nature.
- Onlife: A concept introduced by Luciano Floridi (2015) referring to the blurring of the boundaries between our online and offline lives, where the digital and physical realms are deeply intertwined.
- Parasocial interactions: One-sided relationships where one person extends emotional energy, interest, and time, and the other party (e.g., a media persona) is completely unaware of the other's existence.
- Prebunking: Warning in advance about manipulation attempts or typical misleading strategies.
- Serious Game: Games created to explicitly and intentionally convey educational content, designed for education, training, and informing, with a well-calibrated educational purpose, not mainly for fun. Also called applied games for specific practical objectives beyond entertainment.
- Surveillance Capitalism: A new form of capitalism where platforms commodify personal data and use it for targeted advertising, as argued by Zuboff (2019). It exploits individuals' behaviors, turning them into data points for commercial gain.
- Troll: A person who deliberately tries to offend or directly attack people by posting derogatory comments.



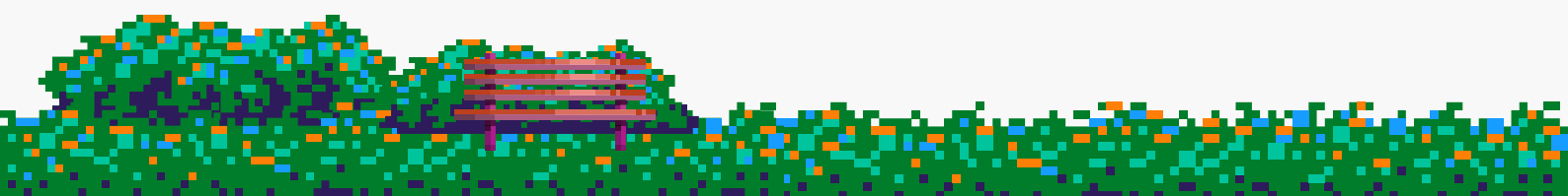
# VIDEO GAMES EXAMPLES



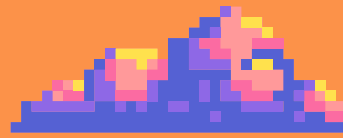


## Data Defenders

<b>Project title</b>	Yo-Media Youngsters' media literacy in times of crisis
<b>Start year</b>	2022
<b>Status (ongoing/completed)</b>	Completed
<b>Responsible organisation(s)</b>	Aveiro Media Competence Center (AMCC) Associação Portuguesa de Imprensa (API) Universidade de Aveiro (Portugal) Universitat de Vic – Universitat Central de Catalunya (Spain) Università Cattolica del Sacro Cuore (Italy)
<b>Countries involved</b>	Italy, Portugal, Spain,
<b>Website</b>	<a href="https://yomedia.a-mcc.eu/">https://yomedia.a-mcc.eu/</a>
<b>Email contact</b>	<a href="mailto:pedro.pais@a-mcc.eu">pedro.pais@a-mcc.eu</a>

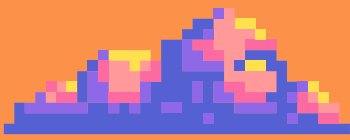


## Scope and Objectives of the game



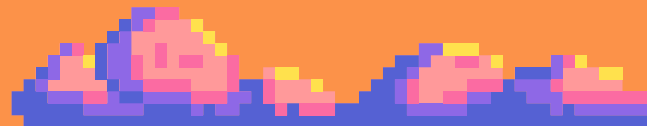
<b>Main theme</b>	Media and Information Literacy
<b>Brief description</b>	<p>Video games have acquired a fresh perspective following the experiences endured during the pandemic, notably concerning personal well-being and social connections. Games and video games foster a more critical and participatory engagement among youth, facilitated by narrative immersion, identification mechanisms with characters or stories, interactive elements coupled with the allowance for failure, and the necessity to formulate strategies applicable beyond the gaming realm. This pivotal shift prompted education and professionals to advocate for enhancing young people's media literacy through ludic tools and languages</p> <p>The Yo-Media project aims to train education and media professionals to promote media literacy among young people in times of crisis, particularly health crises and wars. To achieve this, the project has created three games (one digital game and two physical games) for a young audience and offers MOOCs (Massive Open Online Courses) for media professionals and formal and informal educators.</p>



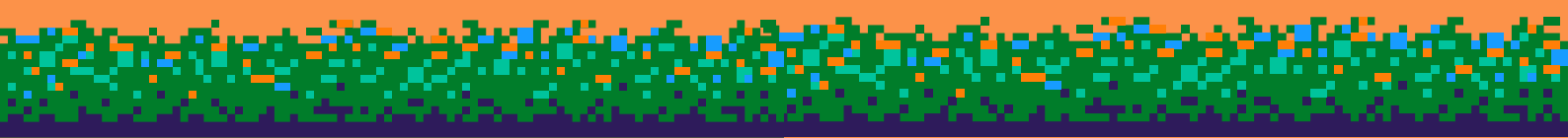


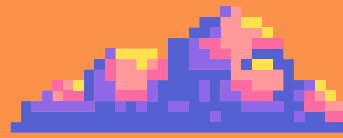
<b>Educational objectives</b>	Promote media and information literacy; Support teachers in their media literacy initiatives; Prevent disinformation
<b>Main target audience</b>	Secondary Schools, Teachers, Journalists
<b>Supporting materials</b>	Booklet, Lesson Plans, MOOC, articles

## Game Features



<b>Name of the video game</b>	Data Defenders
<b>Game type</b>	Tower defense game
<b>Platform</b>	Mobile (Android and iOS), desktop via WebGL
<b>Model of interaction</b>	Single Player





<b>Economical model</b>	Free
<b>Accessibility features</b>	Clear, engaging layout and design, easy to access and use on multiple platforms and devices
<b>Available languages</b>	Italian, English, Spanish, Portuguese

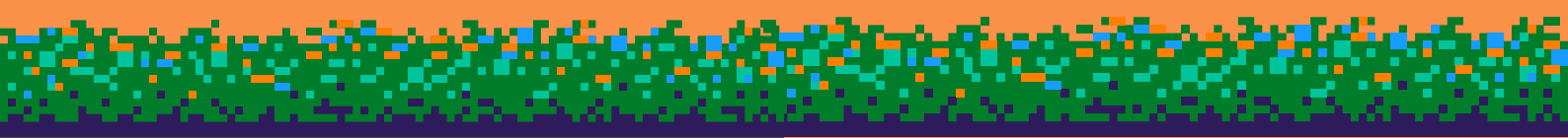
## Analysis to inform the design of our project's game


- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

The digital game allows players to access and evaluate different form of contents, such as newspapers and social media posts.

The games gives feedback when the data are not correct, that is when the analysis of a piece of information is not successfully processed, giving suggestions to improve information literacy in daily life.

It can be perfectly integrated in media literacy initiatives at schools and in education as it is fast, not time consuming and can be used to launch a media and information session and then talk on what happened, connecting practice to theory



- 
- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

The digital game allows players to access and evaluate different form of contents, such as newspapers and social media posts.

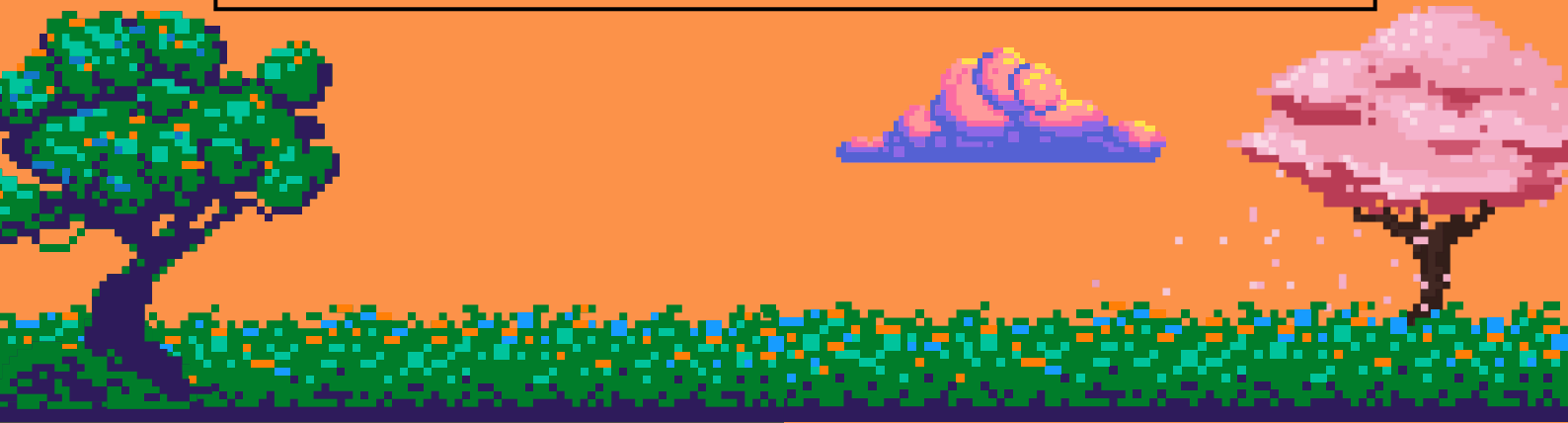
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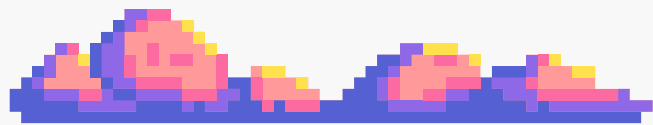
It can be perfectly integrated in media literacy initiatives at schools and in education as it is fast, not time consuming and can be used to launch a media and information session and then talk on what happened, connecting practice to theory

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- **The one key advantage from this game that we should consider in the design of our video game**

Suggestions and explications (for example contents and information helping students develop competences) should always be considered to support reflection and to fix mistakes.

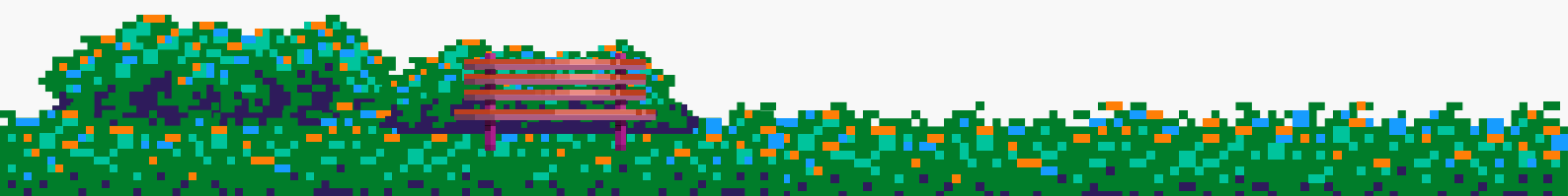
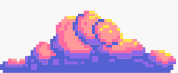
Engaging layout and soundtrack, integrating media literacy into an immersive gameplay.





## Cat Park

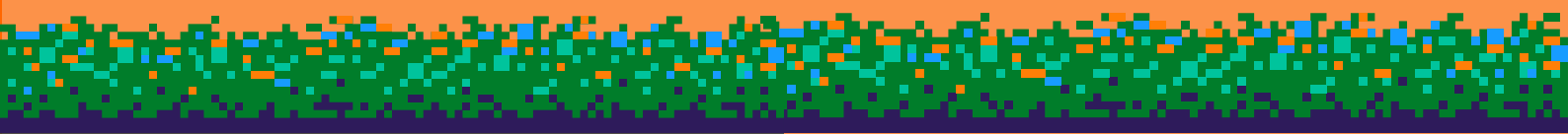
<b>Project title</b>	Cat Park
<b>Start year</b>	2022
<b>Status (ongoing/completed)</b>	Completed
<b>Responsible organisation(s)</b>	Cat Park is a free, web browser-based game designed to enhance media literacy by exposing players to common disinformation techniques. Developed by the Dutch media studio <a href="#">Tilt</a> , with funding from the U.S. Department of State's Global Engagement Center (GEC) and input from the University of Cambridge, the game aims to build resilience against disinformation through interactive gameplay.
<b>Countries involved</b>	
<b>Website</b>	<a href="https://yomedia.a-mcc.eu/">https://yomedia.a-mcc.eu/</a>
<b>Email contact</b>	

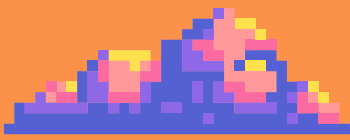


# Scope and Objectives of the game



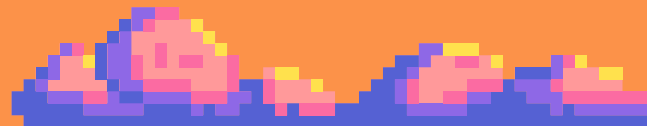
<b>Main theme</b>	Media literacy, specifically focusing on disinformation.
<b>Brief description</b>	In Cat Park, players navigate a city where a park exclusively for cats is being constructed. The objective is to oppose this initiative by employing disinformation tactics such as emotional language, polarization, and manipulative imagery to sway public opinion. Throughout the game, players encounter various mini-games that simulate techniques commonly used in media manipulation, providing a hands-on understanding of how disinformation spreads on social media platforms.
<b>Educational objectives</b>	<p>The game's design is grounded in the concept of "prebunking," which involves proactively exposing individuals to disinformation tactics to inoculate them against future misinformation. This approach is based on research from the University of Cambridge's Social Decision-Making Lab, indicating that controlled exposure to disinformation can enhance one's ability to recognize and resist false information in real-life scenarios.</p> <ul style="list-style-type: none"><li>• Improve player abilities to spot disinformation</li><li>• Increase player confidence in their abilities to navigate the information space safely</li><li>• Increase understanding of the impact of disinformation on society</li></ul>



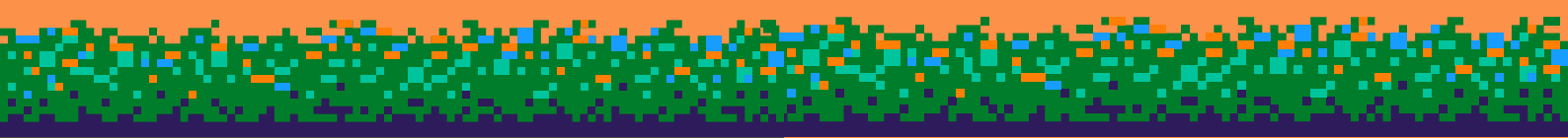


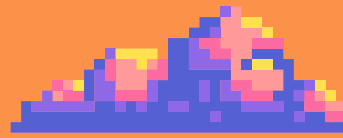
<b>Main target audience</b>	Teens (ages 15 and up), Adults, Teachers, General Public
<b>Supporting materials</b>	Game-based learning, online resource; Educators can utilize it as a tool to teach media literacy, with resources such as a <a href="#">lesson plan</a> available to facilitate structured learning experiences.

## Game Features



<b>Name of the video game</b>	Cat Park
<b>Game type</b>	Video game
<b>Platform</b>	Web-based, Mobile
<b>Model of interaction</b>	Single and Group Players





<b>Economical model</b>	Free, web browser-based game
<b>Accessibility features</b>	Players can navigate the game entirely using a touchpad.
<b>Available languages</b>	Cat Park is available in multiple languages (English, French, Dutch, Russian, etc).

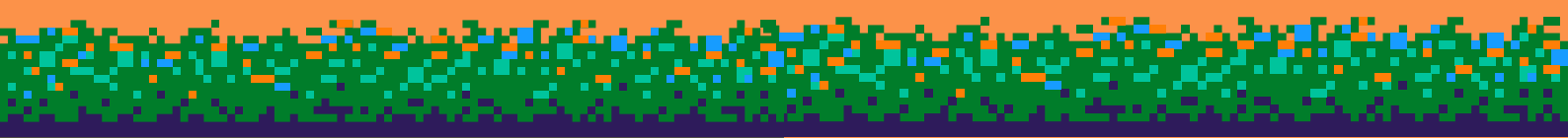
## Analysis to inform the design of our project's game


- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

The game actively engages players by simulating common media manipulation tactics such as emotional language, polarization, and misleading imagery. This interactive approach allows players to experience firsthand how disinformation is spread and helps them recognize these techniques in real-life media.

Rather than just debunking false information after it spreads, Cat Park uses a prebunking approach. This proactive strategy exposes players to disinformation techniques before they encounter them in real life, making it easier for players to recognize and resist misinformation in the future.

By playing mini-games that mimic social media dynamics and media manipulation, players learn to critically evaluate information, spot biases, and avoid spreading false content.



- 
- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

While the game focuses on disinformation techniques, it primarily addresses only certain aspects of media literacy, such as identifying manipulative tactics. It does not fully cover other critical areas like source evaluation, understanding media ownership, or navigating algorithmic biases.

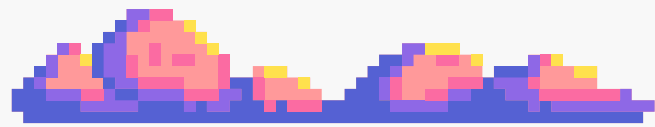
The content may not always resonate with players from different cultural or regional backgrounds. For example, certain disinformation tactics or media-related issues may be more relevant to a U.S.-centric or Western context, limiting its effectiveness in teaching media literacy in countries with different media landscapes or political environments, such as in some European nations.

Limited options in the interaction process

- **The one key advantage from this game that we should consider in the design of our video game**

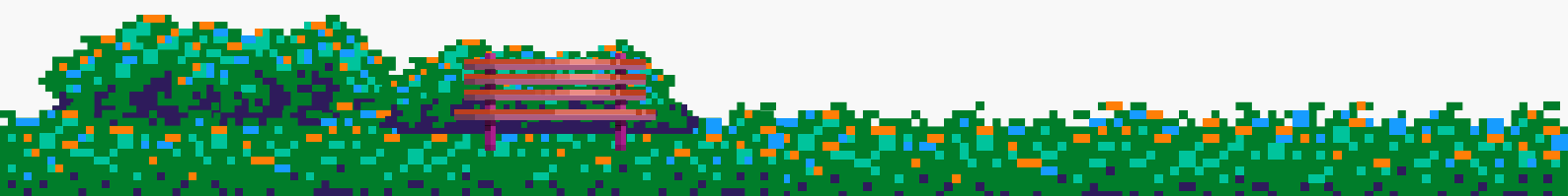
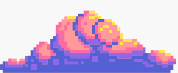
Scenario-based learning.





## DigiCity: game-based digital citizenship

<b>Project title</b>	DigiCity: game-based digital citizenship
<b>Start year</b>	2024
<b>Status (ongoing/completed)</b>	ongoing
<b>Responsible organisation(s)</b>	OPENS, YuzuPulse, LogoPsyCom, DigiQ
<b>Countries involved</b>	Serbia, France, Belgium, Slovakia
<b>Website</b>	<a href="https://yomedia.a-mcc.eu/">https://yomedia.a-mcc.eu/</a>
<b>Email contact</b>	<a href="mailto:program@opens.rs">program@opens.rs</a>

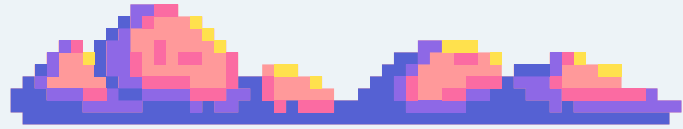


## Scope and Objectives of the game



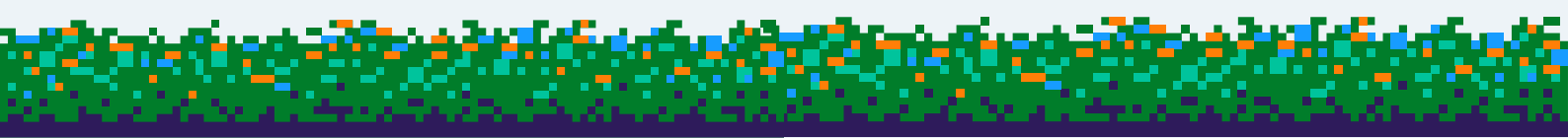
<b>Main theme</b>	Digital Citizenship
<b>Brief description</b>	The project is set to produce one transmedia game and one escape game that will help young people acquire important skills to be active digital citizens (one of these skills include media literacy).
<b>Educational objectives</b>	This project aims to contribute to the development of young people's digital citizenship and digital competencies thanks to single-player transmedia and cooperative games, to increase their civic and democratic participation while maintaining their online safety and privacy.
<b>Main target audience</b>	The primary beneficiaries are young people aged 15-25 (or 30 depending on the local definition). Other target groups include youth trainers and educators and youth organisations.
<b>Supporting materials</b>	Guide on digital citizenship skills and education, Guidance material for educators on how to use the games





## Game Features

<b>Name of the video game</b>	DigiCity
<b>Game type</b>	One single-player video game and one escape game
<b>Platform</b>	Mobile
<b>Model of interaction</b>	Single Player
<b>Economical model</b>	Free
<b>Accessibility features</b>	TBD
<b>Available languages</b>	English, Serbian, French, Slovak



## Analysis to inform the design of our project's game

- **The 3 main strengths of this game with regards to developing the player's media literacy skills**

The game puts a player in the shoes of a hacker, which offers an interesting perspective on learning by breaking the rules.

The game will go through comprehensive testing by young people.

Part of the project is creating a guide for educators on how to use the game.

- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

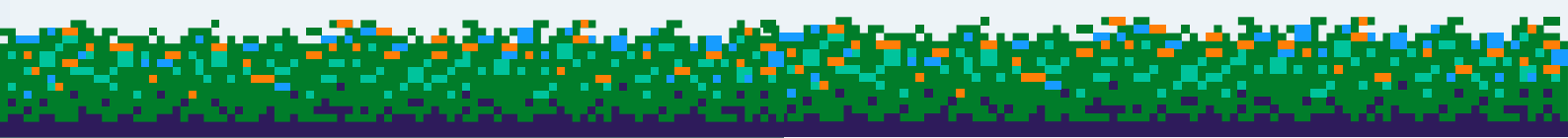
The game did not involve young people in the preparation phase.

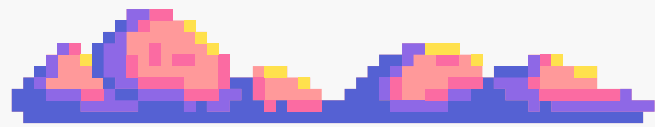
Digital citizenship is a wide field to it may prove difficult to cover all necessary skills.

The first version will not have a cooperation mode, which could be interesting to add in the future.

- **The one key advantage from this game that we should consider in the design of our video game**

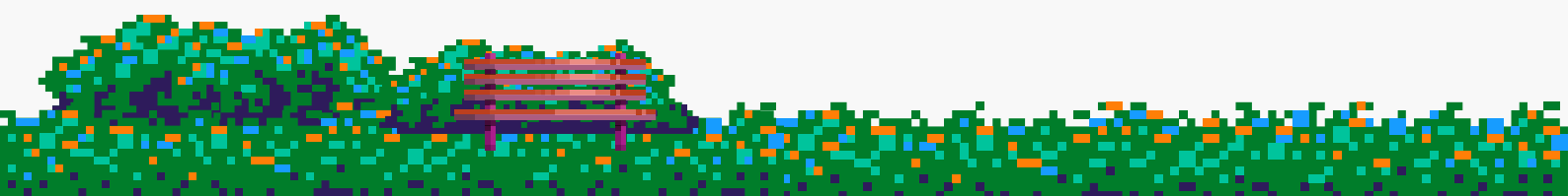
Comprehensive testing with young people.



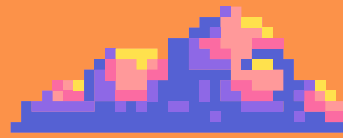


## Bad News

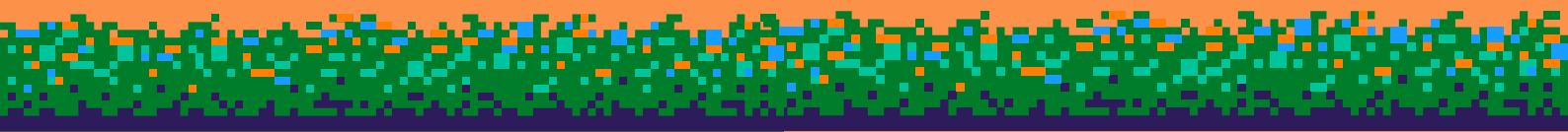
<b>Project title</b>	Bad News - Play the fake news game!
<b>Start year</b>	2019
<b>Status (ongoing/completed)</b>	Completed
<b>Responsible organisation(s)</b>	TILT & Social Decision-Making Lab at Cambridge University Designed by GUSMANSON
<b>Countries involved</b>	United Kingdom and the Netherlands
<b>Website</b>	<a href="https://yomedia.a-mcc.eu/">https://yomedia.a-mcc.eu/</a>
<b>Email contact</b>	<a href="mailto:hello@tiltstudio.co">hello@tiltstudio.co</a>



## Scope and Objectives of the game



<b>Main theme</b>	Information Literacy
<b>Brief description</b>	In Bad News, players take on the role of fake news-monger. The goal of the game is to expose the tactics and manipulation techniques that are used to mislead people and build up a following. Bad News works as a psychological “vaccine” against disinformation: playing it builds cognitive resistance against common forms of manipulation that players may encounter online.
<b>Educational objectives</b>	<ul style="list-style-type: none"><li>• improve people’s ability to spot manipulation techniques in social media posts</li><li>• increase their confidence in spotting such techniques</li><li>• reduce their willingness to share manipulative content with people in their network</li></ul>
<b>Main target audience</b>	Teenagers and young adult (14+ years old)
<b>Supporting materials</b>	<a href="#"><u>Info sheet for educators</u></a>



## Game Features



<b>Name of the video game</b>	Bad News
<b>Game type</b>	Simulation, role play, educational
<b>Platform</b>	Web
<b>Model of interaction</b>	Single-player, interactive narrative
<b>Economical model</b>	Free
<b>Accessibility features</b>	Simple interface with text-based instructions. Clear text and visuals. Big letters, good contrast and simple design.
<b>Available languages</b>	More than 25 including, English, Spanish, German and many other EU languages and non-EU.





## Analysis to inform the design of our project's game

- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

Players see the problem from the inside. They personalise as fakers and try six different techniques to make people believe their content. It is a different way to tackle the problem: players learn how to detect misinformation by making fake content.

The game follows branch scenarios and actions have always a consequence: players know if their posts are believable or not by seeing how those affect their followers and credibility. This makes young people see what is believable and what not easily.

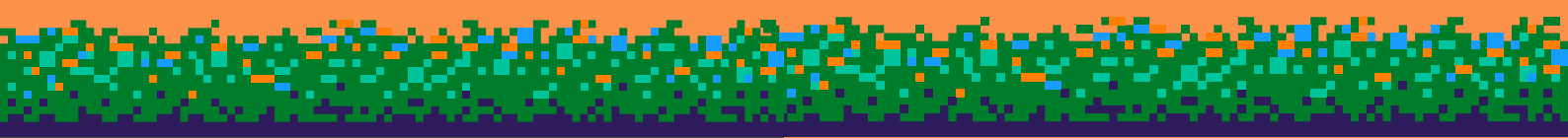
It is easy to use. It doesn't require any knowledge in advance and no instructions are needed to play.

- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

Not very flexible, players can learn but they have limitations of creativity and imagination because they can only choose between some possible actions.

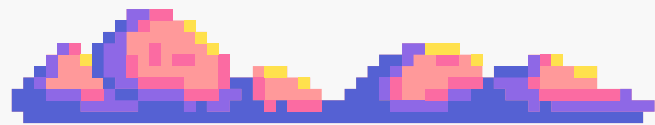
It is mainly focused on Twitter (X) and text posts.

It only develops competences until a certain level. Players learn about six different misinformation techniques, but there aren't different difficulty levels.



- **The one key advantage from this game that we should consider in the design of our video game**

The role play, seeing the problem from inside could be a good way to design the game. The immediate feedback on the actions taken by the players (not having to wait until one level is done) could be also a good feature.



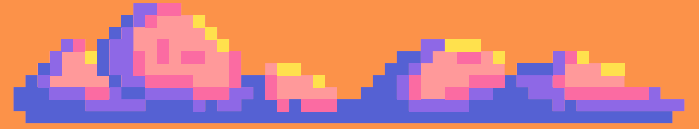
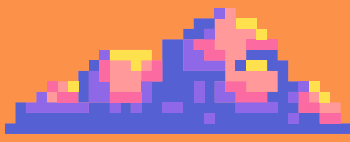
## FAKE: Playground

<b>Project title</b>	FAKE: Let's Fight through Awareness Knowledge and Education
<b>Start year</b>	2020
<b>Status (ongoing/completed)</b>	Completed
<b>Responsible organisation(s)</b>	EUROCIRCLE C.I.O.F.S Formazione Professionale Rinova Limited Lietuvos svietimo ir mokslo profesine sajunga codemotion srl MetropolisNET
<b>Countries involved</b>	France, Italy, United Kingdom, Lithuania and Germany
<b>Website</b>	<a href="https://fakeproject.eu/">https://fakeproject.eu/</a>
<b>Email contact</b>	n/a



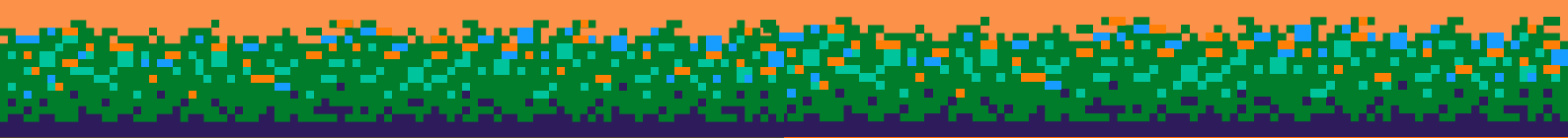
## Scope and Objectives of the game

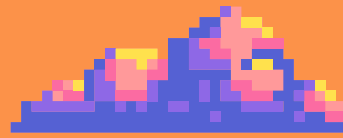
<b>Main theme</b>	Information Literacy, Digital Skills, Digital Citizenship
<b>Brief description</b>	Empowering young people to fight against fake news, manipulation and disinformation by enhancing their digital competences and creating digital content
<b>Educational objectives</b>	<ul style="list-style-type: none"><li>• Enable young people to detect fake news and to have a conscious and critical use of social media</li><li>• Equip trainers with a set of resources on digital practices and tools to fight against the risks of manipulation and marginalization on digital platforms and social medias</li></ul>
<b>Main target audience</b>	<ul style="list-style-type: none"><li>• Young people aged 14-25</li><li>• Trainers, educators, teachers</li></ul>
<b>Supporting materials</b>	<ul style="list-style-type: none"><li>• <a href="#">Trainer's Resource Pack</a></li><li>• <a href="#">Hackathon guidelines</a></li></ul>



## Game Features

<b>Name of the video game</b>	<u>FAKE Playground</u>
<b>Game type</b>	Online visual coding development tool that help young people to easily learn coding, logic, computational thinking, creation of game environments in a simple and interactive way
<b>Platform</b>	Web
<b>Model of interaction</b>	Single Player
<b>Economical model</b>	Free
<b>Accessibility features</b>	<ul style="list-style-type: none"><li>• Clear design and easy navigation</li><li>• Video tutorials both for users and trainers</li></ul>
<b>Available languages</b>	English, French, Italian, German and Lithuanian





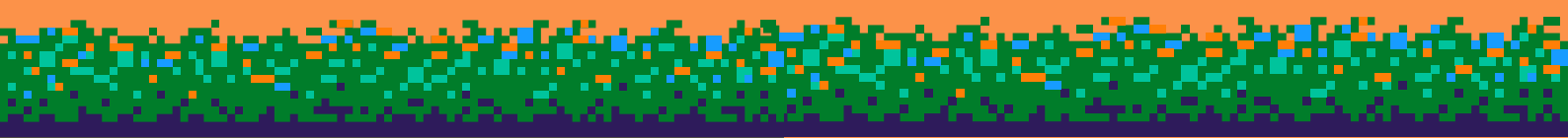
## Analysis to inform the design of our project's game

- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

Flexible tool that can be adapted to young people's creativity or trainers's needs
Enhance young people digital competences while also promoting online participation
Possibility to choose different difficulty levels and share assignments and digital content through quick links or social media

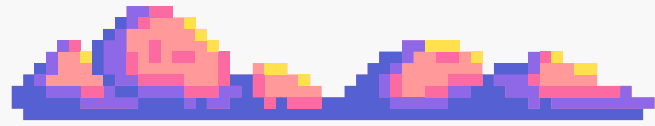
- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

The game doesn't address media and information literacy directly - the topic has to be addressed through trainer's assignments
The content library available to produce digital content is limited - this can be off putting for young people
Trainers can't control the content produced by the young people and what they share through the tool



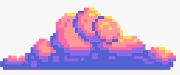
- **The one key advantage from this game that we should consider in the design of our video game**

Easy to access and use. Assignments can be shared quickly by trainers with the young people they support. Allow creative use by the young people.



## We Become What We Behold

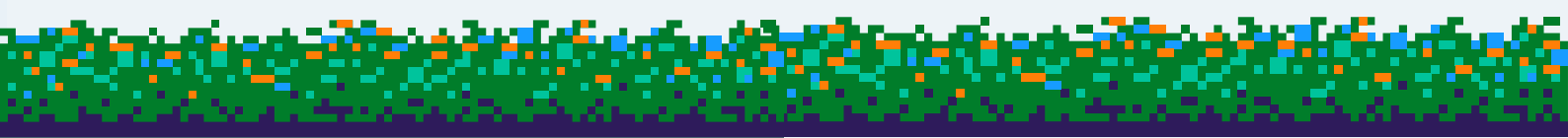
<b>Project title</b>	We Become What We Behold
<b>Start year</b>	USA, 2016
<b>Status (ongoing/completed)</b>	completed
<b>Responsible organisation(s)</b>	Nicky Case
<b>Countries involved</b>	
<b>Website</b>	<a href="https://ncase.itch.io/wbwwb">https://ncase.itch.io/wbwwb</a> (in ita: <a href="https://ncase.me/sccv/">https://ncase.me/sccv/</a> )
<b>Email contact</b>	

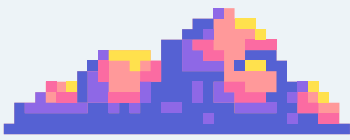




## Scope and Objectives of the game

<b>Main theme</b>	Media and Information Literacy
<b>Brief description</b>	<p>It's a point-and-click game created by Nicky Case. In this unique 5-minute game, the player, who takes on the role of a news photographer, captures the news with his camera. The choice of what to include and what to exclude from the frame shapes the rest of the story of Squares and Circles (anthropomorphic shapes). Start by capturing small misunderstandings between a circle and a square and see how your decisions increase the tension between the masses of circles and squares. The simple and peaceful coexistence of Circles and Squares will be disrupted by the (un)news that they decide to make viral, ending up feeding a perverse mechanism, until the final escalation of anger and violence.</p>
<b>Educational objectives</b>	<p>How are our opinions influenced by the images that surround us? How often do we investigate news that instinctively bothers us? A game about how the media influences our everyday life, making us reflect on the mechanisms that lead us to interpret news as objective "truth", as well as focusing on the responsibility we have in spreading cultural visions. Hate, racism, arrogance depend, first and foremost, on how we "look" at others, on how we consider difference.</p> <ul style="list-style-type: none"><li>• Promote media and information literacy;</li><li>• Support teachers in their media literacy initiatives;</li><li>• Prevent disinformation, hate speech and fake news</li></ul>



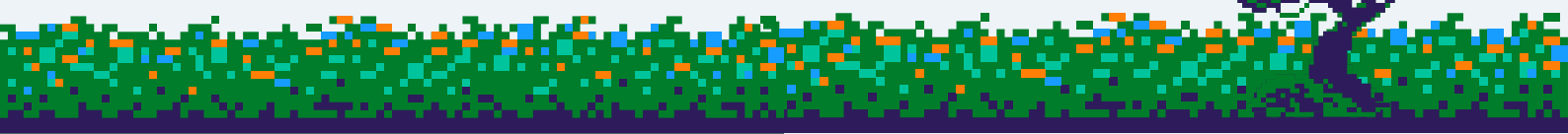
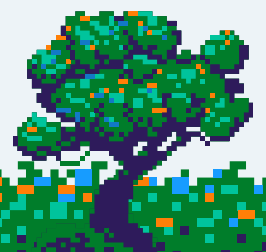


<b>Main target audience</b>	Secondary Schools, Universities, Adults, Teachers, General Public
<b>Supporting materials</b>	



## Game Features

<b>Name of the video game</b>	We Become What We Behold
<b>Game type</b>	point-and-click game; indie game
<b>Platform</b>	PC, Mobile, Web
<b>Model of interaction</b>	Single Player, Multiplayer, Cooperative, Competitive)





<b>Economical model</b>	Free
<b>Accessibility features</b>	
<b>Available languages</b>	English, Italian, but it's not so important the language

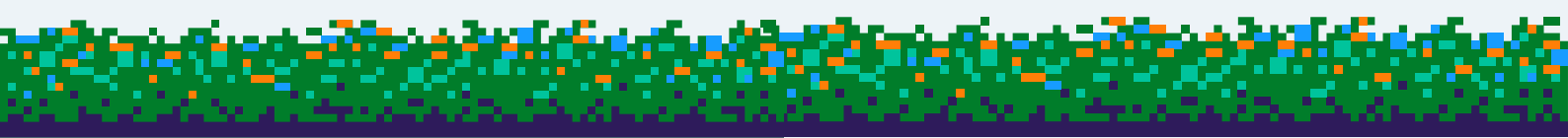
## Analysis to inform the design of our project's game

- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

The game raises a lot of questions concerning the ethics of news networks and mainstream media. How do they choose what stories to show? Are they really committed to informing the public, or are they chasing higher ratings? Should they claim responsibility for how much influence they have over their audience? It's up to the player to struggle with and decide the answers for themselves.

It builds media literacy skills with respect to the fact that, while we gain valuable information from the content, we're simultaneously being subjected to gradual shifts in public perception because of our relationship with the medium.

The game deals with the theme of the relevance and circularity of news and its consequences on the public.





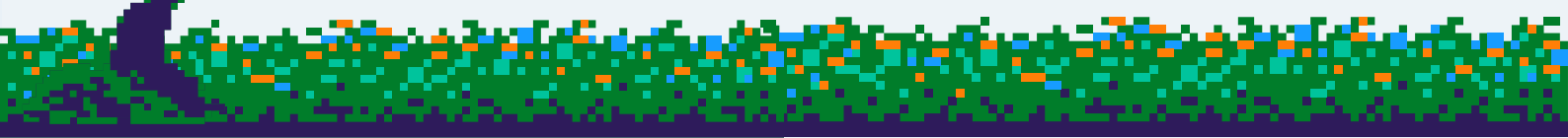
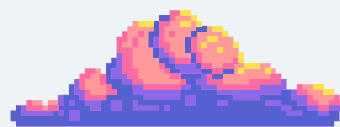
- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

It would be interesting to develop a new version of the video game, including the possibility of choice and therefore two different endings. As it is currently structured, in fact, the only available path is to photograph increasingly violent episodes in order to advance in the narrative. If there were two different endings depending on the relevant facts, it would be possible to develop a discussion on what makes us consider something relevant or not.

The reflection would then be based on the two possible endings, one like the one present at the moment and the other in which the country of circles and squares prospers thanks to the present climate of peace. One could also include a sort of photo album at the end of the game to observe the choices made that contributed to a specific ending. From here, users are invited to observe their own images and those of others and ask themselves what the point of no return was, the one that once crossed led directly to a specific ending even though the video game was not yet over.

- **The one key advantage from this game that we should consider in the design of our video game**

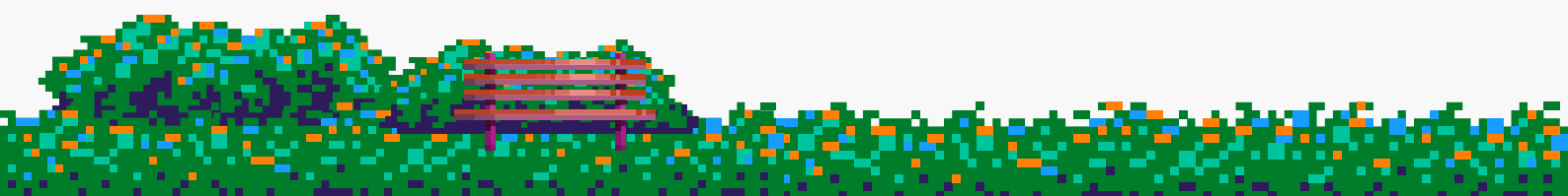
The ability to translate abstract and complex messages with a simple, universal yet metaphorical design. It builds motivation and involvement without being "instructive", leaving interpretations open. It also takes place in a short time.





## Twenty Months

<b>Project title</b>	Oggi, 25 aprile 1945
<b>Start year</b>	2015
<b>Status (ongoing/completed)</b>	Completed
<b>Responsible organisation(s)</b>	Coop Lombardia, Città di Sesto San Giovanni, We Are MUESLI
<b>Countries involved</b>	Italy, Portugal, Spain,
<b>Website</b>	<a href="https://yomedia.a-mcc.eu/">https://yomedia.a-mcc.eu/</a>
<b>Email contact</b>	<a href="mailto:hello@wearemuesli.it">hello@wearemuesli.it</a>

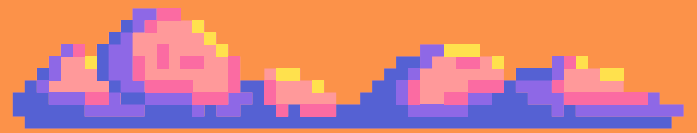


## Scope and Objectives of the game



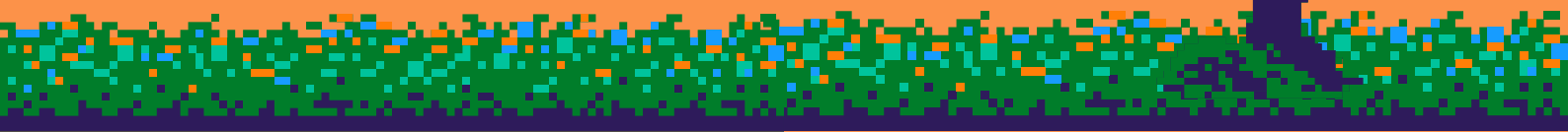
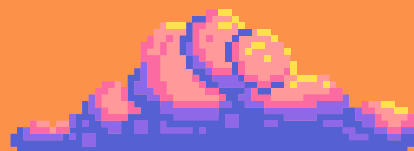
<b>Main theme</b>	Citizenship Education, History
<b>Brief description</b>	<p>A collection of playable stories about Italian Resistance and Liberation from Nazi-Fascism.</p> <p>20 fateful months (from September 1943 to April 1945), 20 stories based on actual WWII events in the Milan metropolitan area (Sesto San Giovanni and its surroundings), 20 diverse points of view on Italy's history of democracy.</p>
<b>Educational objectives</b>	Promote historical memory about the end of the Second World War
<b>Main target audience</b>	Secondary Schools, Teachers, General public
<b>Supporting materials</b>	absent





## Game Features

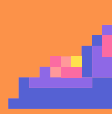
<b>Name of the video game</b>	Venti mesi (Twenty months)
<b>Game type</b>	Interactive visual novel
<b>Platform</b>	PC / MAC
<b>Model of interaction</b>	Single Player
<b>Economical model</b>	Free
<b>Accessibility features</b>	Subtitles
<b>Available languages</b>	Italian, English



- 
- **The 3 main strengths of this game with regards to developing the player's media literacy skills**

The game puts the player in the shoes of different characters in the months after the end of the WW2 and the liberation of Italy. There is a remarkable attention towards the plurality of point of views and the complexity of the situation back at the time.

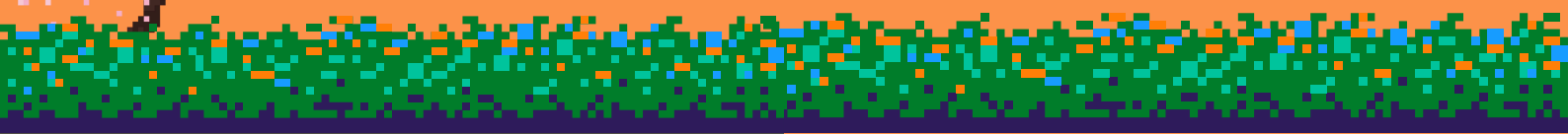
The experience is short and can be splitted in independent episodes

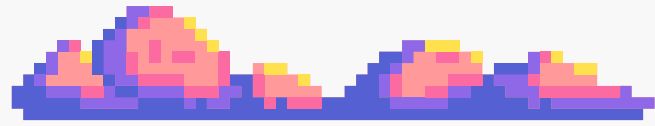
- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**
- 

It would have been really appreciated if each episode would have been accompanied by historical insights and original materials to look or to consult.

- 
- **The one key advantage from this game that we should consider in the design of our video game**

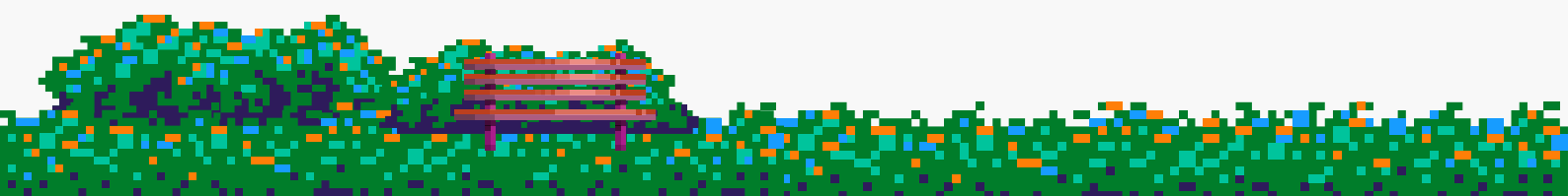
The peculiar attention to storytelling and to the narration of such a complex and collective historical event.





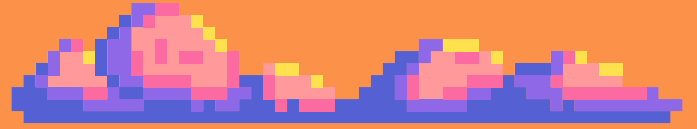
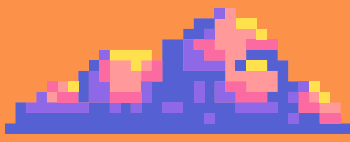
## The Darkest Files

<b>Project title</b>	The Darkest Files
<b>Start year</b>	2020 - 2023
<b>Status (ongoing/completed)</b>	Completed, game only available in demo format
<b>Responsible organisation(s)</b>	PAINTBUCKET GAMES
<b>Countries involved</b>	Germany
<b>Website</b>	<a href="https://paintbucket.de/en/game/the-darkest-files">https://paintbucket.de/en/game/the-darkest-files</a>
<b>Email contact</b>	info@paintbucket.de



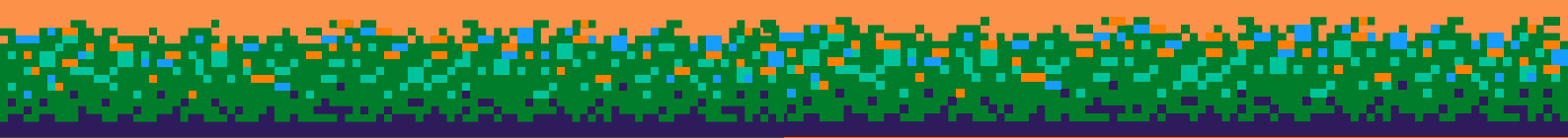
## Scope and Objectives of the game

<b>Main theme</b>	History
<b>Brief description</b>	The Darkest Files is a First-Person investigation game that uses the mass appeal of true crime, noir, investigation and courtroom drama to tell an important story of Nazi crimes and corruption. Play as young prosecutor Esther Katz in post-world war II Germany in a first-person detective and courtroom simulation.
<b>Educational objectives</b>	
<b>Main target audience</b>	General Public
<b>Supporting materials</b>	Absent



## Game Features

<b>Name of the video game</b>	<u>The Darkest files</u>
<b>Game type</b>	Investigation, puzzle game
<b>Platform</b>	PC
<b>Model of interaction</b>	Single Player
<b>Economical model</b>	Free
<b>Accessibility features</b>	Subtitles
<b>Available languages</b>	English, German





## Analysis to inform the design of our project's game

- **The 3 main strenghts of this game with regards to developing the player's media literacy skills**

The events in the game are based on true crimes committed during the Nazi Era and were objects of real investigations in the young Federal Republic of Germany.

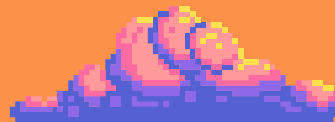
The historical setting of the game can be useful to spark some reflection in educational contexts

The graphical aspect, and the artistic value of the product are remarkable

- **The 3 main limits of this game, for instance: to develop media literacy skills, and/or to use in an educational context, and/or to use in a European perspective**

Except the name of Fritz Bauer, all the other names and fictional, in order not to harm anyone.

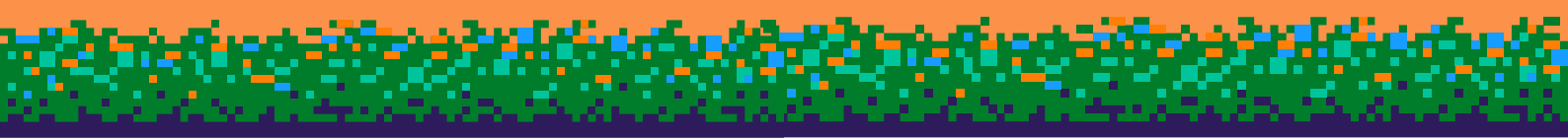
Some links to historical events could have been highlighted more efficiently





- **The one key advantage from this game that we should consider in the design of our video game**


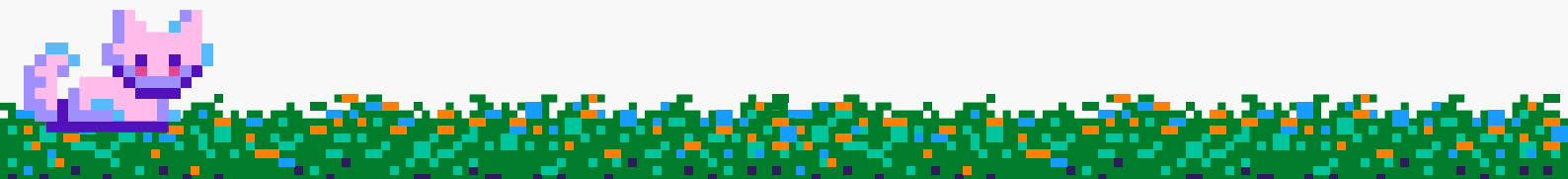
Focus on the gameplay and the entertainment purposes of the game, rather than the educational contents

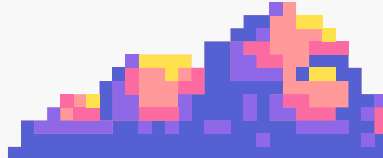

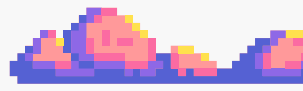



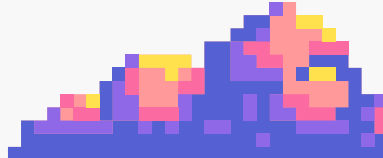

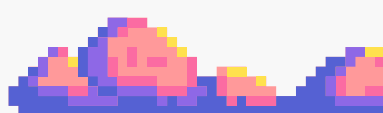
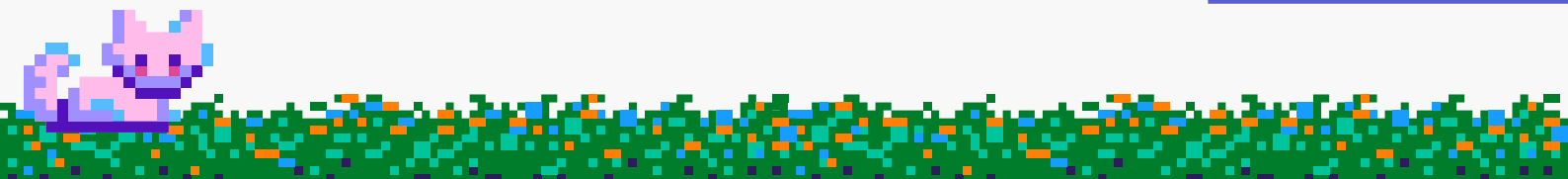


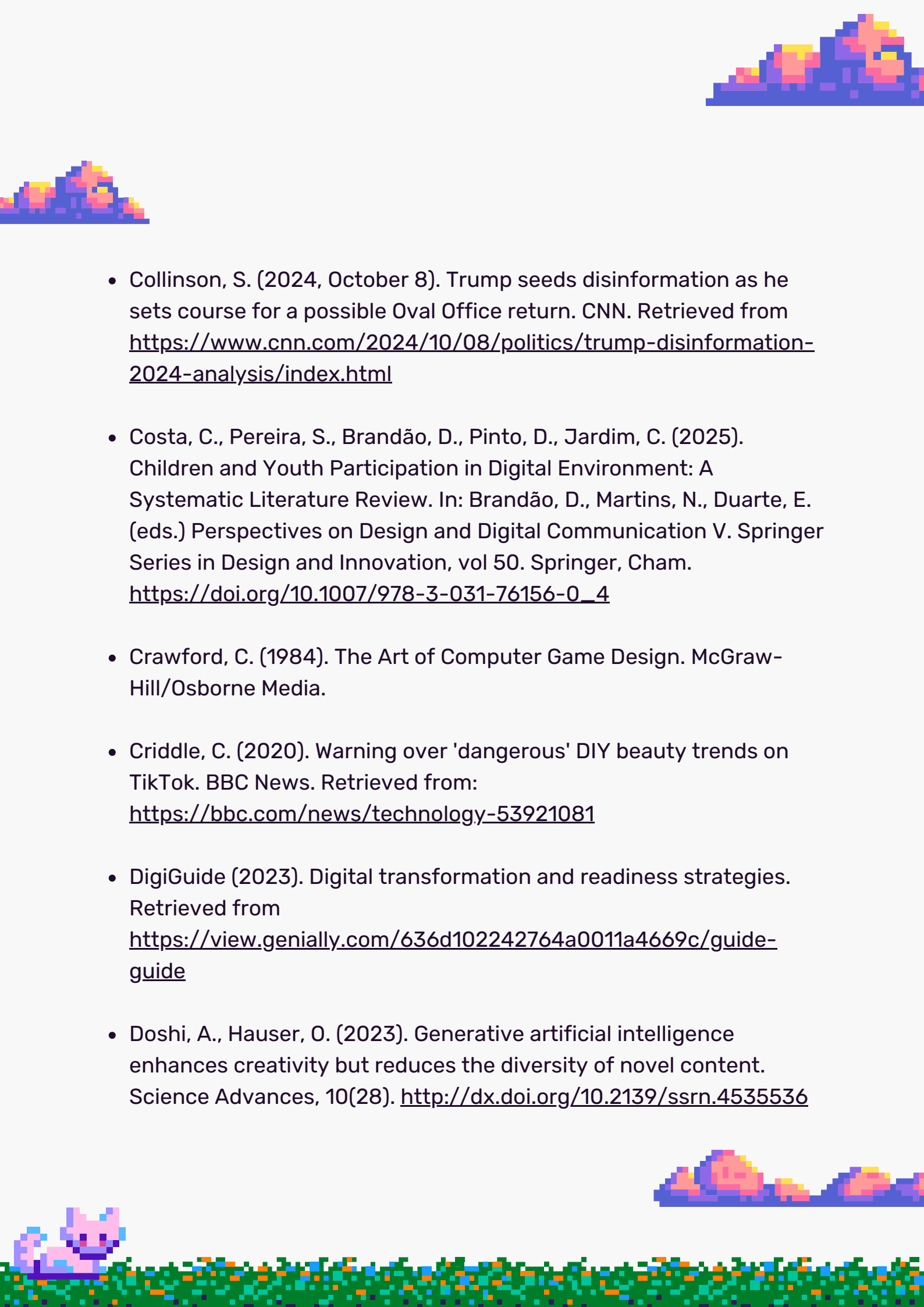
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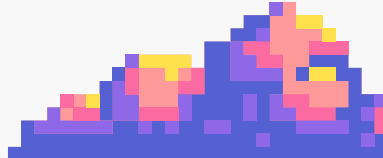

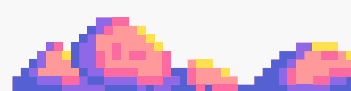
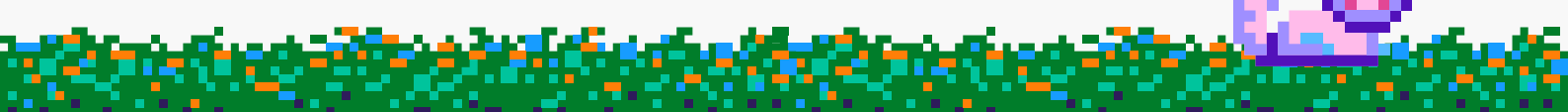

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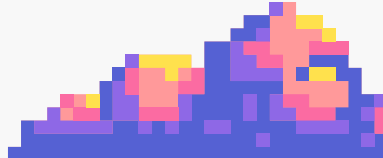

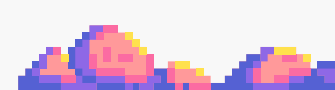
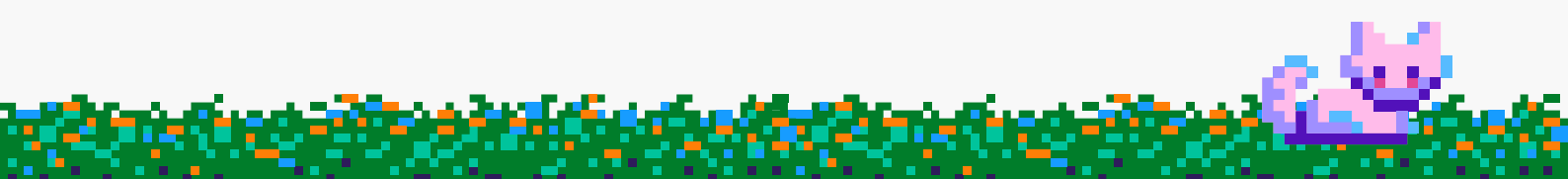
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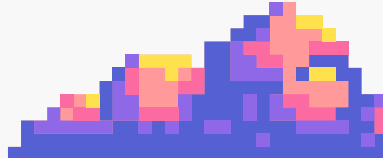


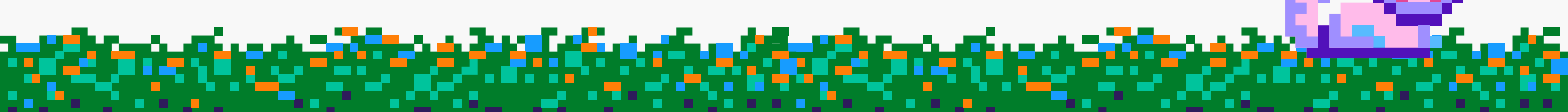
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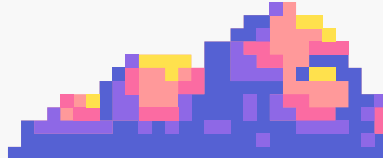

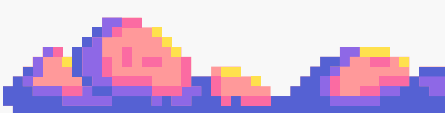

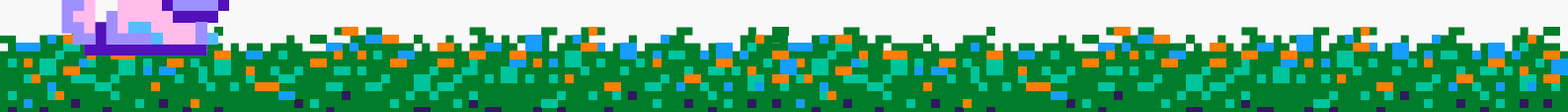
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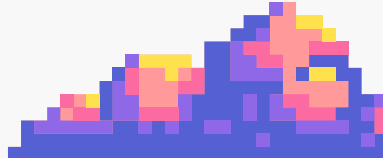



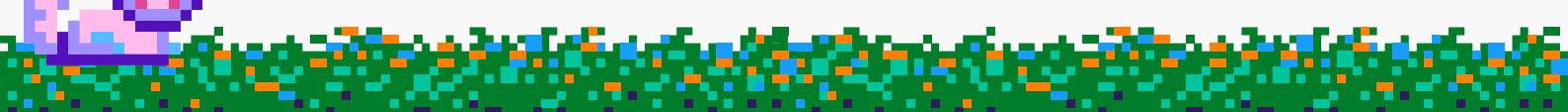
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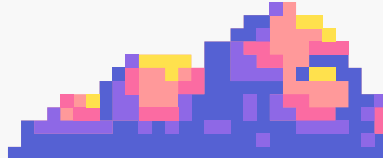

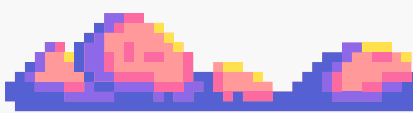

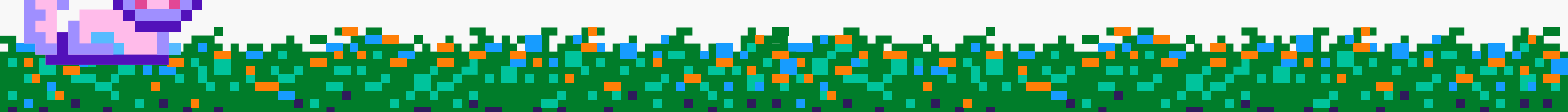
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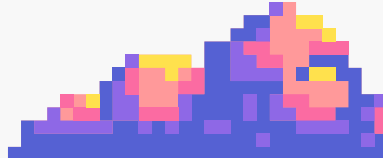


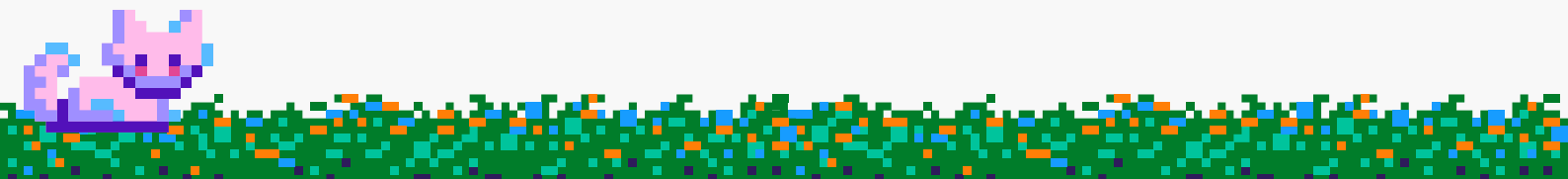
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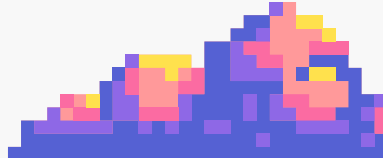


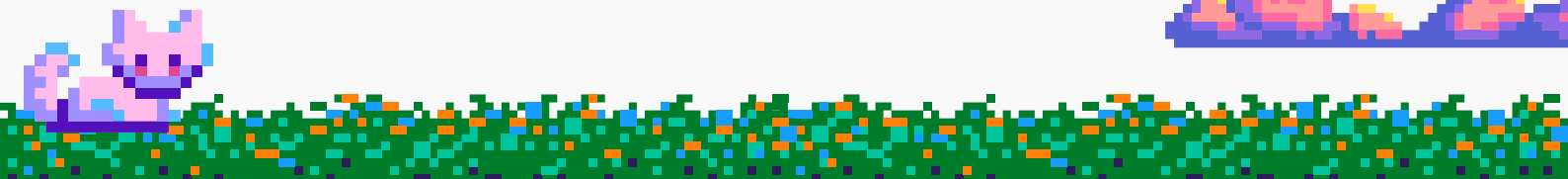
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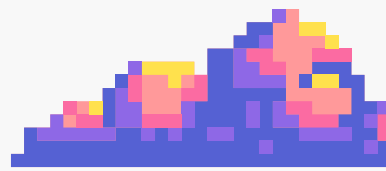
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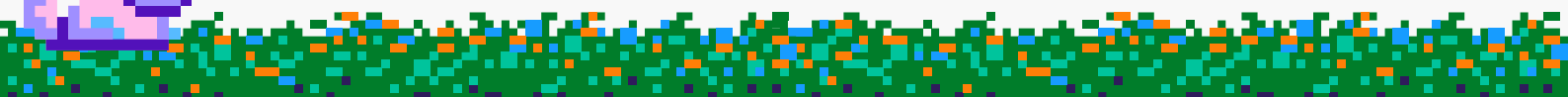
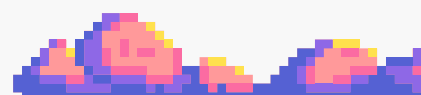
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